The Future of Marketing

An Investigation into Disruption and Innovation

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Dedicated to my grandfather,

Laurence (Laurie) Ronald McDowall

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Abstract

The future of marketing, looking out as far as 2050, is envisioned in this thesis. According to a world-renowned futurist, one theory is the end of marketing as we know it. Another describes the discipline as entirely controlled by artificial intelligence, without the need for direct human interaction, while others foresee a healthy balance between humans and machines. The future of employment will therefore have a significant impact on marketing practice, as automation and machine learning may sharply reduce the need for 'human marketers'. Despite existing research into the future, the future of marketing is largely overlooked by researchers. Exponential technological advancements are on the horizon, giving rise to the concept of the Singularity. The future is complex, perhaps chaotic, and futures studies are increasingly used in academia, business, and government as a means of coping with uncertainty.

Marketing is the practice of identifying the needs of consumers, creating and communicating value, engaging with the right audience, and ultimately, increasing sales and profitability. While these goals are likely to endure, the means at which these are achieved are constantly evolving. This is of interest to those in business, especially due to the marketing potential of current innovations, for example Big Data, machine learning, augmented reality, blockchain, Internet of Things (IoT), robotics, and more. This thesis asks, to what extent will these concepts impact the future of marketing? Further, how will the discipline evolve over the next thirty years, and what are the implications for marketing professionals today?

This discovery-oriented thesis utilises qualitative research methods, including personal interviews and comparative analysis, in a grounded theory approach. These proved applicable as new in-depth information was gained beyond what is known to the researcher, and the discussions were broad – but bounded – using moderately scheduled interviews. Twelve business leaders and senior practitioners from different industries were interviewed, and three future

scenarios were developed. The results were then compared with recent papers and articles produced by research organisations, think tanks, and well-known online publications.

Three future scenarios are presented in this thesis: Possible, Probable, and Preferable. The Possible scenario embraces exponential innovation and the concept of the Singularity, i.e. a state at which artificial intelligence drives innovation. Our lives will be comprehensively tracked, and sophisticated prediction engines will map out our experiences to come. Employment in this scenario is a particularly contentious issue – while new job types will naturally arise in the coming years, they are unlikely to balance job losses. Shifting to a post-work society may be a factor, driven by the need to develop solutions that avoid an economic catastrophe. In the Probable scenario, current issues were given more weight, in the sense that inefficiencies and bureaucracy hinder the trajectory of innovation, thus delaying progress. In the Preferable scenario, the need for long-term planning was emphasised, especially with regards to larger societal and environmental issues. In this case, automation has less of an impact; it is carefully managed and supplements human work.

The future of marketing can be described as intensely personal. Marketing systems will have access to consumers' demographic information, behaviour, affinities, and physical location at any given time. Machine learning will optimise targeting and delivery, and smart devices link our physical selves to our digital entities, providing marketers with invaluable data. This study will argue that marketing is therefore one of the most valuable applications of artificial intelligence, and that the pace of change largely depends on the factors discussed in each of the scenarios and in the discussion chapters.

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Chapter 1 – Research Overview

1.1. Introduction

The discipline of marketing has evolved considerably in the last ten years, particularly since the advent of social media and digital marketing. The future of marketing however, is poorly understood given transformative and exponential technologies, and research is limited. This thesis therefore serves as a timely and actionable contribution to an important and potentially new field of study: the future of marketing. Furthermore, the topics of business and employment are examined as future developments in these areas will directly impact marketing practice. This study will show that there are unprecedented technological advancements on the horizon, and that there is an impending "paradigm shift in the marketing game" (Forrest & Hoanca, 2015, p. 55).

The marketing discipline remained unchanged for much of the 20th century. Its purpose was to increase profitability through brand awareness, and to communicate a product's value to a defined audience (Rekha, Abdulla, & Asharaf, 2016; Armstrong, Adam, Denize, & Kotler, 2014). While this is still valid, the discipline has been bolstered by new technologies and ever-improving digital-first strategies (Tiago & Verissimo, 2014). These have led to today's concepts of Big Data, disruption, digital transformation, and artificial intelligence in a business context, all of which have recently experienced an "explosion of interest" (Akter & Wamba, 2016, p. 173). New technology is destined to benefit both marketers and consumers, with the latter being more empowered than ever. For marketers, there will be a new wave of "unprecedented marketing research and communication capabilities" (Forrest & Hoanca, 2015, p. 45), and for consumers, the free flow of information will provide the ability to "bypass or question the corporate marketing message" (Forrest & Hoanca, 2015, p. 45). Marketing is in a constant state of change, and as societal and technological complexity grows, marketers must keep up with the developments in their industries (Erragcha & Romdhane, 2014; Dussart & Nantel, 2007).

New technologies have produced an "unprecedented breadth and depth of data" (Anthes, 2014, p. 28), combined with the development of advanced tools to process and draw insights from that data for marketing purposes. Although data-driven marketing is still in its infancy (Akter & Wamba, 2016), the use of data enables the creation of highly "targeted marketing" (Zhou, Fu, & Yang, 2016, p. 221) campaigns that are measured and tracked with "sophisticated data analytics" (Chang, 2016, p. 1), generating new knowledge and insights. Big Data has emerged as "the new frontier of innovation and competition" (Akter & Wamba, 2016, p. 190), and the implications for the marketing discipline – and business at large – are significant; the innovations are "changing the landscape" (Zhou et al., 2016, p. 217).

Although data has been used by marketers for some time in determining market segmentation and campaign outcomes (Chien, Kerh, Lin, & Yu, 2016), the opportunities are boundless with the arrival of Big Data and the "appearance of infinite computing resources available on demand" (Armbrust et al., 2010, p. 51). The sheer scale of data, and importantly, the information that it contains, has been facilitated by the "rapid development of sensor technology, wireless transmission technology, network communication technology, cloud computing, and smart mobile devices" (Zhou et al., 2016, p. 215).

Privacy is a well-publicised concern, with Big Data making it "even more difficult to control" (Oliver & Vayre, 2015, p. 7). Marketers will often find themselves working with information that has been obtained "without the consent or knowledge of the individuals involved" (Anthes, 2014, p. 28), and there is always the "potential for abuse" (Anthes, 2014, p. 28). For marketers, this "shadow information seems like a dream come true" (Oliver & Vayre, 2015, p. 7), and many will be tempted to exploit the lack of privacy in developing their targeted campaigns, and to accurately forecast customer behaviour (Fan, Lau, & Zhao, 2015). While marketers will argue that data enables the creation of tailored advertisements that will benefit consumers due to their interests (Anthes, 2014),

the principal driver is to "track each user's behaviour and connect the dots" (Akter & Wamba, 2015, p. 173), leading to a "higher conversion rate" (Akter & Wamba, 2015, p. 173).

Arguably the most significant transformation in marketing's future will be artificial intelligence (Rekha et al., 2016; George et al., 2014). This technology is in the "nascent stage and its impact is predicted to increase exponentially" (Forrest & Hoanca, 2015, p. 59). It has enormous potential given "recent advances in deep-learning algorithms" (Forrest & Hoanca, 2015, p. 46), however there is much work still to be done to bring these products into fruition. At present, marketers can utilise relatively sophisticated data analytics, however in future, adjustments should be real-time and automated. The rules of the marketing game are changing, and a redefinition of existing roles is taking place.

Artificial intelligence will lead to unprecedented and even unimaginable changes in marketing. Machine learning, which is part of the mechanics of artificial intelligence, will serve as an "all-knowing and all-powerful entity" (Forrest & Hoanca, 2015, p. 45) for market research, which will itself become automated. Privacy may fall by the wayside as marketing applications use deep learning to predict consumer behaviour, utilising "every search, download, blogpost, picture, Facebook conversation, product evaluation, tweet, credit card purchase, media consumption preference and/or any and every other bit of information" (Forrest & Hoanca, 2015, p. 58).

In addition to marketing, there are a range of societal factors that face disruption due to technology, including task and job automation. As Autor (2015) explains, "automation may prevent the economy from creating enough new jobs … as computers get more powerful, companies have less need for some kinds of workers" (p. 3). This has far-reaching implications both for and beyond the marketing discipline, and learnings can be applied in a variety of contexts.

The pace of technological and societal change during the next 50 years will not be like the last; one cannot expect this trajectory to accurately describe the future (Bowersox, 2013; Jackson & Deeg, 2012). Throughout the 20th century, core business functions did little more than evolve with the times. While they embraced new processes and technologies as they came, the fundamental models of production, marketing, selling, and so on remained the same within their respective cultural contexts (Christensen, Anthony, & Roth, 2013; Amit & Zott, 2010; Teece, 2010). Traditional business models, however, have been upended in the last 10-15 years due to the proliferation of disruptive, low cost technology (Baden-Fuller & Haefliger, 2013; Chesbrough, 2013; Teece, 2010), and this study identifies and discusses many of these factors.

1.2. Aims

The discipline of marketing is constantly evolving; it is steadily shaped by new technology, with the pace of change accelerating in the late 2000s. The future of marketing is of significant interest to practitioners, particularly given the many expected innovations around analytics, Big Data, machine learning, and artificial intelligence. These concepts will not only have a major impact on marketing, but also business and society at large. Despite the many significant changes on the horizon, futures researchers have largely overlooked this field. This research aims to address this, and to provide timely insights into how exponential technological growth and disruption in business will impact marketing during the next two decades and beyond. Further, this research will generate findings that can assist business leaders today.

1.3. Objectives

To fulfil the aims of this research, six high level objectives were developed. Primary research was included to gain the current knowledge of business leaders, and to compare these findings with both academic and non-academic literature. The additional secondary sources were sought for comparative

analysis, and included think tanks, research institutions, and professional online publications. In combining the findings from these sources, the research questions can be addressed, and the aims of the research met. The following objectives form the basis of the research process:

1. To best describe the future of marketing given societal change and the emergence of disruptive technologies, the latter including 'deep learning' and 'artificial intelligence';

2. To develop scenarios that categorise and interpret the findings around the future of business and marketing, utilising both the primary and secondary research;

3. To accurately describe the factors that will shape the future of business and employment, and to explain how they will impact the future of marketing;

4. To gain the views of senior business practitioners across a range of industries on the future of marketing, business, and more generally, society and employment;

5. To gain the views of international futurist think tanks, research institutions, and professional online publications, and to compare the findings with the scenarios developed in this study; and

6. To use the results of the analysis to develop insights that can potentially assist New Zealand businesses in their marketing decisions, and to encourage the use of new marketing technologies moving forward.

1.4. Research Questions

The research questions for this study fit into three interconnected topics: marketing; business; and employment. The questions also influence the semi-structured interview guide that is used during the primary research phase (located first in the appendix). To describe the future of marketing and business at large, the research questions range from looking at the changes during the last

two decades, to gathering information on current trends and technologies, to developing a view of how business will likely evolve during the next two decades. The topic of employment in the future is included as any significant changes will also impact marketing, and most importantly, marketers themselves.

1. What major societal and technological changes stand out as having significantly impacted the studied sectors over the last two decades?
2. How are the sectors likely to evolve over the next two decades? What are the major changes and drivers, and what are the common factors?
3. To what extent will concepts such as 'Big Data', 'Cloud Computing', and 'the Internet of Things' impact the future of marketing?
4. What are the main issues hindering businesses today?
5. How will employment be impacted over the next few decades and how does this affect marketing?
6. Are organisations actively looking to the future and planning for disruption?
7. Based on all research, how will the discipline of marketing evolve over the next twenty years? What are the implications for marketing professionals today?

1.5. Outline & Approach

This thesis begins with an academic literature review in Chapter 2, which examines the following topics: futures studies, marketing history and current theory, disruption in business, the concepts of the singularity and artificial intelligence, the future of work, and more general issues. The methodology used in this study is explained in Chapter 3, which includes an overview of the primary research process, i.e. personal interviews. The selected participants were company executives, directors, and senior practitioners who are typically regarded as leaders in their companies and/or industries. It was hypothesised that such professionals would be sufficiently aware of potential disruption to

their business models, and capable of discussing the role of innovation and how this may impact marketing. In Chapter 4, the results of the personal interviews are presented in the form of a narrative analysis, beginning with a thematic analysis that is linked to each research question. Chapter 5 presents three scenarios (alternative futures), which was developed to integrate the primary research findings with the literature review. Chapters 6 and 7 studied non-academic sources, including material from think tanks, research institutions, and professional online publications. In Chapter 8, the study's complete findings were canvassed to answer the final research question: Based on all research, how will the discipline of marketing evolve over the next twenty years? What are the implications for marketing professionals today? Finally, in Chapter 9, the study's conclusions are stated and recommended future research topics are identified and explained.

Chapter 2 – Literature Review

2.1. Futures Studies

2.1.1. Introduction

There has long been a "human need for anticipation … from the pre-scientific use of prophecy, through numerical forecasting, to the qualitative methods of futures studies developed in the late 20th century" (List, 2005, p. 10). Pre-scientific approaches largely concluded around the time of the industrial revolution, supplanted by quantitative forecasting methodologies that emerged as the new standard during this massive social and economic transition.

With the advent of scenario-based methodologies and "alternative futures" (List, 2005, p. 11), futures studies embraced complexity. As explained by van Notten et al. (2005), scenarios are "descriptions of possible futures that reflect different perspectives on past, present, and future developments" (p. 176). According to Bishop et al. (2007), the use of scenarios in futures studies ultimately makes the research more inclusive of uncertainty by invoking the 'possibility space', which is critical to the development of possible and likely outcomes. This is supported by the notion that the future is "partly uncertain and dynamic" (Herrmann, 2010, p. 92). According to a study by Ramirez, Mukherjee, Vezzoli, & Kramer (2015), there has been a decline in what they consider to be 'interesting research' in management academia, which is loosely defined as "research that develops theory, is innovative, and less formulaic" (p. 70). In their view, scenarios methodology provides these missing features and researchers should be motivated to use scenarios in futures studies.

Herrmann (2010) states that "scenarios encompass a variety of future possibilities and interdependencies … [they] do not necessarily achieve the highest accuracy in describing future developments, but are able to generate comprehensive knowledge about the range of available decision options and

necessary framework conditions" (p. 94). Ramirez et al. (2015) define scenarios as "a small bespoke set of structured conceptual systems of equally plausible future contexts, often presented as narrative descriptions" (p. 71).

Scenarios can be traced back to the 1950s, and as a qualitative method it has been continually developed to this day, albeit somewhat quietly in academia. As explained by List (2007), this is potentially due to the perceived "difficulty of applying the academic theoretical foundation of causality to events possibly taking place in the future" (p. 1). As a methodology, scenario development arose out of a need for mapping multiple futures that were more accurate than traditional statistical, singular forecasting had proven to be. As claimed by List (2004), it is now "one of the most widely used methods of foresighting" (p. 24).

Fundamentally, we are not predicting the future beyond any doubt (Schatzmann, Schäfer, & Eichelbaum, 2013). Furthermore, we cannot say that any given future state or set of events is the most correct answer as uncertainty is always present (Postma & Liebl, 2005). Using any future studies methodology, the researcher is constructing a future state that is connected to the present via a plausible path (Schatzmann et al., 2013; Bishop, 2007; McDowall & Eames, 2006; McBurney & Parsons, 2003). Assumptions are then examined for their validity, including looking at alternative data that could equally be true.

One strong motivation for future studies is the unprecedented ecological, social and economic issues that we face, so that we can engage with an array of futures and implement strategies for achieving the most desirable. As these issues are not only significant but also long-term, it makes sense to cement studies well into the future. Timeframes of even beyond 50 years are therefore acceptable (Inayatullah, 2011). When we identify the many issues in contemporary society, we begin to realise the extent to which systems must change (see the range of work by Inayatullah, 2012, 2011, 2010). Change is necessary, hence why we are interested in fixing our gaze well into the future rather than merely looking at current trajectories. As Wiek, Binder, & Scholz (2006) explain, "economic decline,

social instability, and environmental depletion" (p. 740) each serve as an impetus for futures research. Current issues are deeply entrenched in history, often more than we realise. Long-standing narratives keep to certain patterns, even when social and technological paradigms have shifted. Predictability is certainly possible according to this belief, reality itself does not change (Inayatullah, 2012). It is worth noting that studies of this nature are also becoming increasingly depended upon by decision-makers; McDowall & Eames (2006) state that the use of scenarios and roadmaps are "increasingly used in academia, government and industry as a means of coping with uncertainty in areas with long planning horizons" (p. 1,236).

2.1.2. Types of Scenarios in Futures Studies

This research includes the following scenario types in its analysis: Possible, Probable, Preferable, and any wildcard events, all of which are contained within what is known as the possibility space (Inayatullah, 2008; List & Metcalfe, 2004; Voros, 2003; Hirschorn, 1980). Full definitions of these are included in section 3.6 [Scenario Development] of the methodology chapter. As discussed by Carlsson-Kanyama et al. (2008) and Quist and Vergragt (2006), the scenarios each set a scene that contains certain features or capabilities that may be present in future. For researchers, it "reduces the risk of getting stuck on challenges of the present day instead of concentrating on the future vision" (Mont, Neuvonen, & Lähteenoja, 2014, p. 26).

The use of scenarios or futures studies in general is not yet commonplace in marketing, with researchers focusing more on the present and largely ignoring the future – arguably at their peril. Studies are emerging however, e.g. Engelke, Mauksch, Darkow, & Gracht (2016), Miles, Saritas, & Sokolov (2016), and Schultz (2016). In Schultz (2016), three scenarios were developed and described as "alternative tracks for the future of advertising/marketing … [each with their] own values and importance" (p. 283). Although this study does not categorise its

scenarios according to any standard futures methodology (e.g. List & Metcalfe, 2004; Voros, 2003), they can be retrospectively applied and the results are nevertheless useful.

In the first scenario from Schultz (2016), it is said that practitioners "will slowly but surely evolve solutions to fit the changing nature of the marketplace", which fits within the 'probable' future category (Voros, 2003). It is further explained that this scenario, although an effective base, is unlikely given that "our present systems simply are not adaptable to or capable of moving at the speed of knowledge development and/or technological change" (Schultz, 2016, p. 283). In the second scenario, innovative and "unproven concepts and supporting points" (Schultz, 2016, p. 283) hint at a 'possible' future scenario. This scenario describes a role reversal of sellers and consumers, with an entirely new approach of communicating needs. The third scenario describes a "total reinvention of the field and how it is practiced" (Schultz, 2016, p. 284), which could be considered in both 'preferable' and 'possible' future scenarios. Marketing in this scenario utilises artificial intelligence and automation technology, where "machines talk to and negotiate with other machines without human intervention" (Schultz, 2016, p. 284). The researcher finally poses an important question for futures studies, asking whether ongoing research in this area will be proactive or simply based on present knowledge. This is a key motivator for using scenarios, as it enables the researcher to bring together and study competing knowledge.

In more general cases, the use of scenarios is included in a study by Wübbels et al. (2006), where different degrees of government regulation in the energy sector were illustrated. This brings together a range of hypothetical future states that are expected, desired (and undesired), and is useful for practitioners today given the sector's complexity. In another study, Evans et al. (2013) used scenarios for looking at the future of the Great Barrier Reef and stated that scenarios "elicit a diversity of responses from multiple stakeholders ... that contributed new and interesting insights into how adaptation is perceived" (p. 854). Finally, scenarios are useful in futures research because they "involve

processes of inquiry that can guide the research of complex issues involving long range dynamic processes in uncertain contexts by accommodating and comparing different perspectives; and can involve doing so in a number of iterations that makes it possible to revisit and revise assumptions" (Ramirez et al., 2015, p. 72).

2.1.3. A Background in Futures Studies

There are several epistemological approaches in futures studies (Inayatullah, 2012). First is the notion that the future is unpredictable, predominantly based on poor accuracy in the past combined with a perceived lack of a scientific grounding. This is followed by the notion of history, which stipulates that deep historical knowledge allows one to better predict the future. In this epistemological approach, history "leaves recognisable traces" (Inayatullah, 2012, p. 406) of data/patterns that provide evidence for research. More importantly, history reveals to us the compounding rate of change in the world, emphasising the difficulty in predicting the future. This is illustrated by Kaplan & Stelle (1998):

> "If an educated person of any culture in the year 1000 had received a miraculous vision of the world in the year 2000, he might as well have said: You cannot get there from here. So much of what we take for granted would have been beyond his wildest imagination, let alone his comprehension" (p. 13).

As concluded by Inayatullah (2012), "The most rewarding framework is likely to be a complex combination of eclectic, interactive, macrohistorical and epistemic" (p. 415).

Another approach in futures studies is backcasting, which offers conceptual advantages over traditional forecasting methodology. Forecasting, by its very

nature, is cemented in the present, influenced by today's technological and social paradigms. Such a mindset can result in findings that draw out negative trends and predict catastrophe as solutions can be out of sight, especially if scenarios are not used. List (2005) explains how backcasting can be considered the opposite of forecasting: "With forecasting, one begins at the present and creates a timeline into the future. With backcasting, one begins with an end-state and works back in time to determine how that end-state could be arrived at" (p. 25). In addition, Schatzmann et al. (2013) seek to "delineate from forecasting" (p. 2) with the use of foresighting, which is aimed at emphasising the "explorative nature of the processes involved" (p. 2). Any of these approaches can be used in a scenarios framework.

McDowall & Eames (2006) note that forecasts are "characterised by the use of quantitative methods to predict futures based on current trends, or based on surveys of expert opinion" (p. 1237). To free ourselves from today's mindsets and uncover "narratives of possible futures" (Mont et al., 2014, p. 26), we can develop an array of future scenarios through foresighting and backcasting. These provide methods for creating plausible and preferred future scenarios, whereby certain trajectories are traceable from the future concept to the present reality (McDowall & Eames, 2006). Research that just uses forecasting may discount such trajectories based on perceived limitations at present, or it may miss them altogether. As explained by List (2004, 2005), Inayatullah (2011), and utilised by Mont et al. (2014) and Gaziulusoy, Boyle, & McDowall (2008), backcasting future scenarios unlocks potential, explores the unimaginable, defines ideal states (e.g. a 'sustainable' society), identifies pathways, and recognises nonlinearity and complexity. Complexity is acknowledged by Schatzmann et al. (2013), who explain that foresight strategies, in theory, seek to reduce this complexity and "create knowledge" (p. 2).

There are several data collection methods, including personal interviews of relevant experts, which is used in this study. Inayatullah (2012) concludes that the best approach is to embrace the freedom to mix, which enables the

researcher to reduce bias, particularly when accompanied with methods such as "trend analysis, emerging issues analysis, scenarios and visioning" (Inayatullah, 2012, p. 404). As a starting point, Inayatullah (2012) highlights the "accuracy method" (p. 402), which could be described as akin to forecasting. It encourages the researcher to develop a broad understanding of current technology and trajectories, however as technology is unpredictable, paradigm shifts need to be accounted for in the possibility space.

It is also noted that researcher intentions can potentially be detected in data. Nevertheless, this method recognises that epistemology "is complicit in ontology" (Inayatullah, 2012, p. 403). While a mixed approach is ultimately considered ideal, complexity is increased and the compatibility of processes is questionable. A grounding in scientific understanding and technology, social, and political awareness provides a platform for more open discussion during primary research. A post-structuralist notion would be to recognise how these scientific facts may be interpreted given variations in measurement, analysis and intention. In addition, critical questions, for the purposes of disruption in the research, can be asked, e.g.: "what is missing in the analysis, what is not being said?" (Inayatullah, 2012, p. 404).

In a different approach, List (2004) distinguishes between two types of future: an extended habit, and future as taking new, unpredictable paths. An extended habit is the continuation of narratives, whereas the more unpredictable future may be driven largely by shifted narratives/metaphors held together by total systemic changes. Despite the unpredictability of the future, one is still able to use the model of reflection to create a scenario map (List, 2006). With this unpredictability, Inayatullah (1998) explains that to think about the future is to think about today; we must link the "present and past to create alternative futures" (p. 815).

2.1.4. Complexity in Futures Studies

The study of futures is inherently complex; it is "underpinned by systems thinking" (Floyd, 2008, p. 139). McMaster (1996) discusses the flawed assumption that the "world works like a machine and that it is predictable and understandable in considerable detail" (p. xi). Complexity in futures studies is amplified due to unexpected emergent phenomena. Complexity is "beyond linear understanding … beyond simple cause/effect" (McMaster, 1996, p. 13), and it must be appreciated that to explore the future is to explore unknown complexity.

As McMaster (1996) further explains, "[c]omplexity has been described as 'at the edge of chaos'. In this state, patterns can be seen and even understood, but the rich interplay of individual elements cannot be reduced to individual elements" (p. 13). Systems thinking is especially important for future studies as methodologies were largely developed before complexity was fully appreciated, thus there is room for improvement. According to Floyd (2008), "the incorporation of systems thinking and practice into the futures field can be seen as a response in its own right to the need for deeper approaches to deal with complex, human-related problems" (p. 139). In his research, List (2004) acknowledges complexity and stresses the importance of distinguishing "between the main system…and impinging systems: other systems that influence the main system" (p. 26).

Lastly, the world has become increasingly complex due to the ever-expanding globalisation and diversity of people, capital, culture, language, and communication (Senge, 2012; Groff & Smoker, 1997). This vast openness and ease of global interaction has increased the "complexity of human urban systems" (Boyle et al., 2010, p. 4837) and brought with it a substantially "accelerated pace of life" (Rosenau, 2005, p. 21). Appreciating sustainability in futures studies is important for mapping out preferred and plausible states due to the "interactivity of ecosystems, biodiversity, the carbon cycle, the

atmosphere, [and] geothermal cycles" (Wells, 2012, p. 1). Global complexity implies that "a crash in one major planetary support system may create some domino effect" (Wells, 2012, p. 7). Ultimately, as Floyd (2008) explains, systems thinking enables a researcher to deal with complex and transdisciplinary issues, thus "might be expected" (p. 138) in futures studies.

2.2. Marketing; Then, Now & Beyond

2.2.1. A Concise History of Post-Industrial Marketing Definitions

When the Great Depression struck in 1929, economic activity sharply declined and businesses of all sizes struggled to stay profitable, resulting in mass unemployment. It was during this time that the post-industrial concept of marketing began to take shape as a professional practice, as businesses urgently sought ways to increase revenues. In the 1930s, marketing was described as any business activities that improve the flow of goods from producer to consumer via a manual distribution network, and to increase production efficiencies (Maynard, Weilder, & Beckman, 1932; Coverse, 1931). This was cemented in 1935; the National Association of Marketing Teachers – a predecessor to the American Marketing Association (AMA) – defined marketing as "the performance of business activities that direct the flow of goods and services from producers to consumers" (AMA, 2008, p. 2). Within a few years, Barker & Anshen (1939) provided a broader view by suggesting a range of functions, including selling, financing, risk management, and inventory.

Following the Second World War, the resurgence in economic activity generated renewed interest in marketing. Duddy & Revzan (1947) saw marketing as a planned activity to not only service existing 'wants' but to create new 'wants' of consumers. This is supplemented by Converse & Jones (1948) who again emphasised the greater role of marketing, with functions in selling, buying,

advertising, warehousing management, and transportation. This view was not held by all however, with Alexander, Surface, & Alderson (1949) re-introducing the 1930s definition, stating that the purpose of marketing was solely the efficient transfer of goods to consumers.

By the 1950s, the concept of marketing as a 'science' emerged, with many scholars suggesting that the discipline required analytical/scientific research to fulfil business objectives (Hutchinson, 1952; Miller, 1950; Vaile, 1949; Brown, 1948; Alderson & Cox, 1948). Bartels (1951) specifically characterised marketing as a science as it involved calculated predictions that were to be used for strategic decision-making. It was also during this time that marketing began appealing to the much broader domain of all human social behaviour.

From the mid-1950s to the 1970s, marketing changed forever; it became standardised and many academic theories were developed during this time (see Shaw & Jones, 2005; Keith, 1960; Wasson, 1960; Smith, 1956). A modern definition of marketing was thus formed, which included market segmentation, product differentiation, product life-cycle, and the marketing mix – originally the 4Ps – which advocate the concepts of product (planning and design), price (pricing strategies), promotion (advertising), and place (distribution channels). Importantly, the volume of production increased exponentially during this time, which was supplemented further by the significant growth in international trade.

With the global increase in consumerism and heightened competition amongst producers and marketers, many new definitions of marketing were put forward. Rogers (1963) defined marketing as:

> "A social process by which any organism, individual, enterprise, or institution – be it an army, business, church government, hospital, industry, political party, school or social club – relates itself to its external environment. In this relationship the organism provides services for and

exchanges values with this environment and thereby justifies the right of its continued existence" (p. 184).

Barwell (1965) viewed marketing as a philosophy:

"The marketing concept is a philosophy, not a system of marketing or an organizational structure. It is founded on the belief that profitable sales and satisfactory returns on investment can only be achieved by identifying, anticipating and satisfying customer needs and desires" (p. 3).

Kotler (1967) proposed a definition that emphasises the needs and wants of consumers:

"The analyzing, organizing, planning and control of the firm's customer-impinging resources, policies, and activities with a view to satisfying the needs and wants of chosen customer groups at a profit" (p. 12).

Eldridge (1970) defined marketing as:

"a combination of activities designed to produce profit through ascertaining, creating, stimulating, and satisfying the needs/wants of a selected segment of the market" (p. 4).

Star, Davis, Lovelock, & Shapiro (1977) placed emphasis on targeting:

"That process through which a business enterprise, institution or organization 1. selects target customers or constituents 2. assesses the needs or wants of such target customers and 3. manages its resources to satisfy those customer needs or wants" (p. 2).

According to Drucker (1969), marketing and innovation are inextricably linked. He coined the term 'innovative marketing' and explained that it "creates

markets … New technology always needs new markets which were not even conceivable until the new technology created new demands" (pp. 52-53). In differentiating marketing and sales, Drucker (1973) explains that the "aim of marketing is to make selling superfluous … to know and understand the customer so well that the product or service fits him and sells itself" (pp. 64-65). This definition is unique in the sense that it suggests that with good overall marketing, selling almost becomes automatic.

It was also suggested during the 1970s that purchasing behaviour is integral to marketing theory. As explained by Kotler and Levy (1973), "buying is marketing too" (p. 56), and marketers must be able to take a consumer's point of view. As further explained by Kotler and Levy (1973), "just as sellers use various marketing techniques to attract buyers, buyers can resort to various marketing measures to gain a response from sellers ... Marketing is a tool available to both parties in the transaction" (p. 59).

In the 1980s, marketing continued to embrace this notion of exchange between producers/marketers and consumers. According to Mandal & Rosenberg (1981):

> "Marketing is an exchange process between producers and consumers, in which the producer matches a marketing offering (the product or service, plus its promotion, distribution and price) to the wants and needs of the consumer" (p. 6).

Cunningham et al. (1987) assert that "at the heart of any definition of marketing is the notion of exchange" (p. 5). This view has been acknowledged by several scholars throughout the 1980s (e.g. Bonoma, 1985; Hartley, 1983; Kotler, 1982).

When the American Marketing Association refined its definition of marketing in 1985, some scholars accused it of lacking social considerations, which revealed a new dimension of academic thought around marketing (see Littler & Wilson, 1995; Gronroos, 1989). The definition was:

"Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives" (AMA, 2008, p. 2).

In addressing this, Gronroos (1989) proposed the following:

"Marketing is to establish, develop and commercialise long-term customer relationships, so that the objectives of the parties involved are met. This is done by a mutual exchange and keeping of promises" (p. 57).

This focus on long-term value became further ingrained in the 1990s, when traditional business hierarchy was being challenged across many industries, and when closer buyer-seller relationships were emphasised by savvy marketers aiming to make deeper inroads into markets. In 1991, the Harvard Business Review argued, "marketing today is not a function; it is a way of doing business ... Marketing has to be all-pervasive, part of everyone's job description, from the receptionists to the board of directors" (McKenna, 1991, p. 6). In support of this changing perspective, Webster Jr. (1992) proposed a new definition for marketing:

"It is the management function responsible for making sure that every aspect of the business is focused on delivering superior value to customers in the competitive marketplace ... Marketing as a distinct management function will be responsible for being expert on the customer and keeping the rest of the network organization informed about the customer" (p. 14).

The discipline continued to evolve in the 1990s, with 'relationship marketing' gaining more attention, and a "continuous sensitivity and responsiveness to market needs" (Lynch, 1994, p. 529). According to Baker (1996), marketing finally

became recognised as a significant discipline in academia, assisted by the widespread study of globalisation.

Marketing was again framed as a social process by Kotler (2000), where he described it as "a societal process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products and services of value freely with others" (p. 4). The American Marketing Association again revised their definition in 2004 to reflect societal changes:

> "Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders" (AMA, 2008, p. 2).

The concept of linking marketing and innovation was again raised by Drucker and Maciariello (2008), who argued the following:

> "There is only one valid definition of business purpose: to create a customer ... Because the purpose of business is to create a customer, the business enterprise has two—and only two basic functions: marketing and innovation. Marketing and innovation produce results; all the rest are costs" (p. 30).

In defining marketing in the late 2000s, scholars increasingly incorporated social and ethical dimensions (e.g. Dann, 2010). Schultz II (2007) was one who defined marketing in this way:

> "Marketing is a form of constructive engagement—a societal function and a systemic set of processes for creating, communicating, and delivering value to customers and for managing customer and societal relationships in ways that benefit local and global stakeholders of these processes" (p. 293).

Lee and Kotler (2008) attempt to separate social and corporate marketing, by stating that "in the commercial sector, the primary aim is selling goods and services that will produce a financial gain ... In social marketing, the primary aim is influencing behaviors that will contribute to societal gain" (p. 14). Nevertheless, this is highly situational and sector-dependent, and such a distinction is arguably unnecessary given that the tools and strategies used are likely similar. In their 2009 definition, the Chartered Institute of Marketing proposes the following: "Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably" (CIM, 2009, p. 2). This is based on several previous definitions, including Lee and Kotler (2008), and AMA (2008).

The current definition of marketing published by the American Marketing Association in 2013 is as follows:

> "Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large" (AMA, 2017, p. 1).

As has been shown in this section, the definition of marketing has been adjusted continually since the early 20th century, typically in line with changing consumer demands, societal factors, and more recently, by technology. The remainder of this thesis will identify the latest trends and tools in marketing, and hint at what is coming in future, for instance automation and artificial intelligence-driven marketing. As breakthrough innovations take over the marketing space, academia will need to keep revising the relevant definitions, especially giving the changing nature of 'human marketers'.

2.2.2. The Marketing Discipline Evolved

The fundamental goals of any marketer are to raise brand awareness, to foster and manage profitable relationships, and to communicate a product's value to a targeted audience (Rekha et al., 2016; Armstrong et al., 2015). Further, it involves processes for "creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large" (Armstrong et al., 2015, p. 4). An understanding of human behaviour is key, and marketers "need to understand why customers, competitors and stakeholders behave as they do, so that they can influence and generate profits from this behaviour" (Hastings & Saren, 2003, p. 306).

Many years ago (e.g. in Luck, 1969), it was stated that marketing's role should forever remain "restricted to market transactions" (Hastings & Saren, 2003, p. 307), as any other responsibilities would serve only as a distraction from its core purpose, and threaten its "identity" (Hastings & Saren, 2003, p. 307). Nevertheless, during that same era it was recognised that change was becoming a way of life in marketing – Louth (1966) saw it as constantly quickening. The discipline has long had clearly definable boundaries within an organisation (Coviello et al., 1997); to research the market, to increase sales, and to support as much production as possible "to fill the voracious consumption appetites of product-deprived consumers around the world" (Schultz et al., 2012, p. 422). Marketing has therefore only focused on market signals, and provisioning resources with the greater good in mind was never its responsibility or purpose. Such thinking dominated marketing theory in the 20th century (Armstrong et al., 2015; Weitz & Wensley, 2006), however important changes have come about in recent years due to evolving consumer expectations. As Schultz et al. (2012) explain, many of the changes "have come as the result of technologies, which have benefited both the marketer and the customer" (p. 430). Kong (2005) believes that traditional marketing, by its nature, made "no explicit recognition of the long-term value of the customer" (p. 12), thus there was always need for change.

Another role of marketing is to establish a product's value proposition; to "attract new customers by promising superior value" (Armstrong et al., 2015, p. 4). It is further defined as an understanding of how a product provides value to the market, and how it is differentiated from competitors' offerings (Armstrong et al., 2015). This critical responsibility is typically shared between marketing, product development, and management. Successful businesses are "focused on their customers and their competitors, and they have a commitment to sharing this marketing information with all parts of the organisation" (Armstrong et al., 2015, p. 4).

Much has changed in recent years, and while the traditional approach of a campaign was to simply "blast out messages to the masses" (Armstrong et al., 2015, p. 4), today's mechanisms are far more personal, tailored, and utilise data sets that go far beyond the notion of customer segmentation. This is supported by Erragcha and Romdhane (2014), who state that the mass marketing approach has become a process that is "tailored [with] specific individual offers" (p. 137). There is now a "granular" (George et al., 2014, p. 321) focus on the individual, and this level of personalisation can be implemented on a large scale (Kaplan & Haenlein, 2011).

As van Auken (2015) explains, "the more that one knows about consumers, the more effectively that one can communicate with them and market to them" (p. 40). Traditional theories, including the concept of the "4Ps (price, product, place and promotion) of the marketing mix" (Crawford, 2016, p. 336), are quickly becoming outdated and insufficient in modern marketing practice. This trend against traditional theory began many years ago, with Coviello and Brodie (1998) stating that the "cornerstones of the traditional approach (the marketing mix, the marketing department, market segmentation and performance measurement based on market research and market share statistics) [are] inappropriate for contemporary marketing practice" (p. 171). With the "development and diffusion of new information technologies, traditional

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marketing … has been changed forever" (Schultz et al., 2012, p. 424). As Erragcha and Romdhane (2014) summarise, "deep changes have taken place in the field of marketing" (p. 137).

As societal and technological complexity grows, marketers must respond with constant openness and a willingness to evolve the discipline (Erragcha & Romdhane, 2014; Dussart & Nantel, 2007). Notions of consumer participation, storytelling, and brand-led story-making have become mainstream (Lapides & Chen, 2016; Zwick & Bradshaw, 2016), and the view that marketing methods should be "designed to discipline and control consumers" (Zwick & Bradshaw, 2016, p. 104) has become less prevalent.

While near-instant, person-to-person communication has been possible on a global scale for decades, the democratisation of the Internet, even in poorer nations, has revolutionised marketing practice. Individuals have become increasingly interdependent on social media platforms, broadcasting to the world their unfiltered opinions of organisations and marketing efforts, often leaving businesses on the receiving end of a compounding assault (Leeflang et al., 2014; Smith & Zook, 2011; Luan & Neslin, 2009).

The theory behind direct marketing has been brought into the world of digital marketing in the form of personalisation (Roetzer, 2011). Although the practice is not often mentioned by name, possibly given its historical connotations, the goal of targeting specific individuals remains. The channels and the means of doing so however, are vastly superior. The first digital iteration of direct marketing came about with database marketing, in which basic information about individuals was stored and used for campaigns, for example in email marketing (Kotler & Armstrong, 2011). These databases are now being superseded by analytical systems, and a tremendous amount of information is now collected about individuals' behaviour, both online and offline.

In their most recent book, Kotler et al. (2015) describe online marketing as "the fastest-growing form of direct marketing" (p. 550), and this message has not changed since their earlier work (Kotler & Armstrong, 2011). This does not do the modern discipline of marketing justice however, and it goes against the tide of both digital-first and digital-only strategies. Marketers have clearly indicated that online marketing is not just an enhanced form of direct marketing, it is in fact the basis of a new era of marketing entirely (Solis, 2010). New techniques will continue to be developed with technology, and "horizontal, collaborative, and participatory customer engagement" (Zwick & Bradshaw, 2016, p. 104) strategies will dominate marketing practice during the next few years.

Marketers are now in a world of on-demand technology, with services and resources delivered online within the framework of cloud computing (Chen, Chiang, & Storey, 2012; Armbrust et al., 2010). This foundation has paved the way for powerful new marketing services to be utilised at a low cost for businesses, which can be implemented with agility. The "elimination of an up-front commitment" (Armbrust et al., 2010, p. 51) in most cases means that companies can transition into new marketing strategies without significant capital expenditure, which was a hurdle for many smaller companies in the past. Agility in this context means that different tools and strategies can be tested in the short-term, without risking profitability.

2.2.3. The Arrival of Digital Platforms and Strategies

With the commercialisation of popular social media platforms, aggregate data was put up for sale, and vast numbers of consumers could be reached on an individual basis. These platforms define the interactive nature of "Web 2.0" (Berthon et al., 2012 p. 263), and can even be regarded as the digital glue between technology, culture, and government. According to Leeflang et al. (2013), this "digital revolution in society and marketing creates tremendous challenges for firms" (p. 2).

The purpose of commercialisation was to generate revenue from free services by providing marketers with access to users' data, especially around demographics and browsing behaviour (Huberty, 2015). Companies built on this by initiating digital-first engagement strategies, combined with real-time analytics on advertising performance. Given the possibilities, these new digital platforms provide marketers with a path to credibility in the boardroom. According to Kumar et al. (2013), this has become a legitimate issue, with "73 percent of CEOs reporting a lack of trust in the marketing department's ability to generate sales and increase customer conversion" (p. 330). Digital, when done well, removes much of the mystery around campaign performance. The burgeoning social media networks thus pose a key question to marketers; where does one focus their energy and money (Cova & Dalli, 2009; Humphreys & Grayson, 2008)?

Marketing campaigns that are implemented entirely online can take advantage of comprehensive tracking, analytics, and real-time variant testing. If ad copy is negatively affecting sales, the marketer can drop it and test another variation. In academic literature, there is considerable room for improvement, for example while Kotler et al. (2015) provide a description of measuring online campaign performance, their understanding is very limited and arguably not in step with contemporary practice. For researchers, the situation is complicated further by low levels of access to such technologies and data, "especially for social science and management research" (George et al., 2014, p. 323).

Mobile strategies take advantage of real-time location data combined with browsing and purchasing behaviour (Kaplan, 2012). It also serves as a point of constant contact for consumers regardless of their physical location (Hennig-Tharau et al., 2010). Through in-app and social media advertising, marketers can fine-tune their campaigns based on new insights, and they are given much greater exposure than in the past. The interactive nature of social media provides an open line of communication between companies and their

customers, and this also provides valuable feedback (Kaplan, 2012; Hennig-
Tharau et., 2010).

It quickly became clear that "traditional marketing approaches [were] unsuitable
for this new wild world of Web 2.0" (Zwick & Bradshaw, 2016, p. 92).
Collaboration was recognised as a key consumer desire, and the web served as a
"participatory medium … [with] … tremendous creative intellect" (Zwick &
Bradshaw, 2016, p. 92) that promoted continuous innovation in companies. As
stated by Erragcha and Romdhane (2014), marketers "should adapt and cope
with this new digital media to be closer to their customers" (p. 137).
Participation manifested itself in concepts such as "crowdsourcing, prosumption,
mass collaboration, peer production, and user generation" (Zwick & Bradshaw,
2016, p. 92), and the social benefits that these offer marketers is undeniable.
From a research point of view, there are "unprecedented opportunities" (George
et al., 2014, p. 324) given the wealth of information and the degree of
transformation that has occurred in marketing. As Zwick and Bradshaw (2016)
point out, research in this area can be motivated by the fact that there is a
seemingly "endless supply of surprises and novelty, presents the possibility that
the future has not been exhausted and perhaps never will" (p. 92). Management
research does not yet have a full appreciation as to what is possible (George et
al., 2014).

2.2.4. A Data Takeover

It is said that by 2020, there will be at least "30 billion devices … wirelessly
connected to the internet" (van Auken, 2015, p. 43). This surge in usage is driven
by the adoption of new technologies (George et al., 2014), which generate
"ambient data as by-products" (George et al., 2014, p. 322) due to our lifestyles,
including location data, purchasing behaviour, email and social network usage,
and details about our personal health (Kumar et al., 2013; Hennig-Tharau et al.,
2010). In terms of scale, Fan et al. (2015) state that the "petabytes of customer

records" (p. 31) today may seem insignificant in a matter of a few years. With data, the perception of marketing can change – it shifts from being a cost burden to one of great measurable value (Kumar et al., 2013).

Marketers increasingly have access to such information from a wide variety of sources, often in real-time (van Auken, 2015). With this information, potential customers can be analysed, including their buying preferences and how they respond "to specific marketing signal(s)" (Fan et al., 2015, p. 29). The use of data, while considered important, is not entirely widespread or well-implemented at this stage. According to Kumar et al. (2013), around 30 percent of businesses have "little or no customer data" (p. 330), and those with data often struggle to convert it into insights. It is noted that the complexity of the data can be overwhelming for marketers, given the "thousands of media touch points" (van Auken, 2015, p. 43). Nevertheless, there is considerable excitement surrounding data and the implications for business intelligence and analytics (Chen et al., 2012).

Marketing is evolving rapidly due to this "unprecedented breadth and depth of data" (Anthes, 2014, p. 28), combined with the development of advanced tools to process and understand that data for marketing purposes. Although data-driven marketing is still in its infancy (Akter & Wamba, 2015), the use of data enables the creation of "targeted marketing" (Zhou et al., 2016, p. 221) campaigns that are measured and tracked with "sophisticated data analytics" (Chang, 2016, p. 1), generating new knowledge and insights.

This tremendous volume of data is referred to as Big Data (Oliver & Vayre, 2015), which has emerged as "the new frontier of innovation and competition" (Akter & Wamba, 2015, p. 190). Big Data is regarded as a "disruptive technology that will reshape business intelligence" (Fan et al., 2015, p. 28), leading to better insights and decision-making. Outside of marketing, Big Data has implications for society, politics and national intelligence (Huberty, 2015; Chen et al., 2012), as well as

"disease spreads, commuting patterns, or emotions and moods of communities" (George, Haas, & Pentland, 2014, p. 325).

When people email, shop online, use social media, visit blogs, use loyalty schemes, pay bills, and so on, they are creating "digital traces" (Oliver & Vayre, 2015, p. 7) of their existence, which can be collated and sold (Fan et al., 2015). With advancements in data-driven marketing, there is a shift from the traditional notion of "well-defined target markets" (Armstrong et al., 2015, p. 4), to analytically targeted individuals, whose behaviour is tracked and predicted.

Although data has been used by marketers for some time in determining market segmentation and campaign outcomes (Kumar et al., 2013; Chien et al., 2016), the opportunities are now boundless with the advent of Big Data and the "appearance of infinite computing resources available on demand" (Armbrust et al., 2010, p. 51). The sheer scale of data, and importantly, the information that it contains, has been facilitated by the "rapid development of sensor technology, wireless transmission technology, network communication technology, cloud computing, and smart mobile devices" (Zhou et al., 2016, p. 215). As discussed, data sources are varied, with "community data" (George et al., 2014, p. 322) providing insights from review websites, voting pages, social media feeds, and so on. Such aggregation of data "from multiple devices" (van Auken, 2015, p. 43) enables marketers to understand consumers' behaviour across location and time, and thus make better decisions.

Insights from Big Data, according to van Auken (2015), provide the ability to look "significantly beyond targeting" (p. 44) and have a greater understanding of consumer trends to become more competitive. An investment into Big Data analytics is game-changing for businesses, and the hiring of data scientists is not uncommon for businesses that want to realise the full potential of marketing (Fan et al., 2015). Statistics in market research become more accurate, and "Big Data may pre-empt the need for samples" (van Auken, 2015, p. 43) given the lack of sampling error in forecasting behaviour. Difficulty in handling and processing

data is a major hurdle for businesses and marketers, and this expertise falls outside of the traditional marketing role (van Auken, 2015; Leeflang et al., 2013). As per Huberty (2015), the enthusiasm in this field often "stems from the confusion of data and knowledge" (p. 36).

The ability for marketers to explore causality beyond "patterns" (George et al., 2014, p. 323) is a key advantage that is brought about with Big Data. Predicting "individual action [and] consumer choice" (George et al., 2014, p. 321) will increasingly be handled by intelligent systems, thus machine learning has significant implications for marketing.

2.2.5. Data Marketing Science

The systematic use of data can be traced back to the beginning of the 20th century, with the work of Charles Coolidge Parlin for the Curtis Publishing Company in Boston (Wedel & Kannan, 2016). Today, data science has given marketing a tremendously powerful future. Deighton (2017) has referred to this science as "surveillance capitalism" (p. 358), where "marketing problems increasingly are addressed by IT solutions" (p. 361). The main challenge, according to Schoenherr & Speier-Pero (2015), is "how to deal with massive amounts of data, and how to leverage and apply predictive analytics" (p. 120). According to Chintagunta et al. (2016a), data science today is "built upon the diverse efforts of researchers who, for almost 50 years, have synthesized solutions from a variety of disciplines to provide new insight to marketing problems" (p. 341). In a separate paper, Chintagunta et al. (2016b) state that in future, "the synergistic use of computer science and marketing science techniques offers the best avenue for knowledge development and improved applications" (p. 21).

Big Data is closely related to the study of data science, although the latter places more emphasis on the science as opposed to the benefits in marketing. One of

the most important goals for marketers today is to be able to make marketing decisions based on data and analytics. Marketers therefore need to become more like data scientists, bridging creativity and technical/analytical skills. Data has been called "the oil of the digital economy" (Wedel & Kannan, 2016, p. 97). Connected applications collect and consolidate a significant amount of information on "how consumers feel, behave, and interact around products and services as well as how they respond to marketing efforts" (Wedel & Kannan, 2016, p. 97). Furthermore, it is clear that "the availability of big data is spawning data-driven decision cultures in companies, providing them with competitive advantages, and having a significant impact on their financial performance" (Wedel & Kannan, 2016, p. 97). For marketers, data is leading the charge in terms of personalisation, advertising, pricing, targeting, and marketing automation as a whole.

According to Schoenherr & Speier-Pero (2015), academic research into "data science, predictive analytics, and big data" (p. 124) has been scarce in a number of key fields, particularly supply chain management. The authors state that while papers stress the importance of Big Data analytics and the role of data science in their practice, very few have studied it well. In their case, the authors have used their expertise to develop a Master's programme in "predictive analytics, offering insight into the future potential of data science, predictive analytics, and big data (Schoenherr & Speier-Pero, 2015, p. 131) in their field.

Data science in marketing is interdisciplinary – it is "at the nexus of marketing and other areas of business, mathematics, statistics, economics, econo-metrics, psychology, psychometrics, and, more recently, computer science" (Wedel & Kannan, 2016, p. 98). It provides the means to obtain accurate insights into marketing performance, and to make the most appropriate decisions. According to Chintagunta et al. (2016b), data scientists and computer scientists "will improve their focus and research by taking advantage of the wealth of insights provided by marketing science" (p. 23), and the number of tools for marketers to use will continue to grow as a result.

Big Data is often characterised by four 'Vs': volume (bytes), velocity (data snapshots vs streaming), variety (media types), and veracity (accuracy) (Chintagunta et al., 2016a; Wedel & Kannan, 2016; Schoenherr & Speier-Pero, 2015). Data science, or more contextually marketing analytics, is especially concerned with the latter two. While some tools have a steep learning curve, it is relatively easy to access "computational capacity and user-friendly analytical software [that has] democratized the field of data science allowing many more scholars (and practitioners) to participate in the opportunities enabled by big data" (Agarwal & Dhar, 2014, p. 444).

For marketers, their skill sets will need to be "both broad and deep" (Wedel & Kannan, 2016, p. 116). As further explained by Wedel and Kannan (2016), "marketing analysts will be working increasingly at the interface of statistics/econometrics [and] computer science" (p. 116). To complicate this, marketing practice typically touches on advertising, product development, branding, company culture, and so on, and each of these areas have different data and analytics requirements. The complexity of marketing is steadily growing, stressing the need for a level of cognitive automation in the near future.

2.2.6. Marketing Technology (Martech)

Much of the discussion surrounding Big Data, artificial intelligence, machine learning, the Internet of Things (IoT), content marketing, and marketing automation, has been conceptualised as 'marketing technology', and given rise to the concept of 'Martech'. The term 'marketing technology' has also been discussed in a number of recent books, for instance Wright and Snook (2017), Linton (2016), and Brent (2016). According to the website of Martech Today, the organisers of the international Martech conference, "Martech especially applies to major initiatives, efforts and tools that harness technology to achieve marketing goals and objectives" (as of January 2018). Scott Brinker, the co-

founder and CTO of ion interactive, constructed a chart that reveals more than 5000 marketing software applications available in 2017, which highlights the enormous growth in SaaS products in just a few years (see Brinker, 2017). Purcarea (2016) describes the concept of Martech as "a grouping of technologies that marketers leverage to conduct and improve their marketing activities" (p. 36). Purcarea (2016) further describes the clusters that these technologies fit into, namely "Advertising & Promotion; Content & Experience; Social & Relationships; Commerce & Sales; Data; Management" (p. 37). Although the use of this term is limited in academic publications, it is relatively common in other sources such as business magazines, including in Forbes (Olenski, 2018), Inc. (Wright, 2015), and CIO (Kapko, 2016).

2.2.7. Ethical & Privacy Issues of Big Data

In a Pew survey cited in Martin and Murphy (2017), a particular respondent's comment was highlighted: "I share data every time I leave the house, whether I want to or not. The data isn't really the problem. It's who gets to see and use that data that creates problems. It's too late to put that genie back in the bottle" (p. 135). Baruh and Popescu (2017) support this, in stating that there is "sufficient evidence to indicate that people are quite concerned about the use of their data" (p. 585). Many of the concerns arise from the "widespread access to consumers' personal information … vulnerability to fraud, privacy invasions, unwanted marketing communications, and highly targeted, obtrusive marketing communications" (Martin & Murphy, 2017, p. 135). Privacy is often viewed as a "right, and discussions about the right to privacy are common" (Martin & Murphy, 2017, p. 137).

In marketing data science, privacy is a well-publicised concern, with Big Data making it "even more difficult to control" (Oliver & Vayre, 2015, p. 7). Marketers will likely find themselves working with information that has been obtained "without the consent or knowledge of the individuals involved" (Anthes, 2014, p.

28), and there is always the "potential for abuse" (Anthes, 2014, p. 28). For marketers, this "shadow information seems like a dream come true" (Oliver & Vayre, 2015, p. 7), and many will be tempted to exploit the lack of privacy in developing their targeted campaigns, and to accurately forecast customer behaviour (Fan et al., 2015). This goes back to the foundation of marketing, whereby consumers are to be "commercially exploited ... this is, after all, still marketing's raison d'être" (Zwick & Bradshaw, 2016, p. 104).

The case for a lack of privacy, albeit in other words, is generally touted as a positive for marketers. As Martin et al. (2017) state, "managers and academics alike contend that collecting and using customer data is an effective way to improve marketing returns" (p. 36). Martin and Murphy (2017) state that the "sophisticated use of consumer data allows for personalized product offerings and recommendations, price discounts, free services, and more relevant marketing communications" (p. 135). While data enables the creation of tailored advertisements that will benefit consumers due to their interests (Anthes, 2014), the principal driver is to "track each user's behaviour and connect the dots" (Akter & Wamba, 2015, p. 173), leading to a "higher conversion rate" (Akter & Wamba, 2015, p. 173). Many are challenging this flow of information however, and there is a call to empower people to have more control regarding what is collected, and more importantly, to determine "how that data will be used or sold" (Oliver & Vayre, 2015, p. 7). This highlights that there is much work to be done in this area, particularly in the legal sense as individuals' reputations are at great risk moving forward.

According to a study by Ferrell (2017), data privacy is "one of the most important issues facing marketing today" (p. 160). The research further explains that data vulnerability is also a major issue – "cybercrime, such as identity theft and online fraud, is a major concern" (Ferrell, 2017, p. 160). This concern is despite the best efforts of organisation to control their data through "the development of principles, values, norms, and best practices that meet consumer and regulatory expectations and requirements for privacy" (Ferrell, 2017, p. 161). Martin et al.

(2017) also emphasise the risk of "data breaches or identity theft" (p. 36). As further stated by Martin et al. (2017), individuals perceive that there is a high "susceptibility to harm due to unwanted uses of their personal data" (p. 36).

According to Baruh and Popescu (2017), individuals value their privacy yet "trade it in exchange for other benefits … [they] may choose to reject the offered service if it does not come with the desired level of privacy" (p. 585). When consumers are able to "carefully examine the available options for protecting their data, they can participate fully in a mutually beneficial trade in personal information" (Baruh & Popescu, 2017, p. 585). Indeed, privacy depends on the "nature of the data, the context in which they were created and obtained, and the expectations and norms of those who are affected" (Zook et al., 2017, p. 3). Trust is especially an important feature of marketing interaction, in that it "promotes positive marketing outcomes that include consumer willingness to disclose" (Martin & Murphy, 2017, p. 146) their personal data.

In an editorial entitled 'Ten simple rules for responsible big data research' (Zook et al., 2017), the authors discuss ten concepts relevant to privacy. They explain that "the tools of big data research are increasingly woven into our daily lives, including mining digital medical records for scientific and economic insights, mapping relationships via social media, capturing individuals' speech and action via sensors, tracking movement across space, shaping police and security policy via predictive policing, and much more" (Zook et al., 2017, p. 1). Social norms often differ from what is legally permissible, particularly when new technologies do not violate data protection laws but are nevertheless seen as "creepy … outright breaches of privacy" (Zook et al., 2017, p. 3).

Individuals and organisations have a right to be concerned, and more research is needed to determine how cognitive computing will impact privacy (Ferrell, 2017; Zook et al., 2017). With the automation of sensors and Big Data, the issue of privacy is not going to be solved in the short-term. In future, these questions get more complex as artificial intelligence takes the lead in interfacing with personal

data, rather than humans. The scope of the data collected will be a cause of great concern for many, and research should also determine how the regulatory environment will react.

2.2.8. Service Dominant Logic

Recent academic research into marketing technology and innovation has further developed the theory of service-dominant logic (hereafter S-D logic) (e.g. Vargo & Lusch, 2017; Rizk et al., 2017; Barqawi et al., 2016; Tommasetti et al., 2015). S-D logic is defined by the theory's authors as "the identification of service – the application of resources for the benefit of others – as the common denominator of economic (and non-economic) exchange" (Vargo & Lusch, 2017, p. 48).

The renewed interest in S-D logic can be considered a "fresh framing of innovation as service innovation/value innovation" (Mele et al., 2014, p. 630), and it is largely due to the digitisation of marketing practice and the arrival of "new market dynamics" (Turber et al., 2014, p. 19). According to Hollebeek (2017), S-D logic is a "growing perspective that applies to any area of marketing" (p. 22). New technology has "greatly facilitated interaction between customers and firms in value co-creation" (Xie et al., 2016, p. 1035), which encourages firms to be more customer-focused and service-dominated.

S-D logic was originally presented as "an effective alternative to goods-dominant (G-D) logic for studying service systems" (Barqawi et al., 2016, p. 930), in that "goods are only distribution mechanisms for service provision, not a unique expression of value" (Xie et al., 2016, p. 1035). In the past, value was typically created with minimal customer interaction. This changed with the arrival of 'Web 2.0', whereby consumers started to become "co-producers ... involved in defining, shaping and integrating the service" (Le & Tarafdar, 2009, p. 117). By taking advantage of new technologies, in particular Big Data and the Internet of

Things (IoT), it has become "possible to incorporate and interact with customers in any phase of the value creation process" (Mejtoft, 2011, p. 673).

Barrett et al. (2015) explain that S-D logic treats "a service (singular) as a process of using one's resources (e.g. knowledge) for someone's (self or other) benefit as compared with the more traditional conceptualization of services (usually plural) as a unit of output" (p. 138). This theory shifts the focus of exchange from products – the traditional view – to "service, value, resources, actors and ecosystem" (Mele et al., 2014, p. 629). Customers are viewed "as 'operant resources' … they are capable of integrating skills and knowledge into co-creation processes" (Xie et al., 2016, p. 1035).

S-D logic suggests a network-centric view of value exchange; the relationships between sellers and customers are described as "value creation networks" (Turber et al., 2014, p. 22). Furthermore, S-D logic is linked with marketing innovation beyond the mainstream view: "from 'product and services' to 'service and value' … from 'closed/linear' process to 'open/co-created' process" (Mele et al., 2014, p. 613). Sultan (2014) explains that service is "the application of competences (knowledge and skills) for the benefit of 'another party' (i.e. partner or customer)" (p. 376). Both Xie, Wu, Xiao, & Hu (2016) and Sultan (2014) further develop this idea that service is a source of benefit that is co-created with the consumer.

New technologies have given rise to this "new and different S-D logic phenomenon" (Sultan, 2014, p. 385), in which physical products are being transformed into services, for instance cloud computing, SaaS (software as a service), IaaS (infrastructure as a service), Big Data, and so on. S-D logic is also considered to be an ideal framework for researching "service delivery of SaaS applications through recurrent release management cycles" (Barqawi et al., 2016, p. 930), and as a means of looking at service-oriented businesses that produce such applications in accordance with their customers' needs. These

services are typically utilised by "proactive and informed consumers who act as leading influencers, as well as market drivers" (Okazaki et al., 2015, p. 419).

Marketing technologies in the digital age ultimately facilitate value co-creation between interconnected firms and customers, and "the emergence of Big Data has been the primary driver for this disruptive change" (Xie et al., 2016, p. 1034). The resources in this case consist of "customer-generated Big Data resources and firm-provided Big Data platforms" (Xie et al., 2016, p. 1035). Furthermore, Xie et al. (2016) state that "a clear understanding of how Big Data transforms from resources to valuable cooperative assets will have a profound impact on contemporary competition" (p. 1035). The role of a company is to develop digital platforms that integrate their resources, thus they are the service provider in value co-creation with customers, particularly in "a Big Data environment" (Xie et al., 2016, p. 1035). Customers may exhibit different behaviour based on the nature of the digital platform, which produces an array of data resources. This will naturally impact the "process and results of value co-creation" (Xie et al., 2016, p. 1035).

A related concept, Digital Service Innovation (DSI), has emerged as a research domain that seeks to understand the "mechanisms by which digital technologies can enable innovation of service" (Rizk et al., 2017, p. 1247). This particular research exists due to the growing interest in both service innovation and in S-D logic. Rizk et al. (2017) explain that the "pervasiveness of digital technology in society at large has its impact on service innovation evident through diverse phenomena such as social media practices, Internet of things, and crowdsourcing" (p. 1247).

As marketing technology progresses, future products and services will continue to integrate manufacturers/developers, sellers and customers in each stage of the product design and operational processes, thus creating value between them. As stated by Cova et al. (2011), "co-creation forces us to reconsider some classic elements of marketing theory: product innovation, branding, diffusion of

innovation" (p. 235). In future, this co-creation will be largely facilitated by technologies that operate under the umbrella of the Internet of Things (IoT), bolstered by the diffusion of artificial intelligence, Big Data, and other web-based technologies.

2.3. The Singularity & Artificial Intelligence in Business

The concept of artificial intelligence has gained renewed interest in recent years due to the many new innovations being introduced to the market, supported by more transparent development and the collaborative efforts of technology companies and institutions. Such innovations – intelligent machines – can learn and become more efficient without human intervention. A principal goal is "to develop systems that can learn from experience with human-like breadth and surpass human performance in most cognitive tasks, thereby having a major impact on society" (Russell et al., 2015, p. 5).

From a business intelligence perspective, the advent of artificial intelligence backed by Big Data is significant. Further, disciplines such as marketing face major, positive disruption "through the use of AI techniques to learn, model, and predict human and market behaviors" (Russell et al., 2015, p. 2). The explosion of data, as discussed in section 2.2.4., is facilitated in part by an increase in sensors, along with "automatic speech recognition, speech synthesis … ambient intelligence, intelligent environment[s], motion capturing, [and] image recognition" (Zackova, 2015, p. 39).

According to Kurzweil (2005) and Tyagi (2016), a global effort to develop artificial intelligence is likely to result in the Singularity by 2045 or earlier – the inflection point where intelligent machines surpass human intelligence, and thus emerge as the dominant force behind future innovation. As described by Excell and Earnshaw (2015), there is "an expectation of a critical transition point at which humans will have to cede control of the technology to the machines" (p. 3). It is a

point in time in which technological shifts are likely to be exponentially superior and arguably changing at rate that is beyond even our own understanding (Petelin, 2015; Yampulski, 2015).

In the years prior, there will be a widespread integration of technology, data and human experience, with considerable advances in areas such as the health sciences, genetics, gene editing, job and task automation, and military capability (Kurzweil, 2005). As discussed by Zackova (2015), our present systems are already showing the way forward; "Today's computers are not just capable of giving answers in real time, they are even able to predict what we are going to ask … Indeed, we are already living this symbiotic [life] together with our intelligent devices" (p. 39). We have products such as self-driving, self-learning cars, and voice enabled technologies such as Amazon's Alexa and Apple's Siri that rely on a primitive form of machine learning (Tyagi, 2016). Each of these technologies contributes to the data pool, which is ultimately accessed by marketers.

The potential impact of artificial intelligence on society is a key concern when dealing with the Singularity. This is due to the likely displacement of workers, many of whom will be rendered irrelevant and seen as less productive compared to artificial intelligence-enabled machine workers. It is also prudent to mention that there is some anxiety and apprehension regarding the consequences of unchecked development in artificial intelligence: Will systems work to preserve and advance society or will they eventually serve as an existential threat to the world and its inhabitants (Raik-Allen, 2016; Naff, 2014; Korb & Nicholson, 2012)? How will privacy, ethics, and security be protected given the automation of Big Data and deep learning (Tyagi, 2016; Naff, 2014; Korb & Nicholson, 2012)? Finally, who is ultimately legally responsible for the actions of automated systems and services (e.g. self-driving cars; Russell et al., 2015)? Such questions will likely remain unanswered for many years.

At present, we know that automation continues to affect society, even at this early stage of development. Because of their superior cognitive, mathematical and data processing capabilities, intelligent systems and even robots are already replacing workers in the areas of medicine, manufacturing, stock trading, insurance, banking, and others (Tyagi, 2016). IBM's Watson, for example, is being deployed in major hospitals around the world to help doctors better diagnose patients (Ito & Howe, 2016; Michael, 2015). In addition, a Japanese medical insurance company has recently reduced its workforce in favour of systems that not only gather information about customers in seconds, but also detect past payouts, fraud and many other nuanced details with a high degree of accuracy (see Lui, 2017). Hedge funds are also beginning to replace traders and financial advisers with systems capable of processing and learning from Big Data in seconds, and they can also offer superior investment recommendations when compared to their human counterparts (Solon, 2016; Michael, 2015). China, a major developer and importer of robotics, is well-known for its human-intensive manufacturing facilities. Nevertheless, robotic manufacturing is growing exponentially and is likely to create significant social pressures in the country (Tyagi, 2016).

There is no doubt that artificial intelligence will usher in a new era of technological benefits to society and business. Productivity is expected to rise and society will become the beneficiary of a much higher standard of living because of the socio-economic benefits created by highly intelligent machines. These machines are considerably more productive, reliable, and efficient in terms of performing cognitive tasks and many other types of work, e.g. production and manufacturing, compared to human workers (Brynjolfsson & McAfee, 2014). It should be noted that humans will likely retain the advantage in terms of interpersonal, emotional, creative, and other high-level aspects of thinking, designing, and producing. Petelin (2015) supports this by describing artificial intelligence as "carrying out tasks in zombie fashion without any commitment to intrinsic experience" (p. 4). However, some scholars suspect that machines may even catch up in this area, mimicking creativity and being able to

read emotions as they evolve in the process of self-learning and self-improvement (Ito & Howe, 2016).

This is likely to create substantial pressure on governments around the world, even well before any tangible indication of the coming Singularity. There will need to be a shift in the focus of education and the entire notion of a career will change. Unfortunately, as Tyagi (2016) explains, "Silicon Valley is way faster than political bodies" (p. 11). Leading up to this, societies will have to invest in retraining large numbers of people in areas where they can be more valuable and effective than AI, e.g. roles requiring emotional intelligence and social work (Friedman, 2016; Raik-Allen, 2016). In anticipation for widespread job displacement, countries such as Norway and Canada have begun experimenting with the concepts of a universal basic income and an automation tax to help individuals and families (as discussed in The Economist, 2016c).

The potential risks of artificial intelligence – and ultimately the Singularity – include concepts that were once restricted to the realm of science fiction (Zackova, 2015), e.g. that machines will eventually turn against us (Korb & Nicholson, 2012). Indeed, Stephen Hawking has called for a dialogue on such risks, including a discussion around future regulation to best manage development (see Luckerson, 2014). Other thinkers, such as Steven Pinker of Harvard, counter the notion that artificial intelligence will lead to the point of Singularity (Walsh, 2016). This is based on an idea that Moore's Law will soon cease and computing power will reach a ceiling or saturation point, thus any progress on artificial intelligence would stagnate (Walsh, 2016).

Kurzweil (2005) and others, however, do not agree with this sentiment. They argue that "the exponential growth in processing power observed in Moore's Law will continue, even if replaced by another technology" (Excell & Earnshaw, 2015, p. 3). Others take issue with the dispassionate nature of Singularity studies (cf. Zackova, 2015), and the notion that intellect can be reduced to a "mere calculation" (Petelin, 2015, p. 4), given that "human achievements in our society

by definition are measured in terms of the quality of human satisfaction that they generate" (Petelin, 2015, p. 4). This is supported by Walsh (2016); "Intelligence is much more than thinking faster or longer about a problem than someone else" (p. 3).

Cybersecurity is another growing concern for businesses and governments (Yampolskiy, 2016; Patil, 2016). While machine learning provides significant advantages in the "detection of intrusions" (Russell et al., 2015, p. 4) and in maintaining overall system security, "AI-based cyberattacks may be extremely effective" (Russell et al., 2015, p. 8). According to Michael (2015), "as artificial intelligence develops, it will be used for cybercrime. Ominously, cyber-sabotage could be directed at critical infrastructure" (p. 59). Threats such as this make this an important area of future research.

Tyagi (2015) believe that "it is really difficult to predict when we can reach Singularity … However, if we reach that point in the future, then it is really important to have a centralized global governing body which lays down the framework for prioritizing the positive outcome over its own interest" (p. 14). The Singularity is therefore not seen by all as a certain event – rather it is considered unpredictable. Nevertheless, interest is steadily increasing and investment is now focused on developing new technologies that enhance "transhumanism and technological convergence … [making people] more healthy, more happy, more social-skilled, high-performance and more intelligent" (Zackova, 2015, p. 41). Petelin (2015) stresses caution, noting that there is a "cult of optimism" (p. 4) surrounding artificial intelligence, suggesting that this convergence of technology is akin to putting all our resources "into one ultimately fragile basket" (Petelin, 2015, p. 4). Russell et al. (2015) believe that it is "self-evident that the growing capabilities of AI are leading to an increased potential for impact on human society. It is the duty of AI researchers to ensure that the future impact is beneficial" (p. 9). Finally, Tyagi (2016) states that change should be embraced regardless, "whether it is related to employment, privacy, or eventually the very existence of humanity" (p. 16).

2.4. Business Dynamics

2.4.1. Disruption & Innovation

There has been a great deal of interest around the concept of disruption in recent years, with many traditional industries facing upheaval given an influx of innovation. Those industries that have not yet been affected are in a precarious situation – do they prepare to be disrupted, or do they attempt to be the disruptors? Klenner et al. (2013) believe that the signs of disruption are clear even without any obvious innovation. Rising prices, decreasing sales, and a low overall customer satisfaction are all indicators that an industry is ripe for disruption. In many cases, this may be the only warning that those in the industry receive (Klenner et al., 2013).

Disruption is defined by Christensen (2013) as "a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors" (p. 1). Chiaroni et al. (2016) define it as "an innovation process that deeply changes the rules of competition in a given industry and brings new companies to the top ranks of that industry by disrupting the established position of incumbents" (p. 2).

Disruption has been described in academia as either technological or institutional, although the distinction is not always obvious (Laurell & Sandström, 2016). Uber and Airbnb are both well-known examples of institutional disruption, whereby they introduced the concept of a shared economy into the taxi and hotel industries respectively (Laurell & Sanström, 2016; Guttentag, 2015). Technological disruption, on the other hand, is a leap in technological capability, e.g. steam supplanting coal-fired engines (Geels, 2002). Technological disruption has significantly impacted the music industry in recent years, with

vinyl records being replaced by CDs, then downloadable audio files, to the current state of subscription-based streaming services (Chiaroni et al., 2016).

Several studies have described the concept of disruption as involving multi-level transitions in society. In many cases, new innovative products begin their journey in a niche market, and they may continue to experience relatively low growth for some time. Suddenly, a transition into the regime level leads these products to simultaneously gain market share, re-shape the industry, and become the dominant force in a very short period of time (this discussion is included in Smith et al., 2010; Geels & Schot, 2007; Kemp et al., 2007; Geels, 2004; Berkhout et al., 2004).

Disruption is not necessarily a negative for incumbent businesses. It has in fact rejuvenated many industries by attracting new customers, while encouraging those already using services to consume more (Markides, 2006). With the advent of the App Store on the iPhone, many incumbent mobile phone manufacturers lost market share, however it caused an overall expansion of the industry (Boye & Bäckman, 2013). Parallel or competing industries can also be carved out in the event of institutional disruption, with the likes of Airbnb adding considerable value to the hotel industry (Guttentag, 2015).

Consumers and business customers are the key beneficiaries of disruption. For example, cloud computing and subscription-based services (SaaS; software as a service) have enabled small business to be highly agile and competitive, while larger businesses are still highly dependent on installed software and legacy systems (Sultan, 2013).

While disruptive innovation can create new opportunities for existing industry actors, strategies to address such disruption must be developed. Amit & Zott (2012) state that business model innovation is an important part of this process, however many do not engage in this due to the perceived cost. Chiaroni et al. (2016) recommend several strategies to manage disruption, including open

innovation, creating ambidextrous organisations (or hubs) within their companies that focus on innovation, and implementing marketing strategies that do not rely on mainstream customers as "unique evaluators" (p. 5) of their products. Further, Acemoglu et al. (2014) emphasise that organisations will have to learn to embrace disruption and become open to adopting new business models. This openness importantly serves to enhance collaboration among a company's workforce. As discussed by Borjigen (2015), "mass collaboration is changing how goods and services are invented, produced, marketed, as well as distributed" (p. 325). With successful collaboration comes continuous innovation in a "human-machine collaborative knowledge ecosystem" (Borjigen, 2015, p. 331), rather than one-off successes.

In the narrative of today, it is often proposed that established companies should act like startups, embrace agility, and be open to new products and technologies (Bruse, Böhmer, & Lindemann, 2016). According to Amit & Zott (2012) however, such profound business model innovation is simply too expensive for many large organisations, or incompatible with the culture. Bruse et al. (2016) thus propose a partnership strategy, where businesses clarify their needs and make strategic decisions on how to partner with innovative startups. A successful strategy will result in the larger company being a part of the disruption journey.

Disruptive innovations will continue to put pressure on both law and policy. Uber and Airbnb have both experienced well-known legal issues with regards to the shared economy and a lack of regulation, or simply, a lack of playing by the rules. In 2014 for instance, a German court banned the operation of Uber in the country for these reasons (Avital et al., 2014). This conflict between the authorities and companies like Uber will continue to be a constraining factor in the saturation of new innovations, particularly as technological innovation outpaces policy change. In a study by Suryanegara (2016), it was indeed found that many governmental bodies do not currently have strategies to deal with rapidly changing, disruptive innovations, making how they will be regulated a complete mystery.

Technological and generational changes have also impacted organisational structure, with a high degree of distributed leadership beginning to emerge (Mueller, 2014). It is stated that "traditional management theory and practice – Management 1.0 – have become obsolete within the context of today's world of business" (McDonald, 2011, p. 798). As supported by Berman and Korsten (2014), "It is the trend toward openness that CEOs believe will have the greatest impact on their organizations" (p. 38). In terms of the company hierarchy, Mueller (2014) believes that even those with the best intentions are unable to "command and control exclusively and effectively from the very top of the structure" (p. 48), especially given the higher degree of complexity within organisations, and the move towards a network structure. Mueller (2014) further highlights traditional inefficiencies, and states that "miscommunication in a hierarchy is rampant" (p. 48).

2.4.2. Legacy Technology & Underinvestment

To remain competitive, businesses need to ensure that they are not relying on legacy systems and processes given the increasing rate of technological change (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013; Hagspiel, Huisman, & Nunes, 2015). Technology continues to advance exponentially in line with Moore's law, driven in part by improvements in "size, cost, density and speed of components" (Hagspiel et al., 2015, p. 897).

According to McElheran (2015), a misalignment between technology and business capability "is often blamed for the failure of otherwise healthy firms to maintain their technological – and often competitive – advantage over time" (p. 1197). This is also referred to as businesses advancing "exogenously" (Hagspiel et al., 2015, p. 898) to technology. The demands of savvy consumers evolve largely in step with technology, however businesses are often much slower to adapt, thus falling behind consumer expectations. This is emphasised by Fitzgerald et al. (2013), who state that "effective management of new technologies is already

creating winners and losers in measurable ways, like market share and profits"
(p. 5). As stated by Hagspiel et al. (2015), the "probability of a time lag between
innovation and adoption can be substantially high" (p. 898).

With new technology comes an overall better user experience, and more
efficient internal operations, which benefits both consumers and employees. In
addition, "new lines of business or business models" (Fitzgerald et al., 2013, p. 5)
can arise from such investments. Further, investment into new technologies
improves profitability, particularly with regards to digital transformation, which
is considered by many to be a critical success factor for their business going
forward (Alcacer et al., 2016; Fitzgerald et al., 2013). Failure to do so "will harm
their company's ability to compete" (Fitzgerald et al., 2013, p. 4). Nevertheless,
in their study, Fitzgerald et al. (2013) find that 63% of respondents believed that
"the pace of technology change in their organization is too slow" (p. 4).

Businesses are constantly underinvesting in technology, risking any "competitive
advantage" (Laverty, 2004, p. 949) that they may have. There is a perception that
any new investment becomes an immediate "sunk cost" (Hagspiel et al., 2015, p.
898), and that determining the return on investment can be difficult. The
adjustment costs and overall effort needed in this situation can stifle innovation
(Fitzgerald et al., 2013), even in businesses that are "well-positioned … with
strongly aligned capabilities" (McElheran, 2015, p. 1213). The "profit potential" is
unknown (Hagspiel et al., 2015, p. 898).

This can be unacceptable to management, thus undermining long-term
investment given that leadership "needs to come from the top" (Fitzgerald et al.,
2013, p. 12), whereby an executive or committee is tasked with digital and
technological transformation. If such projects are poorly led, marketing efforts
can become ineffective, further risking the market position. Myopic decision-
making, which is the overvaluing of short-term gains over long-term growth,
leads to this distinct lack of innovation (Laverty, 2004). The benefits of
maintaining cutting edge technology in a business are therefore not always

appreciated, and this extends to the use of new technologies in marketing (Fitzgerald et al., 2013). Nevertheless, the security benefits alone are important, despite older systems being "complex to update" (Fitzgerald et al., 2013, p. 9).

McElheran (2015) found that bona fide innovation leaders are far more willing to adopt and utilise new technology – regardless of the costs – than those businesses with a high market share. The latter struggle with the notion that new processes will have to be developed, and that a certain amount of new learning will have to occur. According to Hagspiel et al. (2015), "technological innovation" (p. 897) can have its physical limits, and this may be one point of concern for many businesses. With a quality business case for technology adoption however, digital initiatives can become a reality (Fitzgerald et al., 2013).

Internal resistance is a studied factor in technology adoption rates. Existing skills and processes may not sufficient, adding to the adjustment cost. Fitzgerald et al. (2013) state that "different mindsets" (p. 6) are needed, hinting at the generational effect of a workforce. While innovation can force a mindset shift due to needed capabilities (McElheran, 2015), an internal "lack of urgency" (Fitzgerald et al., 2013, p. 2) can diminish the efforts of the few. This urgency issue is present in management too, with one study stating that "only 38% of respondents said that digital transformation was a permanent fixture on their CEO's agenda" (Fitzgerald et al., 2013, p. 2). It is further emphasised that there is a perception amongst younger staff that "older people are technophobic, and older managers don't want to deal with technologic change" (Fitzgerald et al., 2013, p. 8). There is, however, a possibility that older employees have simply seen their fair share of obsolete technology combined with poor investments in the past, and are thus cautious (Lee & Coughlin, 2015; Fitzgerald et al., 2013).

Finally, studies have found that while there is resistance and a lack of change in many businesses, an important minority is beginning to realise "the potential of new technologies" (Fitzgerald et al., 2013, p. 2). This is the crucial point, as

"inertia and complacency are deadly in the world that we live in today"
(Fitzgerald et al., 2013, p. 10).

2.5. The Future of Work

As is discussed throughout this study, marketing is constantly shaped by
technology, more efficient business practises, improved means of analysing data,
and evolving societal expectations (Kumar, 2015). A key issue for marketing is
employment in the future, as human inventiveness, creativity, and analytical skill
have long played major roles in marketing practice (Bakhshi & Windsor, 2015;
Menger, 2015). The entire concept of employment is ripe for disruption
(Drahokoupil & Fabo, 2016; Frey & Osborne, 2015), and there are several
possible scenarios depending on generational change, the rising "digital
workforce" (Colbert et al., 2016, p. 732), "machine learning" (Autor, 2015, p. 24)
and ultimately, "artificial intelligence" (Autor, 2015, p. 4).

Over the course of history, technology has continued to displace jobs (Rotman,
2013), and in a manufacturing sense, "made the skills of artisans obsolete" (Frey
& Osborne, 2013, p. 7). Importantly however, the benefits have always
outweighed the losses, and the growth of creative and high-skilled employment
has been driven in part by technology (Frey & Osborne, 2013). Productivity
benefits from technology, however Rotman (2013) feels that "technology is
behind … the weak growth in jobs" (p. 1).

The long-established structure of employment is likely to face fundamental
changes in the coming decade. Given population growth and migration,
"automation may prevent the economy from creating enough new jobs" (Autor,
2015, p. 3). In the view of Autor (2015), work itself will continue to evolve,
despite many jobs being eliminated. Complexities include changing job types, job
security, time commitments, and remuneration. For business leaders, technology
delivers a cost reduction in the long-term, and this can naturally lead to a decline
in the workforce (e.g. Hilton et al., 2013; Rotman, 2013).

Discussions around automation and job disruption have existed for some time, as is evident in an article entitled "The End of Work" by Rifkin (1996), who stated that "the new high-tech revolutions of the 21st century end mass wage labor – meaning the cheapest worker in the world is more expensive than the intelligent technology coming online to replace them" (p. 1). When this statement was written, such technology was hypothetical – science fiction – however it is now fast becoming a reality (McAfee & Brynjolfsson, 2016; Müller & Bostrom, 2016).

Businesses have in recent years seen the effects of a generational change in their workforce, which according to Woods (2016), is a positive driver of innovation. In 2015, Millennials (Generation Y) overtook Generation X as the most populous cohort in the workforce (Woods, 2016). This has not been short of challenges; they have been described as difficult to retain (Simmons, 2016) and "very demanding because of their high expectations" (Dziewanowska et al., 2016, p. 1). This new generation is keen for more autonomy and the ability to work remotely with new technologies, which has somewhat eroded the traditional separation of work and home life (Dziewanowska et al., 2016; Colbert et al., 2016; Mokyr et al., 2015; Solnet et al., 2012). It is also said that Millennials value transparency, and systems should be set up to facilitate openness throughout the corporate hierarchy (Simmons, 2016). With employee satisfaction comes both higher productivity and innovation, and companies need to be aware of what motivates their changing workforce (Woods, 2016). To understand the future of employment in the marketing discipline however, we must look beyond generational impacts.

There is debate as to the extent of job displacement over the coming decades; "the positions could not be more different" (Weber, 2016, p. 2). For instance, Arntz et al. (2016) believe that only a small percentage of jobs will be affected, while Frey and Osborne (2013) believe that up to 50% of jobs in the US are in the "high risk category" (p. 38). Creativity is the sticking point for most researchers; "it seems unlikely that occupations requiring a high degree of creative

intelligence will be automated in the next decades" (Frey & Osborne, 2013, p. 26). As explained by McAfee and Brynjolfsson (2016), "low-wage jobs are especially at risk … the U.S. Council of Economic Advisers estimated that 83 percent of jobs paying less than $20 per hour could be automated" (p. 140). Weber (2016) highlights two competing theories: "on the one side, fears of massive job losses if current jobs became redundant due to interconnected robots. On the other side, shiny images of huge employment and innovation gains and of stress relief for employees" (p. 2).

For businesses today, there is considerable enthusiasm for Big Data and automation, and this extends to the notion of eventually bringing artificial intelligence into service roles (Morikawa, 2016). In the view of Arntz et al. (2016) however, automation will mostly displace low-skilled, manual jobs. They feel that "highly qualified workers" (Arntz et al, 2016, p. 4) will be largely unaffected. According to Frey and Osborne (2013) however, it is this low-skill, low-income sector that has experienced the highest job growth over the past decades. Job types that would take the brunt of any initial change include transportation and logistics due to the advent self-driving vehicles, admin and business functions, cashiers, clerks, and any physical assembly roles (Rus, 2015). If a job cannot be replaced by automation in the short-term, it will at the very least be "complemented by it" (Autor, 2015, p. 6).

It is this combination of technological and human inputs that will lead to great prosperity in these early stages of automation, however it is uncertain whether this will last. Policy is a major hurdle, as the notion of mass job displacement has long been politically unacceptable, especially with demagogue leaders that exploit this narrative (Gurkaynak, 2016; Inayatullah & Milojević, 2015). Any large scale technological unemployment is often cause for alarm, and there is already talk of "government regulation of AI development and restrictions on AI operation" (Scherer, 2016, p. 355).

The need for highly skilled workers will increase with the "development and diffusion of AI-related technologies … it [will be] necessary to upgrade human capital" (Morikawa, 2016, p. 3). As further explained by Morikawa (2016), Big Data will play a major role in the future of business, given today's "positive attitudes" (p. 7) towards it. Beyond task automation is the view that in the more distant future, businesses will be able to digitise tasks that involve "problem-solving capabilities, intuition, creativity, and persuasion" (Autor, 2015, p. 12). Such systems would be able to adapt to fluid situations and be able to fully understand visual and verbal input. In such a world, the rules of today are ancient history (Müller & Bostrom, 2016; Autor, 2015).

One of the major concerns of automation is how this fits within our economic model. This is emphasised by Mokyr et al. (2015), who state that automation "could lead to technological unemployment and a further increase in inequality in the short run, even if the long-run effects are beneficial" (p. 32). The complication here is reiterated; again, the presence of "anxiety over the moral implications of technological process for human welfare" (Mokyr et al., 2015, p. 32). It was stated that inequality may rise over time in these conditions and improving workers' skills will be critical in mitigating any spike in poverty. This centres on the belief that certain tasks will be automated rather than jobs in their entirety, as replicating human ingenuity is thought to be unrealistic by some (Arntz, Gregory, & Zierahn, 2016).

Decision-making and problem solving, according to Arntz et al. (2016), will always have to be done by humans as we have "long-lasting comparative advantages when it comes to orienting oneself in complex situations" (p. 9). They further attempt to debunk the notion that machines will eventually have better "flexibility, power of judgement and common sense" (Arntz et al, 2016, p. 21) than humans, and that any thought to the contrary is an overestimation of their capabilities. This view is not supported by all given the seemingly limitless possibilities of artificial intelligence; some things are simply "difficult to imagine" (Heylighen & Lenartowicz, 2016). In their study, Heylighen and Lenartowicz

(2016) see "a level of knowledge and capability for intelligence that far surpasses that of any individual or organization" (p. 2). This eventually leads up to the hypothetical (and controversial) tipping point of technological advancement – the Singularity – where artificial intelligence takes charge of further development and innovation (Cordeiro, 2016; Heylighen & Lenartowicz, 2016). With regards to creativity, scholars (e.g. Scherer, 2016 and Skulimowski, 2016) have discussed intelligent systems that have been "performing tasks that, until quite recently, could only be performed by a human with specialized knowledge" (Scherer, 2016, p. 354). Further, there have been "numerous instances of AI that are designed to act in a manner that seems creative … a manifestation of outside-the-box thinking if performed by a human" (Scherer, 2016, p. 354).

Workplace adjustment is thus a major issue. How aggressively will companies embrace new technology, and to what extent will it be forced upon them due to competitive forces? Will employees shift into higher skilled roles that are supported by automated systems or are mass redundancies likely? To what extent will automation impact the typical size of an organisation? Another issue is the political and social ramifications of such change, and the pushback that will likely follow if the societal welfare issue cannot be addressed sufficiently.

2.5.1. Industry 4.0

The emerging paradigm of manufacturing and production – the fourth stage of industrialisation – has been defined as Industry 4.0 (Wollschlaeger et al., 2017). Famous for its manufacturing sector, Germany launched the "Industrie 4.0 initiative in 2011 as part of its high-tech strategy" (Hofmann & Rüsch, 2017, p. 23). According to Liao et al. (2017), the first three industrial revolutions can be described as: "(1) the introduction of water and steam-powered mechanical manufacturing facilities; (2) the application of electrically-powered mass production technologies through the division of labour; and (3) the use of electronics and information technology (IT) to support further automation of manufacturing" (p. 3609). By definition, Industry 4.0 is built on technologies such

as the "Internet of Things (IoT), Big Data Analytics, Artificial Intelligence, Advanced Robotics, and 3D printing" (Galletta et al., 2017, p. 2169).

Industry 4.0 has been described as "striking as it is fascinating: Cyber-Physical Systems (a fusion of the physical and the virtual worlds) CPS, the Internet of Things and the Internet of Services, will collectively have a disruptive impact on every aspect of manufacturing companies" (Almada-Lobo, 2015, p. 16). Given the significance of these technologies, "industrial automation is undergoing a tremendous change" (Wollschlaeger et al., 2017, p. 17).

Industry 4.0 mandates a high degree of automation and data exchange within 'smart factories' that embody "the vertical integration and networked manufacturing systems for smart production" (Wang, Wan, Zhang, Li, & Zhang, 2016, p. 159). For a factory to be considered 'smart', it must utilise interconnected machines and devices with sensors that can be used for machine learning, be able to both supplement and replace human decision making, and be able to make such decisions independent of the physical factory (see Forbes/Marr, 2016).

According to Bettiol et al. (2017), "smart manufacturing technologies (autonomous robots, additive manufacturing, laser cutting), big data and cloud-computing, Internet of Things (IoT), augmented reality are some [of the] new technologies [that] are driving the rise of the new digital industrial revolution" (Bettiol et al., 2017, p. 2). Robotic manufacturing is bolstered by cloud computing and machine learning, which constantly improves processes without requiring human intervention. As explained by Ivanov et al. (2016), Industry 4.0 represents "a smart manufacturing networking concept where machines and products interact with each other without human control" (p. 386). Smart factories should combine "smart objects with big data analytics … [which] … can provide global feedback and coordination to achieve high efficiency" (Wang et al., 2016, p. 159). Karre et al. (2017) state that "workers, the production system itself, products and even customers are connected … these interconnected systems will cooperate

closely" (p. 207). Galletta et al. (2017) emphasises the financial aspect of these developments: "it is predicted that smart factories will deliver 500 billion dollars in value by 2022" (p. 2169).

Given the highly autonomous nature of Industry 4.0, there is a significant research opportunity regarding the future of employment in these human-intensive industries. In Europe, manufacturing is a "key driver of economic growth (e.g. job creation) and accounting for 75% of all exports and 80% of all innovations" (Hofmann & Rüsch, 2017, p. 24). Hofmann and Rüsch (2017) have identified a key concern, stating that "some critics have recently pointed out that the automated and self-regulating nature of the smart factory might cause severe job destruction" (p. 25). At this point in time however, no research has detailed a range of employment scenarios in this context, although some studies have acknowledged job disruption as a possibility (see Gao et al., 2017; Weber, 2016).

Weber (2016) highlights competing arguments: "On the one side, fears of massive job losses if current jobs became redundant due to interconnected robots. On the other side, shiny images of huge employment and innovation gains" (p. 2). A more popular angle of research focuses on future skills and competencies, for example Hecklau et al. (2016), who state that "employees need to become enabled to take on more strategic, coordinating and creative activities" (p. 1). This is due to "systems with a higher complexity due to automation and the interconnectivity" (Karre et al., 2017, p. 209). Karre et al. (2017) simply add that the "predicted shift in required skills and qualifications leads to the necessity for further training in modern technologies for the workforce of today and the future" (p. 209).

This highlights the gap in knowledge that needs to be addressed. Ultimately, Industry 4.0 can be described as involving "market-driven technologies … [that] ... improve the quality of relationships with the customers" (Bettiol et al., 2017, p. 2), in addition to reducing production costs. This concept is

fundamentally a risk to future employment, with marketing being seen as a driver towards this fourth industrial revolution. In such a competitive environment, manufacturers will face significant pressure to reduce costs. Finally, Almada-Lobo (2015) warns that if companies fail to clearly define their target manufacturing model and develop a transformation roadmap, they will "most likely be forced out of the market" (p. 17). The idea that Industry 4.0 may pose a risk to future employment needs to be mapped out in futures research.

2.5.2. Wider Technological Paradigms

In the neo-Schumpeterian school of thought, technological innovation is seen as the principal driver of economic growth (Köhler 2012; Dabic et al., 2011; Perez, 2010). As explained by Perez (2010), "neo-Schumpeterians have introduced the concepts of technological trajectories, technology systems, technological revolutions, [and] techno-economic paradigms" (p. 199). According to Köhler (2012), neo-Schumpeterians "have the objective of explaining long run patterns of macroeconomic growth in industrialized society as successive waves of development of socio-technological paradigms" (p. 9). Perez (2010) states that "a technological revolution (TR) can be defined as a set of interrelated radical breakthroughs, forming a major constellation of interdependent technologies" (p. 189). This in turn leads to "a major upheaval of the wealth-creating potential of the economy" (Perez, 2010, p. 190). Dosi et al. (2013) in fact imply that nations that struggle to innovate also suffer the economic consequences.

Developments that have led to the diffusion of digital technologies are typically introduced to the market as primitive products, and then "subjected to a series of incremental innovations" (Perez, 2010, p. 186). These not only impact markets, but the larger context as well, i.e. culture and society. Neo-Schumpeterian theory suggests that economic growth is bolstered by radical innovations followed by incremental change. Innovation is increasingly collaborative, involving suppliers, distributors, and customers in the creation of value. As described by Perez (2010), "the techno-economic and social

interactions between producers and users weave complex dynamic networks" (p. 188).

The digitisation of marketing is directly related to innovation, and has led to significant opportunities to grow businesses and to continue to develop new marketing technology. In the context of industry ages, traditional marketing largely emerged during the fourth industry age (oil, the automobile, and mass production), and transformed into digital during the fifth industry age (information and telecommunications). As explained by Köhler (2012), neo-Schumpeterian theory is well suited for considering the developments of new technologies "across multiple industries" (p. 12), and the wider economic impacts. Dabic et al. (2011) state that neo-Schumpeterian economics best explains change at the microeconomic level, whereas post-Keynesian economics is applicable to macroeconomics.

Some criticism of the theory exists, with Mathews (2013) stating that energy innovation, for instance, has had "little serious contact with neo-Schumpeterian theorizing on technological 'surges' of creative destruction" (p. 10). Further, this researcher states that any discussion on renewable energy takes place without "neo-Schumpeterian or paradigm-shift reasoning" (Mathew, 2013, p. 10), and that the neo-Schumpeterian contribution to the debate on technological diffusion, at least in that specific field, has been "negligible" (Mathew, 2013, p. 11).

Developments beyond digital – the "new technological epoch" (Martin, 2017, p. 3) – fit within the relatively new concept of the Second Machine Age (see McLaughlin, 2016). This includes technologies such as cognitive computing, artificial intelligence, Big Data, and task automation (Martin, 2017). The Second Machine Age is notable for its depiction of the future of work, in which a wide range of roles are disestablished (Martin, 2017; Rospigliosi, 2016). In particular, Spencer (2017) states that "advances in robotics mean that machines can replace jobs that have thus far survived automation … there is also scope for machines to

replace non-manual, non-routine jobs, including several high-paying ones" (p. 144). For workers, there will be a major shift in the "demand and supplies of skills, especially digital skills" (Martin, 2017, p. 3). Nevertheless, this is a long-term transition that could take decades, but is well within the futurist scope of this study. Some ideas of economic survival have been discussed, including the Universal Basic Income (UBI), perhaps funded by a form of automation tax "to compensate the losers" (Martin, 2017, p. 13). As both Rospigliosi (2016) and Spencer (2017) point out, a positive, complementary relationship between people and machines should be developed over time to promote economic and social progress.

2.6. Global Issues for Business & Marketing

2.6.1. Population Growth & Resource Scarcity

Human development since the onset of the industrial revolution has brought about tremendous growth and prosperity. Nevertheless, our reliance on finite resources has created a world that is in desperate need of resilience (Holmgren, 2012). This is driven in part by concerns regarding population growth and demographic projections (e.g. significant increases in the poorest regions of the world), the ever-intensifying reliance on fossil fuels, and the environmental and social consequences of our present systems. This includes pollution, anthropogenic climate change, the degradation of biodiversity and natural resources, and overall economic and social instability (Boyle et al., 2010; Handoh & Hidaka, 2010; Hodson & Marvin, 2010; Raskin et al., 2010; Parks, 2009; Speth, 2008). According to Rosenau (2005), societies are increasingly finding a more "harmonious link to nature …[a] discernible shift to a worldwide consciousness of the vast scope of environmental challenges" (p. 20).

The rate of population growth is a significant concern. Anatomically modern humans evolved from archaic Homo sapiens approximately 200,000 years ago (Weaver, 2012; McEvoy et al., 2011), and it took up to 198,000 years for the

global population to reach one billion, a time when "steam engines began to revolutionise transportation" (Livi-Bacci, 2012, p. 214). This figure was doubled in 130 years, a comparatively insignificant amount of time, and following just 80 years the global population stood at more than 7 billion (Livi-Bacci, 2012). While a peak population of 9-10 billion by 2050 has been predicted in many studies (covered by Nekola et al., 2013; Godfray, 2011), other forecasts see human population rising beyond this point without a foreseeable peak. According to a recent UN population study, the 'high' scenario sees a global population of "nearly 30 billion in 2300" (United Nations Economic and Social Council, 2011, p. 28), driven by fertility rates in Africa and Asia that are largely unchanged from today's levels.

It is undeniable that human activities in this so-called anthropocene have presented the world with complex challenges, with some calling it the conclusion of a geological era (Raskin et al., 2010; Newman & Jennings, 2008). Vast inequalities between rich and poor nations have divided the world, while issues such as climate change cut across the North-South divide (Solarz, 2012). This is summarised in the Brundtland Report: "The Earth is one but the world is not" (United Nations, 1987, p. 28). The nations of the world are at vastly different stages of development (Haberl, 2006; Ottman et al., 2006), and it is difficult to foresee whether "the process of economic catch-up in developing countries …follows the energy and carbon-intense growth paths of industrialized countries, [which] will very likely aggravate existing environmental pressures and become a major challenge for global sustainability" (Jakob et al., 2012, p. 2).

Business has a key role in addressing global issues with new innovations; there needs to be a "shift from rhetoric to results with regard to the critical issues of business sustainability and corporate social responsibility" (McDonald, 2011, p. 805). Today's designs are still largely based on cradle-to-grave mindsets and constrained to defunct industrial era ideologies (Smelser, 2013; Quiggin, 2012; Senge, 2010). Time is also running out with regards to climate change; new technologies and products should ideally be able to eliminate greenhouse gasses

within four decades (Huettner et al., 2010; Flannery, 2009; Li, 2009; Bulkeley & Moser, 2007; Clift, 2007). Progress has been "grindingly slow" however, and largely "inadequate" (Bulkeley & Moser, 2007, p. 1). For businesses, these issues present major opportunities, and a significant amount of future innovation will be focused on resolving these concerns.

2.6.2. The Larger Role of Marketing

Over the years, "widespread consumer cynicism" (Zwick & Bradshaw, 2016, p. 103) regarding the role of marketing and advertising has created a feeling of mistrust amongst consumers, and there is a desire to change the discipline for the greater good, particularly with regards to global issues. According to Zwick and Bradshaw (2016), the "emerging generation of online marketers" (p. 103) are employing strategies that work with consumers in tackling issues, and this is seen as good business. Moving beyond the notions of "deception and exploitation" (Hastings & Saren, 2003, p. 307) is critical for the discipline to be accepted, and to not be seen as promoting excess consumption.

There is considerable uncertainty regarding the future, and it is argued that businesses should consider how their products and services address the larger needs of society – many fail to appreciate the threats to their industry (Senge, 2010). According to Barry (2009), there is a growing consensus in society that unchecked economic growth and overconsumption are largely responsible for many of the issues that society faces today. This has given rise to new ideologies that have impacted the marketing discipline, particularly in academia. Vargo and Lusch (2004) state that marketing labels society as "something to be captured or acted on" (p. 1), thus incompatible with the values of sustainability. Stratten (2010) describes it as a 'weapon of war', promoting a forceful approach to selling with little or no focus on building meaningful relationships with customers. Finally, there is a win/lose expectation: for a business to successfully sell

products and/or services, i.e. be the winner, then there must be a loser, often perceived to be the customer (Gordon, 2009).

Cummins et al. (2014) explain how this concept fits into the narrative of sustainability: "many companies are still failing to develop a rationale for incorporating sustainability initiatives and are instead viewing sustainability from a perspective of short term compliance" (p. 1). Sustainability is unfamiliar territory for most marketers – they are in fact described as "somewhat unusual bedfellows in intellectual discourse" (Borland & Lindgreen, 2013, p. 173). The standard profit-seeking business model, powered by its traditional marketing engine, has even been described as the "antithesis of the concept of sustainability" (Jones et al., 2008, p. 123) – a leading cause of overconsumption that is based on unethical practises such as specific targeting of the most vulnerable members of society (Gupta & Pirsch, 2014; Vergragt et al., 2014).

While marketing is typically overlooked in the sustainability sciences (as identified by Borland & Lundgreen, 2013; Dietz & Neumayer, 2007; Pearce, Hamilton & Atkinson, 1996), its potential for good is seen by some due to its considerable "strength and power" (Brown et al., 2005, p. 11) as a transformer of social attitudes and desires, therefore as a driver of sustainable products and services. There is much resistance, however. According to Borland and Lindgreen (2013), marketing "emphasises greater consumption as a societal end-point … and aims to maximise corporate profits by satisfying the preferences and choices of individual consumer targets" (p. 174).

Sustainability and climate change may be "primarily a marketing and PR problem" (Schendler, 2009, p. 223). This deliberate oversimplification highlights an important point in explaining the phenomenon of significant scepticism despite growing scientific consensus. The reality is that the marketing efforts of certain organisations and even governments appear to be the source of such scepticism due to the creation of massive anti-climate and anti-sustainability initiatives (Schendler, 2009). General Motors and Toyota are two examples of

corporations that have fought proposals to federally increased efficiency standards in the United States, despite both companies promoting their sustainability ambitions (Schendler, 2009). The use of marketing in promoting positive sustainability is often regarded as 'fighting fire with fire' (Levinson & Horowitz, 2010). As one example, Al Gore's Alliance for Climate Protection originally spent $300 million on their own marketing campaign with the goal of simply raising awareness and promoting conversation about climate change (Hale, 2010).

Within the range of consumer types, there are those who say that they care about making ethical and environmentally-sound choices, however research and product launch experiences suggest that intention far outweighs actual purchasing behaviour (Stafford & Hartman, 2013; Eckhardt et al., 2010; Young et al., 2010). As stated by Eckhardt et al. (2010), "although there is considerable buzz around the concept of ethical consumption, the reality of actual ethical consumption behavior is disheartening at best" (p. 426). The second and by far the largest group is made up of those who have little or no intention of altering their purchasing behaviour; they "remain stubbornly indifferent or antagonistic" (Stafford & Hartman, 2013, p. 30). Understanding marketing can address the issues exhibited by both groups. A third group – people who act on their convictions – can also be identified, described as the "deepest green niche of consumers" (Ottman et al., 2006, p. 24), however as a percentage of total sales, they can at times go almost undetected (Stafford & Hartman, 2013). While marketing can have a role in shaping consumer behaviour for the better, it is likely that the discipline has unfairly received much blame for the decisions of consumers.

2.7. Summary

Throughout the 20th century, marketing played an important and well-defined role in business; to promote a brand, increase profitability, communicate value,

and to develop positive relationships with consumers. As was discussed in this literature review, these goals are very much relevant for marketers today, however, the discipline has evolved significantly because of new and disruptive technologies.

In traditional marketing, large segments of the population are targeted broadly, with little personalisation. While this still exists today in the form of radio and television advertising, much higher conversion rates can be achieved online. As was discussed by Erragcha and Romdhane (2014) and Schultz et al. (2012), the development of new digital marketing technologies has changed the discipline forever, and that change is now constant. Marketers are now much closer to consumers, and new attitudes towards participation, collaboration, storytelling, and brand engagement are emerging. Further, with the arrival of on-demand, subscription-based platforms, marketers have simple and cost-effective access to such technologies.

Since the early 2010s, marketing has been transformed by the advent of Big Data, and new tools provide the means of accessing and analysing consumers' information relatively easily, and consumers can now be reached at a personal level. Digital-first and digital-only marketing strategies are emerging, supplanting traditional means of advertising in many cases. Online campaigns are extremely versatile, and can provide real-time analytics, and be adjusted at any time. This is important, as it was stated in the literature review that credibility is waning for many marketers, with "73 percent of CEOs reporting a lack of trust in the marketing department's ability to generate sales and increase customer conversion" (Kumar et al., 2013, p. 330). With these new technologies, marketers have the tools to reverse this trend; real-time location data, purchasing history, browsing behaviour, and mobile platforms to deliver messaging.

The scale of data available is a challenge for marketers at present, and the number of devices producing such data is growing each day. Within three years there will be at least 30 billion internet-connected personal devices. This is

driven by the rapid adoption of new technologies, particularly those that monitor our lives in terms of habits and health. Despite the many tools available, this information can be complex and difficult to process. Nevertheless, the potential to create highly targeted marketing campaigns with sophisticated analytics and tracking is well-recognised, and the hiring of data scientists into the discipline is becoming more commonplace.

The issue of privacy is unresolved, and will likely present significant challenges going forward, especially around the ownership of data and the access to it. A considerable amount of data is collected unbeknownst to any given individual; thus, marketers may find themselves often working in grey areas. There is potential for abuse, especially with today's heavy focus on increasing conversion rates. This would exacerbate a trend that has persisted for some decades, in that consumers are cynical of marketing and advertising, and have a lack of trust from the outset, i.e. a sense of deception. Nevertheless, there is a positive outcome for consumers – better targeting improves the relevance, quality, and interest of advertisements to each individual.

The concept of artificial intelligence was discussed, in that technology companies are seeking to develop self-learning, self-improving systems that will eventually surpass the cognitive abilities of humans. With Big Data, these systems will likely become the new standard of marketing practice, and unforeseen patterns and trends will emerge regarding consumer behaviour. The continued development of artificial intelligence will likely bring about the notion of the Singularity, the point at which systems surpass human intelligence and push innovation even further, and take on more control over existing global systems and infrastructure.

It was explained that automation poses a real threat to employment in general, with many predicting a heavy displacement of workers, and the creation of technologies that rely on machines over humans. As discussed, machines with superior cognitive, mathematical, and data processing capabilities are already

shifting workers across a wide range of industries. Aside from its cognitive abilities, artificial intelligence is said to struggle with creativity and emotional intelligence, and that humans will continue to provide value in these roles.

In marketing, Big Data will provide an even playing field, with human ingenuity and creativity making the difference for an organisation. The type of roles in marketing will evolve in line with technology, however it is clear that some form of disruption is likely to impact the current employment model. This may result in not enough jobs being created given a high population growth, thus presenting even more social and political issues. While some authors believe that the impact will be minimal, others concede that at least 50% of jobs will be displaced, with the worst affected being low-wage jobs. As stated, those roles where a high degree of creative intelligence is needed, will likely remain, albeit with much greater competition.

The topic of disruption was included in this literature review, as changes to the business landscape heavily impact marketing practice. Chiaroni et al. (2016) define it as "an innovation process that deeply changes the rules of competition in a given industry and brings new companies to the top ranks of that industry by disrupting the established position of incumbents" (p. 2). Marketing is involved in several ways – practitioners must support their business when the signs of disruption loom, e.g. decreasing sales and customer satisfaction, and they should also identify new technologies in other industries that can be used to enhance their own marketing strategy. Subscription-based services have enabled them to be highly agile and competitive, while larger businesses are still highly dependent on legacy systems. As discussed by Acemoglu et al. (2014), it is important that organisations embrace disruption to remain competitive, and be open to new business models. Some may choose to act like a startup, however this is not necessarily a good fit for large organisations.

A reliance on old technology is a major issue at present, with many organisations failing to ride the wave of innovation. According to McElheran (2015), this "is

often blamed for the failure of otherwise healthy firms to maintain their technological – and often competitive – advantage over time" (p. 1197). Falling behind consumer expectations is a by-product of this, especially as consumers' adoption of new technology is relatively high. This is emphasised by Fitzgerald et al. (2013), who state that "effective management of new technologies is already creating winners and losers in measurable ways" (p. 5). Furthermore, Fitzgerald et al. (2013) found that 63% of respondents believed that "the pace of technology change in their organization is too slow" (p. 4). Underinvestment in technology lowers the effectiveness of employees and any marketing efforts.

The use of futures is central to this study, and there has been insufficient academic research that looks at the future of marketing, despite the "human need for anticipation" (List, 2005, p. 10). This research includes scenarios, or alternative futures – Possible, Probable, and Preferable – which serve as a way of developing the possibility space. While we cannot say for certain that one scenario is the most accurate, the purpose of this exercise is to identify a range of outcomes and reduce uncertainty. The need for futures is clear; seemingly increasing "economic decline, social instability, and environmental depletion" (Wiek et al., 2006, p. 740), all remind us of the importance of developing more desirable future states. Further, this is a long-range process of enquiry that brings together a range of opinions, which addresses uncertainty and complexity.

Chapter 3 – Method

3.0. Introduction

This study utilises qualitative research methods in a grounded theory-like approach, which provides a general framework for both the collection and analysis of data from personal interviews. Grounded theory is an inductive process, with the goal of "generating new theory from data, as opposed to testing existing theory" (Birks & Mills, 2015, p. 2). This approach suggests a degree of "constant comparative analysis" (Birks & Mills, 2015, p. 11), where learnings from one interview can be brought into the next by the interviewer. This is especially useful in this study as futures is "discovery-oriented" (Burck, 2005, p. 244), where one needs to explore meaning and find patterns in what participants are saying. Further, it is "one of the most popular research designs in the world" (Birks & Mills, 2015, p. 1), thus there is considerable justification for its use. This study utilises some of the key features of grounded theory, particularly around creating knowledge.

Qualitative methods are most applicable to this study as they allow for in-depth discussions between the participants and the researcher. Participants can offer a description of their experiences that is unbiased and not confined to the researcher's assumptions or desired outcomes. As explained by Burck (2005), the researcher must "maintain self-reflexivity – to own their ideas and to bypass them in analysing the material, so that one does not discover what one already knew" (p. 245). This can be overcome by recruiting a range of experts from different industries; this process is outlined in the next section.

3.1. Candidate Selection Process

There is significant literature covering the process of finding and selecting appropriate candidates, and any potential issues are mitigated by way of a clear

selection process (as outlined in Worrell et al., 2013; Knol et al., 2010; Okoli & Pawlowski, 2004; Wood & Ford, 1993; Delbecq et al., 1975). This process "requires careful consideration" (Knol et al., 2010, p. 7) as it can affect the outcome of any study (Loveridge, 2004; Glenn & Gordon, 2003).

In this study, a selection of potential candidates was identified and contacted via LinkedIn to determine their interest and willingness to participate. Of the thirteen invitations that were sent out, twelve confirmed and formed the expert sample (see 'expert elicitation'; Knol et al., 2010). This sample included executive-level professionals, respected consultants, leaders, and decision-makers. This was evidenced by their current positions, public recommendations, and past employment history – all of which was freely available on LinkedIn. While every candidate had international business experience, four were based overseas, and eight were based in New Zealand at the time of the interviews. It is important to note that for this study, they are not the "object of research but the informants regarding the research object or area" (Aschemann-Witzel et al., 2012, p. 653).

In order to gain insights from a diversity of experienced business leaders, it was decided that they should be from a range of industries. This would ensure that there is variation in the participants' backgrounds and experiences, which increases the quality of the findings. The resulting industries included academia, aviation, banking, financial services, product marketing, retail, advertising, cloud software, cybersecurity, and health foods. These industries were desirable as they could all face disruption in the coming years, or at the very least will benefit from innovation.

It should be noted that random sampling is not used. Purposive sampling is defined as non-probability sampling, and selects subjects to be studied based on the researcher's judgement. It helps to focus on features of a population that enable the researcher to answer the research questions. Respondents were deliberately selected on the basis of their experiences and expertise; they are

informed individuals who would be considered "specialists" in the context of the research topics (Keeney et al., 2001, p. 196). As described by Gläser and Laudel (2010), experts are useful participants as not only do they possess specialised knowledge, they typically hold qualified views and are willing to express them. Participants should also be able to provide "motivations for their judgments and identify issues that affected them" (Knol et al., 2010, p. 9) to pick up on any potential bias due to "factors such as moral or professional responsibility, legal liability or peer credibility" (Knol et al., 2010, p. 10).

As discussed by Knol et al. (2010), citing the work of Loveridge (2004) and Kotra et al. (1996), "three types of professionals can be distinguished: generalists, subject-matter experts, and normative experts" (Knol et al., 2010, p. 7). Generalists are said to be highly useful in multidisciplinary studies, and have "substantial knowledge in a relevant discipline and a solid understanding of the context of the problem" (Knol et al., 2010, p. 7). Subject-matter experts are authorities in their field(s), and are "essential for estimating subject-specific information, such as model parameters" (Knol et al., 2010, p. 7). Normative experts on the other hand bring practical experience and decision-making skills to the discussion, and can therefore provide valuable insight regarding proposed theories. In the context of this study, all the above were sought.

3.2. Consent, Question Development & Testing

All participants were informed of their right to withdraw at any time, and that their privacy is guaranteed to protect their employment and reputation, and to encourage openness. Therefore, each interview recording is only available to the researcher, and transcripts do not contain any identifying information; personal and company names are redacted unless requested otherwise. One participant, Sohail Inayatullah, was willing to be identified in the study. Consent was provided verbally at the beginning of each interview, which is on record. Participants were given the guiding questions at least a day prior to the interview so that they could consider the topic and provide more thorough answers.

Personal interviews can be conducted according to a range of different approaches, and it is up to the researcher to determine the best fit for both the type of participants and the desired outcomes. For this research, *moderately scheduled interviews* are most appropriate, whereby the interviewer "follows a set of questions and suggested follow-up questions but is free to use them differently during the interviews" (Gilmore, 2011, p. 93). This is useful as it enables considerable flexibility and openness while covering the necessary core questions. It also provides a means of keeping the discussion on track, and provides consistency. As stated by Burck (2005), the researcher can "cover particular areas, but leave room to follow feedback idiosyncratically so as to explore more particular meanings with research participants" (p. 240).

Moderately scheduled interviews (or semi-structured interviews) are effectively a middle ground between *highly scheduled interviews* (closed questions) and *unscheduled interviews* – the former being useful for more quantitative research whereas the latter is often described as a conversation (Gall et al., 2007). In this case, the researcher "does not ask any specific types of questions, but rather relies on the interaction with the participants to guide the interview process" (Turner, 2010, p. 755). Although used in some studies, unstructured interviews are avoided in this research as it is difficult to perform the analysis, and because participants are not able to see any guiding questions beforehand. Creswell (2014) also makes the point that the informal interview technique is ultimately too inconsistent.

The primary motivation for using moderately scheduled interviews is that in qualitative studies, the full range of knowledge is often unknown to the researcher. It is therefore not always possible to pre-define every question in a way that covers all aspects of the topic; in fact, it is natural that unforeseen questions and answers may arise during the conversation. The researcher should have a good understanding of the topic at hand and be able to formulate several key interview questions and topics that lean towards the overall research

questions and objectives. These then form the basis of a "semi-structured interview guide" (Caspari et al., 2011, p. 136), which is included in the appendix. Open-ended questions are thus available when needed (as per Crawford, 1997), and this enables "informants [to] speak freely to get a more holistic overview" (Caspari et al., 2011, p. 136). The interviewer can then probe further and follow up on answers (Creswell, 2014; Flick, 2014), whenever they feel that "they will yield helpful information" (Gilmore, 2011, p. 93). Subjectivity is welcome, in fact it can be argued that it is an intrinsic and useful characteristic in any discussion, allowing for a "deeper interpretation of experimental findings" (Flick, 2014, p. 216).

It was deemed useful to test the interview questions and the process as a whole prior to the study proper to gain both feedback and potentially useful answers (Caspari, 2011; Knol et al., 2010; Kvale, 2008). In general, this determines both the likely quality and quantity of information that can be gathered during the formal discussions, and provides an opportunity to gauge participants' likely reactions. Such feedback is useful for refining the planned questions; they can be "pre-tested in order to evaluate their clarity and completeness" (Knol et al., 2010, p. 9). This test was conducted with an industry-leading expert within the Australian banking sector, and is treated as more than just a simple pilot study in the sense that the results are included in the overall findings; this is the first participant out of twelve.

The open-ended interviews were supported with prior knowledge and preparation on the part of the researcher (Patton, 2014). During the interviews, the researcher followed both the research questions and any other points or issues that the participant wished to discuss (Given, 2008). It was also hypothesised that some of the discussions may yield information that could be raised during subsequent interviews (Patton, 2014), which was indeed the case to an extent. The schedule of questions itself was also flexible, in that it could in theory be added to where appropriate. As this was more of a guide however, it was ultimately unnecessary, as additional points could be introduced during an

interview without modifying the formal schedule of questions (Creswell, 2014; Patton, 2014).

3.3. Interview Transcript Codification

Once the interviews have been completed and transcribed, the next stage of the analysis was to codify the data in each interview transcript to organise and "reduce the data" (Attride-Stirling, 2001, p. 390). As a typical grounded theory analysis, coding is done "line-by-line" (Burck, 2005, p. 245). This is sometimes called indexing; the term coding will be used in this study. To make this process more efficient, the software package ATLAS.ti was used to identify, collate, and process codes from the PDF transcript files.

A 'code' is defined as "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute" (Saldana, 2010, p. 3). As explained by Attride-Stirling (2001), the data is to be dissected into "meaningful and manageable chunks of text such as passages, quotations, single words, or other criteria judged necessary for a particular analysis" (p. 391). In other words, the purpose of codifying is to identify and interpret single, important ideas that arise in the transcript. The researcher is looking for meaning, opinions, and statements that stand out with the research questions in mind.

According to Saldana (2010), coding is an "exploratory problem-solving technique without specific formulas to follow … the initial step toward an even more rigorous and evocative analysis and interpretation" (p. 8). Codes typically emphasise the motivation, and to some extent the background behind a given statement, i.e. the principle driver of a single attitude, belief, or statement. As explained by Saldana (2010), "coding is the transitional process between data collection and more extensive data analysis" (p. 4), meaning that this is typically one of the first stages of analysis performed on raw data – in this case the interview transcripts.

Codifying is inherently subjective, regardless of the approach; "All coding is a judgment call" (Sipe & Ghiso, 2004, p. 482). Nevertheless, the researcher must be mindful of their ontological and epistemological positions, and ensure that they are not simply codifying in a manner that deliberately seeks to justify the study according to any agenda.

The number of codes generated depends largely on the coding technique used, however there is not one single answer. According to Charmaz (2006), a larger number of codes reduces bias as the analysis is more granular. In a small study, the number could be under ten per transcript, with larger studies, such as this, being in the hundreds (Creswell, 2014; Friese, 2012; Litchtman, 2010).

There are different ways to approach coding, and in this study, 'In Vivo coding' is used exclusively. This is the process of taking an actual word or phrase from a passage of text – "verbatim quotes from participants" (Birks & Mills, 2015, p. 10) – and using this as the code or label. They are generally short phrases that each represent the essence of a key attribute of the narrative (Given, 2008). The advantage is that there is less researcher interpretation as the code is accurately associated with the beliefs of the participant. By nature, this produces more variation and a significant number of codes, however they can still be grouped together as outlined in the next section.

3.4. Code Categorisation – Basic & Organising Themes

Once codification is complete, grounded theory stipulates that the data is to be organised into "descriptive categories which are constantly compared for similarities and differences" (Burck, 2005, p. 245). In this study, a thematic analysis achieves this by using Basic and Organising themes. The codes are initially reduced and organised into Basic themes; these describe recurring patterns, concepts, and meaningful clusters (Saldana, 2010; Patton, 2005; Coffey & Atkinson, 1996). A Basic theme is the lowest-order theme that is derived from

the textual data (Attride-Stirling, 2001). DeSantis and Ugarriza (2000) define a theme as "an abstract entity that brings meaning and identity to a recurrent experience ... a theme captures and unifies the nature or basis of the experience into a meaningful whole" (p. 362). In this study, these themes are the first stage of the findings.

This is a "sense-making effort … and attempts to identify core consistencies and meanings" (Patton, 2005, p. 453). This is a process of analysing the codes and taking into consideration how different codes can be combined to form a theme (Braun & Clarke, 2006). The researcher must ask, what phenomena does the data represent and how are codes similar? Each Basic theme therefore highlights a different approach to the same overall concept; theories within that concept begin to emerge. This is an inductive process, meaning that the themes emerge from the data as opposed to codes fitting within an existing theme structure based on researcher assumptions. The inductive process is preferred as it is close to the data – each theme is composed of participants' true intentions and opinions.

To reduce the number of *basic* themes into a more manageable set, the data is "clustered or merged to construct researcher categories at a more conceptual and interpretive level" (Burck, 2005, p. 245). As described by Attride-Stirling (2001), "coherent groupings" (p. 392) are created in a process that is similar to the previous step, now forming the Organising themes (Tuckett, 2005; Attride-Stirling, 2001). These should still be on specific topics, but broad enough to "encapsulate a set of ideas" (Attride-Stirling, 2001, p. 392). To organise themes means to group the main ideas which are proposed by the Basic Themes. This process can also be known as data reduction, which is the process of choosing, focusing, simplifying, building and transforming data (Miles & Huberman, 1994). It is important to note that in the process of describing the findings, the Basic themes are the most important for the narrative. The Organising themes are simply a means to further organise the data at a higher level.

3.5. Narrative Analysis & Theory Development

In chapter 4, the organised qualitative data is expressed in a type of "narrative analysis" (Gubrium, 2012, p. 273), typical of a grounded theory study (Charmaz, 2014). A narrative analysis explores the stories told by the individuals (Burck, 2005), and is important for the development of the theory in answering research questions 1-6. The type of analysis used "involves re-transcribing the narrative as poetic stanzas which enables the analysis of its organizing metaphors, and can reveal new meanings in and of the account" (Burck, 2005, p. 252).

Themes from the previous steps are therefore explored for the "patterns that underlie them" (Attride-Stirling, 2001, p. 393). As themes are inductive, the theory developed from the narrative is generated in a bottom-up approach. The relationships between the various topics will be identified and brought into the analysis as crucial dimensions (Bradley, 1993). This type of narrative is useful as it involves the "subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). The first six research questions are presented as topics; the Basic themes are treated as findings that each fit into the context of a research question. This grounded theory approach uses a range of techniques including subjective intuition, storytelling and interpretation, but in a systemic manner that remains close to the data. The narrative is presented in Chapter 4, and brought into chapter 5 along with the secondary research.

3.6. Scenario Development

In Chapter 5, scenarios are developed and presented in a list format using the primary research findings in Chapter 4, combined with the secondary research material in Chapter 2. According to Herrmann (2010), "scenarios are utilised to analyse different characters of the future; this is achieved by a variation of relevant input parameters" (p. 93). For this research, the scenario types to be used are: Possible, Probable, Preferable (Inayatullah, 2008; List & Metcalfe,

2004; Voros, 2003; Hirschorn, 1980). Each of these scenarios are defined in this section and illustrated in the following diagram. For more general information on scenarios in futures studies, refer to Chapter 2.
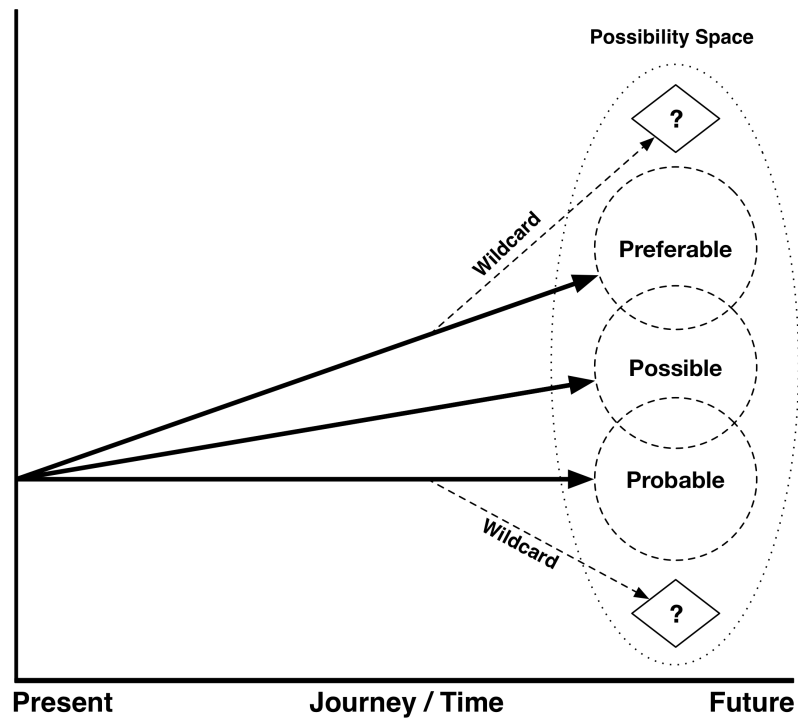
Figure 1: Author's creation of the scenario funnel with inspiration from Herrmann (2010)

The above Figure (1) shows how future scenarios can "differentiate, isolate and describe possible, likely, inevitable or even desirable futures" (Herrmann, 2010, p. 93). It also shows how scenarios can overlap given common elements. Ideally, a series of scenarios encompasses all future possibilities with allowances for wildcards in the extremities, defined by Berkhout and Hertin (2002) as the possibility space. Collectively these form the "scenario funnel" (Herrmann, 2010, p. 93).

In a 'four scenarios' study by the McGuinness Institute for Project 2058, a similar diagram was presented to highlight the possibility space [Figure 2]. The cone "represents the degree of uncertainty and the fact that as we move away from 2008, uncertainty is likely to increase" (McGuinness et al., 2008, p. 7). A variation

of this diagram [Figure 3] was also incorporated into a subsequent study –
'ForesightNZ: Untangling New Zealand's long-term future' (refer to McGuinness
& Makhlouf, 2016, p. 2) – and is included as it complements this study approach.
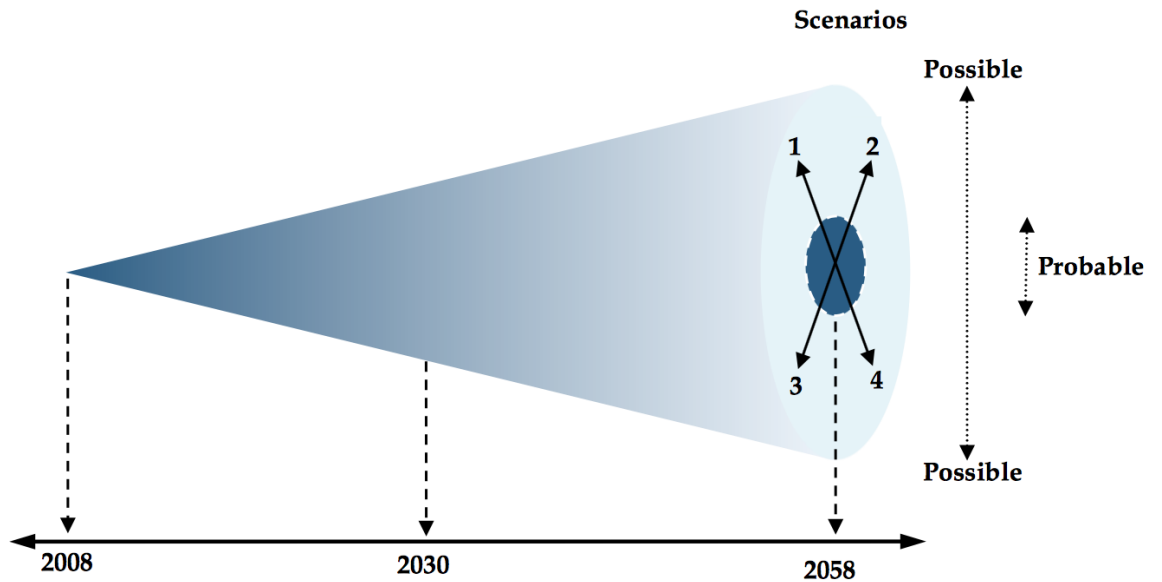
Figure 2: see McGuinness et al. (2008)
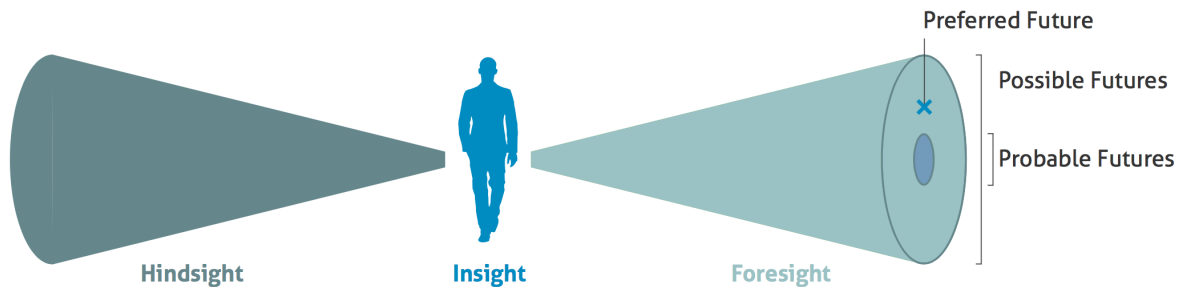
Figure 3: see McGuinness and Makhlouf (2016)

3.6.1. Scenario Definitions

The *possible future scenario* includes changes and states that may happen,
irrespective of how unlikely or "far-fetched" (Voros, 2003, p. 16) they may be.
Features within this societal state are perceivable, however we may not yet have
a scientific understanding of how to achieve them. As Voros (2003) explains, such

features may even include "transgressions of currently-accepted physical laws or principles" (p. 16). Most importantly, the possible future relies on knowledge that we do not currently possess.

The *probable future scenario* is based on the "continuance of current trends" (Voros, 2003, p. 17). In this case, we rely on existing knowledge to identify what changes may happen (Voros, 2003). This is guided by our current understanding of physics, nature, and systems, as opposed to hypothetical advancements in these areas. Some practitioners refer to this state as the 'expected future' (Bishop & Strong, 2010), and see it as a useful way to establish a business-as-usual baseline, i.e. a linear trajectory between the past and present. Given the likelihood of discontinuities and complex future disruption, this scenario, despite its name, is generally regarded as unlikely but important to identify (List, 2005, 2004; Voros, 2003). It is like the concept of a *plausible future scenario*, which is not included in this research – see the comment at the end of this section.

The *preferable future scenario*, as the name suggests in this case, is a supplementary scenario that includes emotional and potentially biased views of what we want the future state to be. The scenario is typically smaller and deals with subjective features that address current concerns, e.g. climate change and inequality, with hypothetical solutions. As this is intrinsically subjective, this scenario depends largely on the answers given during the primary research. As Groff and Smoker (1997) explain, a well-defined preferable scenario may even indicate ways to make such a scenario more likely to occur.

Wildcards may impact any scenario, and they are regarded as "low probability events" (Voros, 2003, p. 17) or discontinuities (Bishop, 2007; van Notten et al., 2005) that can cause sudden and unpredictable societal changes (Groff & Smoker, 1997). A wildcard could include war, or potentially a paradigm shift in technology, e.g. quantum computing. As Voros (2003) explains, they can be considered "mini-scenarios which, if they occurred, would have very high impact" (p. 17).

The omitted *plausible* future scenario follows on from the probable scenario. It shares many of the same characteristics, and is more of a widening of the events in the probable scenario. It was determined by the researcher that this study is not wide enough in scope, nor collects sufficient, distinguishing data that justifies the use of the plausible scenario. While the probable scenario looks at futures that "could happen … according to our current knowledge" (Voros, 2003, p. 13), plausible futures focuses more on futures that are "likely to happen … and stem, in part, from the continuance of current trends" (Voros, 2003, p. 13). The omission of this scenario does not detract from the study, as the other three scenarios are more than sufficient to understand the possibility space.

3.6.2. Wider Scenario Discussion

In discussing scenarios more broadly, it is important to note that many tools are available to facilitate foresight. Scenarios, as a methodology, has been described as a "visionary" (Börjeson et al., 2006, p. 724) mode of thinking. Pattinson and Sood (2010) state that scenarios are most appropriate when "thinking to a place (or space) where uncertainty is of such a level that conventional forecasting or extrapolation is insufficient to start to explain possible future developments" (p. 418). Specific techniques include the structural analysis for determining important questions concerning the future, stakeholder analysis, morphological analysis "to consider the entire field of possibilities and construct scenarios" (Durance & Godet, 2010, p. 1490), expert analysis to reduce uncertainty, such as in this study, and "multi-criteria [matrix] analysis to identify and evaluate strategic options" (Durance & Godet, 2010, p. 1490). The multi-criteria matrix analysis tool is demonstrated in Kosow and Gassner (2008).

Morphological analysis is a popular tool for technological foresight, although it is less used in economic and business studies (Kosow & Gassner, 2008). It is nevertheless useful for developing structured scenarios, with hypotheses around "demographic, economic, technological, and social/organizational" dimensions

(Durance & Godet, 2010, p. 1490). According to Kosow and Gassner (2008), morphological analysis is used for studying "complex networks of interrelationships … non-quantifiable socio-technical problem complexes … wicked problems and social messes" (p. 66). There is generally always a need for primary research; Slaughter (2002) points out that scenarios work is not "an individualistic enterprise" (p. 29).

It is said that integrative scenario methods produce better outcomes by providing a richer array of both qualitative and quantitative options, helping to "engage in depth with the multiple scenarios" (Amer et al., 2013, p. 26). In fact, Godet and Roubelat (1996) stated that "in practice there is no one scenario method, but rather a variety of methods of construction … the term scenario method only applies to an approach which includes a number of specific steps" (p. 167). Mallampalli (2016) states that "scenarios take many forms and vary widely in terms of how they are developed" (p. 7). Godet (2000) supports this notion in saying that "rational and heuristic schools of scenario planning only appear to be in opposition, whereas, in fact, they are complementary" (p. 4).

Plausible scenarios are "built from the combination of critical uncertainties about the future … and [draw] attention from the continuity of linear change to potential discontinuities" (Wilkinson et al., 2013, p. 702). They seek to address long-term challenges "characterised by uncertainty and complexity, as they can help explore different alternative future pathways" (Fauré et al., 2017, p. 1). Wilkinson (2009) claims that scenarios are useful in directing attention to "different flows of time and different forms of systemic and cultural depth" (p. 108). Importantly, the quality of a scenario is not determined by its predictive accuracy, "but by its impact which can be evaluated in different ways — cognitive shift, enhancing judgment, leading to more and better strategic options and/or motivating change" (Wilkinson et al., 2013, p. 700).

Arguably, to study the future is to use scenarios. As Bishop et al. (2007) believe, scenarios are the "archetypical product of futures studies" (p. 5), embodying the

central tenets of the discipline. Since as far back as history shows, "people have been interested in the future and have used scenarios as a tool for indirectly exploring the future of society and its institutions" (Bradfield et al., 2005, p. 797). Many of the discussed concepts are useful for marketers, with Pattinson and Sood (2010) stating that they "believe that marketers need to translate this thinking into – inventing the future, learning the future faster and to delivering the future earlier" (p. 418).

3.6.3. Scenario Vignettes

Scenario vignettes are used to complement the scenarios. They are brief, creative foresight statements that each provide a vision of the future – also known as fictional prototypes or narratives. They can also be used to describe a future moment, as used in a paper by Lackey et al. (2011). Vignettes were used in a study by Rhisiart (2013), who states that they "remain lucid … [but] provide a denser and more challenging vision in which to engage discussion" (p. 23). The researcher further explains that "the vignettes offer a thick description of potential human behaviour within its social and cultural context" (p. 24). Vignettes can be seen as giving 'life' to each of the scenarios; "multi-dimensional visions of a future" (Rhisiart, 2013, p. 23). They are each used to highlight a point in time in section 5.4 [Scenario Vignettes], following the discussions of the three scenarios.

3.7. Discussions of Non-Academic Publications

In Chapter 6, a comparative discussion was undertaken using material from 18 recent articles and papers published by five highly regarded, future-leaning think tanks and research organisations. They included the McKinsey Global Institute, Singularity University, Adobe Think-Tank, the European Parliament Think Tank, the McGuinness Institute, and PwC (formerly PricewaterhouseCoopers).

The McKinsey Global Institute has been active since the 1990s, and their research is often cited in international media. Their recent publications have focused heavily on the future of the global economy, with an emphasis on automation and the future of work. Singularity University is a relatively new think tank from Silicon Valley that offers educational programmes and supports innovation through its business mentoring and incubation. Their articles are often posted on SingularityHub, and are heavily focused on future technologies and business. Adobe Think-Tank is an initiative launched by Adobe in 2015, and is somewhat different to the traditional model of a research organisation. Nevertheless, Adobe has joined forces with "luminaries working at the cutting edge of technology, marketing and creativity in a variety of disciplines to discuss topics presenting emerging challenges and opportunities for brands and consumers" (Warren, 2015, p. 1). The European Parliament Think Tank, as the name suggests, is the research body that informs the European Parliament and citizens of the European Union at large. It is typically future-focused research that seeks to inform new EU policy. One such research area is the balance of privacy rights with the collection of personal data. The McGuinness Institute is a New Zealand-based think tank focused on sustainability and other issues, with the view of working towards a better future for New Zealand. PricewaterhouseCoopers has been researching current trends and generating online publications for several years, and seeks to understand how the world is changing, and how business and industry are changing.

These were selected following an online search for highly-ranked organisations that frequently publish in the relevant research areas, particularly around modern forms of marketing, and the intersection of business and technology in the future. If an organisation published infrequently, were off-topic, or didn't have a respectable number of referring domains, they were excluded from the study. The number of referring domains for each organisation, revealed in the list of articles below, refers to the number of unique domains or websites that link to their content. This provides a good indication of a website's legitimacy and respectability. Further, the number of pages that have been indexed by Google

over time has been included. The number of backlinks, however, has not been used as a point of reference as it can be easily manipulated.

The articles selected were published between 2015-2017 and cement each organisation's views on the topics under investigation. The analysis is like a literature review, where textual material is contrasted and compared to provide a broad overview. It is not uncommon for research projects to include non-academic literature to integrate more up-to-date findings and discussion (as used recently in Lam et al., 2016; Al Lily et al., 2016; Scott & Few, 2016; Soomro et al., 2016; Pantucci et al., 2016).

The following articles were chosen as source material from each organisation, and the website's ranking details are shown in parentheses. As points of reference, CNN.com – a leading global news website – has 925,067 referring domains and 427,000 pages indexed by Google over time. The University of Waikato's website, waikato.ac.nz, has 15,164 referring domains and 12,400 pages indexed. The website of the Macromarketing Society – a small but international group of scholars – has 69 referring domains and 48 pages indexed.

- **McKinsey Global Institute** (62,472 referring domains, 5890 pages indexed)
    - Report: A Future That Works: Automation, Employment, and Productivity (January, 2017)
    - Demystifying digital marketing and sales in the chemical industry (February, 2017)
    - The consumer sector in 2030: Trends and questions to consider (December, 2015)
    - Marketing's Holy Grail: Digital personalization at scale (November, 2016)
- **Singularity University** (6957 referring domains and 421 pages indexed; note: this is a relatively new website and lower numbers are to be expected for some time)
    - If Robots and AI Steal Our Jobs, a Universal Basic Income Could Help (December, 2016)
    - Robots May Steal Our Jobs, but Not as Quickly as We Thought (January, 2017)
    - Art in the Age of AI: How Tech Is Redefining Our Creativity (February, 2017)

- ○ Smartphones to Bionic Body Parts: Our Tech Can (and Will) Be Used Against Us (December, 2015)
- **Adobe Think-Tank Blog** (40,932 referring domains, 12,501 pages indexed)
  - ○ Using Machine Learning for Enhanced Marketing Results; Discussion (February, 2017)
  - ○ The Programmatic Revolution — How Technology Is Transforming Marketing (February, 2017)
  - ○ How Analytics Data Should Fuel Creativity (January, 2017)
  - ○ The Future of Data-Driven Marketing (October, 2015)
- **European Parliament [Think Tank]** (94,585 referring domains, 52,800 pages indexed)
  - ○ Big Data and Smart Devices and their Impact on Privacy (September, 2015)
  - ○ Artificial Intelligence: Potential Benefits and Ethical Considerations (October, 2016)
- **McGuinness Institute** (157 referring domains, 110 pages indexed; *note: although still showing low numbers, this organisation was chosen as it is New Zealand-based, and conducts research into how the changing world will impact the nation. The authors also publish on different websites and in academia*.)
  - ○ Cīvitās: Aligning technological and sociological transformation (May, 2016)
  - ○ The Future of Talent: Reactions from the World Future Society Conference (December, 2015)
  - ○ ForesightNZ: Untangling New Zealand's long-term future (October, 2016)
- **PwC** (61,758 referring domains, 34,900 pages indexed)
  - ○ The human factor: Working with machines to make big decisions (2016)
  - ○ The future of industries: Bringing down the walls (2016)
  - ○ Tech breakthroughs megatrend (2016)
  - ○ Data-driven: Big decisions in the intelligence age

In Chapter 7, a similar discussion was performed, however 20 articles in this case were chosen from five well-known, professional magazines and periodicals. More were included as the articles are generally shorter. Many of these publications require paid subscriptions, however sufficient access was granted using trial accounts. The same web search and evaluation process as per the previous chapter took place, and the following were chosen as they were popular sources of relevant information. For instance, the *Harvard Business Review* has dedicated topic categories that include Marketing, Innovation, and

Technology. Accordingly, articles published in these areas are heavily focused on the future, and explain how they think that it will impact business. *The Economist* publishes in the areas of international business, finance and economics, and science and technology. *Forbes* is a globally-respected publication that identifies topics that are interesting to business owners and executives, and as is shown by the selected articles, this includes artificial intelligence and its impact on business and marketing. *Inc.* focuses on startups and growing companies, and frequently publishes lists of the fastest-growing companies in the United States. Its articles are spread across a wide range of business-related topics, and some of its more recent marketing articles are used in this study. *Entrepreneur* is a very active publication that is more goal orientated, especially around encouraging entrepreneurs in their endeavours. Along with the others, this publication includes a wide range of topics. For this study, many of its digital marketing articles were used, as they provide contemporary marketing strategy that others are lacking.

- **Harvard Business Review** (121,475 referring domains, 17,000 pages indexed)
    - Is Programmatic Advertising the Future of Marketing? (June, 2015)
    - 4 Models for Using AI to Make Decisions (January, 2017)
    - How to Tell If Machine Learning Can Solve Your Business Problem (November, 2016)
    - How Predictive AI Will Change Shopping (November, 2016)
    - How Artificial Intelligence Will Redefine Management (November, 2016)
    - Globalization, Robots, and the Future of Work: An Interview with Jeffrey Joerres (October, 2016)
- **The Economist** (237,252 referring domains, 41,200 pages indexed)
    - Why firms are piling into artificial intelligence (April, 2016)
    - Artificial intelligence: Rise of the machines (May, 2015)
    - Automation and anxiety (June, 2016)
    - Marketing in the digital age: A brand new game (August, 2015)
    - Machine learning: Of prediction and policy (August, 2016)
- **Forbes** (589,404 referring domains, 208,000 pages indexed)
    - Artificial intelligence (AI) And The Future Of Marketing: 6 Observations From Inbound 2016 (November, 2016)

- 80% Of Marketing Leaders Say Artificial Intelligence Will Revolutionize Marketing By 2020 (December, 2016)
    - The Future Of Work: Companies Use Marketing Tools To Create A Compelling Employee Experience (December, 2016)
    - What Are The Marketing Jobs Of The Future? (December, 2016)
    - Customer Experience Is The Future Of Marketing (October, 2015)
- **Inc.** (122,370 referring domains, 33,700 pages indexed)
    - Email Marketing in the Year 2020 (December, 2016)
    - Transmedia Marketing Is the Future of Brand Storytelling (January, 2016)
    - Data Is Behavior. It's Time to Implement Predictive Marketing (March, 2016)
    - 10 Examples of AI in Marketing (August, 2016)
    - What Content Marketing Will Look Like In 2020 (April, 2015)
- **Entrepreneur** (129,066 referring domains, 37,500 pages indexed)
    - Phone Analytics Are Changing the Future of Marketing (May, 2016)
    - Coming Soon: Marketing Targeted Only at You (May, 2016)
    - 4 Ways to Tailor Your Marketing to Each Customer (December, 2015)
    - Data-Driven Marketing in 2016: Bigger, Faster, Better (January, 2016)
    - Visual Marketing and the Future of Geolocation (May, 2016)

3.7.1. Design Thinking for Futures & Marketing Research

For both academic and non-academic researchers looking to the future of society, business, and marketing, design thinking provides a useful perspective for developing scenarios. It could be said that think tanks and research organisations use many of the lessons and tools of design thinking in their foresight activities, knowingly or otherwise.

Design thinking is an innovation-focused organisational foresight strategy that can be linked with futures studies, where "uncertainty [is] the ontological expression of the 'future' for business" (Brassett & O'Reilly, 2015, p. 39). According to Liedtka (2014), "design thinking [is] a problem solving process, not just an innovation process … one that could help any organization … become more successful at innovation (p. 42). It facilitates the better design of products,

strategies, and organisations through future-focused processes. Organisations encourage collaboration by using tools that evaluate "their assessment of current reality and the nature of promising possibilities and paved the way for them to create a new future" (Liedtka, 2014, p. 44). Complexity is a significant factor as complex problems often have multiple solutions, and managing uncertainty is a goal of design thinking. This easily translates over to the work of futures researchers, particularly those using scenarios.

As described by Liedtka et al. (2013), design thinking is the "bridge to take us from current reality to a new future [and] the technology for better bridge building already exists" (p. 35). This emphasises "the importance of discovery in advance of solution generation using market research methodologies" (Liedtka et al., 2013, p. 35). As Berkan et al. (2017) explain, designers, by definition, "are correlated with [the] future … [and] to keep up with the rate of change, to initiate change, to foresee the future and to direct the future, the need for varied tools has arisen" (p. 1118). This reinforces the need for designers to embrace futures studies.

Future studies has a long history of "integrating models and methodologies from diverse disciplines in exploring, forecasting and envisioning possible futures" (Kelliher & Byrne, 2015, p. 36). This includes the "extension of foresight practice to accommodate materials, methods and approaches from design and the arts" (Kelliher & Byrne, 2015, p. 36). Creativity is key – "we want the future to be different from the present [but] powerful futures are rarely discovered primarily through analytics" (Liedtka, 2006, p. 15). Scenarios in particular are inherently creative and design-oriented (Brassett & O'Reilly, 2015; Liedtka, 2014; Johansson-Sköldberg et al., 2013), with Brasset and O'Reilly (2015) specifically mentioning the "possible, probable, plausible, prophesiable, or even predictable futures" (p. 43). Further, Li (2014) discusses 'sensemaking' and rhetoric as being linked to scenarios, with a design-led mindset that copes with uncertainty and complexity. Freeman and Pattinson (2010) also highlight this, stating that the "development of sensemaking, sustained learning, new transformational

strategies, and especially to the exploration of new ideas … are critical to [the] future" (p. 305).

In 'Designing for Growth' (Liedtka & Ogilvie, 2011), the authors outlined a 'four step/question' process for design thinking in an organisation: What is? What if? What wows? What works? The idea was to encourage managers to think about design, and the future. Liedtka and Ogilvie (2011) want managers to be more like designers, and to acknowledge the difference between "what scientists do and what designers do: whereas scientists investigate today to discover explanations for what already is, designers invent tomorrow to create something that isn't" (p. 18). As explained by Liedtka (2014), "What is? examined current reality. What if? used the learning from that first stage to envision multiple options for creating a new future. What wows? helped managers make some choices about where to focus first, and What works? took them into the real world" (p. 40). Liedtka (2014) points out that for large organisations, innovation often involves conflict between functions such as marketing and R&D, with design thinkers "caught in the crossfire" (p. 40).

Brassett and O'Reilly (2015) describe "futures practitioners as 'bridge-builders' making paths to connect contextualised communities" (p. 38). They cite the work of Bussey (2013): "The construction of such pathways, as bridges, to the future is a work of hands, heads and hearts and thus requires craft, theoretical knowledge and love. This amalgam comes together and is expressed as a form of practical imagination in which the futurist holds a creative space" (p. 103). Design thinking adds to this; it is to anticipate change through openness and creativity, and to develop preferable future states. Brassett and O'Reilly (2015) argue that "strategic mapping, future planning … is a matter of style" (p. 39).

Design thinking looks at the future in order to remove the present as a limiting factor; this involves the concepts of creativity and innovation. Further, design thinking is a solutions-based approach for dealing with any number of future problems, with the goal of creating better outcomes overall. Researchers

typically explore a range of different future scenarios for any given issue, which makes design thinking a useful concept for futurists looking at business and marketing. Design thinking has been described as interdisciplinary, where different perspectives create more sustainable solutions for the future.

In this thesis, primary research data was readily accessible. It is a topic that both individuals and organisations are keen on discussing. This perhaps signals a change in attitude, as it is in contrast to the comments made by Liedtka (2006): "It's not easy to entice people into sharing an image of the future … [to] call on people to commit to something new and different, to step away from the security of what has worked in the past" (p. 16). More than a decade later, this unwillingness to engage in futures thinking appears to have vanished. To think about something new is to think about future possibilities, and designers and researchers alike are keen to remove themselves from the present to tackle problems and discover opportunities.

3.8. Combined Study Discussion

In Chapter 8, a combined discussion integrates the findings of each study using a comparative analysis: scenarios in Chapter 5, think tanks and research institutes in Chapter 6, and professional magazines and publications in Chapter 7. As the scenarios in Chapter 5 are already based on the secondary and primary research findings, Chapters 2 and 4 do not need to be directly re-introduced in this discussion. One of the goals of this chapter is to firmly establish the importance of including the discipline of marketing in futures studies. Further, there is a need to generate material that serves as an example of how we should talk about the future of business, society, and employment. Finally, the importance of gaining new information via primary research is illustrated, as many of the upcoming innovations will come from the private sector, and it is important that the voices of business leaders are heard.

3.9. Ontological & Epistemological Assumptions

In the majority of cases, futures research that utilises scenarios (alternative futures) is inherently constructivist (as supported by Wilenius, 2016; Inayatullah & Milojević, 2015; Vervoort et al., 2015; Ramírez & Selin, 2014; Tuomi, 2012). This is because scenarios methodology presents multiple futures, embracing the notion that reality is not singular; it can be interpreted in numerous ways depending on the context of the study, and people's experiences.

Constructivism is also described as "a form of interpretivism" (Creswell & Poth, 2017, p. 24), as multiple perspectives need to be interpreted. As explained by Inayatullah and Milojević (2015), "the constructivist paradigm [includes] the notion of subjective multiple realities that are individually and socially constructed" (p. 413). Vervoort et al. (2015) support the notion that "many scenario practitioners and theorists fall within the constructivist camp … [and have] … long engaged with the challenge of making scenario practice truly reflexive and pluralistic" (pp. 64-65). The constructivist perspective is that the world is not fixed, it is "always in the process of becoming" (Vervoort et al., 2015, p. 64).

This research addresses future uncertainty and complexity, to uncover potential solutions for global issues, and to generate new knowledge. Although a knowledge gap is identified and addressed, this study is not positivist as this worldview is incompatible with the chosen methodology. Positivism stresses a linear view of reality that is typically researched using quantitative methods that focus more on projecting the past into the future. Furthermore, positivists typically use probability and prediction in their research methods, in which uncertainty needs to be reduced "in order to better assess the likelihood of particular future conditions" (Vervoort et al., 2015, p. 63). Vervoort et al. (2015) explain that constructivist researchers see that "it is more productive to engage intrinsic uncertainty through multiple diverse futures" (p. 63), and that scenarios are subjective and context-dependent.

It is worth noting that Dufva and Ahlqvist (2014) take a different view, by stating that "constructivism and positivism could be perceived as different dimensions of futures knowledge, and not as a fundamental epistemological antagonism" (p. 264). The authors feel that the future is both a closed and open concept, in that it is always affected by the known, linear past, and that one still needs to accept an openness towards the future. Consequently, it is theoretically possible and acceptable to "view the same fragments of futures knowledge either through a lens of constructivism (emphasising alternative interpretations) or through a lens of positivism (making more narrow normative claims)" (Dufva & Ahlqvist, 2014, p. 264). Nevertheless, this study takes the more standardised view, and is cemented in a constructivist ontology – prediction is not used.

Constructivist researchers typically focus on the "process of interaction among individuals" (Creswell & Poth, 2017, p. 24). With regards to epistemology, knowledge is constructed using people's experiences, beliefs, and interactions with their social contexts. They actively seek to understand the world, and to develop subjective meanings of their experiences. In constructivist research, the methodology begins not with a strict theory, as this would be a positivist approach. Rather, the researcher "inductively" (Creswell & Poth, 2017, p. 24) develops theory over the course of collecting and analysing the data and its meanings, which is in line with any grounded theory study. The methodology includes personal interviews, with broad, guiding questions that participants use to "construct meaning of a situation" (Creswell & Poth, 2017, p. 24). Ultimately, "the more open-ended the questioning, the better" (Creswell & Poth, 2017, p. 24). This research elicits participants' subjective expert knowledge, while also accepting that knowledge is both pre-existing on the part of the researcher, and gained from the participants. We are all co-creators of the findings, and the methodology supports this epistemology.

Chapter 4 – Primary Research Analysis

4.0. Introduction

The primary research phase of this study seeks to partially satisfy the research aims and objectives by discussing and thematically categorising the thoughts and opinions of business leaders. This section includes the results of the primary research findings, first by presenting selected passages of text to support the themes, and then an analysis of all data in the form of a narrative. Twelve individual interviews were held with industry leading practitioners, and a range of relevant subjects regarding the future were discussed. There was no shortage of knowledge, discussion, or opinions, which revealed that this topic is very much of interest to those living and breathing change across many sectors. With regards to the future of the firm, it is evidently sector dependent, however the high-level changes that are happening have implications across the board. A range of concerns regarding the future were also identified during the interviews, and there were several contentious points of discussion as outlined in the analysis.

4.1. Thematic Structure & Selected Supporting Text

Following a thematic analysis of the interview transcripts, the resulting *basic* themes were grouped into *organising* themes, as explained in the methodology. In this section, the categorisation of the themes is shown, along with selected supporting passages of text from the transcripts. Full transcripts are available in the appendix.

Organising Theme 1: The Future of Employment

Basic theme 1: Traditional jobs will disappear and new jobs will be created

Basic theme 2: Traditional jobs will disappear and the future is uncertain

Selected example excerpts:

Futurist/academic: "It's clear, it is the end of the job. That was weird future stuff thirty, forty years ago. Now we're in the transition. The only way out is full automation with guaranteed universal income. So you give the base, and then the middle area you play. Those who want to work harder can have the business class seat, but everyone gets a base and the whole world becomes 8 billion clients. Being a freelancer is the way, but if you don't have a basic income then freelance means huge exploitation. There's a shift that's going to go on and the core I liked was when this one professor, he said, "If you're worried about your job being automated, then most likely it will." I don't think it is going to be stopped now. I can just see my own behaviour, I was looking for someone to edit something, and I immediately thought "I'll find some website in India". It didn't quite work out yet but that's definitely the direction. Why would I use someone in Sydney when I can use someone for one tenth the price? If there's a good robot does my editing I would far prefer a robot."

Futurist/academic: "They are rightfully depressed, but it becomes then a governance issue given this, you don't want a situation where you have Trump-ites, angry demagogue leaders who are saying the jobs are disappearing, let's blame the Mexicans or the Indians or whoever. Or the robots – let's actually find a collective solution. That's going to be good futures, but getting that on a national level is not easy. I'm working in South Africa with the small employment group, that's what they're facing. How do they make unemployment the goal at a national level? It sounds wacko, right?"

Airline executive: "We'll definitely have less people working for airlines. The approach now is around service mentality, so it's not around hiring somebody who knows how to pour a coffee on a plane or know about planes or know about books, it's how do you serve a customer, how do you make them feel special, and that's what a service mentality is, you know, the same for taxis, buses, hotels, cruises. You name it. It's about how you feel, so that's changing in the short to medium term. We'll definitely have less people. More plane, for example, will be flown without a pilot in the future, so that sort of thirty, forty spectrum you talked about. There will be people on the ground flying the planes. Nobody else will need to. There will be all the trolleys and the bag loading and the baggage load and the cargo load. It will be all robotic and automatic. It'll be quicker, it'll be faster. There will be more planes flying more often, and there will be less people in control, so there's that, but again we are all human, so you still need some call centre. I reckon we still need some people there to deal with the exceptions. People will still need a caring face and a kind word in the front of house, but a lot more will be automated and cheaper and more efficient to run I imagine."

Banking executive: "At the moment banks want to own the entire vertical stack. We have product manufacturing businesses that go from ideation to production creation to distribution, and we own the whole chain. What's clear is that that model isn't going to survive because it's too restrictive, too slow, too expensive. We're moving into a world where organisations are going to leverage assets. One of those assets will be staff. It's looking to a more staff-on-demand, particularly as more people are getting their insight and direction from robotic advice. You can see that's starting to happen in the insurance sector now and the wealth sector, where, actually it's algorithms that are going to give you far more insight than a human being. Therefore, you're probably hiring, getting people that are coming to work for you more like the Uber model, where they'll come in to do specific jobs and then go away again. You've got a core group that are basically sort of running your organisation. Business models are now, their longevity has gone from, I think 65 years in the 1920s, down to probably about a decade in the next 10 years.

Businesses will rise and fall very quickly. To survive you're going to see the rise of sort of platform-type businesses."

Banking executive: *"Yes, it makes sense – that in the last 20 years, the number of employees in the banking sector has halved. Many of the jobs that existing 20 years ago may not exist now. Or one job that exists now, as we move towards banks to more like a technology perspective, a large proportion of the banks work towards the technologists. You could argue that 20 years ago, was there such an investment in banks through that technology, but you potentially argue around it kind of, humans and manual intervention at the same time, but I'm struck by the definition of financial services and how potentially the make up of the organisation has changed."*

Software executive: *"I'm hoping, I'm optimistic, that we will be spending most of our time imagining how to make things better rather than doing the making the things get better. I suppose we've already watched a few major revolutions of jobs disappearing, people who used to spend their time taking tapes off one drive and sticking them on another or feeding punch cards, or such things ... They only delivered the mail 3 times a week now, right? With all that sort of manual work has been slowly disappearing. Certainly on a smaller scale in infrastructure IT, where traditionally data centres were packed with people who had to run around making their cables and plugging it in, and troubleshooting pieces of hardware and so on. All with things like software defined networking, and scaling the economies of scale that we get out of client tech and things like that. The number of people required to do things like that is shrinking, and most of that stuff just happened virtually and digitally. I'm imagining that that employment will really be about thinking and imagining, and communicating and collaborating rather than so much doing."*

Financial services entrepreneur: *"By definition it means a lot less people. At present there are staffing issues anyway regarding capacity and customer flow. There's not much for branch people to do anymore, and their tasks can largely be automated."*

Organising Theme 2: Society Has Evolved

Basic theme 3: Society has become time-poor and new consumers are wary of advertising

Basic theme 4: Major industrial changes have impacted all sectors

Selected example excerpts:

Airline executive: *"Lots of stuff gets copied that way, but there are a lot of hygiene factors around what should be presented online, what shouldn't be, and how quickly people want to get to where they want to go in terms of the booking and the payment."*

Digital banking manager: *"I guess internet banking never really moved that far. It took people ... There's great take-up, but it certainly didn't mean that branches were dead or that people didn't want that personal relationship until I guess mobility came along. With 2008, the iPhone, suddenly there was a real step change and everyone had been talking about internet banking taking off, but it never really did. Then suddenly everyone is using apps, and then a massive amount of usage compared to desktop."*

Banking executive: *"So I think that the general public are becoming more demanding about quicker, faster, easier services, low cost, secure."*

IT executive: *"Ultimately everybody wants to get things done quickly, speed is money, time is money. If there's an argument that says, "We can do something quicker and better," that may justify a business case. Certainly going out and cold calling and selling, we don't do any of that, and it doesn't work."*

Futurist/academic: *"I've seen that they can react very quickly, move synchronously, doesn't have a leader… People are actually looking for that; I think it is a great question. What I say by one CEO of a city, she said yeah, she wants to go from the large whale to the school of fish. That is pretty good. Again, it would be contextual, that's the thing with foresight."*

Futurist/academic: *"Those are three I can see quite easily, and fourth you have these niche very particular brands that are fluid, they stay for a while, that disappear based on whatever is happening. Time is much quicker; attention is much quicker."*

Banking executive: *"And so, I guess it will be a lot more online. And even, probably think, less on television. I think people look at television now and think, oh that's boring, and I don't think they get the cut through that they used to. Sponsorship, I think will still be a big thing. So, sport, that's the big one. But, I think marketing will change quite significantly."*

Dairy/beverage executive: *"You would spend money; you'd get a result. What has happened since then are, I think, well lots of things, but some significant things. One being from an advertising point of view, the impact of advertising has declined as consumers have become both more savvy and more wary of the messages they're receiving. 50 years ago you would take on blind trust if someone said, "This product A is better than product B," you'd assume it probably is, especially if it was endorsed by a credible endorser. Whereas clearly that's no longer the case. From that incredible peak of power that advertising had, that marketing had, because if you're in business it was the marketing department who delivered the money. Just unquestionably, they were the people who could sprinkle the fairy dust if you like and do extraordinary things for a company's profitability."*

Asia import/export entrepreneur: *"The consumer will be much more savvy in China, so rather than just looking for a pure imported product, I think they'll be smart enough to differentiate between functional ingredients of products and work out, "well, this product has a lower level of DHA, or a higher level of ARA, so I should be buying that as opposed to something that's imported."*

Digital banking manager: *"That's where banks have stalled in meeting customer expectations. They just haven't kept up with what the rest of the internet's been doing with things like books, music, news, those industries that are being turned on their heads. Banks, because they've held onto the data, have been laggards, if you like, in reinventing the experience based around what customers really need. They're still pumping it from a bank's point of view. I think now the challenge is that the data is starting to become released."*

Digital banking manager: *"Therefore, you're probably hiring, getting people that are coming to work for you more like the Uber model, where they'll come in to do specific jobs and then go away again. You've got a core group that are basically sort of running your organisation. Business models are now… company longevity has gone from 65 years in the 1920s, down to probably*

about a decade in the next 10 years. Businesses will rise and fall very quickly. To survive you're going to see the rise of sort of platform-type businesses."

Advertising executive: *"It has lost the attractiveness of certain types of personalities to come in there. I think it's a hit line with the exception of the un-bundling of media it has been an industry that has been slow to change over the last 20 years. It's still grappling with that as we look to go forward basically."*

Advertising executive: *"The traditional ad agency structure as the whole everything was basically held together and they were the jack of all trades. When media was pulled out from what an advertising agency does, that was a really significant change. Because what that led to in the industry on our side was all the money sits with the media agencies. It changed the dynamic and you saw the growth of these massive media independents financially. That's been quite significant."*

Dairy/beverage executive: *"From a marketing viewpoint, I absolutely think, and I was pretty significantly involved in a lot of it, I think it's lost its, that terrible old word, that c-suite position. It's just not rated the way that it used to be, so it's very difficult for marketing departments, and marketing directors to sort of command the attention of the board or even the CEO that would have been second nature only 20 years beforehand."*

Financial services entrepreneur: *"I can therefore see a need for person-to-person in the institutional sense, but heading into the consumer segment of the market – well, as cash becomes less prevalent (e.g. NFC phone payment, etc.) – there's very little need for branches."*

Digital banking manager: *"There's disruption from a whole variety of different players looking at different aspects of financial services. Peer-to-peer lending's one of them. I think that's in the classic, you know, in the existential curve. It's in the valley of disappointment at the moment. I think there's a lot of people trying different things. We're taking some early adopters and carving out little niches, and the same with mobile payments, too."*

Airline executive: *"They're already testing the limits around what does a public transport model of an airplane look like where you've less of those restrictions. It is just like a shuttle up and down. That's an example where they don't own the planes outright. They're just running a service across the top, so it could be like planes as a service. Like you'd have email as a service or data as a service. That sort of disruption is real and it's talked about probably every day I'd say. Airlines are looking at ways to either protect themselves or get ahead."*

Futurist/academic: *"This is the alertness for the organisation to locate themselves in macro history. This takes, you have to move back, in Malaysia and Asia, it was always cyclical. Now every speech I give there is always linear. No one there thinks bad times are coming. They're very clear, I think the last one in Singapore is yeah, by 2050 the world centre for everything will be Singapore. The way London, Paris, New York are today in 2050 will be Singapore, maybe Shanghai or Seoul. In respective of what they believe, so that I can immediately identify that the linear pattern is evident. Then it may be wise to say that yeah, but things go up and down to remind them. This is really to be able to use multiple patterns to understand the future."*

Digital banking manager: *"It is a long way there, to look. I think you've got to look at what things are changing in society and what things are not. That's the only way I can deal with the future."*

Organising Theme 3: Changing Nature of Organisations

Basic theme 5: Organisations are becoming flatter, more democratic and
embracing digital

Basic theme 6: Changing the way we do business

Basic theme 7: Businesses are acknowledging global issues

Selected example excerpts:

*Banking executive: "They're trying to figure out the future market and their future sustainability
and they know that they have to reinvent themselves. They're looking at digitisation, but because
they don't have that in-house."*

*Digital banking manager: "At the moment banks want to own the entire vertical stack. We have
product manufacturing businesses that go from ideation to production creation to distribution,
and we own the whole chain. What's clear is that that model isn't going to survive because it's too
restrictive, too slow, too expensive."*

*Institutional banking executive: "No matter, you can have great office space and encourage
collaboration, but I feel there has to be some compromise here about bottom up willingness and
top-down engagement around really driving and building in innovative things."*

*Institutional banking executive: "The banks had traditionally been a hierarchical in how they
operate, as you know hierarchy is a classic mechanism of running an organisation, where you silo
responsibility and where they try and run it. I feel that increasing as we move to our network
model and a lot of work about the work of future, we'll see leadership from lower down in the
hierarchy."*

*Software executive: "We've evolved fairly sophisticated ways of having people work together to
create something that's actually going to meet an end. As I said, in that time there's been a user
experience revolution. We've gone from doing whatever's easiest for the programmer and the
computer to trying to meet needs for users, and deliver them experiences they didn't even know
they actually wanted."*

*Digital banking manager: "Which means your whole organisation has to become digital and
driven by innovation rather than having, it's the duty of a channel or a department. What [our
bank] is looking to do is to move to that digital business model. We have, the entire organisation
is thinking naturally and easily about digital, and working in sort of lean start-up type manner
using agile processes to solve customer problems, and that's where you get your innovation."*

*IT executive: "Much of our bureaucracy, I think, is going to be annihilated, should we choose to go
down that path with artificially intelligent or very nearly artificial intelligence systems. We call it
machine learning, but it's machines learning by induction of process. By simply observing
heuristically what is accurate and then picking up on that. We've talked already about the*

availability of processing power, we've talked about on a totally scalable basis, we've talked about mobility and other stuff."

Financial services entrepreneur: *"From that point it was decided that $30 million was to go to digital and the balance for branches – this began the process of reducing the number branches. Now services are built for mobile first and digital teams have 7-8 times the money as last year. It takes boldness to turn the dial – and it's important to realise that it doesn't cost huge amounts."*

Advertising executive: *"That basically says 'Actually he's the only guy who looks after innovation.' Well that's fundamentally flawed and its thinking. I think you're going to see different and thinking about different marketing categories and how they tackle different target audiences, you're going to see different degrees of aggressiveness in terms of innovation and change. Again against all of that I would imagine there is going to be some underlying things that are pretty clear over the next couple of years I would have thought."*

IT executive: *"I think that the challenge with the drive to digital is that for many enterprises they are culturally unable to understand what that means, and then even if culturally they can understand what that means, their systems and process and way that they go about doing business, their culture if you like, is legacy. It's hierarchical, it's command and control, it's multi-tiered, it's complex from a business operations point of view. It's not agile. I mean that in both senses of the word."*

Futurist/academic: *"Every organisation, they are trying to figure out where they are going right? For example, in one city their view is let's be green or let's be sustainable, let's be more vegetarian for example. A new mayor comes in, and he's the opposite. If you understand there's been a pendulum shift, would you now push the old agenda even though there has been a pendulum shift."*

Institutional banking executive: *"Whilst there might be different legislation's and we can assume that there will be a reserve bank and other types of entities, there's no reason for new entrants to come in. In fact, we've already seen the Chinese banks open here in New Zealand. A bank like Standard Chartered could enter, they don't necessarily require a New Zealand based utility function, but a global network like MasterCard, or Bitcoins, or block chaining-oriented architectures could deliver a lot of that value. I'd say the future is considerably uncertain."*

Financial services entrepreneur: *"You can't take real entrepreneurship and stick it in the corner of a bank. It would be difficult to attract the right people for this role anyway. Real entrepreneurs would be doing things for themselves. You can also crowd course cool stuff with this notion of a marketplace. This along with the shared economy, the utilisation of under-utilised assets (think Uber). It's pretty difficult to know how the digital revolution is going to play out."*

Dairy/beverage executive: *"I think now that the best and brightest are, and you've got to be careful that you sort of don't see yourself, see in others what you're doing yourself, but the [own company] piece for me is simply an example of taking everything that I would advise clients to do and doing it ourselves. We're just a glorified marketing company, in that we don't own any means production, or distribution or anything else."*

Dairy/beverage executive: *"Someone can do it better, faster and cheaper than you can, and not only that, you don't have the flexibility to do anything else because you have a plant that produces widgets of a certain size, and quality. I think what's going to happen is that the flight*

that I've seen and am seeing out of the smart things, who are the conceptual thinkers, in whatever sense that is."

Airline executive: *"One is around the cost of that, so some of those things are quite cheap gambles in terms of what are you going to get from it. You get the great customer story. You will be seen as a great innovator and it doesn't cost you very much. The only reason it doesn't cost you very much is because the technology is catching up and it's getting better and better. Airline book, mobile apps: there's a lot of innovation there. Day of travel is one area, so you've got your boarding passes, you've got notifications as to when you need to get to the airport."*

Advertising executive: *"You see I would argue, if you want to be harsh about it again, I would argue that every role you've got should have an element of innovation and then otherwise you're not doing your job."*

Advertising executive: *"We as an industry as well are moving away from talking about ... we used to talk about storytelling. Well now we talk about story making. The marketing age it used to be show and tell and now it's invite and involve."*

Banking executive: *"So, I think, the way it's shaped is that the economy of, the global economy, I would say, has affected banks in two ways. One, it's really attacked the core of what they are representing, not just economically or commercially but at the cornerstone of, if you like, a country's financial stability. And we've seen that very much in the last decade because the global financial crisis led to, certainly the UK and the US, seeing basically banks fail and a requirement for governments to bail them out to allow a stability within economies. And that has caused banks to actually be required to hold more capital, to sustain problems in the future. And capital is expensive to hold and to raise and so you're beginning to see a bit of a survival of the fittest."*

Futurist/academic: *"Move towards sustainability, rise of Chindea, move towards Artificial Intelligence. Move towards branding of the self. Those are kind of the whole discussions. That would be generic discussions, these variables are crucial, the goal would be you want to link those big ideas with the marketing people and get them to break their assumptions."*

Digital banking manager: *I think it'll sort of move from the selfish view of, what's happening to me? I think we're starting to see that happening with brands now, where massive transformational purposes are becoming the things that's really attracting people to them. If you're not a brand that's thinking globally, and about the wider perspective, and the future and what's good for the world, then you're going to be really struggling. I think there's a self-interest thing that is going to be over-ridden by the fact of, you know, we're in a world of global turmoil caused by excesses in the past 200 years, and now we're starting to pay for it.*

IT executive: *"I think my generation sees global brands as part of the reason behind the problems that we have at the moment. Big brands can have just as much negative connotation as positive, opening the way to small, trusted organisations like yours and hopefully mine."*

Digital banking manager: *"The questions are whether the race is going to survive long enough to actually get the inventions over the line, and save the race."*

Organising Theme 4: Business in a Disruptive Environment

Basic theme 8: Major disruption has become the norm

Basic theme 9: Digital has taken over and user experience is key

Basic theme 10: Humans are data, marketing is about to be transformed

Basic theme 11: Technology and cloud computing drives innovation

Basic theme 12: Futures and innovative thinking is becoming the norm in business

Selected example excerpts:

Academic/futurist: "The evidence of disruption is so high, there's a shift, at the same time power always appropriates. Uber comes across as efficient, but also it just re-inscribes a used future. Is it the disruption? Is it the size of capital that is used? In that sense all the anew of sharing economy doesn't create new cooperatives, it just re-sizes and disrupts the old players, but the new players are equally large."

Airline executive: "Huge data driven. It's already exploding and it'll just continue to get bigger, and bigger, and bigger. You will still need your data scientists to figure out what sort of models they'll run as well, and companies will merge and companies will know more and more about you. Apple or Google may not exist then. It'll be somebody else."

Advertising executive: They are not looking much further ahead than 2025. That's because things move so quickly that even as providing with ... As we do all the time, presentation takes on where the world is going and what's happening next. I mean, I bet in three times there's something in the social space that is probably going along way towards gazumping Facebook.

Digital banking manager: For many banks that say, you know, you're talking disruption in the next, definitely in the next 10 years, of around 50% to existing business models. In the next 34 years you're looking at basically, someone's going to be providing services that enable you to know how your life is mapping out in the future.

Institutional banking executive: I think for the notion of currency, cross-border interaction is traumatic and involves a lot of legacy fees and price structures, that are kind of, I think ripe for disruption. The real convergence here is not necessarily on the currency, but also on the identity of the individual and how they maintained that link to the currency itself.

Digital banking manager: There's going to be less predictive risk about illness and things like that. Plus, you've got a whole lot of nanotechnology, being able to fix you up, automate. No one's going to be driving cars. You won't be allowed to drive by yourself. Auto insurance industry is gone. You've got a whole bunch of other restrictions that are coming in as there's more insight around the things people are doing, and less variability about what they might be doing. Sounds very, Orwellian.

Airline executive: I don't know whether we'll have airlines as we currently have them. You might have companies who simply lease planes like a bus. I think you will get to quite a consumer sort of

public transport model of airports and airlines when things become really cheap and things like security matter less, and I think there will be a real blur, even in the next ten years of the sort of service that you offer where you may book a flight, but you're being picked up by a driverless car from your house and being dropped straight to the door of the plane, so you will have scenarios like that. I think it's going to be quite a change there.

Institutional banking executive: *Also, is you've got those start-up banks or Fintech providers who've been beaming away on desktop for years, and achieving sort of a niche, but are now poised with systems and insight to offer far, far greater insight.*

IT executive: *It's hard for me to predict what 34 years looks like, because the last decade has seen rather unimaginable changes. Certainly if the pace of change continues to accelerate, I think what many pundits ignore is the what I consider the second order effect. The second differential effect of the rate of change changing, because there are many innovations which become available as the environment within which we innovate becomes more creative.*

Academic/futurist: *Well one is the end of marketing, that's one theory. The second is the person becomes the brand. Each person becomes their own kind of global brand. You see that with Universities. The end of the University, the professors of the University, third is you have deep inequality in Universities. Brands... some brands go incredibly well, others just disappear.*

Import/export professional: *I think it's fantastic that you can reach the consumer directly. It gives brand owners much more control. What we're finding now is that there's so many different online platforms, so you really need to choose. Do you want to only be on TMall, or do you want to look at YHD? There's a new platform now launched by Suning, there's JD, the list just goes on and on, and on*

Honey industry executive: *"All of that is digital, not the traditional retail model. I suppose in the past we haven't been particularly good at it, and we need to get better at that. Consumers are very savvy, in fact often we can see them come into our business centre and they've looked up our product online first, know exactly what they are and how much they cost. They're already looking before they buy. I think retail, we can see it already, it's already in decline generally. We need to be a bit more ahead of the game than we are currently online."*

Advertising executive: *Well we've already started down that road ... We started down at rather than media with programmatic. I don't know if you've heard about programmatic but what we can do now in the context of media buying is it basically we've chosen systems all online. The automation of digital buying is ... We're doing that all the time, it has not led to a reduction of people, again it's led to a change in the type of person we're hiring.*

Asia import/export professional: *But, you want to be present across all the platforms because then you're building your credibility. You're able to reach an even wider audience.*

Software executive: *We're connected as much stuff and more stuff every year to the software experience. It's not just the software systems connected to each other, it's also the devices we use and the way we interact and the way people interact, has all become part of that great, big, scary web of stuff. That's the main things that I can probably think of off the top of my head. If you think about integrated software being delivered and the kinds of problems it's trying to solve, the other thing that's happened is of course business as a whole has become more global and more connected.*

Institutional banking executive: *They've done a good job restructuring it into a mobile and engaging user experience. It's not by the use of the word "disruptive". Essentially, they looked at an industry, there was no real niche around customers not being able have a cab. It was really looking at a better customer experience and innovating from that.*

Software executive: *It would be unthinkable having any UX people in a mid-sized or small company 10 years ago, and these days it's essentially just because we've gone and stuck consumer tech in the hands of everybody. Where it used to be that the user might never use a computer system outside their job, and so they just took what they were given.*

Institutional banking executive: *Marketing may very difficult indeed. Or maybe about the lifestyle that a certain set of products engages. Or a savings account that connects to your washing machine and your grocery company and optimising into energy usage. Which fundamentally uses exchange in value to pay for those services. Connect to the internet, if they need artificial intelligence, et cetera. Be perceived as more of a lifestyle option, or more of an innovative product.*

Airline executive: *They know who you are. They know your favourite drink. They know your newspaper, and they know what type of seat you like so they can welcome you in, and they can bring you to your seat and then get you whatever else you need. It's around knowing where you are and then pre-empting the experience you deserve to have when you get to a particular point. We've tried that and that worked very well.*

Financial services entrepreneur: *Another point is that the user experience is different in future – method of distribution is online, pricing models are different (often no negotiations). Related to Tesla purchase process. Implies changes for other industries.*

IT executive: *Here I am, wishing I had a better marketing department, wishing I had a better accounting ... It's not better in the sense of having to do more processing, it's better intelligence out of it, better effectiveness out of it. We use Hubspot, we use it extensively, we can track our digital footprint all over everywhere. If we're smart enough and we've got enough time and money, we can attract content that will attract people digitally.*

Advertising executive: *It's a very rudimentary fundamental thing that they are doing at the moment, but that's the future. That is a big part of it, using data and using data analytics to be a lot smarter about targeting people, the right people and in terms of understanding what the real needs on one side rather than the shotgun approach that just sprays everything out everywhere.*

Digital banking executive: *If you think, well actually by 2025 we could be at a point where you've got computation power that's got the power of 8 billion brains in the world. You've got all those 8 billion people, you've probably got ... by 2050, you know, they will all be connected. You'll have all devices connected, and the development of sensors. You've got an enormous amount of insight and data flowing around.*

Digital banking executive: *You'll be more about you, as a person, your health. These sensors will be able to send out dynamic data. Things like insurance will be based on the virtual truth and facts about you right now. Everyone's genome will be up in the cloud anyway.*

Asia import/export professional: *What we find is the new digital media now allows us to directly engage with the consumer and also to market to them individually in ways we never could before. So, you can capture details about how many people they have in their family, the age group, are they male or female? We can tailor a lot of our marketing programs to that, whether they follow us on Facebook, or whether they're part of our WeChat messages where we update them with promotions*

Institutional banking executive: *The real convergence here is not necessarily on the currency, but also on the identity of the individual and how they maintained that link to the currency itself.*

Institutional banking executive: *It's already happening because the link from investments to revenue is very short. Investment in our analytical platform is to demonstrating customer retention or new product cross-sell, is actually a very short time horizon.*

Digital banking executive: *Big data is causing people to be very careful about transactions that they do online and information that the banks might have in terms of who owns that information and what they can do with it.*

Airline executive: *Again technology enables the cost of production, the cost of distribution to be cheaper and cheaper. It's enabling more and more players to come into the market. This is consumers that are more demanding of individual styles and brands. You can see where this is heading really.*

Banking executive: *They need to cut that by half. And there needs to be, probably a lot more specialists at the front end and then pretty much automated at the back end. That's expensive. It is also, I think a huge opportunity to leverage cloud services but people are still a little bit nervous about the security.*

IT executive: *Some of those barriers of physics might mean that ideas that are incredibly expensive to invent, like quantum computing or biological computing, or any other kind of pseudo-binary processing methodology, might fall away to a more efficient mechanism of applying computing resource to the instant that is needed. I think cloud's a really good example of that. We're seeing lots of stuff, that auto-scales to mean that systems can have access to immense amounts of computing power for very small periods of time.*

Dairy/beverage executive: *One of the reasons that Facebook is so incredibly strong for marketers right now if they're smart, and there aren't that many who are, it provides an ability to speak immediately on a 1 to 1 basis with people who are buying your brand. People don't buy brands that aren't products, the brand is the product, it's not a separate thing anymore.*

Airline executive: *"One is around the cost of that, so some of those things are quite cheap gambles in terms of what are you going to get from it. You get the great customer story. You will be seen as a great innovator and it doesn't cost you very much. The only reason it doesn't cost you very much is because the technology is catching up and it's getting better and better."*

Digital banking manager: *"Let's say "technology" is doubling every 2 years, which means that from 1900, if you follow my hand, it's sort of going like that, and then from the, basically 1990s, it starts to get on the upward curve, but we're going to see more innovation around technology in the next probably 20 or 30 years than we've seen in the entire 20th century. If you think we've*

gone from horse and cart to, you know, space, in that period, that the rate of change is going to be far faster and more impactful than it has been in the last 100 years, in the last 20 or 30."

Futurist/academic: Then three months later it is no longer weird to talk about that. Almost every discussion is not if, but when and how and who pays. It's gone from a way out, weirdo-futurist thing to policy makers. I work with Cairns Airport, the thing came out a year ago from our last visioning session he says, "Okay, we'll be the first not only solar airport, but we will be the first airport when you land, there will be a Google car that you rent. We'll get money from it by the car recommending the Great Barrier Reef or that hotel, there's ways to price it."

Advertising executive: I think every organisation should be thinking about the future and how they empower themselves for the future, but there are degrees within that of what the requirement is frankly. I think my piece of opinion is just largely driven by the audience that you're trying to take a need to it.

IT executive: Amazon would argue, and leave often with this in their presentations, that as the cost of failure drops to zero the rate of innovation becomes exponential. By using some of the tool sets we've been talking about, people can invent and play and muck around without having to have massive research labs or ... You can access these publicly available data sets for cents, you can process them overnight for nothing. I think these things are going to have a pretty radical second order effect and the pace of change will continue to accelerate.

Digital banking manager: I think what's changed is that, up until now you had digital strategies, and what's happening now is that you have a strategy for a digital world.

Institutional banking executive: Yeah, I did talk about a laundry list of new technology ranking from the application and learning to mortgage advice and financial planning. The use of augmented reality technology to talk about stuff, by that time you're going to have robot cars, and automation will have essentially have taken many of the traditional middle-management kind of jobs out to more specialist skills by this stage. You can kind of put it that and highlight trends, technologies, etc.

Airline executive: "We'll do something for a bit of press. We'll do something for a bit of innovation, and you just keep on going, but you've got to pick your products. We wouldn't have done Google Glass for example. Westpac bank did it. That's probably the other point is you need to look across industry and see where other people are using it and what's relevant, and it has to be appropriate".

IT executive: Virtualisation is a precursor technology to cloud, and so our whole environment is dominated by the change in the IT industry, rather than affected by it. In fact, we would argue that we are part of the cause of that change, rather than a response to that change.

Organising Theme 5: Resistance to Change

Basic theme 13: Businesses often approach the future with caution

Basic theme 14: Innovation is lacking in some sectors

Basic theme 15: Business as usual – do not worry about the future

Basic theme 16: There is a problem of inefficient business and legacy technology

Basic theme 17: There is inherent company resistance to change

Selected example excerpts:

Advertising executive: *"Yeah I think [airline] is a good example, they're pretty smart about how they've adopted it. I think again there's probably there's a lot of latitude in their industry to be doing that sort of thing too. You're right about … I mean banking I think is frustrating in terms of how slow it tends to move. I think that they … Because you've got so few banking options in the greater scheme of things, as an industry they are just a very conservative and slow moving and consumers are sort of stuck."*

Financial services entrepreneur: *"Because banks are awarded for managing risks, there's a natural risk-aversion. Innovation comes from places other than banks typically. Banks tend to rush to keep up rather than innovate. So when you put innovation teams in traditionally conservative organisations, they have real difficulty in operating well. It comes down to innovative leadership being more important than simply having dedicated 'innovators'."*

IT executive: *"In our business we don't even go to 5 years, we go sort of 1 and a half years out. The change we've been through in the last 3 or 4 years, the whole wave of … The way I describe our business is, when we started we were specialists in virtualisation, and we aimed to be the preferred supplier for the top 100 IT users in the country. It was a very simple kind of strategic position for us, and it solved many, many questions about, "What do we become good at, what do we train our people on, what's our core messaging?" All that was simple. Customers had many problems, but only one solution available."*

Advertising executive: *"We would never attempt, especially in this environment to look out as far as 2050. At [global beverage brand] we've got clients, especially again guys like [another global beverage brand] who are constantly asking what's next because they are paranoid about not being relevant for this next generation. They are not looking much further ahead than 2025. That's because things move so quickly that even as providing with … As we do all the time, presentation takes on where the world is going and what's happening next."*

Advertising executive: *"If you are a more staged sectors thinking, banking, insurance and things like that, of course you're embracing some of the new technologies but you're not constantly having to thinking ahead – at the same way some of the other sectors are."*

Financial services entrepreneur: *"Innovation comes from places other than banks typically. Banks tend to rush to keep up rather than innovate. So when you put innovation teams in traditionally conservative organisations, they have real difficulty in operating well. It comes down to innovative leadership being more important than simply having dedicated 'innovators'."*

Digital banking manager: *"I guess my point is that the key issue for banks is that they haven't really taken the opportunity with both hands – the internet mobility has provided. Now we're behind the curve of customer expectations. That's starting to be validated by research showing that, I think the lowest one was from Ernst & Young, of fintech adoption globally, which is, how many non-banking financial services, products digitally have you used in the last 6 months? If you*

used 2 or more you're seen as an adopter. That's around, I think global averages as 18%, around 13% in Australia. That's the early adopter market for sure. For banks that's a warning sign that the curve is starting to turn."

Digital banking manager: *"I think that's in the classic, you know, in the existential curve. It's in the valley of disappointment at the moment. I think there's a lot of people trying different things. We're taking some early adopters and carving out little niches, and the same with mobile payments, too. No one has actually cracked us, but that's where there's so many players, and there's so much venture capital being invested, you know, billions, so there's an expectation for investors."*

Advertising executive: *"Where consumers again have a lot of choice, if you get caught behind and you're not going to move with the times, you just get ignored. I do think though and viewing this as an asset of point seven; organisations with dedicated innovation teams, I don't see that very often and if you want to be brutal I think there is more talk than reality in this space."*

IT executive: *"Therefore, some of those barriers of physics might mean that ideas that are incredibly expensive to invent, like quantum computing or biological computing, or any other kind of pseudo-binary processing methodology, might fall away to a more efficient mechanism of applying computing resource to the instant that is needed. I think cloud's a really good example of that."*

Airline industry: *"Governance models are changing around innovation, so how do you take ... If I think of lots of other companies, they've made a concerted effort to spend time and money on researching, and just because you put people in a room doesn't mean they're going to find the next big thing."*

Health executive: *"I think we're still a little bit tentative and not exactly sure what it means, but I think we know that we need to sort of look outside the box and do things differently. We kind of see ourselves as a leader in the industry, and to be a leader you obviously need to do things differently."*

Advertising executive: *"Again I think many of the channels we use today will be much the same. There's has been the prediction of the death of radio and the death of print, to the death of television is much over-hyped really."*

Asia import/export professional: *"In the past, we'd invest quite heavily in above the line marketing, whether it was on TVC, or billboards, or in-store poster displays, and you'd find that a lot of this traditional media expenditure, it would generate a lot of brand awareness, but it wouldn't shift into a call for action and getting the consumer to actually proceed to engagement and purchase."*

IT executive: *"All of those organisations in my mind are specifically American or similar multinationals who are tasked to create wealth for their shareholders at the expense of almost anything. Their management structures are in created to do things that support their core mission, and their core mission is to grow and increase the value of their share price."*

Software executive: *"I hadn't thought to challenge myself on that assumption. It's always happened, by the way, I think. I think we're much more conscious of it now, and it's a lot easier for*

it to flourish in a way that we can all see it. I think there's always been disruption, categories have always found themselves disrupted. It's just that it's easier for it to proliferate."

Advertising executive: *"We never need to worry about our future, because the need to communicate grows greater by the day. As complexity increases, so too does the need for simplicity, to be able to cut through that complexity and deliver direct answers, or simple answers."*

Advertising executive: *"Now the counter to that is we will always need the creative types, because we're always going to need some way to get that breakthrough and that cut through. Even if we can't target the individuals at scale and bring in the right messages at the right and all that good stuff, we still need an element of creativity to capture their attention. Those types of people are not going to go away."*

IT executive: *"How do they process the data; how do they get insight? Everyone's using the phrase "Actionable insights" at the moment. The challenge is, even if they are trying to do things at the systems of engagement level, where vision and capacity, capability at IT level is often significant. It's kind of common law in our business that 80 or 85% of an IT budget goes on keeping the lights on, and about 15% goes on innovation."*

Advertising executive: *"As being something that was removed from the reality of doing business, and that marketing departments and agencies lurked increasingly in their own little bubble, and they created incredibly complex models and propositions and communication strategies and everything else. That actually was disconnected from the business on one side, and disconnected from consumers on the other."*

Dairy/beverage executive: *"In a commercial world where every dollar invested is being questioned, the lack of certainty around marketing investment means that the decision to invest in marketing is more unlawful, and it's easier not to take the risk often than to take the risk. When you do take the risk, the chances of actually something, of payback occurring are diminished as well because of all the issues I've talked about. That's my sense of where the traditional marketing and advertising market is heading, so I think it's heading south at a rapid rate of miles."*

Banking executive: *"I think banks have really, seriously got to get their costs under control and really, seriously understand their customers at every level and to make themselves relevant and sustainable going forward and that will be very much how they embrace digitisation."*

Advertising executive: *"I think one of the real realities is all of these major companies that we're talking about they've got a 90-day profit turn around target. They've got analysts to report to every 90 days. For better or worse they've got a reasonably short-term focus. Sometimes that does not allow for the luxury of doing things much longer term."*

IT executive: *That'll change, so cost will become an important factor. The much more important factor however, is the agility that cloud environments bring. If you have legacy systems that are stuck with really large investments, and enterprise IT is full of really large investments, you are unable to simply abandon those investments and do something different.*

IT executive: *The second and more insidious effect is, in my view, the way that people protect the past for their own self-interest. "If we've done it a way, we'll always do it that way, I will create*

any arguments you want, and I'll gather any data that you want, that supports my point of view."
Again, in my presentations I would argue that turkeys don't vote for Christmas. It's not a good time for them.

Futurist/academic: *The weight could be this won't happen, it's too far. That's often the weight, if they are unaware of the rate of change. The weight for other people is 'the organisation won't let me express this'.*

Futurist/academic: *"The other part is if you see people who are future avoiders, they always say that won't happen, that will happen in the future, but when it does it is in the present. If you see a smoker and they say, 'I'll get cancer in the future', well no you won't, you will actually get cancer in the present. It is not a future."*

Organising Theme 6: The External Environment

    Basic theme 18: Competition factors impact innovation

    Basic theme 19: The industrial and political landscape impacts progress

    Selected example excerpts:

Financial services entrepreneur: *"I would say that the function of banking may move more in the direction of the shared economy, e.g. Airbnb, Uber, etc. I can imagine this because marketplaces are becoming much easier to manufacture electronically and there is potential for decentralisation. Peer-to-peer lending will grow, and I see a marketplace that's more public and with more visibility and transparency."*

Financial services entrepreneur: *"Incumbency has a great deal of embedded value, though there are many brands that can fall by the wayside. So just because you're a big brand doesn't mean you're safe forever. Also, other brands that are highly desirable can step into different markets and be easily trusted – an Apple-branded MasterCard could be popular for example."*

Banking executive: *"But there's some fundamentals behind banking that I think some of these companies don't get. And it's easy to launch, as you say, a credit card, or a payment system. We've seen many, many different credit cards, but to provide a full-blown banking system, that's actually quite challenging."*

IT executive: *"If you look at a bank and say "Hey, the risk of something going bad is large," and compare that against the potential benefits of doing something differently, this tinkering around the outside is never going to get the guys who are in their 50s and 60s to change their minds. It's really only, I think, when you see a business model threat, and the risk is not security, the risk is that somebody's doing it better than you and will wipe you out."*

Asia import/export professional: *"We expect to see a massive strengthening within china's own manufacturing play, particularly over 3 decades. So, you'll see they've already formed these national champions for industry, so we expect those national champions to be much more powerful in their distribution model, and also much more prominent in terms of marketing, have a*

greater share of the market, and potentially, more and more product coming through these free trade zones with a relaxation of rules about back labelling and over labelling."

Banking executive: *"And that has caused banks to actually be required to hold more capital, to sustain problems in the future. And capital is expensive to hold and to raise and so you're beginning to see a bit of a survival of the fittest."*

IT executive: *"The big benefit of cloud in fact, I argue that it should be cost benefit and certainly enterprise cloud, that's a nonsensical statement. Cloud as deployed in enterprises is becoming cheaper and cheaper and cheaper. There is an arguable race to the bottom."*

Advertising executive: *"Rather than just a world dominated by the P&G's and the Unilever's and we're already seeing them strangle hold breaking down. Again technology enables the cost of production, the cost of distribution to be cheaper and cheaper. It's enabling more and more players to come into the market. This is consumers that are more demanding of individual styles and brands. You can see where this is heading really."*

Health foods executive: *"I think there will have to be more regulations around it, certainly with Manuka honey. At the moment there are still some cowboys operating, and giving the good operators a pretty bad name. People don't know the difference, often. In the UK especially, there's lots of Manuka honey going over, and then there's a lot of confusion as to whether it really is Manuka honey. I think the industry needs stronger, tighter regulation, and I think that will then weed out sort of the chaff from the grain, there will become then less supplies and probably bigger for fewer, bigger suppliers, I think."*

Advertising executive: *"Where consumers again have a lot of choice, if you get caught behind and you're not going to move with the times, you just get ignored. I do think though and viewing this as an asset of point seven; organisations with dedicated innovation teams, I don't see that very often and if you want to be brutal I think there is more talk than reality in this space."*

Asia import/export professional: *"The policy risk is enormous because you can start off as we did with a business sales strategy and an objective in terms of what we wanted to reach in terms of volume of cans, or revenue. Then of course, once the policy comes in, it's not necessarily that the policy ... it can have a hand brake on your business execution, but it creates an enormous amount of uncertainty."*

Asia import/export professional: *"I think as well, the ongoing regulatory risk is quite severe for the business, but we see the next change to be almost a mandate on pricing, because you've still got infant formula prices in China almost double everywhere else in the world. So, the Chinese government is going to want to protect the local market and make sure that their consumers are not paying those crazy prices that are unseen in anywhere else in the world."*

Futurist/academic: *"The litany is transport disruption; the system is what that changes the ecology of who owns what and power. The world uses three, four different player's taxis. Uber, coops, government, and I find what are the core stories? By doing that you go to depth right away, and people go: 'okay, this is powerful.' Almost every workshop I do they say: Ah, this is futures."*

4.2. Themes Linked to the Research Questions

Following the thematic analysis and theme categorisation, each *basic* theme was assigned to a research question, shown in the table below. The related *organising* themes are also included for reference, and to show how they cross over the research questions. They highlight how the findings support the questions, and demonstrate how new information can be gained from personal interviews and primary research in general. The table also dictates the general order and structure of the narrative analysis in the next section.

Research Question	Basic Themes	Organising Themes
RQ1: What major societal and technological changes stand out as having significantly impacted the studied sectors over the last two decades?	Basic theme 4: Major industrial changes have impacted all sectors Basic theme 7: Businesses are acknowledging global issues Basic theme 3: Society has become time-poor and new consumers are wary of advertising	Organising Theme 2: Society Has Evolved Organising Theme 3: Changing Nature of Organisations
RQ2: How are the sectors likely to evolve over the next two decades? What are the major changes and drivers, and what are the common factors?	Basic theme 8: Major disruption has become the norm Basic theme 5: Organisations are becoming flatter, more democratic and embracing digital Basic theme 6: Changing the way we do business Basic theme 18: Competition factors impact innovation	Organising Theme 3: Changing Nature of Organisations Organising Theme 4: Business in a Disruptive Environment Organising Theme 6: The External Environment
RQ3: To what extent will concepts such as 'Big Data', 'Cloud Computing', and 'the	Basic theme 10: Humans are data, marketing is about to be transformed	Organising Theme 4: Business in a Disruptive

Internet of Things' impact the future of marketing?	Basic theme 9: Digital has taken over and user experience is key Basic theme 11: Technology and cloud computing drives innovation	Environment
RQ4: What are the main issues hindering businesses today?	Basic theme 16: There is a problem of inefficient business and legacy technology Basic theme 14: Innovation is lacking in some sectors Basic theme 19: The industrial and political landscape impacts progress	Organising Theme 5: Resistance to Change Organising Theme 6: The External Environment
RQ5: How will employment be impacted over the next few decades and how does this affect marketing?	Basic theme 1: Traditional jobs will disappear and new jobs will be created Basic theme 2: Traditional jobs will disappear and the future is uncertain	Organising Theme 1: The Future of Employment
RQ6: Are organisations actively looking to the future and planning for disruption?	Basic theme 12: Futures and innovative thinking is becoming the norm in business Basic theme 17: There is inherent company resistance to change Basic theme 13: Businesses often approach the future with caution Basic theme 15: Business as usual – do not worry about the future	Organising Theme 4: Business in a Disruptive Environment Organising Theme 5: Resistance to Change

4.3. Findings Narrative & Analysis

Following the integration of the Basic themes into the research questions, the many statements and opinions of the participants are collated into an organised narrative. As the purpose of this section is to extract as many relevant primary research findings as possible, much of the narrative is based on quotes that connect to one another within each topic. Each coloured bullet point refers to a single participant.

Research Question 1: What major societal and technological changes stand out as having significantly impacted the studied sectors over the last two decades?

The purpose of this research question is to identify the major external factors that have impacted the studied sectors over the last two decades. This is important for uncovering trends and to provide context for the business environment today. To look to the future, an understanding of recent history is important.

Theme: Major industrial changes have impacted all sectors
Participants reflected on the societal, technological, and political changes that have impacted their sectors and business practices in recent decades. A senior practitioner in the banking sector remarked, "industries are being turned on their heads", and "company longevity has gone from 65 years in the 1920s, down to probably about a decade" (●). Such notions indicate that high-level changes have created considerable uncertainty for incumbent businesses, while opening the door for new entrants to grow using an entirely different business model.

In the marketing and advertising sectors, the most notable change was around the newly emerging delivery platforms and the power of digital media. Participants discussed the "long decline in the power of television" (●) and traditional media in general, and how companies are "more socially and digitally

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engaged and our organisations are smaller" (●). Despite this, a participant stated that from an attitude perspective, "advertising has been slow to change over the last 20 years" (●). Nevertheless, it was also stated that the industry has "had to grow up over time" (●).

The way in which the concept of an advertising agency has evolved has caused concern for some, referring particularly to the comment that "media was pulled out from what an advertising agency does, that was a significant change" (●). One participant believes, "I think advertising has lost its c-suite position" and "it's very difficult for marketing directors to command the attention of the board or even the CEO" (●). Marketing departments effectively became compromised. This suggests that while the power of advertising has increased significantly with digital platforms, it is no longer treated as an exclusive, high-level function of the business. This suggests that the nature of a marketer has changed, and with regards to large agencies, "we're already seeing the stranglehold breaking down" with the "growth of these massive media independents" (●). Participants made it clear that during the 20th century, advertising was the exemplar of marketing thinking, and an "incredibly lucrative business" (●) that contained "lots of fun, fuller characters who were primarily outrageous ... you don't get your long lunches and you don't get guys drunk all day" (●).

In the banking sector, change has arrived in the form of new entrants exploiting deregulation. As technology advances, "geographic boundaries" (●) become less important and "cash becomes less prevalent" (●). There is "a significant decline in the existing format of the banks" (●), combined with "disruption from a whole variety of different players looking at different aspects of financial services" (●). This is happening quickly – just 35 years ago "there was no such thing as ATMs or the internet" (●), and "in 1986, we could never have computed things like a Skype conversation" (●). Despite the relatively short time since then, the banking sector is now poised for a total overhaul. One banking executive pointed out: "I can't remember the last time I went into a branch" (●).

New challenges and opportunities are also present in the airline sector; "governance models are changing around innovation", which is "testing limits around what a public transport model of an airline would look like with less restrictions" (●). While regulation is decreasing in most cases, exporters are finding that the growing complexity of international geopolitics is creating challenges for their business. As one exporter remarked, "the game is over in terms of having a large number of brands in mainland China" (●), while another expressed concern regarding "countries with foreign currency quotas" (●).

This disruption theme is cited as a major threat to existing business models throughout this research, and this concept will also be further discussed in later findings. In summary, it is stated that there is an "alertness for the organisation to locate themselves in macro-history" (●), meaning that organisations need to understand their place in the larger picture of what is happening, and what has happened, in the world; the past, present, and future. As a banker put it, "you've got to look at what things are changing in society and what things are not" (●). The increasing rate of change is important – "horse and cart to space in that period; the rate of change is going to be far faster and more impactful" (●).

Theme: Businesses are acknowledging global issues

Four participants described how global issues come into their everyday thinking. Sohail Inayatullah, a widely-respected futures researcher who agreed to be identified, discussed how futures thinking has become hugely relevant even in business, particularly since the events of 9/11 and rising global instability. Another participant discussed the global chaos following the "global financial crisis" (●), and pointed out that this has been a significant wake-up call for a number of sectors. The "wave of the counterculture" (●) has in some cases become the norm; "meditation, animal rights, human rights, and ending poverty" (●) are much more prevalent in the public discourse. Concepts such as "the move towards sustainability, the rise of China and India, and the move towards Artificial Intelligence" (●) have also become talking points. Surprisingly,

participants from the banking sector had much to say on the topic of global issues. For example, "if you're not thinking globally about the future and what's good for the world, then you're going to be really struggling" (●). This statement was later justified: "we're in a world of global turmoil caused by excesses in the past 200 years, and now we're starting to pay for it" (●). Other participants agree, with one stating that "my generation sees global brands as part of the reason behind the problems that we have" (●).

This finding highlights a complex field that deserves a study on its own. The purpose of its inclusion in this research is to make clear that such issues are in fact impacting business leaders and their decisions. Practitioners are wondering how they can "solve tomorrow's problems today" (●) and deal with the numerous global challenges. Lastly, while discussing innovations that address such challenges, one participant cynically remarked that one wonders "whether the race is going to survive long enough to actually get the inventions over the line in order to save the race" (●).

Theme: Society has become time-poor and new consumers are wary of advertising

The study revealed that people's attention spans have shortened, and this has impacted the general attitude towards products and services. This has resulted in considerable streamlining and the development of better user experiences, for instance in the airline industry where companies have been taken aback by "how quickly people want to get to where they want to go" (●). Technology has enabled this as "suddenly everyone is using apps, and there's a massive amount of usage compared to desktop" (●). Participants commented that "the general public are becoming more demanding about quicker, faster, easier services" (●) and that "ultimately everybody wants to get things done quickly, speed is money, time is money" (●). In essence, companies in any industry are expected to "react very quickly, move synchronously" as "time is much quicker; attention is much quicker" (●).

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Further to the change in people's attention spans is the change in their responsiveness towards traditional advertising; "people look at television now and think, oh that's boring" (●). One advertising executive stated, "the impact of advertising has declined as consumers have become both more savvy and more wary" (●). They have furthermore become "incredibly informed" and no longer "reliant on someone else" (●). Instant feedback is the key, facilitated by technology, particularly by way of social networks. While 50 years ago people would take on "blind trust" (●), consumers these days are "savvy" (●) and "smart enough to differentiate between functional ingredients of products" (●). This is also quite evident in the health foods sector, where the "younger generation are taking a more proactive interest in their health" (●). One advertising executive pointed out that "at least 2/3 of the market are not influenced by price" (●), and that it's important for businesses not to be obsessed with price in this current market.

An understanding of societal evolution is important, particularly with regards to the worldwide push towards "consumption-based societies" (●). Consumerism has continued to expand, and people in both developed and developing nations were faced with "an enormous increase in choice" (●), "disposable income" (●), and "changing affluence" (●). Presented with the "means to purchase and grow" (●), people could finally "break out of the limitations" (●).

Research Question 2: How are the sectors likely to evolve over the next two decades? What are the major changes and drivers, and what are the common factors?

During the interviews, each participant was asked to describe how their sectors are likely to change over the next 30 years, and what the major drivers of change will be. The purpose of this research question is to uncover what is currently on

the minds of senior practitioners, and to identify the collective view of the future state of business and society.

Theme: Major disruption has become the norm

One of the major themes to emerge in this research is disruption. It applies regardless of industry, and typically focused on emerging players riding the wave of new technology and deregulation. As Sohail Inayatullah put it, "the evidence of disruption is so high, there's a shift". It poses a major threat to the industrial status quo, and even long-established companies no longer feel immune to disruption. In 30 years for instance, one participant believes that "Apple or Google may not exist, it'll be someone else" (●). Further, another participant predicts that "something in the social space is probably going to gazump Facebook" (●) in the not too distant future. Over the course of the next decade, "massive change" (●) is on the horizon; it is predicted that disruption will transform "around 50% of existing business models" (●). Many also see continued strong growth in the emergence of "small brands" (●).

The impact of disruption will affect sectors to varying degrees, and according to the participants it's very much foreseeable what may happen, at least from a high level. All sectors are quoted as "ripe for disruption" (●). The automobile industry is one such sector, where it is likely that "no one's going to be driving cars; you won't be allowed to drive by yourself" (●). It is therefore feasible that the "auto insurance industry will be gone" (●) and replaced with an automated system, as responsibility is taken away from an individual person.

The airline industry is also acutely aware of the threats to its current, profitable business model. A world leader in aviation stated, "I don't know whether we'll have airlines as we currently have them" (●), referring to a period of approximately 30 years from now. In its place could be a "consumer public transport model of airports and airlines" (●), somewhat akin to the more efficient transportation models emerging today, for example Uber. Once you arrive at your destination, an automated vehicle "that you rent" (●) would

complete your journey on the ground. Frustration was also evident: "If we were to redesign an airport it would be completely different" (●).

The global banking sector is being gradually threatened by new "start-up banks and Fintech providers" (●) taking advantage of "international collaboration, shared ledgers and block chains" (●). Ripple and Quick GO were two examples mentioned that use a "quick flow currency blockchain to transfer money" (●). It is also evident that by 2020, some banks will reduce their branch numbers by up to 75%, "simply because of digital" (●). In the next few years, "peer-to-peer lending will grow" and "pricing in the marketplace is likely to become more transparent" (●).

Technology will facilitate much of this change. There is the "second order effect, where the pace of change will continue to accelerate" (●). Products will advance significantly given "another couple of leaps in battery technology" (●), and the fact that in future "we're going to see almost infinite computing power available" (●), especially as much of this can be on-demand.

Disruption comes in many forms, and has the potential to change deeply ingrained beliefs about how certain sectors should function. Disruption could even spell the "end of the University" and/or the "end of the hospitals" (●). In this environment, the "changing assumptions scenario has become the norm" (●). One strategy companies can use to prepare for the future is 'three horizons'; "one eye on 2040 to 2050, one eye five years from now, one eye on today" (●).

Theme: Organisations are becoming flatter, more democratic and embracing digital
The makeup of a typical organisation has changed to facilitate new expectations – they have had to "reinvent themselves" (●). The traditional organisational model "isn't going to survive because it's too restrictive, too slow, and too expensive" (●). There is now much more of a "bottom-up willingness and top-

down engagement around driving and building innovative things" (●). An increasing number of organisations are asking "how do we transform our organisation?" (●). The banking sector is also changing – a "flatter structure in banking" (●) is beginning to emerge, resulting in more "leadership from lower down" (●). This shift "from the hierarchical to a more distributed ecosystem model" (●) is akin to the "pyramid to the spider web" (●) metaphor, and better facilitates virtual teams, increased "collaboration" (●), and generates "sophisticated ways of having people work together to create something" (●). With this comes innovation that would have otherwise been absent; certain "innovations become available as the environment becomes more creative" (●). A respondent acknowledged that this was ideal, particularly in customer services, where banks can use "agile processes to solve customer problems" (●). In short, as one puts it, "our bureaucracy, I think, is going to be annihilated" (●).

Further to these changes, new roles are being created with respect to digital initiatives increasingly taking centre stage. There is a "proliferation of things like chief digital officer, chief innovation officer, customer experience centre, innovation lab, and so on" (●). One participant had just hired "a Head of Digital at the executive level" (●), and in another case, such roles are necessary as digital teams are now getting as much as "7-8 times the money as last year" (●). There is a constant question around the "distinction between leadership and management" (●), and friction remains.

Despite this organisational change, it was made clear that not everyone agrees. Companies consciously employ "different degrees of aggressiveness in terms of innovation and change" (●) depending on the market, and that "there's utility in pyramid hierarchy in certain time" (●), highlighting that a flat organisational structure is not always best. Some organisations consider themselves too big to change; "it's hierarchical, it's command and control, it's multi-tiered, it's complex" (●). Banks are especially noted for their "hierarchical business model" (●) fuelled from a command and control nature. Furthermore, not all see physical branches as doomed: "This is a hot potato. The use of a branch and how

it functions … there are different views (●). This is contrary to another view –
"branches are expensive, we can cut costs there" (●).

Theme: Changing the way we do business

The way we go about business is changing, and people are increasingly receptive
to new ideas. It seems that "every organisation is now trying to figure out where
they are going" (●) given that the "future is considerably uncertain" (●). For
businesses to manage uncertainty and mitigate risks, they need to "constantly
think ahead and plan ahead. That's the world you live in" (●).

It was clear in the discussions that the concept of a brand will continue. It was
suggested that parity is needed between a brand and its products – "a
reconnection" (●) – in that they should be as good as each other. Marketplaces
have the ability "to be transparent and efficient" (●), and "the utilisation of
under-utilised assets" (●) is becoming a priority with the growth of the shared
economy. Efficiency is enhanced by new working and selling arrangements; "you
don't necessarily need to be in the same building" (●).

Efficient means of creating a product were also discussed as important for both
now and the future. One participant owns a popular beverage brand in New
Zealand, and they commented that they have no means of production by design,
they are just a "glorified marketing company" (●). This person suggested that
people with new ideas should "have someone else make it to your
specifications" (●). This efficient outsourcing model is briefly discussed by several
participants, with one stating that "someone can do it better, faster and cheaper
than you can" (●). Innovation is the key driver here. It's where "margins are
kept" (●) and often involves "cheap gambles in terms of what are you going to
get from it" (●). One participant stated that in any organisation, there must be an
element of innovation in everyone's role, "otherwise you're not doing your job"
(●). This is a discernible shift from times past. Finally, there is a considerable

amount of "venture capital being invested" (●) for new ideas, thus a change in the way we do business is critical.

Marketing has evolved to being about new ideas and a "richer customer experience" (●), and one executive believes that "marketing will increasingly return to being at the centre of the spoke" (●). Marketing used to be about show and tell, but it's now very much a case of "invite and involve" (●). Although this will be discussed in a later section, it's worth pointing out that in the distant future, it's believed that marketing is still very much an industry because "there's still money to be made" (●).

Theme: Competition factors impact innovation

Competition factors were discussed by most participants as key issues that either drive or hinder innovation. Marketplaces are becoming "easier to manufacture electronically and there is potential for decentralisation" (●). One major theme across sectors was the ability of "existing brands that are highly desirable to step into the market" (●), particularly those with "deep pockets to deliver the bells and whistles" (●). There is an inherent ability for "large incumbents to swallow change some of the time" (●). While incumbency has "great deal of embedded value" (●), brands can fall by the wayside as big names in other sectors suddenly become competitors.

One financial services executive, for instance, labelled "Google" (●) as a major threat, as "it's easy to launch a credit card or a payment system" (●). There is a growing risk that someone "doing it better than you will wipe you out" (●), and there is an expectation that "national champions will be much more powerful in their distribution model" (●). In the health food sector the number of brands has grown from relatively few to well into the "thousands" (●).

Innovation is a key factor in competition. Many are focusing heavily on "user experience" (●) and new offerings that attract important "niche markets" (●)

that hint at the direction of the industry. We're beginning to see a "survival of the fittest" (●) and "arguably a race to the bottom" (●). New entrants often "do not need to abide by the same rules" (●), taking advantage of deregulation, which is "enabling more and more players to come into the market" (●). This is causing concerns regarding quality, as some see "cowboys operating, giving the good operators a pretty bad name" (●).

Despite this, innovation is not embraced by all. Banks "ignore digital currencies at their peril" (●), and "none of the main banks have decided to jump into the peer-to-peer markets" (●). As a marketer put it, "if you get caught behind and you're not going to move with the times, you just get ignored" (●). This notion was supported heavily across the board, and "just because you're a big brand doesn't mean you're safe forever" (●). A further point in this discussion was to keep in mind the ongoing challenges with the stock market, which is "pretty volatile" (●) at the best of times.

Research Question 3: To what extent will concepts such as 'Big Data', 'Cloud Computing', and 'the Internet of Things' impact the future of marketing?

This research question looks at key concepts impacting businesses today, and seeks participants' views on how these are likely to shape the future of their respective sector. The concept of Big Data is particularly important, as it has wide-ranging implications for marketing and business intelligence.

Theme: Humans are data, marketing is about to be transformed
The concept of 'Big Data' and its implications for the future of marketing was discussed extensively. The sheer volume of data on people's online behaviour, combined with increasingly sophisticated means of processing and analysing that data, presents a very clear path forward for marketing; "better intelligence, better effectiveness" (●). Marketers will be using data analytics to be "a lot

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smarter about targeting people, the right people" (●) – this is also expressed in the concept of "actionable insights" (●).

The future of data provides theoretical perfection in automated decision-making and therefore marketing. By 2050 we'll see "all devices and sensors connected" (●) and all decisions will be "driven by data" (●); "it's already exploding and it'll just continue to get bigger" (●). Tremendous "market efficiency around information" (●) is already taking shape, which will also help consumers with transparent pricing. This would include the pricing of insurance thanks to "virtual truth and facts about you" (●), as the calculation of risk is far more specific and accurate.

Information around online behaviour will be far-reaching. People's "details will be captured" (●), and even their "genome will essentially be up in the cloud" (●). Our world will be "reliant on data" (●), and marketers can "track our digital footprint everywhere" (●). The "identity of the individual" (●) will be sold in much more detail than it is already today. In future, enormous amounts of on-demand "processing power" (●) will facilitate such analysis; the "challenge of computation" (●) will no longer be an issue.

The path to the vastly expanded proliferation of data is a hotly discussed topic in business and society. For businesses today, "investment in analytical platforms is demonstrating customer retention" (●), as they can continually improve on their product's user experience. Advertisers are using this data and current tools to "market to people individually in ways they never could before" (●).

In many sectors, there is growing sense of a "captive audience" (●) presented with "individual commercials" (●) that are "highly personalised" (●). This is known to cause friction among consumers, and it's evident that people are becoming "very careful" about their online transactions and behaviour (●). Privacy is an ongoing concern, especially around physical "location services … down to the nearest meter" (●). Ultimately, we are wondering what society will

do with this data, the "quantified" human (●). One participant wondered, "who owns the information and what can they do with it?" (●).

Theme: Digital has taken over and user experience is key

The utilisation of "the many online platforms" (●) has become standard practice in business, with a vast array of marketing and sales options available that are "not the traditional retail model" (●). The "automation of digital buying" (●) is a concept that is emerging. Direct and highly personalised engagement is now possible, giving marketers a significant amount of control over their message and its delivery. Businesses are now "present across all platforms … building their credibility" (●). The "advent of new media" brings "convenience and simplicity" (●), and has enabled "business as a whole to become more global and connected" (●). We've reached the point where "mobile purchasing" (●) has outgrown desktop, and one executive pointed out that much of their new business is reached through such means "in the first place" (●). Going forward 5-10 years, the "efficiency of information" (●) will be considerably greater, and companies are making moves into consolidating data, for example the "very smart purchase by Facebook to buy Instagram … they could see where the world was going" (●). One participant pointed out that for them, the advances in digital over the next few decades "is going to be the biggest challenge" (●).

User experience optimisation and "design-led thinking" (●) are cited during this research as a major driver of customer loyalty and company profitability. There is a constant focus on imagining "better customer experiences" and then "innovating from that" (●). Technology should be "enjoyable to use" (●), given that "consumer tech is now in the hands of everybody" (●). Devices will utilise "ubiquitous connectivity" (●) without physical limitations, which facilitates the concept of the Internet of Things (IoT). The beginning stages of IoT are evident, whereby one might have "a savings account that connects to a washing machine and a grocery company and optimises energy usage" (●). One can literally "scan a product's barcode into their fridge" (●) and the product is delivered, and this

can be further enhanced by simple automation. This extends to wearable technology; there is "a real orientation towards people's consciousness of their personal health" (●), and "breakthroughs" (●) in this technology will give people "a complete analytic breakdown" of their lives (●). The overarching concept behind such technology is that "everything is driven off the internet" (●).

From a positive user experience comes "a good value proposition" (●) where convenience is "technology enabled" (●). Advertisers can use technology to know where you are and "pre-empt your experience" (●) with positive interactions. Communications now revolve around engagement and "story-making" (●), as opposed to the traditional practice of storytelling. In one case, an airline executive pointed out that people can "go from their bed to their destination just by using their smartwatch" (●). Transformation is attractive to modern customers, and banks are rethinking the purposes of their physical locations, with some turning their branches into "cafés or hip places to check email" (●). Across all sectors, the "user experience is different in future" (●).

Theme: Technology and cloud computing drives innovation
The opportunity for businesses "to grow" (●) with new technology was a major theme. New technology is costing companies less and making them more efficient; "the cost of production and distribution" (●) is cheaper. Being "digital" (●) is necessary for companies to cope with the amount of data that's coming. There are huge opportunities to "leverage cloud services" (●) and to enable "access to immense amounts of computing power" (●). Despite "challenges" (●) and security concerns, the ability to operate "globally" (●) and "speak immediately on a 1:1 basis" (●) with customers is a major driver of innovation. The business case for investment in this area is strong, as a company will be seen as a "great innovator" (●). In the case of airlines, many have worked together and created "a hub around innovation" to address "common issues" (●). Changes have been made in this area already, for example pilots are getting their flight plans, briefing documents, policies, procedures and so on, "all in an iPad" (●).

Overall, the costs of acquiring and developing new technology, especially for enterprise, is becoming "cheaper and cheaper" (●).

It was pointed out that there will likely be more innovation in the next 20 years than we've seen in the "entire 20th century" (●). With technology doubling every two years, by 2050 we should be seeing a new paradigm of microchips and computing that will make today's look "extremely primitive" (●). The barriers to dealing with huge amounts of data will be taken away, and "crazy leaps" (●) will be occurring in specific areas of computing. There will be an increased use of "augmented reality" (●) in the near future, and delivery channels will evolve considerably (●). As noted during the discussion, "quantum computing" (●) is a field that's been long discussed as having major disruptive potential within 30 years, and bringing the world closer to the notion of the "singularity" (●/●).

Research Question 4: What are the main issues hindering businesses today?

It is important to understand what issues are on the minds of industry leaders. During the interviews, specific questions were asked about current challenges and potential future challenges. From such discussion, it is possible to develop limitations of the theory.

Theme: There is a problem of inefficient business and legacy technology
Innovation is often stifled by inefficient business practices and the continued use of "sticky technology" (●). Many companies suffer with regards to legacy systems, processes, culture, and "the way that they go about doing business" (●). One senior IT practitioner remarked, "85% of an IT budget goes on keeping the lights on, and about 15% goes on innovation" (●). The banking sector is well-known for struggling with "old fashioned infrastructure" (●), and even company-wide updates can be to systems that are already considered out-of-date outside of the industry. As the IT practitioner joked, "It's almost like 'welcome to the 90s' isn't it?" (●). In the airline sector, some booking platforms are still "decades old"

(●), albeit with newer technologies interfacing with them. Some companies find that their practices leave them "disconnected" (●) from consumers, and "not agile in both senses of the word" (●). In terms of financial services, cross-border interaction is still "traumatic and involves a lot of legacy fees" (●), which is frustrating both institutions and consumers. This also extends to branding, where inefficiency can cause "confusion amongst consumers" (●). Funding has also suffered in some cases, where the "lack of certainty around marketing investment means that the decision to invest in marketing is more unlawful" (●).

Operating cost is a major factor with regards to legacy technology, with many large companies "seriously needing to get their costs under control" (●); they are "very difficult to manage" (●). Many costs are associated with "self-inflicted wounds" (●) around failures, and this is complicated by the "significant cost" (●) of producing new software. Not only that, but the human requirement is still high, with one participant stating that "you can't really produce anything material these days without a reasonable number of people working on it" (●).

Theme: Innovation is lacking in some sectors

It was noted that innovation is not always a top priority for companies, and that in some cases the attitude is to simply wait for competitors and those outside of the industry to take charge. For example, there is evidently a "lot of copying each other in the airline industry" (●). Many companies are embracing new technologies "but not constantly thinking ahead" (●), while many banks "tend to rush to keep up rather than innovate" (●). There is a risk that companies will fall "behind the curve of customer expectations" (●), and if they're not careful, they'll "become the dumb pipe" (●). Much is said to be within the "valley of disappointment at the moment" (●), however at the very least it shows that companies are aware of what needs to change, it's just that the means are not quite available. As one believes, "to be brutal I think that there is more talk than reality in this space" (●), and in many cases, innovation falls by the wayside if it "can't be implemented quickly" (●). Within technological limitations, "barriers of

physics might mean that ideas that are incredibly expensive to invent" (●), and "return on investment" (●) is not as great as it is in other more immediate areas of the business.

Just because companies want change doesn't mean that it will happen; you can "put people in a room but that doesn't mean they're going to find the next big thing" (●). It was also suggested that a lot of enterprising behaviour is in fact "going backwards in terms of agility" (●). The airline executive stated, "we're calling ourselves digital this and digital that – but are we really?" (●), suggesting that they simply had to call it something. In the end, companies know well that "need to look outside the box and do things differently" (●), however failing this and confronted with change, some simply revert "to the 'used' future" (●), which is the notion that something seems ground-breaking and innovative, but in reality, it's just existing ideas repackaged. The ideas simply "just re-inscribe a used future" (●).

Theme: The industrial and political landscape impacts progress

Political and regulatory issues were introduced by participants without an interview question in this area. Many sectors are heavily impacted by changes in political and regulatory settings, and due to the immediate impact on business, it can become a high priority for practitioners and distract from innovation. One exporter who deals with Mainland China commented on the increasing restrictions that are damaging his company's bottom line. He noted that "policy can have a hand brake on business execution, and it creates an enormous amount of uncertainty" (●). Another commented on local issues in China such as "counterfeit consumables and food brands" (●), which increase domestic demand for foreign goods, however legal limitations on volume separate the distributor from the consumer. They must "jump through lots of hoops to get products across there" (●), and there is "more and more regulation" (●) to deal with. Dealing with bureaucracy is a challenge, with many exporters finding it increasingly difficult to "set up a company and go through the paperwork" (●),

especially in China. Ultimately, the "ongoing regulatory risk is quite severe for business" (●).

Economics was also included in this discussion. Financial institutions and banks, regarded as the "cornerstone" (●) of a country's financial stability, had to deal with a host of new regulations following the most recent global financial crisis, largely because of "government bailouts" (●). Legal issues extend to rights, with potential future complications around the "legal rights of robots" (●), i.e. automation and AI. Cyclical issues in politics were raised for larger context, especially the way in which the evolving political system "changes the ecology of who owns what and what power" (●).

Research Question 5: How will employment be impacted over the next few decades and how does this affect marketing?

This research question seeks to explain a key societal issue, particularly over the next three decades as the world adjusts to new technology. Although not heavily discussed in the political arena, the findings show that business leaders are clearly concerned about the changing nature of employment moving forward, as solutions are not yet evident.

Theme: Traditional jobs will disappear and new jobs will be created

The first finding relating to the future of employment identifies the theory that while jobs are going to be reduced in areas, "new jobs will be created" (●) and any notion of panic is misguided; a "change in type" (●) rather than a reduction. In marketing, it is likely that roles will shift heavily in favour of "data scientists who are tinkering with algorithms" (●), and even now advertising agencies are looking to hire "data analysts" (●). Despite this, it was suggested that skills such as "human inventiveness and ingenuity" (●) will be critical for success, and that "we will always need the creative types (●). In the services, the future will more

likely require "a lot more specialists at the front-end and then pretty much automated at the back-end" (●). The workforce "will be concentrated up into higher value roles" (●), and there will likely be more "communicating and collaborating rather than so much doing" (●). In essence, our jobs will be largely "data-centric" (●) in marketing, requiring those with an "analytical brain with data" (●).

The concept of a "knowledge-worker" (●) is popular, whereby "employment will really be about thinking and imagining" (●). People are "teaching themselves and learning the skills that are necessary" (●). This is already happening now, with "digital natives in the workplace making up the greater percentage" (●) and companies moving towards a "staff-on-demand" (●) model, particularly as insight and advice becomes automated through intelligent systems. In one sector, it was mentioned that they "don't necessarily need to have full time staff there" (●). One futurist believes that "being a freelancer is the way" (●), which fits into this narrative. Smaller, efficient organisations with staff-on-demand is in a sense an evolution of the outsourcing model, where work "can be offloaded to somebody who can do it cheaper, faster, better" (●).

Theme: Traditional jobs will disappear and the future is uncertain

The next finding addresses the uncertainty regarding future employment, including many concerns that population growth will significantly outpace job growth given advances in automation. Optimism was notably absent: "It's a disaster, it's a disaster … it's going to be a very serious issue" (●).

In most industries, the consensus was that they'll have a lot "less people" (●/●/●). This is reinforced by the theory that "jobs will reduce significantly" (●). Futurist Sohail Inayatullah challenged the status quo by stating that "it's clear, it's the end of the job" (●) – in future "everyone gets a base and the whole world becomes 8 billion clients" (●). This was a significant view, in which unorthodox but sophisticated thinking was applied to a complex problem. From a political

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perspective, discussion is limited to myopic thinking, and the world continues to witness "angry demagogue leaders who are saying that jobs are disappearing" (●).

In the airline industry, there is a belief that within 30 years, planes could fly themselves without a pilot and be managed by "people on the ground" (●). It was also stated that in terms of their customer service, the "thing that complicates what we do is people" (●), which was a negative view of employment in general. In the IT sector, it's thought that "a lot of the donkey work and plumbing that we take for granted today" (●) would have been taken away. The banking and financial services sectors are likely to experience major decreases in employment, as they are actively seeking cost-effective systems that automate procedures. To a large extent, this has already started. As one stated, "we've already watched a few major revolutions of jobs disappearing" (●). Two executives pointed out that in the last two decades, the number of people in the Australian banking sector "has halved" (●/●). Much of the work gets "automated and digitised" (●), and if there are any manual processes, "you'll just be too slow" (●).

One participant stated that with looking to the future, "the challenge is taking people along with you" (●). The "majority of workloads will be run in the cloud" (●), and for many tasks, it'll "make no sense for human intervention" (●). With regards to new types of jobs, one attitude was that "the new jobs that are being created are for smart people, and most people aren't smart" (●). Over the next decade, automation will take many "traditional middle-management jobs" (●), as well as "a lot of the middle and back office" (●) roles. For the time being, companies will still need a "caring face in the front of the house" (●), however even this may change with the development of intelligent systems and virtual avatars. Systems in general will be "a lot more autonomous" (●), including in-home care systems; "the robot nurse" (●), in a sense. For those wondering about future job security, Sohail Inayatullah explains that "if you're worried about your job being automated, then it most likely will" (●). Roles will steadily be replaced

with "smart analytical machines" utilising "big data" (●), and ultimately provide "far more insight than a human being" (●).

The future of "artificial intelligence" (●) is a key point in this topic. With integrated technology worldwide, intelligent systems can usurp "professional advice" (●), which will be a tipping point in employment. Machine learning has been called "spooky" (●), and it was stated that "by 2025 we could be at a point where computation power has the power of 8 billion brains" (●). In theory, "a good AI system should be able to replace ninety-nine percent of all justice systems" (●). This example could easily be replicated in other sectors, where decision-making is "replaced by algorithms because they'll make far smarter decisions" (●).

Research Question 6: Are organisations actively looking to the future and planning for disruption?

This research question seeks to uncover to what extent the 'future' is understood and how it is practiced in everyday business. This is useful to evaluate how prepared businesses are, and it also shows any knowledge gaps in this area.

Theme: Futures and innovative thinking is becoming the norm in business

Futures was once considered "way out, weirdo" (●) thinking in business. This is now in transition given uncertainty and disruption, especially in the context of "sustainability and security" (●). Companies are now "breaking their assumptions" (●), especially within marketing practice, and as one executive believes, "every organisation should be thinking about the future and how they empower themselves" (●). Experimentation is now the norm in many sectors, with airlines testing concepts such as "Google Glass, virtual avatars and holograms serving customers in airports" (●). Other companies find themselves using "massive research labs" (●) to invent and test new ideas. There is a

growing appreciation that companies should be thinking naturally about "strategy for a digital world" (●), as opposed to a digital strategy on its own. It's clear that science has been "added to the art of marketing" (●), from a more radical perspective, the future may see "the end of marketing" (●), at least as we know it. More broadly, society at large is "entering another planetary system; old solutions won't work!" (●).

As has been discussed, many organisations are pursuing "a laundry list of new technology" (●) and in many cases "a history of innovation" (●) to back it up. As one pointed out, as the cost of failure decreases sharply, the "rate of innovation becomes exponential" (●). Companies that are serious about the future create "ventures and innovation teams" (●), though as another participant claims, "innovation is an assumed responsibility" (●) for all in the organisation. The fear of "being left behind" (●) means that success is driven by organisations challenging themselves and "always looking over the horizon" (●). Competition is fierce and having a reputation for being innovative is "great PR", with companies often keen to try something "for a bit of press … to be seen to be doing something first" (●), and picking up new things "because they're new and exciting" (●). Companies should be "constantly asking what's next, and be paranoid about not being relevant for this next generation (●). They need to be leading change, rather than merely "a response to that change" (●), and they need to discover ways to "better anticipate the future and be more proactive" (●).

Theme: There is inherent company resistance to change

One important finding included resistance to change, and internal issues were raised. Many companies struggle to balance long-term process and product innovation with their expected return on investment periods, especially those that have a "90-day profit turnaround" (●). Innovation does not always blend well with management, with one executive describing it as like "oil and water" (●). For better or for worse, they've often got a "reasonably short-term focus"

(●), and have the mindset that "if it is too far, they give up" (●). Often the problem lies with large investments, where companies "are unable to simply abandon those investments and do something different" (●).

This was also apparent with general employees within an organisation. Some will have an attitude such as, "we've done it that way, we'll always do it that way, and I will gather any data that supports my point of view" (●). In banking, there is typically "a rump of employees who don't want anything to change" (●); they're still "fairly traditional at the moment" (●). A well-known, albeit adjusted metaphor was jokingly used: "turkeys don't vote for Christmas" (●). The problem can also lie with customers, for instance the fact that "older generations still go into branches" (●), thus preventing a complete overhaul of branches at this stage.

On the other hand, some employees may find that they're being limited by such resistance, finding that when they have an idea, "the organisation won't let me express it" (●), in some cases due to a fear that the company will end up "spending a fortune on some of this stuff" (●). Ideas that are seen as "too far" (●) are notoriously difficult to implement. Ultimately however, the risk for companies is that in cases of too much resistance, "there's going to be fallout" (●).

A lack of understanding was also noted. Sohail Inayatullah believes that many people are "future avoiders who say, that won't happen, that will happen in the future" (●). The issue is always distance, and some simply say "Oh, I don't know. We'll know that in two years" (●).

Theme: Businesses often approach the future with caution
General caution is sometimes observed as opposed to resistance. Dealing with "compliance overhead" (●) is a roadblock for innovation in some sectors, and this alone can cause some companies to be "very conservative and slow moving"

(●). Banks manage risk as part of their core products, thus two participants stated that "there's a natural risk-aversion" (●/●). Further, it's not always considered compatible; "you can't take real entrepreneurship and stick it in the corner of a bank" (●). Most, for example, haven't begun to take cryptographic currencies seriously, though "this may change in the future" (●).

Looking far ahead simply is not a priority for some companies, for example in the IT industry where "the focus is more on what's around the corner next week and next month" (●), and that they "have trouble getting to 3 years out, let alone 30" (●). It's not uncommon for the business to be focused around "accounting years" (●), given shareholder demands. This sentiment is echoed by another participant, who claims that "we don't even go to 5 years, we go sort of one and a half years out" (●). At most, companies are "not looking much further ahead than 2025" (●), where this would be classified as long-term. Companies would "never attempt, especially in this environment, to look out as far as 2050" (●), and this attitude is common throughout the study; it's "It's a can of worms" (●). The environment in this case refers to the struggle for profitability, cost reduction, and "incremental product advancement" (●).

Theme: Business as usual – do not worry about the future
There is also a sense that despite a lack of focus on the future, organisations need not worry. Whether this is misguided or not remains up for debate; in some cases, "no one there thinks bad times are coming" (●). Within 30 years, banks will remain "at least in some kind of utility function" (●), and it's thought that there will always be some sort of "physical manifestation" (●). From an advertising perspective, there will always be the need to present an offer, and even now, the death of radio, print, and television has been "much over-hyped" (●). Traditional media expenditure still creates "a lot of brand awareness" (●). The core missions of companies will continue to be to "grow and increase value" (●), and there has "always been disruption, categories have always found themselves disrupted" (●). One advertising executive believes that they "never

need to worry about our future, because the need to communicate grows greater by the day" (●), and the "element of creativity" (●) will always be needed to achieve breakthrough and capture attention.

4.4. Summary

The primary research questions, and subsequently the interview questions, seek to uncover and describe the societal, technological and political changes that have impacted and shaped businesses in recent years. Traditional business models across many industries are being increasingly challenged by new entrants taking advantage of their agility and new technology. Incumbent businesses often do not have the means to adjust quickly, and they're often not willing to take the risk in the first place. Participants expressed the view that average company longevity has decreased significantly due to these changes. There was also a sense of the increasing pace of change over the last two decades, which is an indication for the potential changes to come.

The many new forms of digital media, including e-commerce platforms, have changed the engagement and purchasing landscape; it has evolved from in-person, to desktop, and finally to mobile. Society has evolved to the point where user experience is regarded as a major competitive advantage, and companies are striving to innovate in this area. One major industry that is facing disruption is banking, especially with new payment providers using newly deregulated technology, and the lessons here can be applied to many other industries.

Ongoing geopolitical issues continue to complicate international business, and exporters have noted difficulties in navigating foreign regulations. This is especially true in China, where policy favours domestic goods and increasingly limits quantities of foreign brands and products, e.g. infant formula and honey products, as identified by one participant. Larger issues, including sustainability, were discussed as relevant and important for business leaders. Participants were

very much aware of issues of resilience and scarcity in an age of global uncertainty, and solving such issues is one driver of technological innovation.

The concept of disruption was a major feature of this discussion, and it's likely that many of today's large incumbents will not exist by 2050. Automation will increasingly take over processes, and new efficient consumer models will be developed. The shared economy presents new ways of market efficiency, and companies are starting to decentralise by using new outsourcing models, foregoing the vertical stack. A key point is that the barriers to entry are diminishing in many sectors. Digital enables this, and reduced barriers to entry mean that well-known brands can expand into new products and markets. This, along with innovative startups, creates considerable competition. Global financial and payment services will be transformed with new technologies, with blockchain and cryptocurrencies emerging as a first potential disruptor. The second order effect will rapidly increase innovation, driven by the seemingly infinite on-demand computing power in future. Organisations in future will likely be smaller, flatter, agile, full of automation, and focused heavily on innovation. Traditional company bureaucracy will be gone, and digital roles will take over the boardroom. It's clear that one size doesn't fit all – there is much uncertainty and debate around what is appropriate for today's organisations. The findings in this research question make it clear that all businesses need to be thinking about the future.

The refined concept of data is already having a significant impact on business decision making, especially in marketing with audience insights and the calculation of conversion, i.e. online campaign success at a granular level. The future of marketing will be shaped by Big Data and the advancements made in data analysis, and eventually, artificial intelligence. Throughout this discussion, it was explained that everything that people do, both online and offline, is quantified and measured. This is because everything is connected, including all devices and sensors, linking your physical self to your digital entity. Targeting is optimised based on such data, and can already be automated to a certain extent.

As there is so much data on any given individual, risk will be priced far more accurately, thus overhauling both lending and insurance at the very least. Future analytics will be facilitated by significant amounts of processing power, and companies are already investing heavily in analytics platforms. In this discussion, it was clear that digital buying has grown enormously, and this and other data is being consolidated across different platforms and companies. The cost of technology is decreasing, both in terms of development and implementation, and profitability ultimately lies in innovation around digital and user experience.

Legacy technology is still a problem for many large organisations, and it is fostering an environment that stifles innovation and supports inefficiency. Further, costs are considered to be out of control, and poor infrastructure is not helping. Such an environment generally does not allow for much innovation, and money is spent maintaining the status quo. Innovation also can't be forced, in some organisations it may be unnatural, and simply spending money won't achieve the desired results. In many industries, there is much waiting and copying, where companies aren't willing to take charge in innovation. A major risk in this situation is that customer expectations rapidly outgrow what a company can offer, and they can quickly be replaced by a more responsive competitor.

The topic of employment was contentious; while there was some sense that new job types will balance losses caused by automation and eventually artificial intelligence, this was not a view held by most. Indeed, participants see a serious situation unfolding that has implications not just for society, but for all business functions as well. It was emphatically called a disaster by one participant. It is thought that creative, high-value roles will continue to exist to innovate and create new things, however many middle management roles and business back-end will be automated. New systems will be irresistible as they are introduced, and companies cannot afford to ignore them as manual processes are too slow. Workloads will be moved into the cloud in many cases, it will make no sense for human intervention.

Marketing is already being transformed by data, and an increasing number of data scientists are being brought into marketing roles. Nevertheless, there is speculation that the implementation of automated systems combined with deep learning will supplant the need for these roles in future. In the meantime, staffing models are clearly changing, with participants stating that a staff-on-demand model is becoming an attractive option. Freelancing is also become more common around the world, especially as the number of job seekers continues to outweigh job availability. Job security as a concept faces significant challenges in future, and it is in everyone's interests to figure out how the world will deal with rapid population growth and job displacement. At present, the issue is seldom in political discourse, which according to participants, is hugely concerning.

In the past, it was uncommon for organisations to plan for technological disruption well into the future; it was largely considered irrelevant thinking that had no bearing on profitability. Such assumptions are now broken, and it's now becoming the norm for many. To anticipate and prepare for the future, business leaders in this research stressed the importance of research, development, testing, and always asking – what's next? A constant focus on digital and how it's evolving is vital to remain competitive and relevant, and such thinking should be across the board, with everyone in the organisation involved. Companies should vigorously pursue new innovations, and prepare for departmental overhaul when it arrives. It is also clear that resistance needs to be discouraged, and organisations need to create an environment where innovation is encouraged and nurtured, and not put off by management or shareholders. In many cases this is not a short-term project, rather it is continually challenging assumptions and looking ahead to the future. At present, the extreme limit of futures thinking for an organisation appears to be 2025, however most are still within a few years given limitations. For many organisations, once compliance costs are under control and reporting metrics re-evaluated, futures thinking can begin.

Chapter 5 – Scenarios; The Possible, Probable, and Preferable Futures

5.0. Introduction

To contrast and compare the primary and secondary research findings, scenarios were developed for categorising and listing a range of key future conditions (List, 2005, 2004; Voros, 2003). Each scenario type is defined in Chapter 3. Quotes are first taken from Chapter 2 and then compared to selected findings from Chapter 4. In the last two columns – Business/Society and Marketing – the implications are discussed.

5.1. Scenario 1: The Possible Future

This scenario includes ideas that may not necessarily have a discernible path to fruition given current capabilities, thus they are instead 'placed' in the future, and can nevertheless be included as this is neither a forecasting nor backcasting exercise. Furthermore, although there is a distinction between trend-based scenarios (forecasting) and outcome-based scenarios (backcasting), they can be used interchangeably (Herrmann, 2010). In this scenario, each point focuses more on innovation and disruption as opposed to continuous improvement. A key distinction between the Possible future and the Preferable future is that the latter includes more emotive qualities, i.e. what we want to achieve. For the purposes of this scenario, two issues described in the research are bypassed: technological resistance and regulatory limitations.

5.1.1. Scenario Point 1: A Data Revolution

Secondary	Primary	Business/Society	Marketing
"30 billion devices … wirelessly connected" (van Auken, 2015, p. 43)	"all devices and sensors [will be] connected" … "[everyone's] genome will essentially be up in the cloud"	Our lives are more online than not, and digital privacy has all but disappeared.	The significant growth and use of connected personal devices is central to marketing practice from 2017 onwards. Traditional practices quickly become irrelevant.
"significantly beyond targeting" (Auken, 2015, p. 44) … "comprehensive tracking" … "vast numbers of consumers could be reached on an individual basis" (Berthon et al., 2012) … Predicting "individual action [and] consumer choice" (George et al., 2014, p. 321)	"track our digital footprint everywhere" … the "identity of the individual" will be sold	Society will have to accept that their information is for sale.	All aspects of people's lives, including their location at any given time, are freely available to marketers, facilitating automated and individualised advertising.
"infinite computing resources on demand" (Armbrust et al., 2010, p. 51) … "in a world of on-demand technology, with services and resources delivered online within the framework of cloud computing" (Chen et al., 2012; Armbrust et al., 2010) … Moore's Law (Hagspiel et al., 2015)	"by 2025 we could be at a point where computation power has the power of 8 billion brains" … "we're going to see almost infinite computing power available" … "quantum computing"	The scale and storage of data will be irrelevant, and unlimited processing power is affordable for any business.	The exponential increase in computational power, in line with Moore's Law will result in real-time marketing automation.
"Big Data is … a "disruptive technology that will	"better intelligence, better effectiveness" …. "a	By 2020, Big Data would have significantly reduced	Marketing campaigns will be intricately tailored and delivered

reshape business intelligence" (Fan et al., 2015, p. 28) … "utilise data sets that go far beyond the notion of customer segmentation" (Erragcha & Romdhane, 2014) … positive disruption "through the use of AI techniques to learn, model, and predict human and market behaviors" (Russell et al., 2015, p .2).	lot smarter about targeting people, the right people" … "captive audience" presented with "individual commercials" that are "highly personalised"	uncertainty around business intelligence, decision-making and human complexity. Risk rapidly becomes less of an issue as immediate feedback is available.	to each individual, and their actions regarding each advertisement will be tracked.
"interconnected robots" (Weber, 2016, p. 2) … "automatic speech recognition, speech synthesis … ambient intelligence, intelligent environment[s], motion capturing, [and] image recognition" (Zackova, 2015, p. 39).	"a savings account that connects to a washing machine and a grocery company and optimises energy usage" … "ubiquitous connectivity" … "everything is driven off the internet"	The Internet of Things (IoT) will be the standard reality; consumer devices of all types will be connected to each other via the internet, and automation will drastically simplify our lives.	Marketers will be able to see our most personal consumption habits, and create targeted campaigns based on them.

5.1.2. Scenario Point 2: Artificial Intelligence in Business

Secondary	Primary	Business/Society	Marketing
"A total reinvention of the field and how it is practiced" (Schultz, 2016, p. 284)	"all devices and sensors [will be] connected" … "[everyone's] genome will essentially be up in the cloud" … "the move towards Artificial	By 2030, privacy will become a distant memory.	Systems backed by AI will pour through personal data in a way that outpaces any human ability to restrict it. Marketers will have instant access.

	Intelligence"		
"machines talk to and negotiate with other machines without human intervention" (Schultz, 2016, p. 284).	The ability to usurp "professional advice" … "a good AI system should be able to replace ninety-nine percent of all justice systems"… "replaced by algorithms because they'll make far smarter decisions"	Many professional roles will be displaced by AI.	This has affected not just marketing roles, but also legal services, business consulting, judicial enquiry, and so on.
The tipping point of technological advancement – the singularity – where artificial intelligence takes charge of further development and innovation (Cordeiro, 2016; Heylighen & Lenartowicz, 2016)	"second order effect … the pace of change will continue to accelerate" … "singularity" … "innovation becomes exponential"	Critically, innovation will become exponential with the advent of the Singularity. Development will be beyond human capability and driven by AI.	AI identifies new solutions and trends. Marketers can rely on these AI-based applications to manage and improve upon their campaigns.
"machine learning" (Autor, 2015, p. 24) and "artificial intelligence" (Autor, 2015, p. 4) … Heylighen and Lenartowicz (2016) see "a level of knowledge and capability for intelligence that far surpasses that of any individual or organization" (p. 2)	By 2050 we'll see all decisions "driven by data", managed entirely by AI … "far more insight than a human being" … "spooky" … "the power of 8 billion brains" … "digital truth and facts about you"	An enormous societal adjustment will occur, and further inequality and economic unrest is inevitable in many parts of the world.	This significantly reduces the need for humans in marketing; many typical marketing roles will be displaced.
Because of their superior cognitive, mathematical and data processing capabilities, intelligent systems and even robots are already replacing workers in the areas of medicine, manufacturing, stock	moving towards a "staff-on-demand" model, particularly as insight and advice becomes automated through intelligent systems.	As is shown in the next table, the employment model will change drastically, and will continue to evolve.	Job security varies over time for many marketing roles. While data scientists enjoy strong demand at present, this will taper off once automation and AI removes the

trading, insurance, banking, and others (Tyagi, 2016).			complexity for marketers.

5.1.3. Scenario Point 3: The Need for Humans Diminishes

Secondary	Primary	Business/Society	Marketing
the entire concept of employment is ripe for disruption (Drahokoupil & Fabo, 2016; Frey & Osborne, 2015)	"jobs will reduce significantly" … "It's a disaster, it's a disaster … it's going to be a very serious issue" … "it's clear, it's the end of the job"	There will be a reduction in the number of people needed in active work, which will create enormous societal pressures.	Many marketing roles will be displaced, particularly those that focus on manual data and trend analysis.
"automation may prevent the economy from creating enough new jobs" (Autor, 2015, p. 3)	"more specialists at the front-end and then pretty much automated at the back-end" … "less people" … the work gets "automated and digitised"	The nature of work has shifted dramatically from the dominant model of a permanent workforce to smaller, on-demand, and highly mobile workforces.	On-demand marketing roles will persevere.
human inventiveness and creativity have long played a major role in marketing practice (Bakhshi & Windsor, 2015; Menger, 2015)	"human inventiveness and ingenuity" … "we will always need the creative types"	Not all roles will be automated.	Highly skilled roles focused on creativity still exist in marketing, as AI has not been able to reproduce this in new and unique ways.
the growth of creative and high-skilled employment has been driven in part by technology (Frey & Osborne, 2013) … automation will mostly displace low-skilled, manual jobs (Arntz, 2016)	"concentrated up into higher value roles" … "the new jobs that are being created are for smart people, and most people aren't smart"	Low-skilled and manual roles will be most affected; this will impact a large percentage of the workforce.	Given fewer marketing roles, competition for jobs is extremely high. The skills required continue to increase.
Humans have "long-	"data scientists who	Roles are constantly	More data scientists

Secondary	Primary	Business/Society	Marketing
lasting comparative advantages when it comes to orienting oneself in complex situations" (Arntz, 2016, p. 9).	are tinkering with algorithms" … "analytical brain with data"	changing, however human ingenuity and our ability to develop new complex ideas supports job growth in many areas.	will be brought into marketing. These roles will eventually be disestablished however, replaced by automation and AI.

5.1.4 Scenario Point 4: Disruption in Society

Secondary	Primary	Business/Society	Marketing
established companies should act like start-ups, embrace agility, and be open to new products and technologies (Bruse et al., 2016) … "relentlessly moves up market, eventually displacing established competitors" (Christensen, 2013, p. 1)	"company longevity has gone from 65 years in the 1920s, down to probably about a decade" … "industries are being turned on their heads" … "our bureaucracy, I think, is going to be annihilated"	Shorter company life spans, combined with an explosion in the number of startups, will lead to a significant number of small brands and high levels of competition.	New startups will bring about new marketing technologies at a rapid pace.
"an innovation process that deeply changes the rules of competition in a given industry and brings new companies to the top ranks of that industry by disrupting the established position of incumbents" (p. 2).	"Apple or Google may not exist, it'll be someone else" … "something in the social space is probably going to gazump Facebook" … the future may see "the end of marketing"	Nothing can be taken for granted. While many household names lasted decades in the 20th century, that's no longer the norm, and even 'secure' companies will be displaced.	Considerable pressure will apply to marketers, as the responsibility for a company's success is often placed on them. With AI, this becomes about extremely fine details.
an overall explosion of growth in the industry (Boye & Bäckman, 2013) … rejuvenated many industries by	"national champions will be much more powerful in their distribution model" … "existing brands that are	Companies will be able to move horizontally effortlessly, which will bring about extreme levels of	Marketers will find success in exploring products in similar areas, or in acquiring other businesses and their ideas.

attracting new customers, while encouraging those already using services to consume more (Markides, 2006) … the larger company being a part of the disruption journey.	highly desirable to step into the market"	competition in many industries.	
"an innovation process that deeply changes the rules of competition in a given industry and brings new companies to the top ranks" (Chiaroni et al., 2016, p. 2) … institutional disruption, whereby they introduced the notion of a shared economy into the taxi and hotel industries respectively (Laurell & Sanström, 2016; Guttentag, 2015)	"I don't know whether we'll have airlines as we currently have them" … "you won't be allowed to drive by yourself" … "auto insurance industry will be gone"	A reminder that the rules will change. Many industry norms will fall by the wayside. In this case, the primary research statement suggests that airlines may not own their own aircraft.	Marketers will have to continually re-think a product's value.
"very demanding because of their high expectations" (Dziewanowska et al., 2016, p. 1) … "accelerated pace of life" (Rosenau, 2005, p. 21) … "the pace of technology change in their organization is too slow" (Fitzgerald et al., 2013, p. 4).	"cash becomes less prevalent" … "how quickly people want to get to where they want to go" … "quicker, faster, easier services" … "to get things done quickly, speed is money, time is money" … "disruption from a whole variety of different players looking at different aspects of financial services"	Society is constantly evolving, and there is an expectation that technology will always get easier, faster, and with less human interaction needed. Cash would have all but vanished by 2050. People will no longer tolerate poorly performing products and services.	Marketers must match consumer expectations of fast, accurate information. Attention spans and patience will be extremely limited.

5.1.5. Possible Scenario Overview

This scenario discussed the concept of exponential growth of data and its role in providing marketers with a direct channel into people's lives; our behaviour, digital and physical movements, and interests will be quantified. Computational power is quantum, i.e. infinite for all intents and purposes. The scale of data is therefore irrelevant in future, as is the efficiency of processing it. Marketers will be able to interface with this data in a way that allows them to know their target market exactly, and know who is most likely to develop interest – before they themselves, perhaps. Importantly, they will see who can afford the product given the lack of privacy of Big Data, which has enormous implications for high-end products and efficiency of marketing spend. Artificial intelligence plays a significant role in this future, as decisions can be real-time, automated, and patterns can be uncovered where a human wouldn't even think to look. This will result in a loss of people needed in the marketing discipline, despite its overall growth in impact. Job displacement will affect most industries, and staff-on-demand models of employment will fill the remaining gaps. It is unclear how society will cope at a broader level given this disruption to employment through automation, however this goes beyond the scope of this study. Businesses, even long-running brands, will succumb to disruption in droves. As noted in this scenario, "Apple or Google may not exist [by 2050], it'll be someone else". This also applies to industries, for instance the auto insurance industry changing dramatically as blame for traffic accidents is no longer placed on the driver, but rather considered a 'glitch' in software. What is clear, is that in this scenario, our insatiable demand for new technology will be overtaken by exponential development, and eventually, the Singularity.

5.2. Scenario 2: The Probable Future

In the Probable future scenario, the researcher looks at the reality of society today and envisions a gradual trajectory. This stipulates what to extract from the data, in that one should look for changes that are less dramatic than what would

be included in the Possible future scenario. In the context of this research, this includes notions such as a limited form of AI, increased regulation around privacy and data, and less technological progress. This scenario also includes negative trends, for instance a continuation of today's problems and limitations that suffer from a lack of clear solutions.

5.2.1 Scenario Point 1: Change is Slow

Secondary	Primary	Business/Society	Marketing
relying on legacy systems and processes given the increasing rate of technological change (Hagspiel et al., 2015) … "will harm their company's ability to compete" … "the pace of technology change in their organization is too slow" (Fitzgerald et al., 2013, p. 4) …	"hierarchical business model" … too restrictive, too slow, and too expensive" … "it's command and control, it's multi-tiered, it's complex" … legacy systems, processes … "the way that they go about doing business" … "conservative and slow moving" … "risk-aversion"	New entrants will increasingly take advantage of this. While new technology can be embraced by incumbents, they are often not able to sufficiently change their internal processes and structure, and this will impact their products.	For marketers, reinvigorating established brands will become a significant challenge from 2017 onwards. In many cases, such efforts will fail in the wake of agile entrants.
new investment becomes an immediate "sunk cost" (Hagspiel et al., 2015, p. 898) … older systems being "complex to update" (Fitzgerald et al., 2013, p. 9) … "lack of urgency" (Fitzgerald et al., 2013, p. 2)	"the organisation won't let me express it" … "85% of an IT budget goes on keeping the lights on, and about 15% goes on innovation" … "decades old" … "old fashioned infrastructure" … cross-border interaction is still "traumatic and involves a lot of legacy fees"	Investment continues to be a sticking point for organisations. Re-invention is unrealistic given the level of bureaucracy. External disruption will displace many companies.	Ensuring that marketing acquires sufficient investment will be key, especially with new technologies.
"the traditional approach …	"long decline in the power of	Society will become more informed	Change has been comparatively slow in

inappropriate for contemporary marketing practice" (Coviello & Brodie, 1998, p. 171) … "diffusion of new information technologies, traditional marketing … has been changed forever" (Schultz et al., 2012, p. 424) … "deep changes have taken place in the field of marketing" (Erragcha & Romdhane, 2014, p. 137).	television" … "the impact of advertising has declined as consumers have become both more savvy and more wary" … "advertising has been slow to change over the last 20 years"	given quick access to information, and this will continue to get easier. By the 2020s, transparency will be the norm, and expectations will be high.	advertising, although this accelerated with the rise of digital marketing in the 2010s. Many advertising channels will quickly become outdated and disused, and marketers in the future will fight to stay ahead of the curve on a daily basis.
"inertia and complacency are deadly in the world that we live in today" (Fitzgerald et al., 2013, p. 10) … "different mindsets" (Fitzgerald et al., 2013, p. 6) are needed	"a rump of employees who don't want anything to change" … "we've done it that way, we'll always do it that way, and I will gather any data that supports my point of view" … "future avoiders who say, that won't happen, that will happen in the future" … "turkeys don't vote for Christmas"	Many people within organisations, regardless of their level, work against positive change due to the perceived risks of cost and job security. This further exposes large organisations to disruption.	This negatively affects the willingness of organisations to allow marketers to test new ideas. This will be a hurdle in the development of AI marketing.

5.2.2. Scenario Point 2: Continued Uncertainty & Future Risks

Secondary	Primary	Business/Society	Marketing
The "profit potential" is unknown (Hagspiel	"every organisation is now trying to figure out where they are	Larger incumbents focus on survival while attempting to	Uncertainty will prevail as the ultimate roadblock to

et al., 2015, p. 898) … "73 percent of CEOs reporting a lack of trust in the marketing department's ability to generate sales" (Kumar et al., 2013, p. 330) … Tyagi (2015): "it is really difficult to predict when we can reach singularity"	going" … "how do we transform our organisation?" … "lack of certainty around marketing investment means that the decision to invest in marketing is more unlawful" … "the future is considerably uncertain"	catch up with disruptors.	innovation and marketing investment leading up to the 2020s.
Timeframes of even beyond 50 years are therefore acceptable (Inayatullah, 2011) … overvaluing of short-term gains over long-term growth … distinct lack of innovation (Laverty, 2004)	"have trouble getting to 3 years out, let alone 30" … "never attempt, especially in this environment, to look out as far as 2050" … "if it is too far, they give up"	While futurists suggest a long-term focus, businesses are stuck in a short-term mindset.	Marketers continue to deal with investment in short cycles, however this may become a moot point by 2025.
overall economic and social instability (Boyle et al., 2010; et al.) … Wiek et al. (2006); "economic decline, social instability" (p. 740) serve as an impetus for futures research … "the North-South divide" (Weiss et al., 2010, p. 200)	"global financial crisis" … the stock market, which is "pretty volatile" … "there's still money to be made"	Given uncertainty, the global economic system initially struggles, especially around the cost of living and employment. Economic shocks are more extreme in the short-term.	There is still money to be made for businesses, and marketers will have to navigate the rapids until the dust settles on automation.
in desperate need of resilience (Holmgren, 2012) … designs are still largely based on cradle-to-grave mindsets (Smelser, 2013; et al.) … "the process of economic catch-up in developing	"whether the race is going to survive long enough to actually get the inventions over the line in order to save the race" … "we're in a world of global turmoil caused by excesses in the past 200 years, and	Larger issues, especially around the environment and resilience, will remain in 2020-30s. For businesses, this continues to present opportunities around product development.	Consumers will become less trusting than ever before. Marketers will often be accused of exploitation given sensitivities.

countries" (Jakob et al., 2012, p. 2).	now we're starting to pay for it"		
"government regulation of AI development and restrictions on AI operation" (Scherer, 2016, p. 355) … Stephen Hawking has called for a dialogue on such risks, including a discussion around future regulation (see Luckerson, 2014)	"policy can have a hand brake on business execution, and it creates an enormous amount of uncertainty" … "more and more regulation" … "compliance overhead" … "ongoing regulatory risk is quite severe for business"	Government regulation will limit the use and abilities of AI. There is a fear that if uncontrolled, it will cause a societal collapse. This will affect the transition of the workforce.	This will have a significant negative impact on marketing capability. Further, the cost of human intervention in roles such as data analysis will become a major issue.
"underpinned by systems thinking" (Floyd, 2008, p. 139) … Walsh (2016); "Intelligence is much more than thinking faster or longer about a problem than someone else" (p. 3) … Fitzgerald et al. (2013) state that "different mindsets" (p. 6) are needed …	"you've got to look at what things are changing in society and what things are not" … "constantly think ahead and plan ahead. That's the world you live in" …	Businesses will have to constantly think ahead to succeed. Shocks to their business models and products are frequent, and this will decrease company longevity.	Marketers will need to be aware of consumers' feelings regarding larger issues, and work alongside them. This may stifle growth and profitability.

5.2.3. Scenario Point 3: Steady Innovation

Secondary	Primary	Business/Society	Marketing
The benefits of maintaining cutting edge technology in a business are therefore not always appreciated, and this extends to the use of digital platforms in marketing (Fitzgerald et al., 2013)	advances in digital over the next few decades "is going to be the biggest challenge"	Given less automation in this scenario, steeper learning curves will be constant pain point for employees.	New marketing technology can be complex. It is also difficult to know what works best for a company given the plethora of new options. Investment and training can be significant.
a perception that	"significant cost" of	Innovation, even by	For marketers, the

any new investment becomes an immediate "sunk cost" (Hagspiel et al., 2015, p. 898) … "profit potential" is unknown (Hagspiel et al., 2015, p. 898) … Amit & Zott (2012); many do not engage in business model innovation due to the perceived cost.	producing new software … "barriers of physics might mean that ideas that are incredibly expensive to invent" … "seriously needing to get their costs under control" … "you can't really produce anything material these days without a reasonable number of people working on it"	2020, will be comparatively slow due to its cost. New entrants will often have innovative ideas, but not the capital needed to bring them into fruition. Large incumbents will continue to purchase small companies for their intellectual property.	cost of running campaigns is increasing given higher competition and the adoption of new technologies. This makes it less lawful in the eyes of management.
Myopic decision-making … leads to this distinct lack of innovation (Laverty, 2004) … Hagspiel et al. (2015), the "probability of a time lag between innovation and adoption can be substantially high" (p. 898).	"put people in a room but that doesn't mean they're going to find the next big thing" … "valley of disappointment at the moment" … "tend to rush to keep up rather than innovate" … "lot of copying each other in the airline industry" … "just re-inscribe a used future" … Innovation and management like "oil and water"	Despite a global desire to be innovative, it doesn't come naturally to a lot of organisations.	A lack of genuine innovation will be a major concern for marketers.
exploit the lack of privacy in developing their targeted campaigns, and to accurately forecast customer behaviour (Fan et al., 2015) … How will privacy, ethics, and security be protected given the automation of Big Data and deep learning (Tyagi, 2016; et al.)	"very careful" about their online transactions and behaviour … Privacy is an ongoing concern, especially around physical "location services … down to the nearest meter" … "who owns the information and what can they do with it?"	Society will push back against the rise of Big Data, and issues of privacy will create regulation around its use.	Marketers are often seen as pushing the envelope and exploiting this information for their gain. Trust is reduced over time.

5.2.4. Scenario Point 4: Supporting People

Secondary	Primary	Business/Society	Marketing
intelligent systems and even robots are already replacing workers in the areas of medicine, manufacturing, stock trading, insurance, banking, and others (Tyagi, 2016) … "automation may prevent the economy from creating enough new jobs" (Autor, 2015, p. 3) … Arntz et al. (2016) believe that only a small percentage of jobs will be affected	"if you're worried about your job being automated, then it most likely will" … the world continues to witness "angry demagogue leaders who are saying that jobs are disappearing" … "jobs will reduce significantly" … "the challenge is taking people along with you" … "thing that complicates what we do is people"	In this scenario, the question of jobs remains contentious. Less innovation and more regulation suggests that the impact of AI and automation will be lower than in the first scenario. From the future point of view, automation is still taking place, however society is passively working against it.	The cost of effective marketing will remain high due to less AI technology combined with expensive human resources.
"it seems unlikely that occupations requiring a high degree of creative intelligence will be automated in the next decades" (Frey & Osborne, 2013, p. 26) … Arntz et al. (2016) believe that only a small percentage of jobs will be affected	companies will still need a "caring face in the front of the house"	Many creative roles will continue to exist, as will many face-to-face roles. Systems make smarter decisions, but are actively managed by humans.	Creativity remains a core component of marketing practice, and such roles will likely remain.

5.2.5. Probable Scenario Overview

In this scenario, emphasis was placed on current issues, with solutions not always evident. It identified a key issue for larger organisations today; they are too bureaucratic and reliant on legacy systems and processes. Change is therefore more difficult, and innovation will suffer over time. Innovation is generally not exponential in this scenario, and it doesn't come naturally to many

organisations. Many startups will also lack the funds needed to bring their ideas to market. These issues will prevent artificial intelligence from reaching its potential, or at least delay it, thus the pressure on labour markets in future is lower when compared to the Possible scenario. While new marketing technology will naturally become available, the advertising industry at large will be slow to change. This may limit development in future marketing technologies as older methods persevere. Further, resistance from the people within organisations may stifle the integration of new marketing technology, especially if there is a sense of complexity in their use. Uncertainty regarding the future is a roadblock for many companies wishing to invest in developing new products, and this also impacts marketing decisions. Economic, financial, and environmental stability will constantly be called into question, as is the likely future impact of increasingly effective automation. Consumers will still be highly resistant to the messages of marketers, who will be increasingly seen as untrustworthy. Privacy will be a major concern for consumers, with marketers seen as overreaching on a day-to-day basis. Overall, this scenario highlights the importance of finding solutions to today's problems, given the potentially severe consequences over the next 10-20 years.

5.3. Scenario 3: The Preferable Future

This small scenario is included to highlight the more emotive points raised during the research, for example climate change, cost of living, etc. These points serve as supplementary to the previous scenarios, and a degree of overlap is inevitable. Solutions may or may not be realistic given the inherent subjectivity, and in the primary research, comments can be exaggerated. The points discussed are not the primary focus of the research but are nevertheless useful to include for completeness of the topic.

5.3.1. Scenario Point: Meeting Global Aims

Secondary	Primary	Business/Society	Marketing
the future is "partly uncertain and dynamic" (Herrmann, 2010, p. 92) … "alternative tracks for the future of advertising/marketing … [each with their] own values and importance" (p. 283)	"if you're not thinking globally about the future and what's good for the world, then you're going to be really struggling" … "every organisation should be thinking about the future and how they empower themselves"	In this scenario, businesses will actively plan for the future, both in terms of products and internal structure. They will meet the needs of their communities.	New marketing technologies will be embraced, and marketers will be mindful of global issues and promote relevant solutions.
"in the year 1000 had received a miraculous vision of the world in the year 2000 … You cannot get there from here" (Kaplan & Stelle, 1998, p. 13) … history "leaves recognisable traces" (Inayatullah, 2012, p. 406) … "present and past to create alternative futures" (Inayatullah, 1998, p. 815) … "different perspectives on past, present, and future developments" (Notten et al., 2005, p. 176).	"alertness for the organisation to locate themselves in macro-history" … to understand their place in the larger picture of what is happening, and what has happened, in the world; the past, present, and future.	Businesses will create a long-term purpose for themselves, beyond simple profit-making. They can to this by understanding what is changing around them, and how they can be a part of positive change.	Marketers will be encouraged to focus on these core issues and maximise consumer trust.
"total reinvention of the field and how it is practiced" (Schultz, 2016, p. 284) … "different mindsets" (Fitzgerald et al., 2013, p. 6) are needed.	"my generation sees global brands as part of the reason behind the problems that we have"	A restoration of trust will occur assuming businesses step up in this scenario.	Marketers will have a key responsibility in restoring such trust and supporting product development via feedback loops.
"futures field can be seen as a response in its own right to the	"solve tomorrow's problems today"	By incorporating futures into typical business practice,	As marketers are generally more aware of the external

need for deeper approaches to deal with complex, human-related problems" (Floyd, 2008, p. 139)		there is a much greater chance that solutions can be developed.	environment, they can provide valuable insights regarding the future to the business.
As Wiek et al. (2006) explain, "economic decline, social instability, and environmental depletion" (p. 740) serve as an impetus for futures research.	"the move towards sustainability, the rise of China and India, and the move towards Artificial Intelligence" … "meditation, animal rights, human rights, and ending poverty" are much more prevalent in the public discourse	Such 'greater good' ambitions become a part of most business strategies in this scenario. Not necessarily a primary focus, but at the very least a desired externality.	Marketers can promote the positive benefits of their products and use data automation to accurately gauge consumer feelings regarding each issue.
"increasingly used in academia, government and industry as a means of coping with uncertainty in areas with long planning horizons" (McDowall & Eames, 2006, p. 1236).	Futures was once considered "way out, weirdo" thinking in business. This is now in transition given uncertainty and disruption, especially in the context of "sustainability and security"	Futures will become a core component of most organisations, both public and private. It will no longer be seen as strange and unnecessary.	Marketers can promote this long-term view to consumers, conveying stability and sense-making.
universal basic income for individuals and families as a way to maintain a first world standard of living (as discussed in The Economist, 2016c).	"everyone gets a base and the whole world becomes 8 billion clients"	Governments experiment with new forms of support given automation and job pressures, and by 2020 a form of universal basic income is becoming more common in developed countries.	The marketing discipline will have to reflect what is changing in society, including around people's prosperity and levels of income. A high level of awareness will be required.

5.3.2. Preferable Scenario Overview

The Preferable future scenario included emotive concepts and ideas that were deemed most desirable. It stressed the need for long-term thinking during uncertainty, including the notion that futures should be brought into most organisations. In an ideal world, organisations work for the betterment of society in addition to profit-making, and marketers can embrace their communities and work with consumers to build trust. Businesses can take more responsibility in mitigating issues around sustainability, resilience, and poverty, and create products that minimise harm. Further, employment should be managed in a way that reduces any negative consequences of artificial intelligence, including the concept of a universal basic income. Ultimately, this scenario stresses that global issues will become critical for marketers, as they will become ever more relevant and influential in day-to-day business.

5.4. Scenario Vignettes – 2040-2050

5.4.1. Possible Scenario Vignette

Through the interconnectedness of all devices, our lives are fully understood by an enormous, cognitive marketing system. Fewer marketers are needed in any given organisation – in many cases, marketers are not needed at all. Marketing data scientists have come and gone. New products are conceived by designers and entrepreneurs, manufactured in smart factories according to customers' preferences, and inputted into the cognitive marketing system that is powered by AI. This system finds and targets those who will most likely buy the product. For luxury goods, the system knows your bank balance, your spending habits, and the exact time of the day when you are most likely to be influenced. It also knows everything about those who are close to you, e.g. family, and how these

factors impact your current purchasing behaviour. The volume of advertising we experience is actually quite small, as only those who will predictably buy a product will see the promotion. Advancements in marketing technology go largely unnoticed; they are driven by AI and are continuous. Overall, organisations do not need many people to function. Gone are the days of managers, functionaries, administrators, and even salespeople. Nevertheless, the number of small, flat organisations has exploded due to the proliferation of new inventions, and the ease of entering the market and doing business. Almost everyone is an entrepreneur to some degree, and the number of products available is seemingly limitless. This is where AI helps humans, it helps us to know what we actually want and need. The world is complex, however the pervasiveness of AI assists our understanding; humans step back from the raw data. The concept of the Singularity came into fruition as a series of observable waves of technology over time, rather than a 'tsunami'. Whether we have any privacy is debatable – everything about our existence and interaction with the world is known, however it is AI that interfaces with this data, not humans. Looking at AI beyond 2050, issues such as this become increasingly contentious.

5.4.2. Probable Scenario Vignette

Despite technology having made our lives better and easier overall, it is still in the 'valley of disappointment' and certainly not exponential or pioneered by any such Singularity. Many thought AI would have made more headway into our daily lives throughout the 2020s, however technology just became more complex, messy, gimmicky, and difficult to upgrade. The volume of e-waste presents a significant environmental challenge, especially given a population of more than 9 billion that is constantly buying new products. Large organisations touted the benefits of the latest tools, however they are fundamentally slow to change. This has left the world with technology that is semi-cognitive, but still very reliant on humans. Many great companies have come and gone, and innovation appears to have suffered. The need for a human workforce is high, as organisations are still

large and cumbersome. In most OECD countries, political pressure seeks to maintain the status quo. While automation has removed many task-oriented jobs, high-stakes decisions are aided by data but not themselves automated. Advertising is highly targeted, but overwhelming given the number products and the connectedness of our home and devices. Society has to a large extent lost patience with the invasiveness and sheer volume of advertising, and regulation is mostly ineffective at controlling privacy. Global issues, including climate change, are better understood and managed, but are still major concerns.

5.4.3. Preferable Scenario Vignette

In the 2020s-2030s, the world finally developed technology that made a real difference in ameliorating the big issues – climate change, resource scarcity, poverty, population stresses, and more. Many solutions were discovered by the natural progression of technological change, however others required focus by both private organisations and governments. Companies still strive for profit, however a focus on the external environment is more than a trend, it is the norm. By 2050, the complexity of our ecosystem was unravelled by AI. Further, this technology is used in harmony with humans, and societies worldwide enjoy a high level of employment and work-life balance; people are working less. Through an automation fee and government intervention, a universal basic income is guaranteed in most nations. Finally, marketers have a higher purpose in developing and selling products that enrich our lives and address humanity's problems.

5.5. Summary

The concepts discussed throughout this chapter are not isolated to a single scenario, rather they span across multiple scenarios depending on their level of impact in future. For example, automation that displaces a small percentage of the workforce, versus that which causes major disruption.

In the Possible future scenario, exponential innovation is identified as key. This scenario also hosts the theory of the technological Singularity, where artificial intelligence reaches a tipping point in its capability and facilitates unimaginable changes. Marketing technology will become ubiquitous – there will be no escaping it. Our lives will be tracked in every way imaginable, and sophisticated prediction engines will map out our experiences to come, based also on what we can afford. Businesses will be able to access this data in real-time, though humans will not be involved in its analysis as this is wholly inefficient. Once machine learning matures, artificial intelligence systems will have total control over marketing information services. As noted, the scale of data is irrelevant in this scenario.

Although new innovations will be rapidly incorporated into a marketer's toolkit as they arrive, the number of human roles available will sharply decline. In this scenario, the issue of employment is complex. While it is argued that humans will always have some roles to fill in business and society, the scale of automation has the potential to bring about a painful but necessary societal transition into a post-work world. Developing specific solutions to this is beyond the scope of this study, but it is nevertheless an important consideration when considering the future of the marketing discipline.

In the Probable future scenario, present issues are of greater consideration for the future. In the primary research, many of the participants stated that their older systems are holding them back, along with their overall level of bureaucracy. In this situation, while an ideal future was imaginable, the path to achieve it was not. According to the participants of larger companies, they felt that they were at risk of being disrupted by new innovators, as they could not see themselves as being the disruptors. Therefore, in this scenario, innovation is not seen as being exponential, at least in the next two decades. Furthermore, the concept of artificial intelligence plays less of a role in this scenario and may be stifled by inefficiencies and an unwillingness to adopt such tools into business,

especially if there is sufficient resistance from the labour market, unions and governments.

A slower pace of innovation will impact marketing in the long term, as the discipline is highly responsive to new technologies. Approaches and methods will naturally improve over time, but any limitations on automation will be felt in marketing. A degree of resistance may arise from marketers too, as the concept of widespread job losses without alternatives is unappealing. Uncertainty is a recurring issue in this scenario, whether it be economic, political, or environmental. Such issues can provide constant negative pressure on innovation. The issue of trust was also discussed. Depending on how personal data is used in future, a lack of consumer trust could prove to be a significant hurdle for marketers. Further, it is likely that the question of privacy will continue to dominate this field, with businesses being accused of abusing their access to information.

The final scenario – the Preferable future – stressed the need for long-term thinking and planning for the most desirable outcomes, typically around larger societal and environmental issues. Such thinking applies to both businesses and governments – they can work together to better their communities and a greater level of trust may follow. This scenario also contains a positive scenario regarding artificial intelligence and employment, where automation is carefully managed, and merely supplements human work in the short to medium term. Marketers can also work to be a part of the solution by engaging with society in a meaningful way and taking on greater responsibilities while seeking to address social inequities.

The scenarios are all located in the possibility space, therefore the future reality may be a combination of factors. So long as discussions are held, uncertainty can be addressed, and businesses can better prepare for the future. As it clear in this study, the future presents both significant opportunities and challenges, all of which will impact the future of marketing.

This chapter contributes to academia by demonstrating a new method for structuring multiple scenarios – in tables, followed by a commentary – which includes the comparison of both primary and secondary data. There are several approaches to conducting scenarios, and this thesis provides another example of their methodological flexibility. It is useful for futures researchers to note how the implications can be discussed for each individual scenario point in a table form. This chapter also encourages marketing researchers to think about the technological milestones that have impacted marketing practice, and to realise the significance of the many changes on the horizon. As Pattinson and Sood (2010) point out, "Marketers need to understand that in their working lifetime of the next 10–20 years, they will have to confront, assess – and probably develop business responses to some of the most radical technologies in the history of mankind" (p. 419).

Chapter 6 – Think Tanks & Research Institutes

6.0. Introduction

Future-oriented think tanks and research organisations are a high-quality source of new information and articles. While there is no formal academic review process, the organisations in question must continually maintain and enhance their reputations and typically have academics in their ranks. In addition, findings from academic publications are often referenced in these studies. Therefore, it still takes time for articles to be published, as the quality of research must be upheld. The topics covered by the organisations vary considerably, however all are relevant for this study. This is explained in more detail in the methodology section.

6.1. The Future of Marketing: A Digital Transformation

Unsurprisingly, the articles included in this analysis emphasised that marketing strategy will continue to evolve in line with innovation. The most impact will be brought about by technologies that utilise Big Data, and in time, those that include deep learning mechanisms that will eventually bring about autonomous marketing. These changes will impact all industries, as marketing is used in some form in all aspects of business. Using data-driven marketing, computer algorithms can draw insights and make certain decisions, often even without the need for human intervention.

Kevin Lindsay, head of product marketing for Adobe Target, wrote an article in response to a talk on the future of data-driven marketing given by Jeff Allen, Senior Director of Product Marketing for Adobe Analytics. The article, 'The Future of Data-Driven Marketing (DDM)' (Lindsay, 2015) argues that the benefits of data-driven marketing will continue to strengthen and evolve as technology

gets better and marketers better understand how to use it. Additionally, the author advises that data-driven marketing and automated personalisation will soon dominate marketing practice, thus marketers should work on implementation now (Lindsay, 2015).

Lindsay (2015) summarises several trends that were highlighted in Allen's talk: Make analytics actionable. Many marketers agree that they need to be more data-focused to succeed, yet the challenge comes in the execution, i.e. understanding how to pull the key insights from the data. Allen suggests beginning by defining clear marketing goals and using KPIs to measure progress. Data-driven marketing must begin with observations and measurements to draw meaningful insights, but then these insights are "only as good as the action you can take on them – and in a timely fashion (before they cease to be meaningful)" (Lindsay, 2015, p. 2). Further, in line with consumer expectations, personalisation should be data-driven; 80% of shoppers expect personalisation as a standard feature.

Data-driven marketing should be automated – One of the main barriers to marketers embracing technology is doubt and lack of trust in the data, yet data allows markets to take "smart, calculated risks" (Lindsay, 2015, p. 4). Furthermore, automated personalisation through machine learning and predictive analytics can alleviate much of the risk in decision-making. Marketers need to "put their trust in the data and the power of the algorithms" (Lindsay, 2015, p. 4), because it works and can react in real-time.

In a 2017 '#AdobeChat' on the topic of using machine learning in marketing, Mark Boothe (social lead for Adobe Marketing Cloud) asks a series of questions and gathers the responses from subject-matter experts that come in through Twitter. The overall perception is that, although still in its infancy, machine learning will indeed have a significant impact on the future of marketing. Such marketing technology can be used to identify patterns that tell a story on how consumers act, and allows marketers to predict behaviours and therefore

personalise their campaigns. For consumers, this means that any messages received from brands are tailored to their behaviours and therefore relevant. While machine learning can assist marketers in finding their optimal target market, humans will still be necessary; the automation of tasks will assist to achieve better results (Boothe, 2017).

Brian Gregg, a partner in McKinsey's San Francisco office and leader of McKinsey's Digital Marketing practice, advocates for personalised marketing in 'Marketing's Holy Grail: Digital Personalization at Scale' (Gregg et al., 2016). Personalised marketing is where messages and offers are tailored to individuals based on their unique, tracked behaviour. McKinsey finds that this "can reduce acquisition costs by as much as 50 percent, lift revenues by 5 to 15 percent, and increase the efficiency of marketing spend by 10 to 30 percent" (Gregg et al., 2016, p. 2). Gregg et al. (2016) also point out that successful digital personalisation at scale does not necessarily involve spending large sums of money on IT investments, but rather by investing a small amount for maximum impact allows for the means to self-fund the initiative thereafter.

Similarly, programmatic advertising is a mechanism for automated personalisation. Tim Waddell, director of product marketing for advertising solutions within Adobe's Digital Marketing Business, wrote a blog article for Adobe called 'The Programmatic Revolution – How Technology Is Transforming Marketing' (Waddell, 2017). Programmatic advertising is the use of technology and internet platforms to automate the buying and selling of ads. Since technology has allowed consumers to interact with brands through a vast number of channels, the manual process of managing ads is no longer efficient. To achieve personalisation, data and algorithms need to be used to provide real-time optimisation. It is pointed out that programmatic advertising can only be as successful as the quality of the strategy and the data (Waddell, 2017). As machines cover the more mundane task of data processing, marketers will adapt by focusing on higher-level skills that enable the job to be done even better (Waddell, 2017).

In this changing world of marketing, the insights drawn from data should be used by creatives who are responsible for executing marketing strategy. In a blog article entitled 'How Analytics Data Should Fuel Creativity' (Stark, 2017), Loni Stark, senior director of strategy and product marketing at Adobe, explains how marketing departments are beginning to recognise the importance of collaboration between marketers, creatives, and data analysts. By establishing goals and expectations, marketers and creatives can utilise the output produced by data analysts to make better decisions around what consumers want. One way this is being utilised is through design-centric thinking, where creatives take an iterative or A/B testing approach and data analysts can quickly identify how people respond. With a collaborative methodology and a more integrated workflow, creativity can be "fuelled by data" (Stark, 2017, p. 3). In an article written for the Singularity Hub, 'Art in the Age of AI: How Tech Is Redefining Our Creativity' (Bidshahri, 2017), the author explains how technology has enabled creatives and artists to use new mediums for self-expression, such as 3D printing, AI and virtual reality, opening a nearly infinite path for creativity. The art world has also been disrupted beyond production in how it is funded, marketed, and distributed, such as with low cost online platforms and marketplaces.

6.2. The Future Impact of Automation on Marketing and Society

In January 2017, the McKinsey Global Institute (hereafter 'McKinsey') published a report on the growing impact of automation on employment and productivity. The report, entitled 'A Future That Works: Automaton, Employment, and Productivity' (Ram, 2017b), focuses on the trend of automation and possible scenarios for its impact on employment in future. Technological advances are increasingly leading to machines outperforming humans, even in areas once thought to require human capabilities such as judgement and reasoning.

Automation in varying parts of the global economy will continue to improve productivity to the benefit of business, and as this trend continues, McKinsey estimates that about half of workers' tasks could eventually be automated (Ram, 2017b). However, it is important to note that they refer to tasks, and not the entire job itself; this report indicates that less than 5% of all occupations can be automated entirely. At this stage, those who are displaced by automation are expected to upskill and move into other employment (Ram, 2017b).

In the near-term (2015-2020), McKinsey estimates that disruptive changes to the labour market due to technological advancements could result in a loss of 7.1 million jobs (Ram, 2017b). The use of artificial intelligence has already shown significant potential, for example Google applying machine learning to reduce the amount of energy used in its own data centres, or the ability of computers to lip read with a 95% accuracy rate (Ram, 2017b). A case study within the McKinsey report also highlights the impact of automation on staffing for supermarkets, which can expect a 65% reduction in the hours required for tasks that include stocking, ringing up, and cleaning, thus exposing the vulnerability of human roles in these areas. In other scenarios, McKinsey estimates that up to half of today's jobs will be automated by 2055. The pace of change is likely to be determined by many economic and social factors, especially around technological acceptance and cost of production. Politically there are significant challenges, and McKinsey notes that it is policy makers who will face the social repercussions of automation.

In an article published for the Singularity University entitled 'Robots May Steal Our Jobs, but Not as Quickly as We Thought' (Ramirez, 2017), the author highlights three important conclusions drawn from the results of the McKinsey report (Ram, 2017b). First, while automation is 'inevitable', it will not happen overnight. The transition may not be as quick as once thought. Second, day-to-day tasks will be transformed for the better because of automation, and human work will still be required. Rossi (2016) is an advocate for AI yet believes that there will always be tasks in which humans will outperform machines. He states,

"Machines and humans are very complementary" (Rossi, 2016, p. 3). Finally, some economies are or will face a decline in the total workforce due to ageing populations, so technology and automation can help fill that gap (Ramirez, 2017).

While the rise of automation has caused concern over the future of work, Ramirez (2017) reminds readers that "this isn't the first time in history that technology has replaced jobs, or the first-time people are resistant to it" (p. 3), referring in particular to the Industrial Revolution. The author continues, "this time may feel more significant because artificial intelligence and machine learning are making it possible for computers to do tasks we never thought they'd be able to do" (Ramirez, 2017, p. 3). The difference today is that there is potential to replace not only manual jobs, but also subject-matter experts as well, e.g. lawyers.

In 2016, PwC and Forbes Insights co-conducted a survey of over 2100 executives, business unit heads, and SVPs from more than ten countries and 15 industries called 'PwC's Global Data and Analytics Survey 2016: Big Decisions'. In reports subsequently published from this survey (e.g. PwC, 2016a, 2016d), PwC highlights the lack of trust many senior executives still have towards data-driven insights. In one report, it is said that "top leaders are used to making decisions based on experience and intuition, and now they'll need to adapt, experiment, and learn along with data scientists" (PwC, 2016d, p. 3). This lack of trust at the highest level of an organisation can stifle the organisational changes necessary to embrace the new opportunities that technology can offer. Further, being data-driven "is about people having the talent and leadership strength to get the right information to the right places at the right time and take action" (PwC, 2016a, p. 4). The following figure shows how the balance between human judgement and machine algorithms may affect decision-making in the near future.

Machines don't eliminate human judgment, they change where it's needed

Analysis informing my next big decision will primarily require…

Machine algorithms ● Human judgment

41%

59%
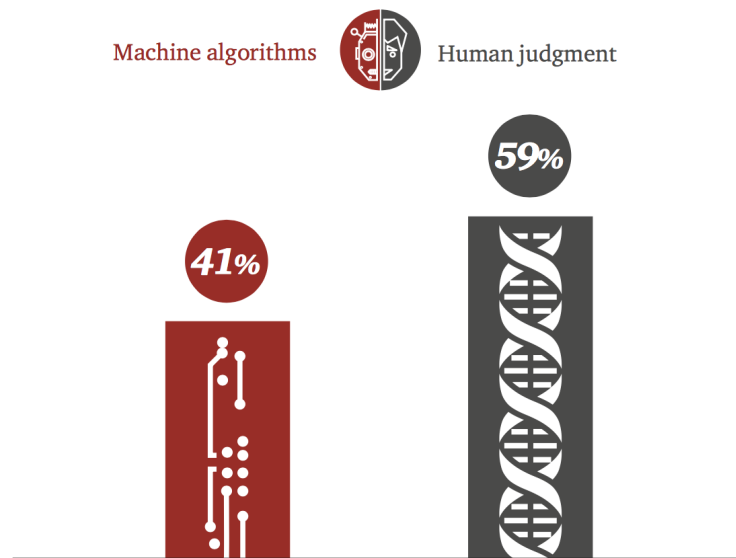
(Figure 4: PwC, 2016d, p. 4)

6.3. Examples of Sector Change

6.3.1. Consumer Goods Sector

In a McKinsey report, 'The consumer sector in 2030: Trends and questions to consider', authors Richard Benson-Armer (Director, Stanford), Steve Noble (Principal, Minneapolis), and Alexander Thiel (Associate Principal, Zurich), highlight trends that they have encountered as part of their work across the globe (Benson-Armer et al., 2015). They argue that for retail and consumer-packaged goods companies to be successful during the next decade, they must study current and emerging trends. McKinsey has identified five categories of trends that they currently see in their work worldwide: changing face of the consumer, evolving geopolitical dynamics, new patterns of personal consumption, technological advancements, and structural industry shifts (Benson-Armer et al., 2015).

Changing face of the consumer	Evolving geopolitical dynamics	New patterns of personal consumption	Technological advancements	Structural industry shifts
• **Middle-class explosion** • Aging population • Women in the workplace • Urbanization • Rich becoming richer • Millennials taking over • Shrinking household size	• Rising labor and commodity costs • **Economic power shifts** • Economic interconnectedness • Climate change	• Increase in convenience • Focus on health and wellness • Demand for personalization • Shift in discretionary spending • **Sharing economy** • Focus on shopping experience • Demand for customization • Buying local • Simplification of choice	• **Mobile world** • Big data for operations • Digital profiles • 3-D printing • Advanced robotics • Autonomous vehicles • Advanced analytics for marketing • Ubiquitous Internet • Social-media-driven consumption • Artificial intelligence • Internet of Things • Virtual reality • Wearables	• **Activist investors** • Direct-to-consumer models • Continued consolidation • Talent shift/drought
Globally, middle-class spending will almost triple by 2030.	**China's real GDP could exceed US real GDP within 10 years.**	**The size of the sharing economy could exceed $300 billion by 2025.**[1]	**By 2030, ~3 out of 4 people will own a connected mobile device.**	**More than 300 companies faced activist demands in 2014 alone.**[2]

(Figure 5: Benson-Armer et al., 2015)

The level of impact each trend will have on a consumer facing company will differ depending on "the company's specific product categories, geographic markets, and business context" (Benson-Armer et al., 2015, p. 5). One way to prepare a business for the future is to identify its competitive advantage – what is the differentiator in the increasingly competitive and consolidated market? Furthermore, focusing on core offerings will likely involve cost-cutting initiatives (Benson-Armer et al., 2015).

Companies must also be actively and continuously engaging with consumers to ensure that they are meeting their dynamic needs and wants. For this, social media is key; this space is not to be ignored. Consumers already expect seamless integration across touchpoints, both online and offline, and frequent interaction with brands (Benson-Armer et al., 2015). The internal structures and processes of businesses should also be flexible to be able to readily adapt to changing market conditions. Capital, talent, and leadership need to be aligned to areas with the

most growth in the long-term, but more importantly need to be able to react quickly to the pace of change. Another way this can be accomplished is through partnerships and acquisitions, which could enable businesses to integrate up or down the value chain (Benson-Armer et al., 2015). Finally, technology should be a differentiator, not just an enabler – digital should drive both the front and back-end processes. Data and analytics are powerful tools to draw insights that will become actionable strategies (Benson-Armer et al., 2015).

6.3.2. Retail Sector

Sangeeth Ram, a partner in McKinsey's Dubai office, uses his experiences to discuss several insights on changing business models: 'Meeting millennials where they shop: Shaping the future of shopping malls' (Ram, 2017a). Ram describes how consumer preferences have shifted as digital technology has transformed the way people live. This is a threat to the traditional business model of retail, such as shopping malls. The future of the shopping mall is affected by five consumer trends: Entertainment, food and drink, retail, transportation, and technology. The common factor of change focuses on new user/customer experiences, brought about by the integration of new technologies. With the proper foresight, the author argues that this threat to the traditional business model can be transformed into an opportunity to meet the needs of the new consumer through the incorporation of the virtual world (Ram, 2017a).

6.3.3. Chemicals Sector

A McKinsey report, 'Demystifying digital marketing and sales in the chemical industry' (Jakobsen et al., 2017), examines how digital transformation for companies within the chemicals industry must be prioritised to ensure continued success. The technology necessary to make these changes is already available, and "could be worth as much as $105 billion to $205 billion annually in additional earnings" (Jakobsen et al., 2017, p. 3). The chemicals industry is one that has seen above-market average growth over the past ten years, yet continued

growth is reliant upon generating value from the digitising of marketing. Leaders within the industry have already started utilising digital solutions to analyse the entire value chain to help them solve problems and explore new opportunities. All companies within the industry will need to follow suit to maintain continued growth rates and remain competitive.

6.3.4. Crossing Sectors

A PwC (2016c) report, 'The Future of Industries: Bringing down the Walls', the research examines how technology has started to transform industries in such a way that it breaks down the barriers between them. An example is how technology companies are using the Internet of Things and data analytics to move into the healthcare and pharmaceutical R&D space, or how electric companies are embracing smart home technology for energy efficiency. Unlike previous technological shifts that were primarily production-focused, the today's changes are "amplified by customer, producer and supplier behaviour and expectations" (PwC, 2016c, p. 4). In the report 'Tech Breakthroughs Megatrend' (PwC, 2016b), the authors identified eight technologies that are most likely to have an impact on companies and their business models in future: artificial intelligence (AI), augmented reality (AR), blockchain, drones, internet of things (IoT), robots, virtual reality (VR), and 3D printing. These technologies could potentially impact various parts of the business structure – strategy, customer engagement, operations, people and talent, and compliance (PwC, 2016b). Regardless of industry, "emerging technology strategy needs to be a part of every company's corporate strategy" (PwC, 2016b, p. 2).

6.4. Factors & Risks of Technology on Business & Society

6.4.1. Cybersecurity & Privacy

While technology clearly has a positive impact on both business and marketing, an increased focus on digital does create potential issues in other areas of our lives. Cybersecurity is already a major concern for governments and private

companies, and the debate around privacy and other ethical considerations are already under examination by various governments. In an interview for the Singularity Hub, Alison Berman explains that the proliferation of digital devices exposes users to the growing issue of hacking by "criminals, terrorists, hacktivists and rogue governments" (Berman, 2015, p. 1). Further, Berman (2015) states that it is the joint responsibility of "users, companies, governments" (p. 1) to combat this issue.

The Parliament of the European Union have indicated that they are taking privacy issues seriously in a world driven by Big Data. One study – 'Big Data and Smart Devices and their Impact on Privacy' (European Parliament, 2015) – analyses two major initiatives that are trending: a data-driven economy using Big Data, and privacy policies for personal data protection. The study argues that privacy and personal data protection should remain paramount, even if it means balancing, or even challenging, the promotion of a data-driven economy. Big Data is a driver for economic and commercial growth and an enabler for predicting market conditions. The storing and use of this data, however, has called into question legal concerns and social challenges around the protection of personal data. There are unanswered questions as to who controls that data. For the EU, this is under the legal framework of the General Data Protection Regulation (European Parliament, 2015, p. 5).

Data can provide valuable insights into the lives of individuals, from how they "live, work, travel, study, eat, or sleep, and how and what they consume" (European Parliament, 2015, p. 8). Yet it is not always clear how this data is to be used: "many contemporary data processing activities are characterised by a high degree of opacity" (European Parliament, 2015, p. 5). Consumers are often not aware of their data that has been collected, as well as what algorithms are used to process this data. The editors of this report describe this as "low quality consent" (European Parliament, 2015, p. 21). The situation is further complicated by multiple actors and sources that make it difficult to track the use of data. While the EU acknowledges that it needs a stronger framework to enable

individuals to have control over their own data, this conflicts with plans for a digital single market that would embrace data analytics for economic and commercial benefits (European Parliament, 2015)

While the EU faces several legal challenges regarding privacy and personal data protection, it also faces social challenges. As noted already, the data-driven economy provides insights on trends and correlations which can then be used by businesses or marketers to target specific groups of people. However, the insights are only as strong as the data itself and are therefore susceptible to biases and incorrect correlations that can lead to statistical discrimination. Social scientists have argued that "statistical discrimination helps reproduce and legitimise social inequalities" (European Parliament, 2015, p. 12).

The authors maintain that "the economic aspects of Big Data and the promotion of a data-driven economy have too often prevailed over social concerns or Fundamental Rights" (European Parliament, 2005, p. 9). The study is a call to action for a stronge legal framework to respect citizens' rights, and to provide higher transparency in data processing.

6.4.2. Ethical Considerations

As discussed, the EU has several legal and social challenges to manage regarding the collection of data that is brought about by large scale digital transformation. These challenges are amplified by a lack of trust that some have towards data and technology. This is most apparent in the use of artificial intelligence for something that was once considered to require human intelligence or capabilities. In a briefing for the European Parliament's Legal Affairs office – 'Artificial Intelligence: Potential Benefits and Ethical Considerations' (Rossi, 2016) – the author discusses the ethical considerations around using AI. While security is important, he argues that fairness, inclusiveness, and equality are as well. Rossi (2016) writes:

> "To reap the societal benefits of AI systems, we will first need to trust
> them and make sure that they follow the same ethical principles, moral
> values, professional codes, and social norms that we humans would
> follow in the same scenario. Research and educational efforts, as well as
> carefully designed regulations, must be put in place to achieve this goal"
> (p. 1).

Rossi (2016) also argues for increased transparency in the logic that underpins AI systems to generate trust. The EU is attempting to make this a reality in the form of the General Data Protection Regulation that will take effect in 2018, which will include a 'right to explanation' clause that allows users to question why they were targeted. Further, a degree of governance is required. This governance can come from regulations on data and cybersecurity but must also include a system of best practices that align with social norms and values.

6.5. Employment & Education

Following the World Future Society (WFS) Conference in San Francisco in July 2015, Hannah Steiner-Mitchell writes about four interrelated trends around technology, education and employment. In the article – 'The Future of Talent: Reactions from the World Future Society Conference' – Steiner-Mitchell (2015) discusses how these trends should be incorporated within New Zealand institutions to transform society into one that is both creative and adaptable to inevitable change.

The first trend Steiner-Mitchell (2015) highlights is 'radical and disruptive technological advances'. We are already in an era of significant change due to transformative technologies; a revolution that should be considered a positive as it continues to augment our capabilities. According to Steiner-Mitchell (2015), New Zealand would benefit from encouraging start-ups and new technologies within its own borders, and one possibility to do this would be to replicate the Singularity Hub.

The second trend is the consideration of 'transitioning to a post-work society.' As jobs and tasks become automated and technological advancement continues at an exponential rate, there also exists a near-term risk of a high level of unemployment. Yet in this crisis there is also an opportunity for governments to proactively act by implementing policies that would allow for a post-work society to develop. This may require mechanisms that would enable those 'unemployed' to find 'meaningful' work without significant risks (Steiner-Mitchell, 2015). One such mechanism discussed by Diamandis (2016) is the Universal Basic Income (UBI). This is a guaranteed sum of money from the state that supplements a standard income. As previously discussed, academics and practitioners agree that as high as 47% of jobs are at risk of becoming automated through advancements in artificial intelligence – a concept dubbed 'technological unemployment'. While the implications of this are uncertain, Diamandis (2016) argues that a Universal Basic Income (UBI) may be necessary in the future.

The third trend highlighted by Steiner-Mitchell (2015) is the necessity of 'a modern overhaul of education systems.' In the age of the internet, the education system should no longer concentrate on teaching specific information but should instead focus on teaching children "how to access and use information in a way that builds their knowledge and skill" (Steiner-Mitchell, 2015, p. 3). Some ways this can be accomplished is by incorporating more problem-solving, trial-and-error, and experience learning. To develop a future workforce that succeeds in a primarily talent-based economy, children need to be given the opportunity to think creatively from the onset. Steiner-Mitchell (2015) writes: "It is time to move away from the 20th century education system towards one that creates curious, focused and critical individuals" (p. 3).

The final trend is the incorporation of foresight and future thinking into classrooms. As foresight is a tool that can be used to identify potential threats and opportunities, youth can be trained and encouraged to apply foresight into their thinking and become more adaptable to the unpredictability of the future.

Incorporating foresight and future thinking into classrooms enables the capability to "analyse trends and to interpret where they fall within these alternative futures (possible, probable and preferable)" (Steiner-Mitchell, 2015, p. 3).

This concept of training students to use foresight was incorporated into a workshop held in New Zealand in 2016, which was run by the McGuinness Institute in collaboration with the New Zealand Treasury. A report published in October 2016, 'ForesightNZ: Untangling New Zealand's long-term future' (McGuinness & Makhlouf, 2016) summarises the aim of the workshop and the outcomes produced. The primary focus of this workshop was to create a tool that would encourage thinking in the context of foresight. Furthermore, the writers highlighted that there is a certain distinction between foresight and strategy, and how they can influence each other. McGuinness & Makhlouf (2016) explain:

> "Foresight is the study of an uncertain future – it requires openness to all possibilities. Strategy is the exploration of how high-level goals (the ends) might be achieved (the means) under conditions of uncertainty (foresight). Hence, strategy requires specific choices and trade-offs to be made. Therefore, while foresight informs strategy, strategy does not necessarily inform foresight" (p. 2).

By encouraging the use of foresight, players develop future thinking skills, which is especially relevant for those who develop public policy. Foresight thinking allows for policies to be proactive rather than reactive. McGuinness & Makhlouf (2016) argues that:

> "If we hope to live sustainable and prosperous lives in the future, we need to concern ourselves with trends in our rapidly changing world. This means we must incorporate futures thinking into policy-making. This is both ethical and pragmatic, as it will foster interconnectedness and

empathy between generations as well as delivering sustainable economic, political and social growth" (p. 3).

6.6. Public Policy & Citizenship

Wendy McGuinness and Sally Hett deliver a thought piece on the role of public policy in relation to the future of civil society in a rapidly changing technological environment. In 'Cīvitās: Aligning technological and sociological transformation', McGuiness and Hett (2016) argue that "civil society should not be measured by the quality or quantity of our knowledge, but rather by how we use that knowledge" (p. 1). The examination of civics in an age of dramatic change brought upon by technological advances is "about balancing the rights of the individual with the duties of belonging to a community" (McGuinness & Hett, 2016, p. 4).

While society tends to evolve slowly, technological progress on the other hand has the capability to cause sudden and dramatic shifts. As a result, civil society tends to play catch-up when it comes to reacting to such advances. An example of this is the earlier case around the issue of privacy and the challenges faced by policy-makers to understand its ramifications. A further example is the need for training on digital literacy, i.e. being able to analyse and interpret the reliability of information received (McGuinness & Hett, 2016). The 21st century has seen an explosion in the use of social media, yet content can often be unreliable. Policy-makers should therefore consider realigning public investments to match this shifting media landscape, such as in the form of civic education.

The digital revolution has also broadened the concept of citizenship in that individuals are no longer constrained by borders, especially in the digital sense. McGuinness and Hett (2016) write, "A national citizen and a global citizen are no longer mutually exclusive" (p. 2). As civic duty transcends the local to have a more global association, it has become more important to foster stronger

relationships between the individuals from all different parts of society, both locally and globally.

6.7. Summary

This chapter introduced many opinions and discussion points raised by future-leaning think tanks and research organisations. This serves as a valuable addition to the study, as it provides the means to compare contemporary findings to academic research.

Many of the authors discussed how marketing evolves concurrently with technology, most notably since the advent of digital. This is especially true with tools that take advantage of Big Data and any form of deep learning that can be applied to marketing practice. These technologies will lead the charge in conversion rates and business growth, as marketing is a key component of all businesses. New levels of insights can be gained from increasingly sophisticated algorithms that require no human intervention, which is very much a part of marketing discourse today – this is not science fiction. As marketers upskill and better adapt to new technology, the use of data will become more commonplace.

The use of data spans across business functions, with the goals of better understanding consumers and drastically improving sales. Personalisation was a key element discussed in this chapter, with various publications stating that data-driven personalisation would soon dominate marketing strategy. With technology allowing marketers to identify patterns that tell a story about consumers' needs and desires, they can personalise their messaging in a way that hugely enhances their conversion rates. All messaging will become tailored to specific individuals without much manual input. McKinsey discussed this topic at length and pointed out that companies can reduce their acquisition cost by as much as 50 percent in the foreseeable future, which consequently enables more money to be spent on marketing.

The role of creatives should not be ignored when discussing the future of marketing. Despite the move towards automation, all authors felt that creative roles will continue to exist, if not become more critical given the need for points of difference. As noted, data should be used by creatives who are responsible for executing marketing strategy. It was also stated that analytical marketers are beginning to recognise the importance of collaboration between themselves and creatives. Further, new technologies have brought about new platforms for creatives and artists to enhance their self-expression, and this can be applied to marketing materials; it was described as a nearly infinite path for creativity in this study – an area that benefits greatly from disruption.

Automation is a complex issue, with little consensus as to the impact it will have on the future of employment, let alone the future of marketing. It was said that technological advances are increasingly leading to machines outperforming humans, even in areas once thought to require human capabilities such as judgement and reasoning. McKinsey provided a more conservative view – while they believe that half of workers' tasks could be automated, they see less than 5% of all occupations being automated in their entirety. Nevertheless, these changes alone would see the loss of at least 7 million jobs in the short term, if not more. If automation results in a high impact scenario, McKinsey does warn that up to 50% of today's jobs could face automation by 2055.

The authors discussed radical and disruptive change in the fundamental model of work, where technology no longer augments our work, but begins to take it over. The concept of transitioning to a post-work society was raised, as exponential technological growth forces the world into developing post-work solutions to avoid an economic catastrophe. This will become a major test for governments around the world as policies that look to the future of work are well overdue.

While automation is inevitable, any societal transitions will be obvious. It is unlikely that such a shift will be sudden, and businesses should have time to

react. The speed at which automation impacts society will be determined by a range of factors, including people's resistance to it and how it ultimately affects cost of production. Political issues are yet to be seen, as this topic has not fully arrived in political arenas around the world. McKinsey warns policymakers that it is them who will face the social repercussions.

While Ramirez (2017) points out that "this isn't the first time in history that technology has replaced jobs, or the first time people are resistant to it" (p. 3), the potential consequences today are far greater than in any time in history. Artificial intelligence may result in a fundamental paradigm shift in the concept of work. According to PwC, business leaders need to adapt, as they are still heavily relying on experience and intuition, rather than working closely with data scientists.

Several sector-specific examples were included in this chapter, with a common theme of improving user experiences, and increasing engagement so that dynamic needs and wants are met with high accuracy. Seamless integration across all touchpoints should be the norm, and social media provides a window into how this may work in future. In retail, digital has had a major impact, and has fundamentally changed the way in which consumers interact with stores. An author notes that the traditional model of shopping malls, while still popular today, may face disruption in future because of this change in consumer habits. By using foresight, businesses can manage any risks of external innovation and turn them into opportunities by integrating new technologies that focus on user experience.

Technology is having a positive effect on industries, in that it is breaking down the barriers between them and allowing businesses to move horizontally in their product offerings. The concepts identified as having the most impact are artificial intelligence, augmented reality, blockchain, drones, IoT, robotics, VR, and 3D printing. The expansion of product lines has enabled a much higher degree of

product integration, for example a smart connected home utilising many of the aforementioned technologies.

Cybersecurity and privacy were also included as relevant topics in this discussion, as the proliferation of digital devices will continue to expose users to threats of hacking and privacy breaches. The European Parliament is actively dealing with these issues through policy creation, particularly as their data-driven economies grow by using big data. A study of their policies indicate that their preference is that personal data protection remain paramount, even if it means challenging the data-driven economy at times. This is because the use of data has brought about legal issues and concerns around how it is used, and who has access and to what extent. While this data is extremely useful for marketers and policymakers alike, it is still in a state of little transparency, which is an ongoing concern for the European Parliament and many other governments around the world. At this stage, the authors believed that the economic factors of Big Data are favoured too highly over the potential social costs and rights of the individual. It was also noted that civil society tends to play catch-up as innovation outpaces our ability to adapt, and this will continue to place pressure on the issue of privacy.

A final point of discussion was around education and preparing youth for the future by teaching them foresight skills and digital-first literacy. This was identified as one approach to dealing with continually increasing uncertainty. The youth of today are no longer constrained by borders in the digital sense, and in future, this will strengthen the notion of a global citizen. It will therefore become significantly easier to develop interpersonal relationships around the world, which is good for people, and of course, for marketers.

For academic researchers, this chapter justifies the use of non-academic material, particularly from respected think tanks and research organisations. This is important, as more studies of this nature should take place in our fast-changing world, especially as technological change outpaces the publishing cycle in journals. Of note is that many of these organisations also publish in journals,

so a similar level of quality may be expected. For marketing researchers, this chapter provides insights that would not be so easily gained in a traditional literature review. It also discusses the many outside factors that are combining to disrupt marketing practice, and each of these areas provide an opportunity for additional research.

Chapter 7 – Professional Magazines & Publications: A Comparative Discussion

7.0. Introduction

Online publications provide an easily accessible and comprehensive source of up-to-date discussion on new forms of marketing today and in the future, primarily as new content can be published and disseminated quickly, i.e. without a formal academic review process. Nevertheless, such publications frequently interact with academia, and their findings are often brought into teaching and academic publications. The justification for the chosen sources is in the methodology section. This chapter discusses a range of articles to compare further findings with both the literature review, the primary research of this study, and the previous chapter. The articles were published between 2015-2017, and cover a range of concepts that impact marketing, including the future of employment in the discipline. The findings are divided into four principle themes.

Note: The page numbers indicated in the references assume that the articles are printed out at standard A4 size.

7.1. Theme 1: The Evolution of Today's Marketing Mechanisms

7.1.1. The Rise of Social Media

In *The Economist* (2015b), it is said that social media has become a "pillar of the advertising industry" (p. 1). In less than ten years, social media networks have grown from providing businesses with the basic digital means to showcase their brand, to today's plethora of advertising options that facilitate deep engagement

with consumers. These tools have gained significant traction due to the proliferation of digital devices, and increasingly ubiquitous network connectivity (Rayport, 2015). According to Dholakiya (2015) writing for *Entrepreneur*, "The power that social media offers businesses is the opportunity to reach out to users as people, not faceless businesses, to build bonds and develop loyalties" (p. 3). With new forms of digital marketing, "you have the option of going as high or low tech as your budgets permit" (Dholakiya, 2015, p. 3).

The importance of social media for business is clear; "networks like Facebook, Twitter and LinkedIn have cultivated vast audiences: 2 billion people worldwide use them" (*The Economist*, 2015b, p. 1). For advertisers, readily available information about a person's age, location, interests, groups, and online behaviour enable the use of advertising that is considerably more targeted than in traditional media (Dholakiya, 2015). Despite this, traditional advertising persists and has not yet seen a notable decrease in use. This is however expected to change, with an increase in the number of TV audiences turning to subscription-based, ad-free media. It is worth pointing out that video advertising still has considerable opportunity in the digital space, for example YouTube paid advertising campaigns across the display network (*The Economist*, 2015b). Mobile messaging apps are also expanding in terms of what they offer consumers and businesses, with the likes of WeChat and Kik providing their own commercial ecosystems and payment solutions (*The Economist*, 2015b).

7.1.2. The Effectiveness of Marketing

According to Rayport (2015), writing for the *Harvard Business Review*, there has been a "sea change" (p. 2) in the perception of marketing and expenditure accountability; what was once considered an expense is now considered an investment. This is because efforts are now highly measurable, attributable, and can easily be improved upon. A shift in mindset has occurred, and marketers have an opportunity to regain their credibility. This revolution is driven by

advertising technology – "the buying and selling of digital advertising is evolving at a mind-bending pace" (Rayport, 2015, p. 2).

Interestingly, Rayport (2015) states that the scale and reach of new marketing technologies has brought about both positive and negative effects. On the positive side, "brands now had an incredible array of options to reach precisely targeted sets of customers, which increased advertising efficacy" (p. 3). On the other hand, the complexity of advertising and managing consumers has increased, and this results in higher costs and can decrease advertising efficiency if not well implemented. This is especially important, as the volume of potential leads for businesses has skyrocketed as a direct result of digital advertising (Rayport, 2015). Further, the management of budgets and actual expenditure is now real-time, and the "budget cycle is already a quaint idea[;] it will soon be a thing of the past" (Rayport, 2015, p. 5).

7.1.3. Changes in Content & Email Marketing

In a discussion on content marketing, emphasis was placed on "storymaking instead of a proprietary predetermined approach to traditional brand storytelling" (Carmody, 2016, p. 1). This approach is considered necessary as it involves collaborative, relationship marketing with consumers, and is supported by the *Content Marketing Institute*. Given the future growth of the internet, the current focus on content marketing will need to evolve to "break through the clutter" (Carmody, 2016, p. 2), i.e. the considerable 'noise' of content at present. In future, an ideal mechanism of marketing would be one where the notion of brand storymaking can be transported "into a customer's everyday life through the use of multiple media platforms" (Carmody, 2016, p. 2). This two-way form of marketing creates situations where highly-informed and skilled consumers are also producing content by way of interacting with a brand.

According to Patel (2015) writing for Inc., content marketing will soon "involve bringing together multiple types of content in multiple formats to tell a story that's specific to the highly-targeted audience being pursued" (p. 2). This approach provides not only information for the consumer, but a targeted, interactive experience that is "full of meaning in order to draw them to purchase" (Patel, 2015, p. 2). As explained, this is at odds with the passive, "one size fits all approach that's embraced today" (Patel, 2015, p. 1). With new tools, marketers will be able to implement individualised messaging, and tailor the content for each audience and customer segment. In future, content marketers will be fighting to stand out from the crowd. The number of marketing messages "will continue to multiply, and it's only those who create meaning for consumers in the midst of their content that will be successful at reaching customers" (Patel, 2015, p. 3).

The use of bulk email marketing was also discussed. While it is still very much in effect today, it will in future be automated and likely driven by artificial intelligence and delivered via the mechanism of the day. As described by Mask (2016) writing for *Inc.*, "Bulk email marketing is dead. Over. Goodbye. It's frankly been on its deathbed for far too long" (p. 2). With mass email seen as doing more harm than good, AI will soon "deliver highly targeted emails, which will make marketing automation and Customer Relationship Management (CRM) software required tools for small businesses" (Mask, 2016, p. 2). As a result, the conversion rate of email marketing should theoretically increase exponentially due to sophisticated personalisation. The potential of AI to redefine marketing automation is thus significant. Fridman (2016a) explains that AI will be especially useful in moving prospects "through the sales cycle, whether by recommending content, engaging with them across platforms, or tailoring email campaigns" (p. 2).

7.2. Theme 2: The Future of Marketing

7.2.1. Artificial Intelligence in Marketing

In *Forbes*, Olenski (2016a) states that marketing is perhaps "one of the most valuable applications of AI" (p. 3), and that an increasing number of marketing leaders agree with this statement and believe that the future of marketing "lies with artificial intelligence or AI" (Olenski, 2016a, p. 1). Such technologies will be hugely influential in marketing in that they can make autonomous, self-improving decisions; they will have "the ability to do things without us explicitly telling it what to do" (Press, 2016, p. 2).

As discussed throughout this research, AI is the ability of machines to mimic human intelligence and self-improve through a continuous process of deep learning. As AI improves, it will increasingly take on "human level decisions and automatically act based on those decisions" (Olenski, 2016a, p. 3). In the context of marketing, such systems will be able to track consumers, identify new customers, test advertising variations, personalise messaging, and ultimately predict human behaviour. In addition, marketing tools powered by AI will give marketers the ability to fully understand an individual's "pain points, goals and ambitions" (Olenski, 2016a, p. 3).

With AI, the goal is to create a human-machine partnership, where new technologies make marketers more successful than ever before (Olenski, 2016a, 2016b). *The Economist* (2016b) states that "the future will depend on how well they marry its predictive power with old-fashioned human wisdom" (p. 2), as this will dictate the level of integration and subsequent usefulness in the discipline. According to Dholakiya (2015) writing for *Entrepreneur*, society is on board with information sharing; "consumers are quite willing to part with personal information in exchange for a user experience that is more personal, meaningful and eventually productive" (p. 1). Such experiences enable a more emotional connection with a brand, which is something that mass marketing struggles to

achieve. Further, a study was done in the airline industry, where "72 percent of passengers using mobile devices say they are willing to share data in exchange for more personalised service" (Newton, 2016, p. 2).

Newton (2016), writing for *Entrepreneur*, describes the future of marketing as "intensely personal – marketing targeted not just to you, but to where you are and about what you're doing right this very moment" (p. 1). Further, the writer notes that while this may still feel like science fiction for some, it's already occurring with the likes of online retailers and booking websites. According to Fridman (2016a) writing for *Inc.*, "artificial intelligence is moving out of the realm of science fiction and becoming decidedly mainstream … a virtually indispensable tool [in marketing]" (p. 1). For consumers, the future of marketing will bring about "high quality, deeply personal service" (Newton, 2016, p. 2).

In *Forbes*, Newman (2015) states that personalisation provides a platform for brands to connect with their customers "in a way that goes way deeper than the usual 'brand-consumer' relationship" (p. 3). In *Inc.*, Fridman (2016b) emphasises that the tools available to marketers today are virtually endless. It's commonplace for marketers to combine creative software with analytical tools and creating quality advertising is easier than ever. The future of marketing, according to Fridman (2016b), is more about data – it is "more than reacting to consumer actions and creating engaging advertising materials" (p. 1).

Another AI technology in active development is the 'chat bot'. Press (2017), for *Forbes*, writes that "2017 will be the year of the bot" (p. 1). Such bots use machine learning to get better at providing answers to customers' questions, and they will soon play a major role in customer service. Press (2017) states that within five years, users will be having less physical interaction with apps, and more human-like interaction with bots. This is also discussed by Fridman (2016a), who states that "many marketers use chatbots – or artificial intelligences that are able to interact with humans – to answer routine questions, assist with purchases, book travel and much more" (p. 2). As discussed by Olenski (2016b),

bots "hold great potential in where marketing may be headed, in both the desktop and mobile fields. Facebook recently announced a new bot that is designed to facilitate customer interaction, and Microsoft has similar products testing as well" (p. 3).

7.2.2. Location Data in Marketing

As noted by Honeycutt (2016) writing for *Entrepreneur*, the large-scale collection and use of personal data is a key factor for business success going forward. Nevertheless, without the right tools and understanding, any improvement will be negligible, and competitors will gain the advantage.

With the advent of the modern smartphone in 2007, users began producing a wealth of data about their lives, including their location history. More recently, this data is shared in real-time with advertisers, app developers, device manufacturers, and on social networks, and such data is not easily controlled – or deletable – by the user (Newman, 2016). With Google's AI technologies, user context is created with a geotag, "making marketing more powerful and individualised … [and] … the specialists at Google are making headway into how that geotag can be leveraged" (Newman, 2016, p. 2). For marketers, tracking a user's physical location provides optimal means of delivering personalised promotions. As described by Newman (2016), a "selfie at the gym could lead to an ad for Smartwater" (p. 2), and so on.

As discussed by Sharma (2016) for the *Harvard Business Review*, "Many stores are already using smartphones to follow customers' activity and deliver context-specific offers" (p. 2). In time, it's not difficult to imagine that retailers will have access to personal, real-time data from "biometrics, identity technologies, and location sensors" (Sharma, 2016, p. 2) from customers in the store. They will even be able to optimise your experience based on how much time you're likely to spend browsing, based on past behaviour and predictive analytics. Finally, the

emergence and future growth of the Internet of Things (IoT) is poised to change marketing significantly during the next decade, as the many interconnected devices powering our lives provides a consolidation of data (Steinberg, 2016). As explained, each technological development, for example smart wearables, provides a "a new layering of data about customers" (Steinberg, 2016, p. 4).

7.2.3. Predictive Analytics

With today's machine learning capabilities, "predictive marketing analytics can now reveal a detailed pattern of traits that identify prospects likely to have the greatest revenue potential and conversion probability" (Fridman, 2016b, p. 2). In 2016, research showed that almost 90% of marketers "intend to put predictive marketing on their roadmap" (Fridman, 2016b, p. 2) to create better leads and achieve a higher conversion rate. The goal is to find prospects that are not yet on a company's radar, but should be. They are "the ones that are most worth your marketing and selling dollars" (Fridman, 2016b, p. 2). Further, it is noted that automation doesn't eliminate the need for proactive outreach – marketers, i.e. humans, still must actively engage with their target audience. The role of predictive analytics is to figure out what customers will need next, and to convince them of that fact.

Sharma (2016), writing for the *Harvard Business Review*, believes that we're about to enter "the era of predictive commerce … to help people find products in their precise moment of need – and perhaps before they even perceive that need " (p. 1). There will need to be a shift in user experience, where retailers will need to merge an understanding of human behaviour with "large-scale automation and data integration" (Sharma, 2016, p. 1). As explained by Newman (2015), positive customer experiences are key – "research has discovered that it takes 12 positive experiences to repair the damage caused by a single unresolved negative one" (p. 2).

According to Sharma (2016), retailers need to think more like cutting-edge technology companies. While a basic form of predictive analytics has been in use for years by the likes of Amazon, AI technologies are well ahead in other applications. Improvements can be transitioned into marketing tools, including the ability for retailers to "not just to predict how to stock stores and staff shifts but also to dynamically recommend products and set prices that appeal to individual consumers" (Sharma, 2016, p. 1). One could also imagine "a store window that connects with your phone" (Sharma, 2016, p. 1) to display predicted, personalised content. When data is collected from multiple sources, retailers can create more-relevant experiences for their customers across multiple platforms.

Olenski (2016b), writing for *Forbes*, argued that marketing strategy is constantly changing, and what works now will not necessarily be useful in future. Given the rapidly changing environment, it's likely that a strong focus on user experience will become key to stay competitive. Likely, a "special executive position will be required to oversee development and implementation of products, services, and communication" (Olenski, 2016b, p. 2). This way, marketers can be confident that they are utilising the latest technologies.

7.3. Theme 3: Artificial Intelligence

7.3.1. An Overview of Machine Learning and Big Data

In recent years, traditional automation, that is automation without any facility for learning, has been very useful in business and production. This is a "predefined sequence of steps that is currently being executed by a human, but that could conceivably be transitioned to a machine" (Fedyk, 2016, p. 2). Such transitions have been occurring for decades, whether it be in a factory or in software. Machine learning on the other hand, finds patterns of predictability in

acquired data, and constantly determines any means of improvement based on desired outcomes.

It is said that successful forms of machine learning require a significant level of autonomy, which is lacking in present applications (Schrage, 2017). Optimal systems will be self-sufficient, in the sense that they will use machine learning to improve upon their own learning capabilities through optimisation, stress-testing, and in writing new code. Further, smart algorithms need to be empowered – similar to human empowerment – which is both important and contentious. The machine learning model is constantly changing as more data is added, and efficacy of prediction-making is similarly evolving. As described by *The Economist* (2016b), "Machine-learning systems excel at prediction … by showing it a vast quantity of data … The software chews through the examples and learns which characteristics are most helpful" (p. 1). Successful AI systems will include "collaboration capabilities, information sharing, experimentation, learning and decision-making effectiveness, and the ability to reach beyond the organization for insights" (Kolbjornsrud et al., 2016, p. 6).

In an advertising sense, machine learning should in theory significantly boost conversion as it works to predict user behaviour (Fedyk, 2016). Nevertheless, Fedyk (2016) cautions that mistakes are likely to occur, even with self-learning machines; the "machine learning prediction engine will get things right on average but will reliably make mistakes. Mistakes will happen, and they will happen most often in ways that you cannot anticipate" (p. 4).

The concept of Big Data has taken centre stage in the world of business analytics. It is described by Steinberg (2016) in *Entrepreneur* as the "accumulation, storage and manipulation" (p. 1) of enormous data sets that are increasingly complex and are beyond traditional means of analysis. *The Economist* (2015a) describes the scale of data today as a "torrent" (p. 2). As this data can solve marketing problems, there is a convergence of creative and analytical roles, and new technologies are being created to support this (Steinberg, 2016).

The growth of data is critical to machine learning, with ambient data already being collected from "the world's internet-connected computers, tablets and smartphones" (*The Economist*, 2015a, p. 2). As this data is processed in some automated form, algorithms become more capable and can begin to recognise human language, images, and interaction (*The Economist*, 2016a, 2016d). As explained by Fridman (2016), writing for *Inc*., "Deep learning is the science that lies behind most marketing AI … [it] teaches computers a variety of skills, such as how to understand text, speech or photos, and apply what it learns to deliver answers, clarify queries or offer suggestions" (p. 1). Deep learning has been "applied to marketing analytics problems with the goal of finding predictive patterns in data" (Steinberg, 2016, p. 3).

This goes beyond predetermined programming; "Machine learning is a way of getting computers to know things when they see them by producing for themselves the rules their programmers cannot specify" (*The Economist*, 2015a, p. 3). Machine learning algorithms evolve to "recognise features, concepts and categories that humans understand but struggle to define in code" (*The Economist*, 2015a, p. 5). The applications of such systems go well beyond marketing, for example testing the efficiency and results of public spending. In the health sector, manual systems of detection can predict a heart attack at a rate of 30%, while a machine-learning algorithm could predict at a rate of 80%, providing up to four hours of warning before an event (*The Economist*, 2016b). Such tests show that AI is a game-changer, as this greatly improves the chances of early intervention.

Research into artificial intelligence is not new, as pointed out in *The Economist* (2015a). Interest has been present since the very early days of computing, with 'machine learning' eventually being superseded by the notion of 'deep learning'. Nevertheless, today's focus on AI is considerable: in 2015, "technology companies spent $8.5 billion on deals and investments in artificial intelligence, four times more than in 2010" (*The Economist*, 2016d, p. 1).

7.4. Theme 4: The Future of Work for Marketers

7.4.1. Disruption in Employment

During the next decade, the labour market faces major upheaval as a direct result of automation and artificial intelligence. Bernstein (2016) states that the tipping point will arrive when the cost becomes reasonable, and as soon as we have "AI with better voice recognition [and] get full contextual AI that can anticipate and answer questions without human intervention" (p. 4). Bernstein (2016) believes that the labour market is like a product's life cycle, in that it is highly susceptible to demand fluctuations and shorter time periods can be expected.

Kolbjornsrud et al. (2016), writing for the *Harvard Business Review*, note that "Many alarms have sounded on the potential for artificial intelligence (AI) technologies to upend the workforce, especially for easy-to-automate jobs" (p. 1). They argue that it is likely to go even further, and many managerial roles will also have to adapt to this world of automation; artificial intelligence will soon be able to do the administrative tasks that consume much of their time, and at a lower cost. This is because "managers across all levels spend more than half of their time on administrative coordination and control tasks … the very responsibilities that the same managers expect to see AI affecting the most" (Kolbjornsrud et al., 2016, p. 2).

The potential consequences were also covered by *The Economist* (2015a), with the comment that it is "not to say that progress in AI will have no unpleasant consequences, at least for some people … unlike previous waves of technological change, quite a few of those people may be middle class" (p. 10). Schrage (2017) states that "without clear lines of authority and accountability, dual empowerment guarantees perpetual conflict between human and artificial

intelligence" (p. 2). Schrage (2017) questions the ability of humans to collaborate with "undeniably brilliant but constrained autonomous entities" (p. 4), however states that it will ultimately be necessary. It is also believed that humans will still be involved from a creativity point of view, and in "having actual conversations with other humans" (Press, 2017, p. 2).

There is a belief that AI will largely support those in corporate roles, rather than replace them, as their roles require them to have "judgment, discretion, experience, and the capacity to improvise, as opposed to simply applying rules" (Kolbjornsrud et al., 2016, p. 3). Therefore, the advantage lies in having machines act as impartial advisers and answer detailed questions that enable better decision making; "to augment but not replace human judgment" (Kolbjornsrud et al., 2016, p. 6). Managers, on the other hand, can theoretically enjoy focusing on tasks that only humans can do.

In a 2013 study referred to in *The Economist* (2016a), Carl Benedikt Frey and Michael Osborne "examined the probability of computerisation for 702 occupations and found that 47% of workers in America had jobs at high risk of potential automation" (p. 3). In previous instances of automation and job displacement, "workers had the option of moving from routine jobs in one industry to routine jobs in another" (*The Economist*, 2016a, p. 4). In the news media for example, AI tools are already assisting with drafting stories, which "free[s] up journalists to conduct more investigative and interpretive reporting" (Kolbjornsrud et al., 2016, p. 2).

The next challenge however, will not be as simple – big data will enable companies to significantly improve their marketing and operations, and machine learning will remove more and more human roles. However, *The Economist* (2016a) also introduces the opinion of David Autor, an economist at the Massachusetts Institute of Technology. He states that "technology has always ended up creating more jobs than it destroys", as it "increases the demand for human workers to do the other tasks around it that have not been automated"

(p. 5). The future for unskilled labour is potentially problematic, as "workers will have to switch from routine, unskilled jobs to non-routine, skilled jobs to stay ahead of automation" (*The Economist*, 2016a, p. 8).

Finally, as part of the journey on the changing nature of work, Meister (2016) writes that more companies are focusing on creating positive and enjoyable experiences for their employees and using new technology to achieve this. Sentiment analysis can be used to evaluate employee satisfaction as well as customers' opinions of your products (Meister, 2016). This process uses smart algorithms to examine the digital behaviour of employees to determine pain points and to gauge satisfaction. Furthermore, employers are also creating environments that encourage the development of "new products and processes to enhance the workplace" (Meister, 2016, p. 4). The workplace is thus in a precarious position – while society is actively working to enhance employee experiences, it is simultaneously being threatened by automation and artificial intelligence.

7.5. Summary

The Economist discussed the rise of social media platforms and their impact on advertising today. It stated that given the significant volume of data generated, the opportunities to combine advanced analytics with human ingenuity and creativity are endless. When deep learning enters the realm of marketing, the goal is to adapt this new wave of predictive power with old-fashioned human wisdom. *The Economist* further explained that machine learning tools excel at prediction given the availability of data, with marketers reaping the benefits. On employment, *The Economist* expects difficulty for the middle class and low-skilled, and notes that people will have to move into skilled roles on a large scale.

In the *Harvard Business Review*, the overall discussion was heavily geared in the direction of AI in marketing, supported by the proliferation of digital devices, and increasingly ubiquitous network connectivity. It was also noted that marketers now have the tools to once again be taken seriously and regain their credibility. With the surge in digital advertising in recent years, the *Harvard Business Review* emphasised that brands now had an incredible array of options to reach precisely targeted sets of customers. With regards to AI, it was stated that systems will be autonomous, self-sufficient, and improve upon their own capabilities through real-world use. For marketers, new tools can help with decision-making, experimentation, and they provide the means of reaching well beyond the organisation for insights. For employment, the *Harvard Business Review* points out the alarm of those who see the potential for AI to seriously disrupt the workforce, with easy-to-automate jobs falling by the wayside.

Entrepreneur notes that the future of marketing is intensely personal, with advertising based on your demographic information, behaviour, interests, and physical location at any given time. This gives marketers the power to reach out to people like never before, and gives them the opportunity to build deeper bonds with their customers. *Entrepreneur* claims that consumers have indicated in studies that they are willing to part with their personal information to enjoy better experiences, and more relevant advertising.

Inc. discussed the future of content marketing and raised the new concept of 'storymaking' instead of traditional storytelling. New content marketing will need to embrace this given the growth of the internet, otherwise their messaging simply won't stand out in the crowd. Naturally, *Inc.* points out that any strategy must be multichannel and highly-targeted, which is at odds with the 'one size fits all' approach of today. Furthermore, *Inc.* discussed how predictive marketing can reveal new prospects likely to have the greatest conversion probability. This utilises deep learning, which is noted as the science behind marketing AI.

Forbes stated that marketing is one of the most valuable applications of AI, and that the future of marketing relies solely on the development of tools that track consumers and ultimately predict human behaviour. *Forbes* notes that this data is shared in real-time with advertisers and other third parties. The authors believe that a human-powered partnership is a key to success and will help marketers connect with customers much more than today.

All the publications suggest sweeping changes in the discipline of marketing, driven by developments in automation, deep learning, and AI. The nature of work will be affected by these technologies, and thus the concept of a typical 'marketer' will also adapt over time. Marketers are not immune to employment shocks, and as discussed, many roles may be displaced. For marketers today, they can nevertheless look forward to the rapid arrival of new tools, and the significant benefits that they will bring.

This chapter is a continuation of the non-academic theme. It contributes to academia by justifying this source of information and showing what can be gained. The use of professional magazines and publications is not at all commonplace in academia, but it is hoped that this thesis provides a sufficient case for its usefulness. For marketing researchers, this chapter further highlights the importance of Big Data, data science, artificial intelligence, and the future of employment as major concepts that will reshape marketing. Further, it identifies the issues around trust and privacy, and these publications provide some of the latest findings in these areas.

Chapter 8 – Combined Study Discussion

8.0. Introduction

This chapter canvasses the findings found throughout this thesis to address the final research question:

RQ7: Based on all research, how will the discipline of marketing evolve over the next twenty years? What are the implications for marketing professionals today?

The purpose of this discussion is to summarise the most likely future state of marketing, with some caveats and alternative possibilities given prevailing uncertainty. Overall, this topic was found to be highly relevant for business leaders, and they could discuss their ideas and concerns with ease. Similarly, it was not difficult to find relevant material from informal secondary sources. The demand for academic research into marketing in a futures context is clear, and this thesis serves as a valid contribution to a potentially new field.

Marketing has become remarkably dynamic, with new technologies and digital platforms arriving on a near daily basis. Although the ethos of marketing has remained largely intact, the mechanisms and capabilities of today are virtually unrecognisable when compared to less than two decades ago. Furthermore, the future potential of marketing is now within our imaginative capability, as we witness the relevant developments in computing, software, data analytics, deep learning, and artificial intelligence.

The advent of social media triggered a digital revolution in marketing, specifically once these platforms were opened to advertisers in the 2010s. As it was discussed by the research organisations in Chapter 6, this has enabled marketers to have multiple touchpoints for their brands, and seamlessly target and track potential customers across multiple websites (see Carmody, 2016; Benson-Armer et al., 2015). The online publications in Chapter 7 explained that social media has

become a "pillar of the advertising industry" (The Economist, 2015b, p. 1), providing the means to engage directly with consumers in real-time and to gather data.

In less than five years, social media marketing and digital advertising in general has become standard practice, and marketers must leverage these platforms to provide consumers with instant information. In the scenarios discussion in Chapter 5, it was stated that consumers' attention spans are shortening, thus social media provides the means to develop brand loyalty given this challenge. As explained by *Entrepreneur*, this is the unparalleled power that social media brings for businesses and marketers alike, and it marks the beginning of a new era of marketing.

8.1. Current Challenges for Marketers & Business Leaders

Despite the range of new technologies available today, several concerns were raised by business owners, commentators, and academics, including around 'sticky technology', i.e. obsolete technology that is difficult and/or costly to move away from. Further, the complexity of new technology was discussed, with the seemingly steep learning curves for marketers. Both issues could lower the adoption rates of new tools over time, despite their ease of availability.

In the scenarios discussion, it was noted that businesses often struggle with legacy systems that limit their ability to stay competitive. A complicating factor is the slow and cumbersome nature of many businesses themselves, especially those with resistant and risk-averse individuals in key positions (see Fitzgerald et al., 2013). Further, the overall cost of adopting new technology can be a major hurdle for a conservative management team, despite the advantages for marketers and others. This 'command and control', hierarchical business model is one that needs to be challenged if businesses wish to become leaders in their industries.

Reinvigorating business will be critical within the next five years, and marketers will need the best tools and strategies possible. Therefore, an important goal in the immediate future is to secure sufficient investment by creating success stories that prove the technology one step at a time (Hagspiel et al., 2015; Rayport, 2015). This may be difficult, as the cost of online campaigns can be substantial, and it is easy to see poorly used technology as a sunk cost. In Chapter 6, PwC described a general lack of faith in data-driven insights, particularly from management. It highlighted the fact that many leaders still prefer to base their decisions purely on intuition and experience and are unwilling to adapt to this new world. This can further stifle change within an organisation, and this includes the adoption of marketing technology.

It was mentioned in the scenarios that employees can be a barrier to change. In the advertising sector, new digital technologies have often been met with 'old-fashioned thinking', which is potentially why traditional forms of advertising have persevered. In the interviews, one participant stated: "a rump of employees … don't want anything to change … we've done it that way, we'll always do it that way, and I will gather any data that supports my point of view". This attitude, if present within an organisation, can reinforce an overall reluctance to adopt new technologies upon their release. In the long run, this may have an impact on the integration of AI technologies into marketing. Of course, these issues are not universal – many organisations, especially SMEs and new entrants, have the advantage of a blank slate in terms of their marketing technology. In such cases, older channels are discarded – or simply unused to begin with.

It was also noted that the skills needed to operate new tools are not present in every organisation, nor is it obvious which tools are most appropriate given the sheer volume of what is available. Investment and training can be time-consuming and costly, as was discussed in the interviews. The research organisations in Chapter 6 noted that marketers do indeed know how they need to change, in that they need to be more data-focused and learn how to develop

insights. The challenge is in the execution – if poorly implemented, the resulting high cost and low performance can derail any marketing strategy. With this in mind, the participants pointed out that considerable pressure is placed on marketers, as the growth of the company is ultimately seen as their responsibility. As *PwC* (2016a) notes, it is "about people having the talent and leadership strength to get the right information to the right places at the right time and take action" (p. 4).

On the other hand, the positive view was emphasised by the online publications; marketers have an unprecedented array of new options to quickly and accurately target potential customers and any other segments of the general population. The research organisations nevertheless caution that any new strategy is only as good as the action taken using the insights (e.g. Lindsay, 2015). Without an understanding of how to best go about large-scale data collection and analysis, an organisation's competitors will likely move into a stronger position (e.g. Honeycutt, 2016).

8.2. The Arrival of Big Data

Big Data is the accumulation of a significant amount of personal data that is willingly – and unwillingly – made available online (see Steinberg, 2016; The Economist, 2015a). This data is largely generated by smart devices, websites, and sensors that are all connected via the internet. It provides valuable insights into people's lives, including how they "live, work, travel, study, eat, or sleep, and how and what they consume" (European Parliament, 2015, p. 8).

Big Data also contains ambient data, which is information that is not specifically targeted or immediately needed. This is due to the interconnectedness of the world's "computers, tablets and smartphones" (The Economist, 2015a, p. 2), which machines can use to develop personal contexts. A turning point in data collection will be when machines can fully understand human language, which is

already being developed, even using a lip-reading algorithm (The Economist, 2016a, 2016d). As mentioned in the online publications, Google is leveraging users' location data and geotags to make online advertising far more personalised, both in people's affinities and in their current locations (Newman, 2016).

Big Data plays a significant role in the future of marketing – it could even be said that Big Data *is* the future of marketing. It enables marketers to take "smart, calculated risks" (Lindsay, 2015, p. 4). The size and complexity of the data means that traditional analysis is insufficient, and new tools are frequently being developed for marketers to make sense of it. Due to its role in marketing, data analysts and creatives find themselves working together increasingly often.

The number of connected personal devices is constantly growing, and this will multiply when smart homes become a reality – a concept that solidifies the Internet of Things (IoT). In just a few years, van Auken (2015) believes that there will be "30 billion devices … wirelessly connected" (p. 43). Data will be gathered from even more sources, for example cameras with built-in automated speech recognition and AI tracking software. Technology such as this brings the real and digital worlds closer together and connects the data to these intelligent environments (discussed in Zackova, 2015).

Although today's computing power is substantial and available on-demand via the cloud (Armbrust et al., 2010), the growth of Big Data will require exponential increases in processor performance, ideally reaching a point where the scale of data becomes irrelevant. In the interviews, a participant expressed the view that within 8 years the world may have the computational of 8 billion human brains – effectively infinite computing power – which would be available to the masses.

8.3. Personalisation

With the rise of data in marketing, segmentation becomes an outdated concept, or at least should be redefined in accordance with digital marketing. Advertising becomes hugely personal and is targeted at individuals based on their consumption habits. Given the level of tracking that is now available, this is constantly improved upon based on continuous evaluation. Predictive marketing, as it is known, can reveal patterns and even potential customers based on prediction algorithms that use Big Data, and those with the greatest revenue potential can be targeted (see the writing of Fridman, 2016b).

In Chapter 6, it was claimed that a large part of marketing practice will soon be the automation of personalisation (see Lindsay, 2015). This reduces the overall risk of expenditure, given the benefits of predictive analytics and machine learning. For consumers, this is not actually controversial – in one study, 80% of the respondents saw personalisation as standard practice. Moreover, in Chapter 7, it was indicated that "72 percent of [airline] passengers using mobile devices say they are willing to share data in exchange for more personalised service" (Newton, 2016, p. 2). In one publication, it was stated that "consumers are quite willing to part with personal information in exchange for a user experience that is more personal, meaningful and eventually productive" (Dholakiya, 2015, p. 1).

For marketers, this form of advertising reduces acquisition cost, increases overall conversion, and according to Gregg et al. (2016), can "increase the efficiency of marketing spend by 10 to 30 percent" (p. 2). With this comes the opportunity to increase advertising budgets, and this should also lift the quality of advertising given the competition for consumers' attention (Patel, 2015). As per an article in *Entrepreneur*, the future of marketing is described as utilising intensely personal messaging, based on what you're doing, thinking, and going to do (see Newton, 2016)

8.4. AI & Machine Learning

In Chapter 6, eight existing technologies that are likely to have a significant impact on marketing were identified: artificial intelligence (AI), augmented reality (AR), blockchain, drones, internet of things (IoT), robots, virtual reality (VR), and 3D printing. In Chapter 7, Olenski (2016a) explained that marketing is one of the most important disciplines for AI, and that the future of marketing "lies with artificial intelligence" (Olenski, 2016a, p. 1). The science behind AI is deep learning, a more advanced view of machine learning. For marketing, this self-learning process can be "applied to marketing analytics problems with the goal of finding predictive patterns in data" (Steinberg, 2016, p. 3). Further, these technologies have "the ability to do things without us explicitly telling it what to do" (Press, 2016, p. 2); campaigns can be optimised and automated for the most effective form of delivery. As further noted in Chapter 7, information about a person's age, location, and affinities will be available on demand, though this may depend on the level of regulation in the industry (see Scherer, 2016).

According to the online publications, machine learning "excels at prediction" (The Economist, 2016b, p. 1), which makes these technologies a great fit for marketing. As described by Sharma (2016) in Chapter 7, prediction engines powered by AI will "help people find products in their precise moment of need – and perhaps before they even perceive that need" (p. 1). In Chapter 6, it was noted that machines are already outperforming humans in several areas, even those that typically involve judgement and reasoning. New tools will trawl through personal online data and map out new strategies (see Fedyk, 2016). As is expected, this technology will be able to track users throughout their journey with your brand across any platform, and test variations in real-time based on their activity. Any pain points can therefore be discovered instantly (see Olenski, 2016a). At first these technologies will supplement human marketers, however in future this sense of collaboration may decline.

In the near term, mistakes and shortcomings are likely, and human intuition will still be required as machine learning technology progresses. Furthermore, a discussion in Chapter 6 noted that society will need to trust AI systems to follow some form of ethical code – one that follows the social norms created by humanity. According to this research, efforts around the development of AI may need to be guided by certain regulations.

8.5. Trust & Privacy

The notion of trust is still a pain point in society, and marketers have long been accused of exaggerating features, using predatory tactics, targeting the vulnerable, general dishonesty, and more. In the scenarios, it was noted that marketers in general need to improve upon their interactions and relationships with consumers. This includes being sensitive to issues in society, and to show concern in their messaging, branding, and overall behaviour. Given the future of data in marketing, the potential for exploitation is high and the ethical boundaries have not yet been determined. If marketers are seen to be abusing this window into people's lives, trust will quickly erode. Consumers are already asking, "who owns the information – what can they do with it?" [Chapter 5]. This temptation is potentially unavoidable however, as marketers can use this lack of privacy to develop extreme targeting that will likely bring about record conversion rates (see Fan et al., 2015). Additional research should be conducted on this specific topic.

In Chapter 6, it was highlighted that privacy and personal data should be protected by legislation that sets strict guidelines for marketers, and this would also apply to future automation. Those in favour of this acknowledge that it goes against the idea of an entirely free market, however they feel it is still necessary. It was also said that the economic benefits of Big Data have too often overshadowed social concerns, and not enough has been done to protect citizens' rights nor to promote openness in the technology. Despite its usefulness in driving economic growth and predicting consumer behaviour, Big Data

presents both legal and ethical concerns around how such data is used. These issues remain unanswered and will likely become highly politicised in the very near future.

8.6. The Future of the Human Marketer

In the current paradigm of marketing practice, the end game, i.e. the limit of human foresight, is arguably AI-driven marketing. As has been discussed throughout this research, this raises serious questions as to the future of employment, let alone within the marketing discipline. The future for marketers remains very uncertain. With sophisticated algorithms making decisions without the need for human intervention, one can just imagine what may happen.

In the interviews, it was said that "if you're worried about your job being automated, then it most likely will". As one of the authors stated, "automation may prevent the economy from creating enough new jobs" (Autor, 2015, p. 3). Further, one participant described the future of jobs as a "disaster" and a "very serious issue". According to that participant, it will soon be the "end of the job" as we know it, as computers will be able to make "far smarter decisions" and "usurp professional advice". Bernstein (2016) was quoted as saying that AI will reach a tipping point when it achieves seamless voice recognition and can anticipate and answer questions in its own right, with its own research.

In Chapter 7, Schrage (2017) states that "without clear lines of authority and accountability, dual empowerment guarantees perpetual conflict between human and artificial intelligence" (p. 2). This was recognised in the Harvard Business Review, where it was said that "alarms have sounded on the potential for artificial intelligence (AI) technologies to upend the workforce, especially for easy-to-automate jobs" (Kolbjornsrud et al., 2016, p. 1). Many of the roles focused on data mining, research, targeting, and decision-making could very realistically be automated in future. While data scientists are in high demand at present, it could be said that they are simply filling the gap between the

introduction of Big Data into marketing, and the full automation of marketing. Roles will likely get disestablished. *The Economist* further warns that many of those affected will be middle class, as opposed to previous periods of job displacement which predominantly impacted low-skilled, low-waged workers. AI will also be able to improve service to customers by providing an intelligent support agent 24/7 in the form of a 'chat bot'. As of 2017, chat bots that utilise deep learning are in development and are being tested widely in the public domain (Press, 2017). The interactions will steadily become more human-like.

In each of the chapters, it was said that creativity will likely become the proving ground for many marketers. With artificial intelligence handling the real-time research, targeting, and distribution, creative people will play an important role in the design of advertisements, regardless of how it is delivered (e.g. Bakhshi & Windsor, 2015; Menger, 2015). At present, it is thought that AI will struggle to make significant gains in this area. In Chapter 6, it was stated that organisations are beginning to recognise the importance of collaboration between creatives and data analysts, and this relationship may indeed continue when automated systems take over the latter. As explained by Stark (2017), creativity can become efficient with real-time analysis, where designs are inputted into the advertising mechanism and the system can quickly identify how people respond. This is significantly more effective than traditional A/B or variant testing.

As pointed out in the scenarios, competition for the remaining jobs could become extremely high, unless there is a substantial boom in products and services. A surge in the number of startups could mitigate job losses in the short-to-medium term. Nevertheless, it is possible that the demand for humans in marketing will significantly decline. It is just as possible that the discipline evolves in a way that creates other roles to complement AI. Given the uncertainty, organisations and societies at large need to be prepared for multiple outcomes.

McKinsey provided a range of estimates, including that half of workers' tasks could be automated in the short term (Ram, 2017b). Whilst they had a

conservative view as to the number of jobs being automated in their entirety, they stated that the loss of 7.1 million jobs is at the very least likely (Ram, 2017b). In Chapter 7, an earlier study proposed that 47% of workers in the United States faced displacement due to automation (The Economist, 2016a). Nevertheless, some say the relationship may be positive, in that "machines and humans are very complementary" (Rossi, 2016, p. 3). Further, it was said that "the future will depend on how well they marry its predictive power with old-fashioned human wisdom" (The Economist, 2016b, p. 2). This could become a critical point of difference for many companies.

This research suggests that a transition to a post-work society may eventually occur. The early development of AI indicates that this is not science fiction, but something to be anticipated. Exponential innovation, even well before any notion of the Singularity, may trigger significant technological unemployment. It is also clear that governments around the world have largely ignored this issue, very likely to their peril.

8.7. Conclusion

This discussion chapter canvassed the key points raised in this research, particularly around what is changing in marketing at present, what is not changing, and what the future holds for businesses and society. These concepts are inextricably linked – marketers bridge the gap between businesses and consumers, and any changes in these areas affect the others. Marketing remained a relatively stable discipline in the latter half of the 20th century, however the internet caused several major transitions from the early 2000s – business websites and message boards, e-commerce, social media, and finally, Big Data. It has been made clear by this research, beyond this lies the automation of Big Data and marketing tasks, and eventually, artificial intelligence-driven marketing. For marketers themselves, the future is unclear, however the issues they face are not unique – rather they are shared with skilled and unskilled workers in all industries, and in all countries.

Chapter 9 – Conclusions & Future Research

9.1. Concluding Remarks

Marketing, regarded by many as both a science and an art, is the practice of identifying the needs of consumers, creating and communicating value, engaging with the right audience, and ultimately, increasing sales and profitability. More recently, it includes the use of seamless touchpoints across multiple digital channels that facilitate long-lasting relationships with consumers. Despite the many changes in marketing practice from the late 2000s, the founding goals of marketing remain the same, and are unlikely to change in the foreseeable future.

This thesis presents a new research concept, that is the study of the future of marketing, or alternatively the study of marketing in a futures context. This is overdue – marketing is closely aligned with both business and society, and fundamental changes will be reflected in the discipline. The future of employment is also relevant to this study, as any changes will directly impact those working in the field. As highlighted by Ramirez et al. (2015), there is a need for more research in management that "develops theory, is innovative, and less formulaic" (p. 70). This is a partial justification for why this study is useful, particularly as futures has been largely ignored by management researchers. This thesis seeks to encourage each reader to think more about the future and how their industry may change given the concepts and issues discussed.

This thesis sought to develop a vision of the future of marketing, and to describe the larger factors that contribute to change, for instance technology, consumer behaviour, regulation, and so on. To achieve this, primary and secondary studies were carried out and then compared. Despite the predicted rise of transformative technologies, the future of marketing is not well researched in academia. Marketers and academics are generally concerned with the present

and the past, as opposed to proactively considering the future. Nevertheless, a very public surge in interest in the future provides a degree of motivation for this study.

It was stated that significant changes to the marketing discipline in the next two decades, a "paradigm shift in the marketing game" (Forrest & Hoanca, 2015, p. 55), will be brought about by unprecedented technological advancements. Marketers already have a sleuth of direct channels into people's lives, tracking their digital movements and affinities. Marketing practitioners and business leaders have proven themselves highly responsive to technological advancements, with the most important changes occurring in the digital space. Big Data has been embraced as game-changing for marketing in the years to come; it is the "new frontier of innovation and competition" (Akter & Wamba, 2016, p. 190). Change in marketing is now constant, and marketers are expected to keep up with new technologies.

Futures studies is often motivated by uncertainty, especially given the implications and potential outcomes of global issues (Herrmann, 2010). These are typically a combination of complex economic, social, and environmental concerns. A contributing factor is the advent of exponential innovation, which applies to both the advancement and adoption of new tools, and the impact that this may have on marketing over time. By thinking ahead, researchers can develop strategies, roadmaps, and contingencies. This is justified, as futures is "increasingly used in academia, government and industry as a means of coping with uncertainty in areas with long planning horizons" (McDowall & Eames, 2006, p. 1236). For marketers, this provides an opportunity to make a genuine effort to engage with larger issues – such as climate change – and community concerns – such as hardship, and to build trust with stakeholders. Given the likelihood of increased controversy around a lack of privacy, this trust will be critical.

The personal interviews, beginning in Chapter 4, tested the understanding of business leaders. It further revealed their thoughts on the topic, and this was compared to knowledge from academia, think tanks, and online publications to provide a comprehensive set of findings. The interviews showed that the topic is of great interest and importance to the participants, irrespective of the industry. Despite the enthusiasm regarding future technology, the participants were genuinely concerned for the future, and struggled to imagine solutions to many of today's complex issues. Most also felt that their current businesses were behind in many areas, which showed a sensitivity towards today's big topic of disruption. Indeed, this study revealed the level of interest around disruption; many traditional industries face upheaval given current and anticipated levels of innovation. When asked about marketing, the participants all imagined major advancements brought about by data and automation, which again shows why this study is relevant and why more needs to be done in academia. Given this discussion, this thesis can be helpful for both the private and public sectors, particularly in New Zealand, where many of the participants were from.

Marketing-compatible touchpoints are being used across all platforms – as people shop online, use social media, visit websites, and so on. They are creating an increasingly accurate digital representation of themselves that is effectively for sale. It was also pointed out that marketers will even be able to target people that can afford a product based on their income and bank balance. The scale of data, while difficult to process today, will eventually become irrelevant due to advancements in processing power and the consolidation of remote infrastructure. The number of 'data-emitting' smart devices is set to reach 30 billion by 2020, which includes in-home and wearable devices that create a more complete picture of our lives. Marketing will be transformed by Big Data and sophisticated analytics in the near-term, automation in the medium-term, and artificial intelligence in the long-term. These changes will generally occur outside of the marketing discipline at first, which has been the norm. Technology is nevertheless adopted quickly to gain a competitive advantage.

As was discussed in each chapter, many businesses felt that they could not advance as quickly as they would like: "our present systems simply are not adaptable to or capable of moving at the speed of knowledge development and/or technological change" (Schultz, 2016, p. 283). Furthermore, marketing analytics is often not well-implemented, and 30% of businesses have "little or no customer data" (Kumar et al., 2013, p. 330). It was also hinted that many tools are too complicated for marketers and require costly setup and ongoing management using outside experts. Naturally, this affects adoption rates.

One of the biggest societal concerns is the future of employment. As was explained, automation may prevent even healthy economies from creating enough jobs, especially as many existing human roles will be disestablished. This will have a significant impact on the discipline of marketing for two reasons: 1) there will likely be fewer marketing roles, and 2) any large-scale technological unemployment will severely impact consumption unless economic solutions are found. After all, marketing needs to attract consumers with disposable incomes – effectively one of its founding principles.

Privacy in marketing is likely to remain an issue for some time. Even those who benefit from Big Data and automation, for example marketers and business owners, are concerned about their own privacy. Consent and control were highlighted in this study, in that information is likely to be exploited. With every online action tracked and recorded, machine learning in marketing will likely result in intrusive advertising (see Forrest & Hoanca, 2015). This study highlighted how regulation may become a 'wildcard' issue – if implemented, it could have a major impact on how marketing is practiced. In the European Union, these issues are already being discussed and regulation is likely. Nevertheless, an uneven playing field may arise as regulation differs around the world; it could be expected that the United States will be comparatively lenient on data innovation, and such technology can be used anywhere, despite regulation.

9.2. Contributions to Research & Theory

Despite the level of public interest and wide-ranging discussion in non-academic publications, the study of the future remains a niche within academia, and even more so in management research. As such, there has been a lack of research on the topic of the future of marketing. This research makes a contribution to this gap in the scholarly literature and will lead to futuristic work by marketing scholars.

In an opinion piece on a similar topic by Schultz (2016), the author discussed the future of advertising and presented three scenarios, however the article did not use a standardised scenarios methodology, nor look beyond advertising. Schultz (2016) nevertheless supported the notion that there is limited research and understanding regarding the future in advertising. It is research of this nature that forms part of the conversation that we should be having.

This thesis is the first of its kind using future scenarios methodology to foresight marketing and society with a view of exponential change. It is also one of the first to combine both academic and non-academic sources of data in this context, and to conduct a detailed comparative analysis of the findings. Studies that examine the future of the marketing discipline do exist (e.g. Engelke et al., 2016; Miles et al., 2016; Schultz, 2016), however they are typically based on the near future and do not utilise scenarios or focus on wider concepts. This thesis provides a more comprehensive foundation for the topic, and seeks to encourage the reader to think more about the future and how their industry may change given the concepts discussed.

This thesis contributes principally to academia by encouraging thinking and demonstrating unique ways to use methods, and by combining the disciplines of marketing and futures studies to test a new field of research. It adds to the study of the future of work, particularly with regards to human marketers, and it provides a new discussion around privacy, in the context of technological change.

This thesis also collected and analysed findings from non-academic sources as well as academic sources, an uncommon but very useful method, and well worth demonstrating. With regards to marketing technology, this thesis incorporated the highly technical concepts of artificial intelligence, machine learning, and the Internet of Things (IoT), in a way that highlights their significance to marketing researchers. Further, the concept of the Singularity was identified as a long-term disruptor, and the scenarios method reflected many points of difference regarding its impact on marketing innovation. Disruption itself was discussed in context, a poorly researched area in academia. This thesis provided an intersection of theory and practice for business leaders, and uncovered many implications for marketing practitioners today. For researchers, the critical discussion of the future of work was conducted and justified, and the use of scenarios meant that the potential impact on the marketing discipline could be discussed in full. Finally, this thesis also highlighted many of the bigger issues that society faces, and how these may affect the marketing discipline, both in the immediate term, and well into the future.

Society potentially faces upheaval on a global scale. This is why it is crucial to outline a range of scenarios so that businesses and governments can better prepare. The policy implications are also significant, most notably with regards to automation and its impact on work, which in turn affects economic stability, health, infrastructure, and more. For marketers and business leaders, this thesis outlines both the short-term and long-term changes that are likely to occur in their field, and it provides a range of suggestions and strategies for positive growth in uncertain times. Marketing is closely aligned with both business and society, and fundamental changes will greatly impact practice.

9.3. Study Design Limitations

This thesis does have discernible study design limitations, which also present opportunities for future research. Most notably, the pool of potential candidates

who possess the desired level of expertise in business, marketing, and the future, is limited. Each participant has to have a significant level of understanding of each of these concepts in order to add meaningful data to the research. Furthermore, the number of participants involved in the primary research (12) could have been increased to generate more findings. This would have increased the number of sectors represented, and it would have been possible to do justice to a fourth scenario; the plausible future.

In addition, much of the original marketing expertise was drawn from the researcher and from secondary sources, albeit both academic and non-academic. While this was sufficient for this study, it would always be beneficial to interview senior marketing practitioners and academics to reflect on the findings, which in itself presents an idea for a separate paper. A Delphi-like study could have been conducted to generate even more findings, potentially with this group of marketing experts.

A final limitation is that futures study methods are somewhat fragmented, for instance the inductive multiple scenarios method typically does not involve the use of causal layered analysis (CLA). This can cause disagreement among scholars as to what is the 'best' approach. Further, as methods are inherently designed for academia, the analysis of non-academic sources required some liberal use of grounded theory, inductive thematic analysis, and discussion.

9.4. Recommended Areas of Future Research

The study of futures is continually evolving, and interest is growing both in academia and in the public domain. By its nature, there is always research to be conducted as society and technology evolves, and as world events shape the course of humanity. This study identifies several additional areas for future research:

Wildcard scenarios: Looking outside of the possibility space was not a goal of this thesis, however this is still a useful topic for future research. For instance, one could develop scenarios based on: 1) a total absence of 'useful' artificial intelligence in marketing, whatever the cause, and 2) the other extreme; runaway artificial intelligence that takes on a much greater percentage of responsibility than currently anticipated. Marketing in each of these scenarios will be vastly different, and this can assist innovators and marketers in their preparation for the future. This could be conducted using the same methods as this study.

Success and failure in marketing innovation: This thesis highlighted that innovation in the marketing space is fast-paced; new tools – large and small – are arriving on a near daily basis. It would be useful to identify some of the technologies that have been best received by marketers, as well as those that have not. Further, an explanation as to why a product succeeded or failed would be useful for those working on new innovations. To achieve this, the researcher could identify these tools using informal secondary sources, and then conduct interviews on a range of marketing managers and directors to understand their needs and frustrations. These findings could then be compared to existing academic literature on marketing technology.

The future of education given automation: The future of employment should be examined in as many contexts as possible. Importantly, research is also needed in education, specifically the way in which schools operate, to develop recommendations as to what needs to change to better reflect society and the future state of employment. Findings would likely be actionable in New Zealand, as the country has a small enough population to implement meaningful changes across its public, private, integrated, and partnership schools. The researcher would need to interview a small number of futurists in New Zealand, including those from the McGuinness Institute, and it would be helpful to speak with those working in the education sector. An online survey could then be held, inviting

educators and officials to contribute. Secondary research sources would focus on education given likely changes in the needs of future employment.

Future skills in marketing: A study that identifies the likely skills needed for an individual to remain productive in the marketing discipline would be useful. Given automation, roles will continue to change, and while both creatives and data scientists are in demand in 2017, the state of affairs may be different in 2020 and beyond. A level of guidance would be a valid contribution to academic discourse. International research would be useful, looking at the trends in job types during the last few years, and how they differ from what is advertised today. Speaking with high level executives from several different countries would likely yield useful insights on this topic.

Regulation in marketing: A controversial issue in the coming years will be to what extent, if any, does marketing need regulation to provide an acceptable level of privacy, and how would this regulation work? This topic alone would justify a research project, given the implications of Big Data and machine learning. This research would involve finding out what regulation is occurring worldwide, for example in the European Parliament, and the researcher could conduct a Delphi research method using an expert sample of academics and politicians. It would also be helpful to run an online survey to test the findings against everyday consumer opinions and beliefs.

The risks of artificial intelligence: This research asked: will systems work to preserve and advance society or will they eventually serve as an existential threat to the world and its inhabitants? The idea that artificial intelligence may ultimately harm society has existed for decades, and up-to-date research on this topic may be useful to gauge any potential risks along the way, before they have an irreversible impact. Finally, there are still legal issues to consider, for example, who is ultimately responsible for the actions of automated systems. For researching risks, one would need to examine the current progress of development, and more importantly, the future roadmaps, which most

companies advertise. Any interviews would be limited, but speaking to leading engineers at Google, for instance, would be helpful. For unresolved legal concerns, one would need to identify lawyers and politicians who are already working in this area and summarise their findings.

9.5. Final Word

Each of the suggested future research areas stem from the issues discussed in this research. The future is complex, perhaps chaotic, with every aspect of change influencing another, hence the need for this research. The world is likely to experience a series of major transitions in the coming decades, and the impact on the marketing discipline in the long-term will be significant, with artificial intelligence undoubtedly causing the most change. Finally, in the personal interviews, one theory presented by a world-renowned futurist highlights the gravity of the situation: it could be the end of marketing as we know it.

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Appendix

Guiding questions for personal interviews:

1. How has the sector evolved over the last few decades? What are the major changes that have shaped it today?
2. Imagine the sector in 2050: What do you think it will largely look like in this time period? What are the key differences to today, i.e. the 'big' changes?
3. For the above, what needs to fundamentally change in the sector for 2050?
4. With systems, processes and even core business functions now digital or heading that way – how is this affecting your sector in the short term?
5. Given the above, what are your thoughts regarding human capital and employment?
6. What role do you think marketing will have in 2050? How do you think it will function?
7. Do you think there be few, large brands – or many small brands?
8. In your experience, are organisations (in any industry) thinking and planning this far ahead?
9. Further to the above, does your organisation have a dedicated innovation team? Furthermore, how does your organisation plan for disruption?

Interview transcripts

Interview 1; world-leading futures expert and academic

Interviewer:	Could you briefly explain how future studies has evolved for you personally throughout your professional career, and how has your thought process been affected by your work in the changing world around you?
Guest:	Yeah. Phase one for me was a student. I was eighteen and future studies was a way to integrate all my interests as an eighteen-year-old – end poverty, spirituality, vegetarianism, robotics, space exploration, it was a great way to talk about multiple areas. Phase two was I was working with the justice system in Hawaii. Future studies was really how to get judges, administrators, attorneys to better anticipate the future and be more proactive. Then Phase 3 was really writing, PhD, and a series of books about philosophy and time – and then when I moved to Australia the last ten, fifteen years has been, metaphorically was going from planting seeds, I think would've had hundreds of workshops. Four or five hundred. Then growing trees and creating ecology of foresight.
	With ecology of foresight, there's an understanding that you can't do that without practitioners being self aware. It's almost going back to loop first as the inspiration about myself, and then seeing the world in the organisational world. Futures studies since 9/11 has been enormous. What seemed impossible, major disruptions have now become the norm. In that sense, I remember one professor said "It's a can of worms, don't waste your life." To now, every week someone wants to talk about or there's some client somewhere on the planet that wants a speech or workshop or a book.
Interviewer:	It's not just a technological thing then, it's an incredible geopolitical issue too; the considerable uncertainty around the geopolitical situation, particularly what's happening right now in the Middle East and how you get uneven progress and development around the world.
Guest:	The the way I look at those things is through macro-history. I see the work on the Arab spring, the whole idea is we get caught in the litany in CLA, right? As you go systemic you can see the long term patterns through history. In one sense it gets easier to understand if you have really good methodology. Is the Arab spring really in P. R. Sarkar's language a move from the warrior era to the intellectual era, idea based, with the imagination of freedom, liberty, Facebook, et cetera. Or is it in fact it starts to move there and then it shifts back to the core metaphor of the Pharaoh, with the Pyramid as the hierarchy. Once you take a thousand-year view then these things make much more sense and you can see is it this pattern, is it that pattern? It still doesn't let us say it is this pattern, but

you have a much better view. Sarkar is crucial here, if you have a chance to read his macro-history.

I don't think you could do futures without going back a thousand, two thousand, three thousand years, but you take a linear view, or a cyclical view, or a spiral view, there's some core patterns. You got CLA 2.0?

Interviewer: Yes.

Guest: If you look at the earlier book, there's question the future and what works. They all try to look at macro-history. There are brief chapters, and there's free ones all over the web. Just try to get that step back, because in every era everyone assumes their uncertainty is worse than other uncertainty, but this is a different era, I think we're all clear that in whether it is genomics or internet or living longer or possibly a global governance. There's six, seven drivers all at the same time.

Interviewer: You said vegetarianism?

Guest: Yeah, I was seventeen, moved to Hawaii and it was the whole wave of the counterculture. The meditation, vegetarianism, human rights, animal rights. My first research project for the Hawaii justice system was on the legal rights of robots. What would happen if robots had legal rights, how would that change relationship with judges, attorneys, et cetera. That got a real buzz, what is the nature of technology in traditional systems that people believe are just reason based, but as you think through it, a good AI system should be able to replace ninety-nine percent of all justice systems. It's precedent based, you just get the logarithms, that was the type of stuff we were doing thirty-five years ago.

Interviewer: From a legal perspective actually, it reminded me of the legal discussion behind driverless cars and who's at fault.

Guest: You bet, it's the same issue. In a way we were too far ahead for the courts. They're like "fantastic, but what do we do with this?" Who owns a selfie? They have photographers taking pictures of monkey and he went away and the monkey took the selfie, Greenpeace or some group has now argued that the legal rights to the selfie are the monkey's, not the human's. The photographers totally freaked out. This is doing the fun part of futures. Given disruptions, how do we talk about ourselves and technology. Is this the way we want to go, and then you start to think about how do you develop a global strategy for it? I know a shadow minister of the UK, she suggested eating meat should be the same category as child abuse or smoking.

Interviewer: That got an extreme reaction.

Guest: Yes, I use that work in futures. I want to get them to move from the future is stable to it's unstable, but I can find agency to create a different future.

Interviewer: Having worked in future studies for some time now, and having the benefit of hindsight, if I can call it that, which type of scenario do you think has prevailed more often in your experience? This is thinking the preferred, the business as usual, the worst case. Has there been consistent patterns, or what do you see there? Jumping to pillar five a little bit.

Guest: I think the disruptive one. I mean everyone says it's the business as usual but that's really not been the case. I remember fifteen years ago we were writing articles about computer scanners that would tell you everything about a product, now you have FitBit, you have all these technologies. It's consistent, I remember when I was in Barcelona 1994 presenting, they said you can talk about anything, but don't talk about ending bull fighting. 2004, it's banned, so I think it is the surprise scenario that has been consistent, at least the thirty years. It's not been surprise free. It's a consistent nature of social disruption, technological, to redefine everything. Again, the vegetarianism, the meditation stuff was crazy then. Now almost every study; hospital savings go up forty-two percent when patients use meditation. Every hospital I work with I said, "well do you want to really spend that five hundred million dollars, or do you want to save it?"

Then you start to see this shift, that doesn't mean inequity. Even the inequity stuff people have been saying things will be fair, what we now have ten percent of people having fifty percent of the worlds wealth? That's also a big disruption. I'm going to say

	that it's a disruptive outlier, the kind of changing assumptions scenario that has become the norm.
Interviewer:	Are hospitals giving a high degree of push back with that sort of advice, or do they accept it?
Guest:	They don't accept it; they find it strange. If we have this conversation in seven years, if the outlier scenario is correct, I mean you are getting some hospitals shifting there. There was a Kiwi guy I met twelve years ago and he kept on talking about how he was the leader in New Zealand in four hospitals. In his presentation he said it is the end of the hospitals, and everyone said "What? What? What?" You can start to see it now, the home hospital, the home care system, the smart floor, the robot nurse. It's still far, so the issue for us is that distance. Push back today, but all this data has come out the last few years, good scientific research. You know you get the crazy guy idea, scientific research, people get interested in it and then finally it ends up being good policy.
Interviewer:	Thinking about organisations, do you think the used future, as a concept, is going to dominate? Do you think organisations are accustomed to being overwhelmed by the main drivers in their sector?
Guest:	A few years ago I would have said yes. Any time they are confronted with change, we go to the used future. At the same time the rate is so high. I was working with an insurance company two years ago and he goes, "yeah, yeah, driverless cars, automated cars, yeah, yeah, right, right." Then three months later it is no longer weird to talk about that. Almost every discussion is not if, but when and how and who pays. It's gone from a way out, weirdo-futurist thing to policy makers. I work with Cairns Airport, the thing came out a year ago from our last visioning session he says, "Okay, we'll be the first not only solar airport, but we will be the first airport when you land, there will be a Google car that you rent. We'll get money from it by the car recommending the Great Barrier Reef or that hotel, there's ways to price it."
	Once again, normally I would agree. The evidence of disruption is so high, there's a shift, at the same time power always appropriates. Uber comes across as efficient, but also it just re-inscribes a used future. Is it the disruption? Is it the size of capital that is used? In that sense all the anew of sharing economy doesn't create new cooperatives, it just re-sizes and disrupts the old players, but the new players are equally large.
Interviewer:	Do you see in organisations getting better at anticipation or do you see disruption becoming more of a replacer, replacing the incumbents?
Guest:	In the foresight work, I guess the assumption behind it is do I see, right? In my professional work I really always try to not accept that question because it places me, privileges me as the expert instead of saying well, here is data, here is smart people in the room, let's develop some alternative strategies around that. Scenario one is we do nothing about transport. What does that look like, what does that feel like? Scenario two we go Uber, we make it more efficient, person based. Scenario three we push it further and develop a cooperative of Uber drivers, where Uber doesn't get the profit, but an IT company develops the cooperative platform. There are the three scenarios, scenario four we do nothing.
	My work is less to tell them here is what is going to happen, but in one minute I could, using these four scenarios. I usually have fifty people and they are like, "What? What? What? What?" My goal is over three, four hours a day to get them to see the possibilities. If they want to stay in 1920 they are welcome. I'm not going to take that power from them. That's the metaphor part, their metaphor may be I want to hug my pillow. If that's where they're at then me telling them "No, you should develop a new cooperative transport system." Where the metaphor is all of us in a big bed, that's going to be nonsensical; no, give me my crib! That's much more how I try to work in terms of the role of the futures person is leading to wiser, more profound, more conversations in an X agency. That's what CLA does.
	The litany is transport disruption, the system is what that changes the ecology of who owns what and power. The world uses three, four different player's taxis. Uber, coops, government, and I find what are the core stories? By doing that you go to depth right away, and people go, "Okay, this is powerful." Almost every workshop I do they say, "Ah, *this* is futures." We're so sick of paying someone 20k for a ten-minute speech to tell us in twenty years 'we'll have this'.
Interviewer:	Are organisations naturally ok at – and inclined to look at the first two levels?

Guest:	Yes, it's easier for sure. That's why I ask for time. I need time, I am not going to do it in ten minutes. There's some that say "You have fifteen minutes." That's it, you have everyone in the room, you have fifteen minutes, we'll fly you from your home city, give us your best fifteen minutes. I said, "Fine, it will be fun for me, it's well paid", but I'm very clear – I ask them, "Why do you want to do this?" For them, it's... they're caught in level one analysis, which is future of technology. They know intuitively I can take them elsewhere. They don't know rationally.
	My goal is not to play with them, this could be planting the seed story. I get paid, they get a seat, then later, "Okay, that was interesting." We actually purchased something that we don't need. What we really need is a one day 'how do we transform our organisation?' This is this kind of dance, so for me it's been getting clear when I'm in that dance, when you ask me what do I see, so it would have been easy for me to give you what do I see, but I want to be mindful where does that locate me within my discourse, your discourse. The role of futures is very much to not be seduced in ways that disable, in this case you are the client. Our goal is to enable and we know that the best businesses they enable customers so they work with you, you create mutual value.
Interviewer:	Are there any schools of thought in future studies – or simply prominent people who say there's just too much uncertainty in the world for scenarios to be valid research?
Guest:	This has been the phase, phase one was psychics. Phase two was prediction, and then huge hundred thousand dollar, million dollar models, ten million dollar models. Three was then okay, this is nonsense scenarios. I see this phase four as what's appropriate, when do we use scenarios, when do we use CLA, when is it too much uncertainty? When it's too uncertain I tell people, let's now sit down and find our stories. In this case, we're unable to change the external world so let's not be stupid. The goal then becomes what's my metaphor and how do I empower myself to navigate the rapids or if I need, closet myself.
Interviewer:	One thing I was quite interested in regarding the concepts of future landscapes and your work in the jungle, the chess set, the mountain top, and the stars. Where do you see the bulk of business strategies today in those images?
Guest:	It's very much jungle.
Interviewer:	Very much jungle?
Guest:	You see some people doing chess set... my clients now, they bring me to do three and four. They're already very clear. That metaphor landscape works in Anglo culture. If you do that in Malaysia, it's a different type of jungle. An ethnic jungle, a political jungle. The chess set is not really rational, it's 'how do I marry my daughter to the minister so we can all get wealthy'. Same in China, you work in China, you know the stories. It's different, but generally it stays at level one and level two and you want to push them towards three and four.
Interviewer:	Which was the second part of the question; in order for business to sufficiently anticipate change, where do they need to be?
Guest:	Yeah – you want every year one day where they are doing emerging issues analysis. You want a one-day foresight day. You need a working group that is constantly doing that. In your business you have two or three people always saying what's next for customers, what's next for our stakeholders, what's next for our board? That keeps the future present.
Interviewer:	I believe you said in some case the negativity towards preferred scenarios can be circumvented by using backcasting?
Guest:	Yes – it's less now because I try to find the story. Often if you go preferred futures it can be too far. The preferred future needs to have some link with the narrative. If my preferred future today is by 2030 I'll be on Mars and my narrative is I don't like to leave; that's one kind of big contradiction. The second is that if it is too far people give up. Back casting becomes a simple way to say – what's easy to do and what's high impact, three or four things. Backcasting is incredibly powerful.
Interviewer:	Do you think with people you need to give them the scenario for them to reflect on? The reason I say that is – in some of my discussions and interviews with people, they very much struggle to come up with a view, even if a very high level view, deep into the

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future say 2050; 34 years... I am reluctant to spoon feed them other's opinions or my opinions on that.

Guest: In a conference setting you could have three, four experts say here's 2030, 2050. That's data input, then you need them to be aware of their biases and start to develop the scenarios. My role, I'm very clear for all the futurists to make smart people smarter. It's not to try to be the smartest person in the room. To say I have more privileged information and you folks don't. Then that means agency is lost. If the the goal is to recover agency and uncertainty and anxiety, then I have not done a good job. They're really creating a co-creative space, and that means honouring their perspectives, honouring their scenarios and again with the CLA process, finding their narrative.

Interviewer: Regarding business leaders and marketing practitioners looking forward to 2050, what do you see are the main drivers they should be concerned with – and why? Furthermore, what do you see as the primary hurdles or points of significant friction, that is the concept of weights, according to the first pillar?

Guest: I would get five marketing people together and ask them that. I can tell you what everyone else already knows. Move towards sustainability, rise of Chindea, move towards Artificial Intelligence. Move towards branding of the self. Those are kind of the whole discussions. That would be generic discussions, these variables are crucial, the goal would be you want to link those big ideas with the marketing people and get them to break their assumptions. They first need to know their assumptions. For me I wouldn't ask them what are you marketing? Are you in Pakistan or are you in Bombay [Mumbai], are you in Wellington, are you in Sydney? Clearly our work is around linking narrative to data. I would try to find their story and somehow link it.

The weight could be this won't happen, it's too far. That's often the weight, if they are unaware of the rate of change. The weight for other people is 'the organisation won't let me express this'.

Interviewer: How would your concepts of the pendulum, the spiral, the linear, the cyclical, how does that come into this?

Guest: Every organisation, they are trying to figure out where they are going right? For example, in one city their view is let's be green or let's be sustainable, let's be more vegetarian for example. A new mayor comes in, and he's the opposite. If you understand there's been a pendulum shift, would you now push the old agenda even though there has been a pendulum shift. Of course it is not going to work. You're losing valuable emotional, spiritual, cultural resources and hitting yourself against the wall. The thing would be wait, be patient until there is a shift back. In this case, the shift now is coming back in this city. I did work for them for seven years, for seven years they didn't call me and suddenly I met with one of their directors saying, "Oh, okay, we're almost ready to go back to our strategy. The last seven years we have just been doing whatever."

Interviewer: A very clear swing.

Guest: Yeah – This is the alertness for the organisation to locate themselves in macro history. This takes, you have to move back, in Malaysia and Asia, it was always cyclical. Now every speech I give there is always linear. No one there thinks bad times are coming. They're very clear, I think the last one in Singapore is yeah, by 2050 the world centre for everything will be Singapore. The way London, Paris, New York are today in 2050 will be Singapore, maybe Shanghai or Seoul. In respective of what they believe, so that I can immediately identify that the linear pattern is evident. Then it may be wise to say that yeah, but things go up and down to remind them. This is really to be able to use multiple patterns to understand the future.

All my PhD students, I have them apply the macro history chapter. What does the future look like within these different patterns? With business leaders I say well okay, if you are looking at your company, what does that company look like in these conditions? Of course Sarkar is crucial here because he has his theory of the social cycle. Are we intellectuals, are we warriors, et cetera, et cetera. These become lenses you can use to better understand things.

Interviewer: As business goes digital, and the notion of a network organisation or a peer to peer structure becomes a reality in many organisations. What in your view – have you thought of as the driving metaphor behind this?

Guest:	People talk all about the pyramid to the spider web. That's one way to talk about it. I think the metaphors of the past. Your question, what are the metaphors that enable in light in a peer to peer organisation. I don't have an easy answer for you, I think when I ask people that some people say the school of fish as opposed to the large whale. I've seen that they can react very quickly, move synchronously, doesn't have a leader… People are actually looking for that; I think it is a great question. What I say by one CEO of a city, she said yeah, she wants to go from the large whale to the school of fish. That is pretty good. Again, it would be contextual, that's the thing with foresight.
Interviewer:	And to understand the systemic changes that enable it.
Guest:	Yeah – when I worked with Interpol and Europe-pol, it's too far to go to peer to peer. The best they can go from is … King of the mountain to director of an orchestra, that's not bad.
Interviewer:	It's slightly more democratic.
Guest:	Yeah – each one will take a different step.
Interviewer:	Well you are saying that now, of course, with a lot of new organisations that don't have the baggage and they can start like this. Certainly in my job, dealing with enterprise and big banks and the bureaucracy and levels, and the internal politics, it reminds me of the pyramid.
Guest:	Yeah, there's utility in pyramid in certain times. It's just should it be the dominating organisation? For me what futures has found, and I was having this discussion with cities fifteen years ago, sixteen years ago, and it was still too far. Now this becomes a relevant conversation. How do I integrate the school of fish with a pyramid? How do I integrate multiplicity with … one hill? The many with the one.
Interviewer:	In my interviews with people in various sectors, they've largely expressed great uncertainty from a very negative light about the future of human capital and employment in their sectors, be it banking or health or manufacturing especially. Particularly with the potential advent of – for now we'll call them 3D printers – and where they're potentially going. In any case this negativity behind human capital unemployment and just the whole concept of automation, what are people going to be doing? And…
Guest:	It's clear, it is the end of the job. That was weird future stuff thirty, forty years ago. Now we're in the transition. The only way out is full automation with guaranteed universal income. So you give the base, and then the middle area you play. Those who want to work harder can have the business class seat, but everyone gets a base and the whole world becomes 8 billion clients. Freelancer is the way, but if you don't have a basic income then freelance means huge exploitation. There's a shift that's going to go on and the core I liked was when this one professor, he said, "If you're worried about your job being automated, then most likely it will." I don't think it is going to be stopped now. I can just see my own behaviour, I was looking for someone to edit something, and I immediately thought "I'll find some website in India". It didn't quite work out yet but that's definitely the direction. Why would I use someone in Sydney when I can use someone for one tenth the price? If there's a good robot does my editing I would far prefer a robot.
Guest:	I'm working with national disabilities services and we started to look at the future of sex partners. The carers all thought this was gross and weird stuff and one of the people said, "wait a second, you're not disabled, robotic partners would be fantastic. It would actually be a huge welcome, those who are disabled to have some type of caring."
Guest:	They are rightfully depressed, but it becomes then a governance issue given this, you don't want a situation where you have Trump-ites, angry demagogue leaders who are saying the jobs are disappearing, let's blame the Mexicans or the Indians or whoever. Or the robots – let's actually find a collective solution. That's going to be good futures, but getting that on a national level is not easy. I'm working in South Africa with the small employment group, that's what they're facing. How do they make unemployment the goal at a national level? It sounds wacko, right?
Interviewer:	Some of the points people have raised with me is they foresee a dramatic decrease in the number of people in their particular sector and certainly what they are doing. I know the banking people, especially in Australia, in the last twenty years the number of people in the bank industry has halved. They foresee it to half again in the next fifteen

years roughly. But particularly those that say well you'll have the innovators, you'll have the smart people doing things, creating things, but then there's the huge question of education, or a lack of education, in certain groups and what's going to happen there. How is society going to address that?

Guest: That's the national level discussion you want to have. Either they just become the underclass, or they are taken care of so they can find things that they want to do. You see Rifkin's works, Sarkar's work, they are two of my favourites, really talking about the transition, not just in the industrial area but world capitalism industrial era nation-state to this other planetary system that we're entering. We're entering another planetary system; old solutions won't work! My question is how do I get decision makers to get that and use their incredible brains to find solutions for it.

Interviewer: How do you think products and services will be marketed in the future. Where do you think marketing fits into all this given such a drastic change in the interaction product services and how we consume.

Guest: Well one is the end of marketing, that's one theory. The second is the person becomes the brand. Each person becomes their own kind of global brand. You see that with Universities. The end of the University, the professors of the University, third is you have these deeply inequity Universities. Brands… some brands go incredibly well, others just disappear. Those are three I can see quite easily, and fourth you have these niche very particular brands that are fluid, they stay for a while, that disappear based on whatever is happening. Time is much quicker; attention is much quicker. Those are the four, not being a marketing expert, that I can see it. My goal again in futures would be to get marketing experts to sit down and say given these four possibilities, can you now tell me how you locate yourself there. That is really the power of the foresight workshop.

Often people say you spend nine hours doing this, you could've given us the answer at 9:05am. Yeah, but that's not the purpose of the day. I've given you the answer, I get paid, you have nothing but the answer. That's as bad as selling commodities. I've given you the commodity, I have a hole in the ground, you then manufacture and do something well. The whole idea is you are trying to create a learning culture dimension from it. They key of futures is to create these learning frameworks, so that becomes a transitional strategy in a way.

Interviewer: Can organisations really be convinced to use a phrase that's not mine, "solve tomorrow's problems today", given the huge focus on the short term, the accounting years, board level years, that's a theme that seems to crop up quite a lot with people.

Guest: It's horizons. You want horizons three, two, and one at the same time. One eye on 2040 to 2050, one eye five years from now, one eye on today.

Interviewer: Right, that's a good view.

Guest: The other part is if you see people who are future avoiders, they always say that won't happen, that will happen in the future, but when it does it is in the present. If you see a smoker and they say 'I'll get cancer in the future', well no you won't, you will actually get cancer in the present. It is not a future. Those are two things, triple horizons and always think the thing that will happen will be now. So at least Bowling (?) is good, she said, "well let's just extend the present."

Interviewer: What do you see, sort of lastly, is the principle metaphor for the typical marketing department today?

Guest: Hmm… the imagination I have is the used car salesman, that I have to convince people, this is just my bias, I really don't know.

Guest: I find marketing people the ones who get CLA the quickest. My experiences when I work with marketing groups, they are very clever, they are very bright, they're very creative, they're very sharp, they get CLA in minutes. Indigenous people as well. Finally, this is Maori or indigenous methodology, but you just called it CLA. I said yeah, I just found a way to communicate your knowledge to other groups, they actually get that. Marketing people get metaphor, and they get litany, and if they're good they get multiple world views, and if they are really good they get how to transfer that into systems. I don't find marketing people far from me. I think that TV show Mad Men, it's starts to frame marketing in a particular way.

Interviewer:	Indeed. From a marketer's perspective, those of use who have to deal so much in both Western and Eastern markets, possibly the worldview comes more naturally to us because of the different way we have to approach everything and the different considerations, different behaviours, societies, attitudes.
Guest:	Exactly it, the metaphor moved from one language to multiple languages. From a uni-lingual to a polyglot. My son, he lives in Poland, he is fluent in seven, eight, nine, ten languages, he is to me is the imagination of the emerging future. Then you have the person who lives in Sunshine Coast, they speak a variation of English. This kind of marketing is going from that to this world. Those of us who can play in this polyglot world I think would do better.

Interview 2; senior practitioner in airline industry

Interviewer:	How has the sector evolved over the last few decades and what are the major changes that have shaped it today?
Guest:	How has it changed? And we're talking about innovation in the airline industry, right? Well -
Guest:	To give a bit of context with [company], so [company] still runs a mainframe at the very heart of its booking engine which is common knowledge. It's a forty-year-old platform at this stage, and we still have people working in the company who were there on the day they went live, and they're still here now. These guys have seen everything from the very basic mainframe system when it went live, and it was all very big fancy, and big terminals, right through to where we are now with Google Glass and virtual avatars and holograms serving customers in airports, so there's quite a spectrum in terms of the experience and what people have seen I suppose.
	Innovation in the airlines. [company] from sort of 2008 which is pre my time but I can talk to the history of it. I suppose [company] was the first company to do check-in to gate, and not have to check-in at a kiosk. It was one of the first companies to do a mobile boarding pass on an app back in 2008 as well, which was an old Java application. It has a history of innovation, and it's been a slow and steady pace, if you want, since then. A lot of technical innovations in the aircraft field which I can't really talk to.
	Then there's some innovations in the aircraft for instance IFE and the technology used there. A lot of stuff around technology for navigation and pilot stuff, but essentially the pilots at the moment still walk out with a bag of flight material and twiddle a couple of buttons and away they go. Their job in flight is still quite easy where they dial up and down for an altitude and a speed and they sit there reading the paper for a few hours. One of the things we are doing for the pilots though at the moment is looking at rolling out iPads so they become connected pilots, so all their flight plans, all their briefing documents, their policies, procedures, safety, emergency et cetera is all contained in an iPad offline which syncs automatically to a central hub when they land, wherever they land. It's used for logs, et cetera, et cetera. There's a paper backup to that system as well, but the connected pilot is one that's being rolled out at the moment, so every pilot will have an iPad.
	With the check-in stuff first to do mobile boarding passes. In recent years we've done a lot of innovation around our lounges, and what you will find with [company] is that it's a fast follower in some respects where we will look at a technology and come in right behind once it's been proven, and that's got to do with our price point as a domestic carrier, so our competitive advantage is we know New Zealand better than anybody else and we'll hold onto that ground. You don't need to spend a huge amount of money here, but you still have to make it a viable customer experience otherwise they will slip off to Qantas and Jetstar. Of late a lot of innovation. We would be compared to something like Alaska Airlines in terms of size and their approach to booking online. Maybe a Ryanair, maybe an Aer Lingus. We're quite similar in terms of size and their approach to online booking engines.
	There's a lot of copying of each other in the airline industry around the look and feel of booking engines, the look and feel of mobile apps. A lot of people do their own spin on it, but what you find is that one person will find something that works and then they all sort of copy it, and then they just keep going like a vicious circle. Like the fashion industry going from … around the world. Lots of stuff gets copied that way, but there are a lot of hygiene factors around what should be presented online, what shouldn't be, and

how quickly people want to get to where they want to go in terms of the booking and the payment.

A lot of airlines still suffer from a lot of drop offs in the online experience in terms of only having low percentage conversion rates, so a lot of time has been spent now around innovating and the look and feel for booking, so a lot of time being spent on the inspiration part of the journey. When I'm a passenger looking to book online I need to be inspired, I need to have the ability to make a scrap book for example, like an Expedia product or what's that other one? Sort of like a WorldMate or a TripIt and collect what I want and then submit it to an airline for a quote, for example, and then you come back with the best prices, but at the same time you need to be able to up-sell and cross-sell products as the customer goes through.

There's a lot of innovation there around A/B testing, online A/B testing. Separating your markets into, or separating your customers into markets and demographics, and locations, so you can test different products in different places, and then you raise, whichever one is the most successful into the main market. That seems to be quite successful for a lot of airlines. Then the whole proliferation around innovation around mobile apps, so most airlines have a mobile app. The mobile apps are typically divided into a couple of categories, so you will have like a day of travel.

A lot of innovation there around joining your experience on the day, so when you wake up in the morning and need to get to the airport, board a plane, and get to the far side, do you need to use a piece of paper, do you need to use your laptop, do you need to use your e-ticket, or can you just use your phone? For [company] probably the most recent innovation was early last year where we launched the Apple Watch app and essentially you can go from your bed to your destination just by using your watch, so you can check-in at the lounge, you can check-in at valet parking. You can order a coffee on your watch. You can check-in at the boarding gate and get off on the far side, so you only need to use your watch there.

Lots of things there. One is around the cost of that, so some of those things are quite cheap gambles in terms of what are you going to get from it. You get the great customer story. You will be seen as a great innovator and it doesn't cost you very much. The only reason it doesn't cost you very much is because the technology is catching up and it's getting better and better. Airline book, mobile apps: there's a lot of innovation there. Day of travel is one area, so you've got your boarding passes, you've got notifications as to when you need to get to the airport.

Then you have in the mobile app you will also have a loyalty component, like frequent programs. Lots of innovation there around what sells, what doesn't, what people like to earn points on like credit cards and products, and they need to see their balance et cetera in the app, and then the other would be retail, so there's lots of opportunity for retail in these mobile apps. You've got a captive audience for want of a better word on their day of travel, so you should be able to serve up an advertisement on the day of their travel or twenty-four hours beforehand. Not just on email but on the phone.

If they arrive at the airport you should be able to prompt them to say, "Hey. Would you like an upgrade? Would you like a seat in the lounge because they're half price because we have capacity?" Lots of innovation there, and there's lots of technologies coming to the fore which allow those things. In the past you would only know where a passenger was on their day of travel because they touch certain systems. This is going back years, so when I walk up to a counter and check-in, I know where you are at that point in time. You're standing at the counter and you couldn't be anywhere else.

When you walk into a lounge and you enter the lounge you scan in, so we know exactly where you are, so we can do some things then, but you need technology to be able to prompt either the agent who is at the counter to do something for you, or tell you something, so lots of technology around ... Recommendation engines are coming out now which relies on powerful computing power. Again, due to cloud and cheap solutions all that stuff is a lot more possible now. Back to the location stuff. Again, easier technology. Cheaper technology around location based services. Most people walk around with their GPS on on their phone.

A lot of airports are looking at how do we interact and how do we innovate with our customers on their day of travel through the airport space, and there's a conflict there between the airlines and the airports. The airports would like you to spend as much time as possible in the airport so you spend more money in the shops. The airline needs to get you from the check-in desk to the plane as easily, as quickly as possible, not lose you

and get you onto the plane so we can take off on time and not be charge a penalty. You've got that conflict, but the technology around GPS and then more recently in the last couple of years it's gotten a lot bought, and easier to implement is indoor location services. Indoor location based services.

You've got a combination of Wi-Fi triangulation. You've also got a combination of low frequency beacons, or iBeacons launched them when they came out, but they've been around for a few years. Using those things, you can pinpoint a passenger down to the nearest meter, so if they're lost or if they're delaying ... Let's say the plane is taking off in thirty minutes and the security queue is fifteen, well you can send them a message to say, "Hey. Listen, we know you're on the wrong side of security. You better move in order to hit the plane." We know they're coming through maybe a particular part of the, I don't know, duty free, so we might say, "Hey. Did you know that [company] has a special offer with this duty free company to give you half price whiskey," or something?

An airline can do that, and an airline can say, "Hey, we noticed you didn't check-in your bags and you've gone straight to the gate area." Do you actually have a bag or have you forgotten it?" You can make money out of it, or you can really enrich the customer experience.

Interviewer: Is that particularly far off or is that in the works, that sort of innovation using beacons?

Guest: It's already live around the world, so you should look up a case study, Gatwick Airport in the UK. They've done a large implementations of beacons. For example, you can look at a Google map of Gatwick Airport, and when you arrive at the airport you will see your location at the gate and it will show you. Let's say you're ... It will tell you, for example, that your bag is on carousel number six, and it will show you the line on the map through Gatwick Airport to your carousel, and it even shows you to go down or upstairs. It's quite advanced. It's quite rich.

They've got that working there, but the difference there is they've got a big landscape, big investment, large opportunity, whereas in Auckland, for example, you can stand at one of the airport and see the other end, so you're very unlikely to get lost, but there's still some opportunities there. The difference you have is Gatwick Airport are quite pro opportunity and they're quite pro technology, and they're quite pro airlines. They're quite, let's say, customer experience, whereas in Auckland International Airport Limited they have an aggressive form of ownership around their customers and who they think their customers are. They play well with the airlines but not as well as they should.

The airport will say that we own the airspace. We own the radio frequencies inside the buildings and anything to do with retail or airwaves or location services, we own. There's a bit of a barrier there between the airlines and the airport, and that's not just [company]. It's all airlines at the moment, but there is some small progress being made. We've managed to crack their teams recently so I would expect within the next year we'll see some trials with the airport around offering value to the customers, not just pinging them for some sort of retailer or revenue uptake. You will see those things there.

We did a proof of concept last year in Christchurch. We had a little bit of social activity on that because some people picked it up where, for example, a passenger coming through security is approaching the lounge. We know who they are and when they're walking up to the lounge, and we were able to tell the lounge managers or the people who were serving the lounge by sending a message to their Pebble watch that you are on the way. They could be standing there waiting for you if you're a very special customer. They know who you are. They know your favourite drink. They know your newspaper, and they know what type of seat you like so they can welcome you in, and they can bring you to your seat and then get you whatever else you need.

It's around knowing where you are and then preempting the experience you deserve to have when you get to a particular point. We've tried that and that worked very well.

Interviewer: Wonderful.

Guest: That's all airport innovation and so there's probably a combination there of cheap technology, a valid cost for a business case where it makes sense for us to do it, a valid customer experience, but also maybe some revenue uptake as well. Recently you will see a combination of all three where you have the Air band product we released end of last year. That was a combination of new technology, cheap technology, cheap mobile phones and then a mass drive to get those into the hands of customers, but also so it's a

customer play, it's an experience play, it's an innovation play, a technology play all in the one piece of work, so that was quite an important one.

Interviewer: With [company] being seen as like you say a great innovator how is the industry doing in general with that? Is everybody trying to race ahead in terms of innovation or is it sort of a staggered thing, or are some not bothering in general?

Guest: You will find people like Qatar and Emirates are spending a fortune on some of this stuff. United Airlines, less so. American spend quite a bit. Virgin do very well on in-flight service, and a lot of them do well on say like the IFE and in-flight entertainment and video streaming, live streaming, that sort of innovation. They're backed a lot by industry partners, you know technology providers, satellite providers, and then you've got organisations like IATA or SITA who are the two, let's say, two of the major sort of network organisations for airlines, and they've got a hub around innovation and trying to encourage airlines to talk about common issues, and common problems and solve those together.

SITA has a labs organisations and they work on new technologies and new applications of technology and then they share those with the airlines. There's some basic stuff that all airlines need, and there are some people who work on those, but then you have competition with the airlines. If you look at any airline magazine there's always a competition to get the newest toy or the greatest thing, so Virgin in the UK, for example, announced that they were using Google Glass. When a passenger walked into the lounge they could recognise them. Again, the Glass product was a failure and it was a bit of an early shot, but what Virgin got out of it was a bit of a reputation as being innovative, great PR, but they get the momentum and they just keep on going.

[company] has a bit of that as well. We'll do something for a bit of press. We'll do something for a bit of innovation, and you just keep on going, but you've got to pick your products. We wouldn't have done Google Glass for example. Westpac bank did it. That's probably the other point is you need to look across industry and see where other people are using it and what's relevant, and it has to be appropriate, so you never ... I don't think we're ready for like all the stuff wearing Glass in a lounge for example. We're not ready. The technology is not ready yet either. There is a bit of a competition. It's always good to be seen to be doing something first, or getting the headline.

For example, when [company] did the coffee, nobody has coffee, so we got some really good press out of it. There's always new things coming up, and that's across the range for loyalty programs, loyalty experience, online, in-flight entertainment, airport experience as well. For example, who did the holographic projections. Last year for example or a year and a half ago there was a bit move around virtual avatars and having holographic projections of staff around the airports to help people and give them information. A lot of airlines rolled that out and that was quite cool.

We had a sample down here. We used it for an event, and people loved it, but we didn't continue. Because, again, not really appropriate for us. Couldn't really find the space in the airport to do it in, and we probably need to wait for a while before we do anything similar. Definitely lots of innovation focus because that's where the margins are going to be kept. That's where the customers stay engaged and you keep your brand alive.

Interviewer: Thinking a bit higher level now imagining the sector in thirty-four years' time, so 2050 obviously, what do you foresee as the big changes in the industry?

Guest: I don't know whether we'll have airlines as we currently have them. You might have companies who simply lease planes like a bus. I think you will get to quite a consumer sort of public transport model of airports and airlines when things become really cheap and things like security matter less, and I think there will be a real blur, even in the next ten years of the sort of service that you offer where you may book a flight, but you're being picked up by a driverless car from your house and being dropped straight to the door of the plane, so you will have scenarios like that. I think it's going to be quite a change there.

Geographically for New Zealand, you know, will [company] still exist? I have no idea. Will there be just a proliferation of long haul flights and longer flights? Yes, but whether a human can actually withstand staying in a plane like Qatar Airways would like you have, like for eighteen hours from here to Doha, I've no idea. I think that a lot of investment in parallel or tangent technologies and companies for airlines between now and then, and they'll be a very different proposition. I think it'll be highly personalised because we'll know a hell of a lot more about you. Your internet provider may well be your phone

Interviewer:	company and your travel partner, so there's lots of ways this can go, but definitely will not be recognised and airplane technology will come along as well.
Interviewer:	Is disruption a concept that has airline companies concerned or looking ahead and wondering what's going on?
Guest:	I'd say yes. Largest hotel chain in the world doesn't own any hotels. The largest taxi chain in the world doesn't own any taxis, so why wouldn't the largest airline in the world not own any planes. It's a simplistic example and I hate throwing out Uber and Airbnb but they work quite well to sort of say to people, "Hey. I'm an airline but I don't own any planes." There's a company in Australia they were in the press a couple of weeks ago. I can't remember their name, but they've basically leased a couple of planes for a domestic proposition where the planes fly at certain times every day during the week, and you book a place on it, and there's no check-in required. You basically rock up to it, to like a counter, and you're on in half an hour or less. They're already testing the limits around what does a public transport model of an airplane look like where you've less of those restrictions. It is just like a shuttle up and down. That's an example where they don't own the planes outright. They're just running a service across the top, so it could be like planes as a service. Like you'd have email as a service or data as a service. That sort of disruption is real and it's talked about probably every day I'd say. Airlines are looking at ways to either protect themselves or get ahead.
Interviewer:	Is there anything in the industry at present that you think really just has to change fundamentally going forward? Like there are major stumbling blocks or friction.
Guest:	Probably the thing that confuses most of the systems or complicates what we do is people. You look at any sort of process around booking, or you look at anything around checking in with a phone or walking through a security queue, or getting your bag scanned. It's people that complicate it by having ... Everybody is going to have a different variation of the flow and do things differently, so that's always going to be a challenge I think is dealing with all of those. Things that we can make easier, for example, you can turn the bag model on its head and do things differently, so why can't we pick your bags up from you and put them on the plane rather than have to go through that convoluted process at the airport. Why can't we just drop them off somewhere else and it just happens. We'll have e-tags where you will print them off at home or they'll automatically update while they're inside your house and you just drop them off outside the building on a conveyor and you know they're going to get to the plane, and you just basically walk straight through. If we were to redesign an airport it would completely different, you know, with a blank sheet of paper. Probably the human factor in terms of the variances.
Interviewer:	Hello?
Guest:	... when it comes to the product design online. There's some things like, "Okay, we've ... " Hello. Yes.
Interviewer:	Yes. Sorry. You cut out for a second, but you're back.
Guest:	We think about them at the sort of eighty-twenty rule where this will work for eighty percent of the people. We're going to spend more time dealing with the twenty. There's probably some of that involved around some of the digital products that are coming out, and you got to balance your approach there.
Interviewer:	We were talking about people just then but given everything we've spoken about regarding the future of the industry what are your thoughts regarding human capital employment looking that far ahead.
Guest:	We'll definitely have less people working for airlines. The approach now is around service mentality, so it's not around hiring somebody who knows how to pour a coffee on a plane or know about planes or know about books, it's how do you serve a customer, how do you make them feel special, and that's what a service mentality is, you know, the same for taxis, buses, hotels, cruises. You name it. It's about how you feel, so that's changing in the short to medium term. We'll definitely have less people. More plane, for example, will be flown without a pilot in the future, so that sort of thirty, forty spectrum you talked about. There will be people on the ground flying the planes. Nobody else will need to.

There will be all the trolleys and the bag loading and the baggage load and the cargo load. It will be all robotic and automatic. It'll be quicker, it'll be faster. There will be more planes flying more often, and there will be less people in control, so there's that, but again we are all human, so you still need some call centre. I reckon we still need some people there to deal with the exceptions. People will still need a caring face and a kind word in the front of house, but a lot more will be automated and cheaper and more efficient to run I imagine.

Interviewer: Also in this time period what are your thoughts regarding marketing? What do you think marketing will look like as a field?

Guest: Are we talking sort of thirty, forty years?

Interviewer: We are.

Guest: Okay. God. Good question!

Interviewer: Or at least the big changes that you foresee over the next few decades just to draw it up.

Guest: I suppose there's still going to be a science element to this, so there's reasons why people like things. We like shiny and new. We like to be told things that compliment us. We like our ego rubbed. We like to be made to feel special. At the same time people will always get duped around, "Hey. There's only one left. Buy now before it goes, and this is the last one," type of sales deal. I imagine the human psyche will still be at play there. Data and big data and recommendations and personalisation is a current big wave.

It's there at the moment, but it will get bigger and bigger, and it will probably touch a lot of things you do, so when you get into your car or your phone if they still exist it'll will know exactly what you like and what you don't like and there's probably less decisions you will have to make because you won't have to decide what will I have this morning. It'll go, "Hey. Listen, we thought you'd like this," for coffee or for breakfast. It will probably take some of those decisions out of the way. Marketing, it's still an industry. There's still money to be made, but I think it'll be a lot more in your face. It'll be a bit more pervasive in terms of how they reach you and what they reach you on and what they're selling.

Again, probably a lot more digital products. We'll still have physical things. We'll still have cars and planes and bikes and everything else, but it will be served up a lot more digitally and a lot more connected.

Interviewer: Highly data driven I would imagine.

Guest: Huge data driven. It's already exploding and it'll just continue to get bigger, and bigger, and bigger. You will still need your data scientists to figure out what sort of models they'll run as well, and companies will merge and companies will know more and more about you. Apple or Google may not exist then. It'll be somebody else.

Interviewer: Do you think that there will be few large brands or many small brands?

Guest: Good question. To my last point you look at, what are they called now? What did Google just rename themselves as?

Interviewer: Alphabet.

Guest: Alphabet. There you go. Alphabet. Why wouldn't that be the Uber company? You see all these futuristic shows where the corporation runs everything, and in today's world that's not an impossibility. It's plausible. How likely it is I don't know. Good question. You may get lots more ... We talked just before around having less employment so you may actually have at a local scale more brands and individual brands and reputations, but you might have larger corporations who deliver the stuff to you. Good question. Don't know the answer.

Interviewer: How has the innovation aspect of organisations such as [company] but others as well in the industry ... Has innovation been pushed, innovation teams or dedicated innovation people being sort of pushed to centre stage, or is it a side project still?

Guest: For [company] definitely centre stage. We have a new head of innovation who actually I'm sitting here thinking going, "[redacted] should be on this call." He would nail it. To be

honest a lot of the questions he'd probably say, "Oh, I don't know. We'll know that in two years." Which is a fair answer as well to be honest. Is it more often? Yeah. I think you're seeing the proliferation of things like chief digital officer, innovation, customer experience centre, innovation lab, design centre. At the moment there's a big wave of these things being set up, and I think it's probably around catching onto digital, catching onto new things, catching onto new products and not being left behind. Because at the moment competition is fierce and modern technology is enabling that, and manufacturing cycles are becoming shorter, so people need to focus on it.

Some of that is around telling people and having your brand associated with being new and innovative, and there's no harm in calling it out and news articles saying, "Our new innovation team said this." Or whatever. The proof is in the pudding and you have to be able to deliver stuff out of it. Governance models are changing around innovation, so how do you take … If I think of lots of other companies, they've made a concerted effort to spend time and money on researching, and just because you put people in a room doesn't mean they're going to find the next big thing.

Innovation takes a process and you have to keep looking, you have to keep looking and looking and asking the questions, and I always ask why. You're always delving in and delving in, and it can take a long time or a short amount of time to find the breakthrough technology that you can point at your innovation team and say, "Look what they did. They created a brand new industry." The hard work behind that is sort of ignored and forgotten. It's not a magic switch and it's not just putting people in a hall or a room. It's a process and you have to follow it I think, but definitely at front of stage, definitely a lot more investment. People are aware of it. People know they need to do something new. People know they can't rest on their laurels, and innovation and digital and CDOs are the things that are driving that at the moment.

Interviewer:	It's certainly popped up all over the place. It's very interesting.
Guest:	That's in banks, airlines, across industries. The man in his garage down the back of his garden who is making some new metal part for a motorbike, that's innovation but we don't hear about that type of stuff. That still happens.
Interviewer:	Yeah. It's funny because with all of this happening … I had to wonder the other day. I was speaking to, just in a business meeting, a senior director and they said the word digital has been banned there for now, and I thought that was interesting because it was possibly [company] I thought of when I thought, "Aren't they hiring a chief digital officer?" Maybe it was another company.
Guest:	Yes, we are. He started last week, or the week before. Sorry. It's true. The word does get bandied around a huge amount and even concepts like DevOps, you know, combining dev and operation teams together. You can call a team that, but it doesn't mean that they are one. You need to call it something and digital teams and the CDO, it's appropriate but there's more of a cultural change that needs to happen, and there's a cultural shift and there's an acceptance that people have to make and say, "Okay. That's the digital team." What do they do? "Okay. They work and they think kind of differently." What do they actually deliver to us? "Well, they deliver things to us differently, and it's quicker, and it's easier, and we get more value quicker." It's all those things. Not the fact that it's digital on its own.

We struggled with that last year around, "Well, we're calling ourselves digital this and digital that and are we really?" You have to call it something. I said to my team yesterday, "Well, in three years' time we may not be called the digital enterprise team. We'll just be called the enterprise team because everything is digital." I'm already sort of even in my own conversations I'm broaching the topic of this word will just disappear. In our team we've got the innovation team. We've got customer loyalty, Airpoints, we've got digital operations at the airports. We've got planes. We've got a SAP system for maintenance. We have security, data, data sciences. We have strategy, project delivery. Everything is under that banner. It's a huge remit. This will be our first full year as a digital team with a new CDO. He's started, so it will be interesting to see where we end up.

We got things we have to achieve, but I think people are waiting to see what happens. That will be interesting. Airline industry, lots of cool innovation. If you had the money to do them all, it would be fantastic, but you don't so you make the best of what you can do.

Interview 3; banking industry executive

Interviewer:	The first point was, how has the sector, in your eyes, evolved over the last few decades?
Guest:	Sure. Okay, I'll probably use banking and financial services as interchangeable. I'll go back a few hundred years. First banks, around 400, 450 years ago, and then based around being able to provide capital for commerce, then sort of moved to a central banking system which was probably the biggest step change that's happened in banking up until modern times.

Then you've got, the same type of system of taking in investments in any amount and making that margin in the middle, but very personal, face-to-face relationship-based industry. But actually with data at its core, just obviously paper based. In those days moving right up to, I guess the 1960s, 70s, where suddenly it was telephony. The ability to then be able to scale, and by scaling having to put a digital, I guess you could put it, layer between that personal relationship of the banker and the customer. Contact centres coming in to play I guess is the big step change in banks being able to look at actually moving from a very personal, one to one relationship, to starting to scale it.

Then the next logical evolution from that was the internet, and saying, okay, so what we do in phone banking and contact centres we can now start to do in the internet, as a way of taking that transactional out of branches. We can get back to being branches more around face-to-face, sales conversations. If you're thinking, you know, that was the thinking back in the 1970s. That's pretty much the digital strategies of most banks even up to the last few years. How do we use the internet to take that transactional out of branches? Branches are expensive. We can cut costs there, or have more sales conversations in there.

I guess internet banking never really moved that far. It took people ... There's great take-up, but it certainly didn't mean that branches were dead or that people didn't want that personal relationship until I guess mobility came along. With 2008, the iPhone, suddenly there was a real step change and everyone had been talking about internet banking taking off, but it never really did. Then suddenly everyone is using apps, and then a massive amount of usage compared to desktop.

Then the, I guess a real channel shift, not driven by banks, because all banks have done is put their ledger, they've digitised it. It's the bank's view of your finances, not your view. They've put that onto mobile. What happened with mobile, was you put massive amounts of technology into a massive population and you see changes starting to appear. Suddenly people's expectations around banking were driven from the experiences of other mobile services, particularly social media and how that worked. Some of the expectation rises from more than just, okay, so I was content that you were giving me at any time I wanted it a view of my statements in the past. A sort of dynamic monthly statement, if you like. Not on paper, now digitised. You've made that dynamic, but however my expectation is that you're going to do a lot more. You're going to start giving me much more insight, and that I can actually start managing my money in a way that makes sense to me, rather than the version you're giving me, which is, here's the credits, debits, and transactions based on how a bank's processes deal with them.

That's where banks have stalled in meeting customer expectations. They just haven't kept up with what the rest of the internet's been doing with things like books, music, news, those industries that are being turned on their heads. Banks, because they've held onto the data, have been laggards, if you like, in reinventing the experience based around what customers really need. They're still pumping it from a bank's point of view. I think now the challenge is that the data is starting to become released. You've got really interesting things, particularly recently with TPP, around data sovereignty. It's always been, you know, you have t keep the data in the country of origin. Now we're saying, well, actually no, it can be shared amongst the collective who've signed up for TPP. Also, is you've got those start-up banks or Fintech providers who've been beaming away on desktop for years, and achieving sort of a niche, but are now poised with systems and insight to offer far, far greater insight.

That's my sort of journey, I guess, of the way banking is. I guess my point is that the key issue for banks is that they haven't really taken the opportunity with both hands – the internet mobility has provided. Now we're behind the curve of customer expectations. That's starting to be validated by research showing that, I think the lowest one was from Ernst & Young, of fintech adoption globally, which is, how many non-banking financial services, products digitally have you used in the last 6 months? If you used 2 or more

you're seen as an adopter. That's around, I think global averages as 18%, around 13% in Australia. That's the early adopter market for sure. For banks that's a warning sign that the curve is starting to turn.

Interviewer:	Do you see any, it kind of leads into the next question, but do you see any disruption on the horizon coming from the peer-to-peer style lending?
Guest:	There's disruption from a whole variety of different players looking at different aspects of financial services. Peer-to-peer lending's one of them. I think that's in the classic, you know, in the existential curve. It's in the valley of disappointment at the moment. I think there's a lot of people trying different things. We're taking some early adopters and carving out little niches, and the same with mobile payments, too. No one has actually cracked us, but that's where there's so many players, and there's so much venture capital being invested, you know, billions, so there's an expectation for investors. They're going to get a pay off. Some are going to lose, but there's enough of a ...
	... I guess there's this, the amount or investment in there is indicating that some of these are going to be winners, but I don't think it's just P2P. I think it's around the payments, it's around lending, it's around credit decisions, it's around insurance, it's about transactional insight. Everything that banks do is now up for grabs because it's all based on the data. If you can get a hold of the data, and if the customer wants to give you the data, then ... You can see that with Xero. They're taking all feeds from banks in New Zealand and if banks wanted to cut that off now there'd be such a customer reaction that they can't do it. That's the risk for banks, I guess, is being the dumb pipe.
Interviewer:	That's an interesting way to look at it. Thinking far ahead now, and this may seem a bit of a very distant question, but imagining the sector in 2050, what do you think it will largely look like in this time period, and the main differences to today?
Guest:	It is a long way there, to look. I think you've got to look at what things are changing in society and what things are not. That's the only way I can deal with the future.
Interviewer:	Right.
Guest:	If you look at sort of like a Maslow's hierarchy of needs, people are still going to want to live somewhere, and have shelter. They're also going to want to be able to purchase, and grow, and have the means to do that. They'll probably need to be still working. That doesn't seem to have changed over the course of sort of ... Certainly capitalist economics has been running in the world. How they do it could be quite different though. 2050, that's like 34 years, isn't it?
Interviewer:	34, yes.
Guest:	Yep. I think, if you're doing Moore's Law, and go back ... Moore's Law from 1971, that's now been traced back to 1900, and still follows the same exponential curve, which means that if computation power ... Let's say "technology" is doubling every 2 years, which means that from 1900, if you follow my hand, it's sort of going like that, and then from the, basically 1990s, it starts to get on the upward curve, but we're going to see more innovation around technology in the next probably 20 or 30 years than we've seen in the entire 20th century. If you think we've gone from horse and cart to, you know, space, in that period, that the rate of change is going to be far faster and more impactful than it has been in the last 100 years, in the last 20 or 30.
	Where that leaves banking and financial services is that, we're going to be in a world run by algorithms. Computational power will have moved to new technologies where we're at ... well I think the biggest, most powerful supercomputer in the world, it's still not at the ...[inaudible]... they measure it in flops, but it's still not at the brain power of a human being just yet.
Guest:	If you think, well actually by 2025 we could be at a point where you've got computation power that's got the power of 8 billion brains in the world. You've got all those 8 billion people, you've probably got ... by 2050, you know, they will all be connected. You'll have all devices connected, and the development of sensors. You've got an enormous amount of insight and data flowing around. For those services that are providing people with a means of access to capital for buying the things that they need, or acquiring the things that they need, the only way people are going to pay them, to earn revenue, is from making people's lives better. The very effect of just providing a better transactional service might be there. You certainly won't be paying bank fees for things. That's on the way out in the next 10 years.

Guest:	For many banks that say, you know, you're talking disruption in the next, definitely in the next 10 years, of around 50% to existing business models. In the next 34 years you're looking at basically, someone's going to be providing services that enable you to know how your life is mapping out in the future.
Interviewer:	Yeah.
Guest:	You'll be more about you, as a person, your health. These sensors will be able to send out dynamic data. Things like insurance will be based on the virtual truth and facts about you right now. Everyone's genome will be up in the cloud anyway.
Guest:	There's going to be less predictive risk about illness and things like that. Plus, you've got a whole lot of nanotechnology, being able to fix you up, automate. No one's going to be driving cars. You won't be allowed to drive by yourself. Auto insurance industry is gone. You've got a whole bunch of other restrictions that are coming in as there's more insight around the things people are doing, and less variability about what they might be doing. Sounds very, Orwellian …
Interviewer:	The possibilities with quantum computing come into this as well in terms of power and processing power.
Guest:	Yes, right.
Interviewer:	Somebody brought that up yesterday and it really is just a Pandora's box of possibilities in terms of what could happen.
Guest:	Well I think, you know, if you go to notion of singularity, basically sort of bio-techno mash-up, where people are eating nano-sensors, and everything else is being recorded about them. You've got this amazing ... The quantified self becomes; you absolutely know everything about you. It's really what society is going to be doing with that data.

At the same time as we're dealing with enormous environmental challenges. |
Interviewer:	Of course. Yes.
Guest:	I think it'll sort of move from the selfish view of, what's happening to me? I think we're starting to see that happening with brands now, where massive transformational purposes are becoming the things that's really attracting people to them. If you're not a brand that's thinking globally, and about the wider perspective, and the future and what's good for the world, then you're going to be really struggling. I think there's a self-interest thing that is going to be over-ridden by the fact of, you know, we're in a world of global turmoil caused by excesses in the past 200 years, and now we're starting to pay for it.
Interviewer:	Given the possible or the likely changes in the industry that we can foresee, how do you see employment in the sector?
Guest:	At the moment banks want to own the entire vertical stack. We have product manufacturing businesses that go from ideation to production creation to distribution, and we own the whole chain. What's clear is that that model isn't going to survive because it's too restrictive, too slow, too expensive. We're moving into a world where organisations are going to leverage assets. One of those assets will be staff. It's looking to a more staff-on-demand, particularly as more people are getting their insight and direction from robotic advice.

You can see that's starting to happen in the insurance sector now and the wealth sector, where, actually it's algorithms that are going to give you far more insight than a human being. Therefore, you're probably hiring, getting people that are coming to work for you more like the Uber model, where they'll come in to do specific jobs and then go away again. You've got a core group that are basically sort of running your organisation. Business models are now, their longevity's gone from, I think 65 years in the 1920s, down to probably about a decade in the next 10 years. Businesses will rise and fall very quickly. To survive you're going to see the rise of sort of platform-type businesses. |
| Interviewer: | Right. |
| Guest: | That's essentially where the banks are going to have to move in to. There's some that'll go back and become transactional engines. You might have an ANZ running the |

transactions for APEC or something like that, and a whole bunch of other providers sitting on top of that. You don't have to take on the capital risk or the regulatory stuff. You're just dealing with the customer relationship and providing amazing services. You'll do that with sort of a modular model where you'll buy in bits, most of it will be in the cloud, and your staff will be essentially technicians, or if you need, and pretty much all on sort of a staff-on-demand model rather than having an army of thousands of people doing manual P2P type things.

Interviewer:	Looking at question 8, and since you're in digital this will be interesting. In your experience are organisations in any industry thinking and planning this far ahead? Relating to that, does your company have an innovation team, or people dedicated to innovation, or is it just a shared responsibility, or an assumed responsibility?
Guest:	Yes, I think what's changed is that, up until now you had digital strategies, and what's happening now is that you have a strategy for a digital world.
Interviewer:	Yes.
Guest:	Which means your whole organisation has to become digital and driven by innovation rather than having, it's the duty of a channel or a department. What [our bank] is looking to do is to move to that digital business model. We have, the entire organisation is thinking naturally and easily about digital, and working in sort of lean start-up type manner using agile processes to solve customer problems, and that's where you get your innovation.

With that changing business model, the model that we're currently looking at, is a 3 Horizons type thing, so I think it came from McKinsey or something like that. Basically you've got your existing business now, which you optimise, which is box 1. Probably most of your effort is focused there. Your box 2, which is innovating and evolving that business model. For banking that starts to get into, hey, you can join a bank digitally, and that sort of wealth advice, robo-advice, that type of thing. Still the same business model, but you're just innovating on it.

Then box 3 is around, so what's the future, the unknown? What sort of verticals could a bank move in to, for instance? You need to be able to, as an organisation, be able to manage all 3 at the same time without one interfering and impacting the other. |
Interviewer:	How do you see marketing as an overall field evolving over the next while, in particular?
Guest:	I think with the impact of digital means that marketing moves from that broadcast media, sort of 1950s model, to basically being all around data insight and analytics. At the moment, most businesses, us included, has a data analytics team, a CRM team, and a marketing team. There's just going to be a complete mash-up of all of those, and essentially you've got a bunch of data scientists who are tinkering with algorithms. That's where marketing's going I think.
Interviewer:	Right.
Guest:	I think risk teams and legal teams also will be replaced by algorithms because they'll make far smarter decisions than most teams can.
Interviewer:	Mm-hmm (affirmative).
Guest:	Brutal reality.
Interviewer:	Is there anything else you'd like to add that you've been thinking of in the back of your mind?
Guest:	I've been really influenced by, it's by Salim Ismail, Exponential Organisations. If you haven't had a look at it that's a really good book ... I think that shows the future of where organisations are going. Certainly it seems to be getting traction.

You can basically start to see it in some of the new organisations that are doing really well, but also in some of the more mature organisations that are taking up this new way of doing things. It's all going to be true, you know, that big data has become so overused, but essentially with it the IoT, and the way that insight data is going, that's the reality we're dealing with so it's all going to be about being, not so much a digital business, but a database business. You're going to be digital to cope with the data that's |

coming your way. If there's any manual processes you'll just be too slow, and the only thing that's happening is things are speeding up.

Interview 4; marketing executive

Guest: The last 20 years has seen the significant decline of advertising as a potent marketing tool, within a less significant but still significant decline of marketing as a potent business tool. I think, where are we, 20 years ago is not all that far back, actually. I think that if you went further back, if you said ... I think you were talking about marketing 50 years hence or whatever, if you went back 50 years to the Mad Men period where advertising was the exemplar of marketing thinking, and the advertising community really owned marketing and that the client companies tended to be much more sales-orientated, and relied on outsources of marketing and science et cetera from their agencies. Going back to that period of the 60s and 70s, well before my time I haste to add, then marketing was really beginning to make enormous strides in terms of what it could achieve by the way of improved bottom lines for businesses, et cetera.

I think there were books then, and one of the ones that I always think was a real touchstone of all that was, I think it was called *Marketing Morphea by Rhys and Tripe (?)*. It was written at a time when science was beginning to be added to the art of marketing. I think that they particularly borrowed on von Clausewitz et cetera as being that, it's all about strategy and thinking in warfare terms, et cetera, et cetera. All of that was at a time, I have to say, when advertising was incredibly potent, and the reason that advertising was incredibly potent was clearly the American market led the way, but it was a time of burgeoning middle class prosperity, and a desire to break out of the limitations that had been the result of World War 2, et cetera. There was an enormous increase in choice starting to happen, and consumers were in a position where they had disposable income. You know all this better than I do, but in terms of broad terms, for the first time ever actually, there was a large middle class with a disposable income.

Therefore, there was also a burgeoning level of choice, and what consumers were looking for was guidance in terms of "What should I be doing and how should I be doing it," et cetera et cetera. That's where advertising and marketing played such a significant role. The other thing that worked in advertising and marketing's favour at that period, so that's in the 50s, 60s and 70s, was the extraordinary power of concentrated media in the form of television, so that basically marketers could reach vast percentages of their target audience incredibly efficiently through television. There was a huge and burgeoning industry of marketers and advertisers, and as I say a conflation between those two anyway, who were learning the tools of the trade ahead of their clients. Even in my time, that would be 10 years before I really got involved…

Even in the early 70s there were people like, in New Zealand, Roger MacDonnell, who was the chairman of Colenso – they were always neck and neck with Saatchi's, well for a long time, and then ... One of his first roles as a copywriter was to take responsibility for all things television, because at that time no-one else in that agency knew anything about television. You had the group of smart young things who were learning as they went, the same way that now, well not now so much, but something about 10 years ago those who understood digital marketing, whatever that might now mean, had a guru-like status because clients understood that they needed it, didn't understand what it really was but wanted more of it. All of that was at a time when if you ran an advertising campaign, for example, you would be left with no doubt about the results.

You would spend money; you'd get a result. What has happened since then are, I think, well lots of things, but some significant things. One being from an advertising point of view, the impact of advertising has declined as consumers have become both more savvy and warier of the messages they're receiving. 50 years ago you would take on blind trust if someone said, "This product A is better than product B," you'd assume it probably is, especially if it was endorsed by a credible endorser. Whereas clearly that's no longer the case. From that incredible peak of power that advertising had, that marketing had, because if you're in business it was the marketing department who delivered the money. Just unquestionably, they were the people who could sprinkle the fairy dust if you like and do extraordinary things for a company's profitability.

In more recent decades, so in the last 20 years, going back to your question, the power of media to aggregate audiences has been significantly dissipated. With the advent of more channels and then the beginning of the growth of online, and all those things that have now taken place. The power of the traditional media has really slipped to an extent

where I'm not sure it has much power at all. Nothing has replaced it in that way of being able to talk to lots of people, from few to many. Now there's this whole thing of from many to many or from ... It's an infinitely more complex beast to run with, and therefore it has less impact. At the same time, I think that marketing as a discipline, if it could ever have been called a discipline, has absolutely lost its cache, or its rainmaker status, because now spending money on marketing is no guarantee of any sort of return.

In a commercial world where every dollar invested is being questioned, the lack of certainty around marketing investment means that the decision to invest in marketing is more unlawful, and it's easier not to take the risk often than to take the risk. When you do take the risk, the chances of actually something, of payback occurring are diminished as well because of all the issues I've talked about. That's my sense of where the traditional marketing and advertising market is heading, so I think it's heading south at a rapid rate of miles. In fact, I think at an increasing rate of miles. Actually I think there's a turning point, which I'll get onto. I think that as it's decreasing, and as the value of what it delivers is decreasing, it has suffered more than most from a cost cutting mentality that says, "I could buy the same service from company B that I'm currently paying you for blah blah blah."

One of the things that happened in New Zealand, I don't know if you're talking more about New Zealand than globally ...

Interviewer:	Globally.
Guest:	Well in the New Zealand sense, I guess it's reflected globally as well, there has been a long sort of decline in the power of television in particular, was a change in the regulations regarding commission. The advertising industry in particular was dealt a sort of a death blow with the removal of regulations of how much commissions are paid. In the old days, right up until deregulation in the late 80s, agencies had to receive a commission of 20% on every dollar spent. It was actually an incredibly lucrative business, and it's one that clients could not break, because by law, that was the regulation. There was no way of sort of breaking it. After deregulation, clients could negotiate rates, and of course what happens to an industry that's not used to or skilled in negotiating rates is they get dealt to. I think agencies began to make some terrible deals for themselves, and have never quite recovered that position.

What's sort of happened at the same time as that deregulation was happening was agency holding companies saw the merit in splitting up media planning and buying as a service to creative planning, and before that, media had always been sort of the golden goose that paid the indulgences of great credit flights of fancy, or whatever. As I was saying, indulgent flights of fancies were also the magic moment. You can't have one without the other. Again, what's happened now, I think, is there's simply not enough money in the system to really employ the sorts of credit people that you need to employ and give them the sort of leeway to do what they need to do and the time frame they need to do it, to produce sort of the startling things that used to be second nature to the industry. The industry became sort of more pedestrian in every sense of the word.

From a marketing viewpoint, I absolutely think, and I was pretty significantly involved in a lot of it, I think it's lost its, that terrible old word, that c-suite position. It's just not rated the way that it used to be, so it's very difficult for marketing departments, and marketing directors to sort of command the attention of the board or even the CEO that would have been second nature only 20 years beforehand. That's the sort of prognosis, and I think it's pretty grim frankly. What, I think, you will be seeing in the ... I think what you've seen in the last few years and what you'll see more of in the next decade or so is really a sort of flight of talent from marketing and advertising as we know it, especially from the advisory services. Those who are in agencies or marketing departments or whatever. There lies, I think, and I always said, and I believe it's true.

We never need to worry about our future, because the need to communicate grows greater by the day. As complexity increases, so too does the need for simplicity, to be able to cut through that complexity and deliver direct answers, or simple answers, or whatever. The means by which that's delivered is changed forever, and it's now much more a sort of 1 to 1 communication. Hence the growth of all the social media and social marketing that is now taking place. I think what's happening is that the sorts of people who were attracted to the advertising industry in particular, and to a lesser degree, marketing, because I think advertising was always the cutting edge of marketing, sort of the brightest and smartest would get into an agency and the rest would get into a client marketing department, that's the way it worked.

I think now that the best and brightest are, and you've got to be careful that you sort of don't see yourself, see in others what you're doing yourself, but the [own company] piece for me is simply an example of taking everything that I would advise clients to do and doing it ourselves. We're just a glorified marketing company, in that we don't own any means production, or distribution or anything else. Manufacturing companies don't know much either, bear with me, because this is sort of the turning point. I think that traditionally, I always use this little expression, features that, in New Zealand, maybe in New Zealand in particular and in the dairy industry in particular, there's this sense of, "We only build factories." We have a real sort of mindset, I think, that says, "We should be building stainless steel and if you build more stainless steel we'll find a use for it."

That's the manufacturing piece, is at the centre of all the thinking. It's "I've got a manufacturing piece, and around that I need to bring in some marketing and some logistics and some distribution and some finance and some this and some that." If you were to draw a spoken heart, then manufacturing has always traditionally been at the hub of things. My belief is that the future will see that change, and that the beginning of that change became clearly evidence with the growth of outsourcing to China, where owning significant manufacturing capability now is usually pretty dumb. Someone can do it better, faster and cheaper than you can, and not only that, you don't have the flexibility to do anything else because you have a plant that produces widgets of a certain size, and quality. I think what's going to happen is that the flight that I've seen and am seeing out of the smart things, who are the conceptual thinkers, in whatever sense that is.

You know, the brand developers, or the communicators, or the product inventors, sort of the conceptual thinkers, the people who can create – mentally – something. They are going to increasingly become the centre of the hub of the wheel, going forward. They will look to outsource pretty much everything else. I run the risk, obviously, of seeing the world through [own company] eyes, if you like, in thinking that that's what the world's going to look like. Actually I think it's a pretty good view, because it means that you can focus on the bits that nowadays really makes a difference, so the next piece of this whole thing to me, and I don't know if this is answering anything that you're looking for, but the next piece of this is that I always have this image in my mind of brands and branding, and therefore marketing, in its death throes, if you like.

As being something that was removed from the reality of doing business, and that marketing departments and agencies lurked increasingly in their own little bubble, and they created incredibly complex models and propositions and communication strategies and everything else. That actually was disconnected from the business on one side, and disconnected from consumers on the other. There was a lot of sort of wheel spinning. As a result of that by the way, CEOs and finance directors increasingly throttled back on the amount of money that the marketing departments would receive, and marketing departments in turn are quite accountable, the marketing departments became compromised, their ability to pay good agencies became compromised, so the agencies became compromised. It's a pretty vicious circle. One of the things that caused that demise was this, as you say, separation of brand from product.

Separation of marketing from the rest of business, and as a result of that, the businesses will be carrying on in that direction, and marketing would be playing the things up here. What needs to happen is there needs to be a direct reconnection between product and brand in a way that really hasn't existed for a hell of a long time. The marketing speak, et cetera, has been all about brand and brand values and brand personality, but it's become divorced from the product itself. The future lies in having a product that is as strong as the brand, and a brand that is as good as the product. That's where the future is. That's going to take a whole new set of skills, because the sort of 3rd leg of the trifecta, if you like, is an incredibly informed consumer. They're not any longer reliant on someone else telling them this is a good product, or it's a great brand, or whatever.

They are able to ask their own base, their own ... What's the word I'm looking for ... Their own family, their own group, or family, whatever, and get instantaneous feedback on "Hey, what do you guys reckon about," or something like that. "Have you heard of," or "I've just come across," or whatever. That whole sort of Facebook phenomenon, et cetera. One of the reasons that Facebook is so incredibly strong for marketers right now if they're smart, and there aren't that many who are, it provides an ability to speak immediately on a 1 to 1 basis with people who are buying your brand. People don't buy brands that aren't products, the brand is the product, it's not a separate thing anymore. It seems a really simple saying, that is a fundamental change to the way things work. I think sort of the great news for marketing, and communications going forward, is I think that it will increasingly return to being at the centre of the spoke, and will displace manufacturing from its traditional role.

You can take pretty well any business sector and within a half hour search on Google you'll find a thousand different suppliers of whatever product it is you want made. There is just no such thing as someone who can't make it for you better than you can make it. I don't think there's a huge amount of science behind this particular model, but there is that Stan Shih smiling curve. Stan Shih was the founder of Acer Computers, and he developed what he called a smiling curve. Essentially what he was labouring with was this very issue, that he was doing very well on the developing and design of computers, and doing very well on the selling of computers, and losing his shirt on the making of computers. Acer is a Taiwan-based company, and the mainland Chinese were able to make computers at a fraction of the price. He designed a smile curve, I don't know from where you're looking, the Y axis is dollar, and the X axis is time.

There's the smile, where you make your money is at the beginning of the process, where you start losing it is where the curve bottoms are, is where you're going to make whatever it is you designed, and where you start making money again is where you start selling what you make. Big trick is, don't make anything, have someone else make it for you to your specifications. The skill there is in being really smart about what you specify. Even here, we're learning that trick which is, you can get anyone to make anything, but their instincts aren't to make what you want. Their instincts are to make what they want, and what they want is not what you want to sell, because it's something that they're already making. The incredible thing for us has been getting manufacturers in particular to change their mind, and give their client to do stuff that's never done before.

To do it at a price point that may be much more than they've ever believed they could do things for, because they are so driven by driving down price that they've driven up quality. It doesn't hold as a universal truth, but our view, certainly, is that there is a desire, there is an absolute desire for quality amongst a much bigger percentage of the population than is given credit for. What has happened, particularly in FMCG, is that supermarkets have essentially no differentiation other than pricing. Supermarkets have driven this endless focus on pricing, which has sort of implicated marketers and manufacturers to such a degree that everything is about price, and the only way you get to price is by taking quality out. You can't have better quality and lower price as a general rule, one's got to give.

Again, if you take a different view, which is "Hang on, there is a whole percentage of the market," and there's research out of Germany that says at least 2/3 of the market are not influenced by price, 2/3, if you're after a supermarket in New Zealand, what percentage of the market is not influenced by price? I'd say about 1%. Someone's wrong.

Interviewer:	Someone is wrong, yes.

Guest:	That's another whole lecture, but, the fact of the matter is manufacturers are not particularly good marketers because they start at the wrong point. If marketers start at the right point they just need to find a way of doing it.

Interviewer:	With this particular model, have you had ... We spoke about it briefly, but have you had much difficulty when you create a concept or create a brand or a product, have you had difficulty and friction with manufacturers ...

Guest:	That's the irony of it. What happens is, if you just put a hold on stainless steel, you very quickly get to a point where you've got to utilise it. Within nanoseconds of that realisation comes realisation that you need to contract back as a way of keeping the plant flowing. In my experience, we have never had a no. We have never had a no, and that's from Fonterra down. That's our direct competition, will they help us, because weirdly, what's driving that business, first and foremost our manufacturing economies and manufacturing thinking. It's like "Great, let's utilise that plant." Again, that's where there's an expression that someone smart came up with, which is, the best way to beat the competition is to make them look old fashioned and slow to respond. If you've got a big manufacturing plant you are, by definition, old-fashioned and slow to respond.

The future is in being able to cherry pick, and to play one manufacturer off against another. We've got several manufacturing sources, and without being too tough, they're all aware that we could go somewhere else. It's a bloody good position to be in. Back to that Stan Shih smiling curve, the inverse of that obviously is, if you want to make money out of manufacturing, if you're aren't doing the development and the branding and everything else, just go for volume, and do as much as you can for as many people as you can, and own scale.

Interviewer:	That's a very good point. One final question for you, because we've basically just walked through these in great detail. What are your thoughts on the advertising sector anyway, and be it digital advertising, digital marketing if you like in future, even data to a point, the analytical side of marketing, and big data and that sort of thing? What do you think that will look like in about 30 years' time, which is, well, 34 is 2050? Also the human element of things? What are people going to be doing, how many people, is this a human intensive environment or is it not at all, do you think?
Guest:	Really interesting. I think the answer's going to be it's going to be both of those things. There is going to be some stuff that will go big data and stuff, there'll be some things that are just better done by very smart analytical machines, decision computers, et cetera, et cetera, et cetera, I think will be things that ... Something makes no sense for human intervention, they'll be sort of set and forget. I think equally, I'm a huge believer in the value of human inventiveness. That will always be front and centre of what makes one enterprise succeed and another one not succeed so well. It will be as data and that sort of programmable data, if you like, or self-programmable data, whatever it is, becomes more and more part and parcel of the landscape. As always that will just be the table stakes.
	If you don't have it, you can't compete, but having it doesn't allow you to compete any better than your competitors. Again, it's always going to be that balance of both, with human ingenuity being the critical factor.

Interview 5; banking executive

Interviewer:	How would you describe your sector now and how would you describe it evolving over the last few decades? What major changes have shape it?
Guest:	I think a good of way of answering that is, is to try and think about what hasn't changed. I think a lot about what's changed with professional services or financial services is, is the notion of a client and I still think that a client, the relationship and building it, is still of paramount importance. With that relationship goes a number of different things including trust, identity and essentially the promise or value proposition you give back to that customer.
	I think you're going to see banking, consulting, financial solutions develop considerably as well as the technology, the operating model that you use in order to deliver those services. I think some things around about, almost the cause of that industry around the notion of the relationship and it's almost that trust, it's almost like a high-beam factor in the industry.
	I feel that advances in technology will make us look at new things, but at the same time, and that could be broad, right? Everything from repeated discussions on things like the block chain and how it changes the systemic nature of how we work in the business, increasing compliance in the sector and essentially making some financial service companies and essentially becoming commodities in their own right as they work through essentially being compliant silos.
	What does this mean when many banks are trying to compete for user experience? I think you can look at these conflicting dimensions and you've got amazing technology, but of course it's compliance overhead and searching for user experience, and you can try and work through what the implications of this in the very different sectors and how competitors try to eventually come up with new offerings and attracting niche markets and as you've seen through people like P2P lenders and through them.
	My overall impression of why I'm working institutional is, as long as you still remain to the client and the notion of the client relationship, I think probably that still remains the same, and probably still remains so, no matter how we actually end up delivering services.
Interviewer:	In terms of disruption, is there any foreseeable disruption at present? Is anything over the horizon that you're acutely aware of in your industry where you feel there may be some friction or major change?

Guest:	I think we have to be really wary by the word disruption. No doubt you probably picked up from the recent HBR and going back through the actual formal definition of the term. I think it's really interesting to look at the original work and the definition of the word "disruption". For example, things can be disruptive but not necessarily disruption in the formal sense and the HBR talked about.
	I think what's interesting here is the engagement with things around building a good customer experience, a good value proposition and essentially trying to promote customisation around the client and the client's needs.
	For example, Uber is really interesting because and a great study we can focus on because they have seen a traditional process which was by trying to hire a cab and essentially trying to look at the overall customer experience. They've done a good job restructuring it into a mobile and engaging user experience. It's not by the use of the word "disruptive". Essentially, they looked at an industry, there was no real niche around customers not being able have a cab. It was really looking at a better customer experience and innovating from that.
	I think from the nature of disruptive, you have things like Ripple which is a new payments network which is niche and building market share, going up a niche area of the banking industry. There are things like Ripple or QuickGO which uses a quick flow currency block chain to transfer money between regulated banks, and it's very disruptive against the model of international transactions that's been around for maybe 30-40 years. I feel that as you look at the future of work, things like trust developed though a network and community are really quite evident.
Interviewer:	Thinking of banking specifically, what do you see is the future of branch networks?
Guest:	This is a hot potato. The use of a branch and how it functions is … There are different views. I feel that there always will be some physical manifestation that's present to the bank, whether this is somebody calling round on-demand to collect your cash or a presence of a bank and how it is.
	You hear a lot about banks going through stages of closing branches or transitioning to smart ATMs. It makes you question the function of the branch. There was a reviewing recently to work reflecting on the Swedish banking marketing. Most high street banks in Sweden don't carry cash.
Interviewer:	That's interesting.
Guest:	It's surprising to think about, "Well what it would be like if there is a good replacement for cash?" and talk about how people don't want perhaps to use electronic means, or don't want to embrace it or want the anonymity of cash. Other instruments may arrive that give the anonymity of cash and it's easy to use. Sure Apple and others are looking at the easy thumbprint user experience that might accelerate its function.
	I feel that a branch at its place is almost like its presence within a community from which business and people can interact. It seems to be a considerable weight and loss when a branch leaves, but I don't think we've got a very good picture just yet about what is the role of a branch? Is it to in a way bring you in and introduce you to an experience, for someone else to understand your world? Not necessarily financial, but your aspiration? Maybe it might be an augmented reality experience, maybe it might be about learning how to buy a home in Auckland or Wellington and we might present you with financial options and scenarios, very different maps and such like.
	I get the impression that nobody has really arrived at a great answer to this and whether you're an ING, and you turn your branch into a café or turn into a hip place to check your email, I don't overwhelmingly get a sense of the profound new status. Some of them remain the same at the moment, which is depositing remittances in a branch and such like. I feel you'll see innovators here, try to find ways of removing his tiresome past which the clients as well as us, as well as the people that manage all these paper processes, and see digitisation of that customer experience.
	It's a political issue and I feel that there's more to it than just a function for thought.
Interviewer:	Yes, it's interesting, you very accurately put it by that I think – I've spoken to a few banking people. I've touched on that question a few times with people in banking, and I know a senior executive in another bank, and his attitude was about legitimacy and the

idea that a branch provides a sense of security about a brand as opposed a bank that you never see. I do wonder about that when I think about the other banks that we have in New Zealand that don't really have physical branches. I think there might be, at least at present, maybe in the future it's totally different, the fact that there's loads of ASB banks everywhere makes ASB customers feel secure, perhaps, even if they never go there.

Guest: I think this notion of security and it will come back to this notion of relationship of type that I touched up on earlier on which goes back thousands of years. When you're increasingly see more and more regulation around those types of things. You could have a point of view as what function does this actually invest for us? If you want to get crazy you look at these distributed ledgers and find the attribution and the value across distributing networks and small business being essentially an aggregate of relationships and networks and things I'm sure you would have touched on in your research.

I'm not sure how the following generations that are happy with the digital nation and digital connectivity would do that, what if Facebook or Google or Apple if they need a bank. Well it's not too far of a jump, they've already got payment services in place.

Then we have the brands. There's a startup in London that does cheap international remittances by simply pairing people up over a social network to share currency. There's no reason why these networks have to be, essentially these compliance silos and the big worry I have is, why do they have to… a bank may need to become a compliance silo and noting a lot of the work that's been done in the European Union at the moment.

There's this thing called PSD which essentially mandates the banks to provide API access, web services at best, to bank account balances and then permitting the transfer of value. This is interesting, but potentially even more interesting is that they've created second tier of payment providers that do not need to abide by the same rule of the bank to process payment. This is very interesting and so how you direct yourself if you're a retailer. Do you try and deal with a great in-app experience, like Starbucks has in the US? Essentially it's just the kind of payments provider and push all that regulation compliance to almost an unseen brand, where you take the brand or managing their affairs.

Interviewer: Opening the book on innovation now. Thinking beyond constraints, the question here, what do you feel if anything need to fundamentally change in the sector by 2015? What do you think absolutely needs to change?

Guest: There's a couple of ways you can put it. Yeah, I did talk about a laundry list of new technology ranking from the application and learning to mortgage advice and financial planning. The use of augmented reality technology to talk about stuff, by that time you're going to have robot cars, and automation will have essentially have taken many of the traditional middle-management kind of jobs out to more specialist skills by this stage. You can kind of put it that and highlight trends, technologies, etc.

I think I'm probably pulled more by the other side of innovation which is essentially driving change, and driving change within the organisation and some of the work, it's not exactly rocket science for an MBA student. But some of the work that's driving business change, building more, just a very strong hierarchical business model in a bank, fuelled from a command and control nature where one can manage complexity in a business by functional silos, essentially ascribing growth management and other values to the management team to lead and the leadership is seen to be the C-suite.

I think to drive more innovation in the sector and I think that you probably have to look at alternative models of working, not necessarily innovation in its grandiose term that in a way I hear people working in financial services distancing themselves from this word, using other words such as "customer-centricity" or "agility" from the IP standpoint.

I think there's something around about the way we work, that ought to move ideas and service. Essentially an idea and a progression of that and the change that it has on the end-client as a core tenet of the type of work, the people that are doing non-automated jobs will be looking at. Many of the traditional roles in business analysis, to look at loans, to essentially manage or provide advice to customers on financial advice etc., would have largely disappeared.

It makes you think about the overall organisational need to shift from the hierarchical to maybe a more distributed eco-system model which is slowly been ascribed by digital teams within a bank, but it's very hard to realise.

I think actually think the overall number of people working in the bank will probably decline significantly. I think it will be automated. It then starts to make you think about where does the value-driving nature of an organisation, and what does the shareholder value. Where is that time best spent? It's probably not on institutional charge, it's essentially moving people across from one bank to another is probably the progressive engagement of looking for new ways in which to support the business of tomorrow though.

For example, in 2050 I also expect many of the works that are coming out of the US, and the future of work, and the future of business which has been a lot in the media and publications about the notion of an independent knowledge-worker. There's currently no way, how does that person get a mortgage? There's no guaranteed income but there's a probably in trust.

Maybe I've come full circle to the notion of what this industry is about. The provision of finance and money, you're sharing value. I think the future in 2050 sees an organisation, which is potentially a compliance optimised compliance scenario where, I'm trying to think of an example of organisation that is exceptionally good at compliance – it's probably hard to do in this modern world. Then one that then tried driving an organisation through virtual teams and collaboration. I think it will be increasingly hard to know the boundaries about an organisation, where we create value, where we've got expertise. That, I think probably comes back to the notion of brand and for what purpose does that organisation exist.

Interviewer:	What you were saying before leads to a very contentious, well some people consider it a contentious question regarding human capital employment – what will employment look like in the sector? Are we going to see a massive reduction due to tasks being automated? What are your thoughts regarding what you think people will be doing over the next few decades in banking?
Guest:	There's a number of different models here and there's a lot of media about what's going on in the US and I think they have fundamentally different employment model which is very bizarre notion of providing balances like healthcare and other provisions to the employer, which makes it very hard to read a lot of the research coming out of the US because the business model and of how government works. I think we're better set up here in New Zealand to support that.

— Break in interview due to unforeseen event.

Interview resumes the following day.

Interviewer:	We basically just touched on your thoughts regarding human capital unemployment in this sector, and future. I was going to bring in little stat that I came across. Approximately two decades ago in Australia, there were about 200,000 people working in the banking sector. Fast forward to today and it's now half that. First of all, do you agree with that statement? Does that make sense to you, or do you think-?
Guest:	Yes, it makes sense – that in the last 20 years, the number of employees in the banking sector has halved. Many of the jobs that existing 20 years ago may not exist now. Or one job that exists now, as we move towards banks to more like a technology perspective, a large proportion of the banks work towards the technologists. You could argue that 20 years ago, was there such an investment in banks through that technology, but you potentially argue around it kind of, humans and manual intervention at the same time, but I'm struck by the definition of financial services and how potentially the make up of the organisation has changed.
Interviewer:	Looking forward, another 34 years approximately, over the next few decades anyway, how do you see that number changing?
Guest:	Well, one of the things about the banks within a domestic or country. We've got only finite market. I mean, this could be integration and other types of stuff. Essentially, none of the banks in New Zealand are essentially are arbitraging anybody else. If somebody leaves, they go somewhere else. Someone leaves, they go somewhere else. If you go and think that by the end of 30 years, the use of a core bank, in at least some kind of utility function, will probably remain. However, I'm not convinced by which the actual services provided by that bank, could be anything more than a utility. You may see new entrance and others, almost like T Mobile did by kind of innovating on top of AT&T's

network, when they originally launched. I think you'll see potentially others – new competitors – and maybe smaller startups with smaller footprints, they might bring their own kind of value ecosystems, or others, with them.

I think one of the dangers of looking at plotting this further, is that we assume that the ubiquitous business models the bank will the same. I don't think it will. I think it will become, you will increasingly see, essentially a regulated utility area followed by a product development and sales teams, and they'll be more and more partners. Where as, the regulatory silo will become... it's complex and requires oversight, but I think it will become progressively automated.

Interviewer:	Right.
Guest:	I would see a significant percent in decline in the existing format of the banks at the moment, to maybe half again. Or, if not, a quarter, but I feel the definition of the term financial services may trip you up ... It's potentially also, geographic boundaries, when you're dealing with a utility function, don't necessarily matter, right? Whilst there might be different legislation's and we can assume that there will be a reserve bank and other types of entities, there's no reason for new entrants to come in. In fact, we've already seen the Chinese banks open here in New Zealand. A bank like Standard Chartered could enter, they don't necessarily require a New Zealand based utility function, but a global network like MasterCard, or Bitcoins, or block chaining oriented architectures could deliver a lot of that value. I'd say the future is considerably uncertain.
Interviewer:	Actually, on that note, what is your opinion on digital currencies moving forward? They're obviously very unstable at present, in terms of their value and they're very difficult to get a hold of, but going forward, do you see life in that?
Guest:	If you consider a digital currency to essentially be a method in exchange of value, I find it kind of obvious that there's going to be a new way in the legacy forms of currencies in digital form. All other times of value, be it metal, milk protein, or other types of things, I think I'd separate the two, digital currency versus the mechanism or shared ledgers used to manage their proliferation. I think the notion of a shared ledger, is something that's been capturing a lot of attention in the last two years. In effect, there's not a lot of discussion of when it is genuinely useful to have a shared ledger versus a highly efficient database and there seems to be a lot of discussion in the media about actually, you could use a block chain, but really you could probably just use a standard database.
	I think for the notion of currency, cross-border interaction is traumatic and involves a lot of legacy fees and price structures, that are kind of, I think ripe for disruption. The real convergence here is not necessarily on the currency, but also on the identity of the individual and how they maintained that link to the currency itself. For example, cash is anonymous, but so is Bitcoin. I wouldn't expect Bitcoin to really catch on that much. Maybe over time, the surges and etc., kind of will die down, but I think it's probably riled enough people, where they've almost decided in their mind that it will never become a mainstream mechanism of exchanging value. Even CFO's – progressive one I've talked to, don't actually want to hold this, they just want to use it as a mechanism for exchange for one currency to another.
	I feel that there will be this notion of international collaboration, shared ledgers and block chains and things that can be written and some that you can take by that by that mathematical model. It's incredibly compelling when you look at the price of core banking systems. I think some people, certainly because of the block chain and quick to graphic currency methods of exchanging value, but I don't necessarily think you'll see much more of Bitcoin, at least in a commercial sense.
Interviewer:	Well they're incredibly difficult to acquire, that's for sure.
Guest:	Probably because many banks won't bank the people that want to give them to you.
Interviewer:	That's possible true. I know a lot providers and resellers have come and gone, and its been a very strange experiment, from a-
Guest:	You could draw an interesting analogy to the marijuana producers, legalising in Colorado, for which they can't find a bank that wants to bank them. The entire business is thus conducted by cash. Many establishments installing human-size safes to hold the cash, because banks don't want anything to do with it.

Interviewer:	Interesting. I didn't know that.
Guest:	I think it would come to a point where you might see convergence in that area, that simply becomes locally too large for somebody to ignore on the profit. You use these blocks chains, it's interesting, but also their linked to medical area and these kind of verticals. An organisation that's able to track identity and additional value, as well as exchange in value. It would be an extremely interesting proposition and probably one that has a local funded bank, or startup, or something like that.
Interviewer:	Yes. In the banking sector and in financial services as well, are they thinking of possibilities, or do they expect possibilities from other large incumbents in other industries, intruding on their territory and on their services? One, for example, could be, and this is a fairly broad stroke, if Apple or Google teamed up with MasterCard and launched their own brand of MasterCard.
Guest:	Yeah, I think so, and there is, and Apple is kind of lost on us, here in New Zealand, but the American banking system is almost traumatically rubbish. Even the latest regulation change isn't actually to the same standards we have here. You'll see a lot of success in the U.S. and other markets where traditionally the banking sector has been very difficult to manage and have a lot of overhead costs. I think you'll continue to see… I could see something here in New Zealand with a provider. Let's not forget the EFTPOS payments as well. You've got a legacy infrastructure with very high acceptance rates, but very little product around the consistent user experience that works on a wallet. You'd be able to argue that you could do EFTPOS in a real time crediting system. You effectually make your own credit card. That doesn't require all those fees and taxes paid to an offshore company, e.g. Visa and MasterCard.

I think we will face, maybe even some interesting mechanics. The definition of what is the organisation becomes increasingly interesting, so you've got large organisations like Fletcher's and IAG, who are vast amounts of cash on the balance book – they could enter into the provision of financial services or P2P lending between companies, or other types of things. I think the notion of stores as valuing cash, because some of these cash rich organisations with incredibly large networks covering, IAG has something like 70 percent of the insurance sector, at least in New Zealand. These are very large companies with huge stores of cash. There's no real reason why they couldn't become a bank. I feel that increasingly as we look on their 10, 30, 30 years, the notion of the brand experience and the digitisation, you may not worry that you'll receive your funds from one institution or other, as long as you trust it. |
| Interviewer: | GE, I suppose have already, in the financial services, in terms of launching their credit cards, there's movement towards banking there, isn't there? |
| Guest: | There is, but GE pulled out to New Zealand and sold to a private equities fund. |
| Interviewer: | Oh, yes they did! You're right.

Regarding innovation, with banks, thinking and planning far ahead, and planning for disruption or planning to lead disruption, do you see banks as naturally risk-averse in this sort of area, or do do you see banks as leaders? Or somewhere in between? |
Guest:	I think that's a good question. I feel that the ... there's a traditional notion of a bank being risk averse. When introducing new products and services, yes there's a compliance angle, and I expect that to grow even further. There is still a progression to say, we want to acquire customers and engage. We have ventures team, as well as a group innovation team, so-
Interviewer:	Right.
Guest:	The willingness to look at new ventures is there, I feel that the model of ... I always believe that the model of startups and investments, and essentially then buying a startup by bank as a way of acquiring capabilities is certainly one of them, but yet the organisation itself has the at large amount of capabilities that it could use. I would suggest that some areas are not progressed as much as I'd like. I know they've talk about in data analytics and in 20 or 30 years' time, I'm expecting that's almost become a mainstay and almost hygiene factor. Still for the one for the decade of software vendors, benefits have gone to the process of analysis, deep learning, artificial intelligence. I don't see a lot of that necessarily penetrating the organisation. It seems to be very customer focused.

Interviewer:		Right.
Guest:		Apps, widgets, are on the immediate customer interface. I think you'll see more engagement around other areas. It's intriguing to me, for example, the word fintech, it's been around for some time, but referring to a financial technology startup, that may be trying to be disruptive to another. But I was made aware of a new trend the other day called Regtech.
Interviewer:		Oh?
Guest:		There's a number of small firms that are offering regulatory solutions to help banks manage AML (anti-money laundering), other increasingly onerous regulations, as a service. Which I thought was very interesting to see these organisations that offer services to almost accelerate and reduce the cost of compliance in the area. I feel overwhelmed, not a sense of that we couldn't do it, but actually the distinction between leadership and management really causes and issue here. The banks had traditionally been a hierarchical in how they operate, as you know hierarchy is a classic mechanism of running an organisation, where you silo responsibility and where they try and run it. I feel that increasing as we move to our network model and a lot of work about the work of future, we'll see leadership from lower down in the hierarchy.
Interviewer:		Right.
Guest:		Round certain product verticals. Until that happens, I feel that much of the innovation we will see, is largely going to be incremental. We'll see if you break away one and kind of experiments and toys, if you don't mind me referring to that, rather than fundamental changes in how they operate. I find it curious that none of the main banks have decided to jump into the peer to peer markets, by the regulation change being two years ago.
Interviewer:		Yeah.
Guest:		I feel that it's very interesting, especially if you care a lot for that new idea and then your side projects going, but a lot of the focus in a lot strategic programs, is still on cost reduction and incremental product advancement.
Interviewer:		Do you feel that – referring back to the innovation teams growing and more money being spent on digital – as I've heard in the past, less money being spent on branches. Do you still see, at a board level, is there still friction? With regards to innovation? Or is it changing?
Guest:		Yeah, Yeah, I think there is. If your idea can't be implemented quickly, you're always going to have a problem. Many infrastructures, you need to see genuinely innovative don't exist. I think this notion of building cultures and the hierarchy just doesn't work right? No matter, you can have great office space and encourage collaboration, but I feel there has to be some compromise here about bottom up willingness and top-down engagement around really driving and building in innovative things. It's a hard thing to do in your organisation, but I can see why increasingly we look product innovation for an ecosystem model, rather than intending. We make an acceleration towards utility. It'd be interesting to just say like the banks will become the electricity companies. Or indeed, they are already aren't they?
Guest:		Branches – as we've discussed yesterday – is always a contentious subject right? There seems this notion of, too many engagements in banking and relationship, but what does that mean? Banking is very still strongly relationship based. Especially when the majority of your products are commodities. Where does that relationship originate – if you don't have a physical presence in that community, that image becomes quickly tainted.
Interviewer:		Yes.
Guest:		At the same time, the numbers indicate a very a very few people, in certain demographics, are going to branches. Increasingly infuriated about having to go there. Banks will have different approaches.
Interviewer:		Yes.
Guest:		They already have. You've already seen people decide whether it's a more café style of engagement through to more focused places, like ANZ have and such like. I think it's difficult to call at the moment. I think that there will be different approaches, but I think

the main thing to think here is, it's contentious. I think that the number of different layers is immediately simple as to suggest it's cost cutting. I think there is something else afoot as far as a personal sense of community and relationship, which may have existed within banks for a long time.

Interviewer: Indeed.

Guest: Potentially centuries.

Interviewer: Well, final question. What role do you see marketing having in 30 years' time, in the sector?

Guest: Any particular form of marketing you're thinking of?

Interviewer: Well, how do you see marketing in three decades? Do you have any views as to, obviously things have gone digital and changed drastically, but is there, do you have any views on where it might be doing from here, over the next while?

Guest: I don't engage much with marketing on a day to day basis. A lot of the marketing's been … Let me try and answer your question anyway…

Interviewer: Great.

Guest: From my perspective, essentially marketing is positioning an offer to a potential customer. We'll use that definition. It might be presented via the use of broadcast media. Or by marketing a brand, or people, or capabilities. Where a customer might see it.

Interviewer: Yes.

Guest: I think, at the moment, there's a lot of very traditional advertising. You still need to present your offer -

Interviewer: Right -

Guest: … to potential customers, but I'm not exactly sure quite who those customers are, or the value that your organisation will bring, will become progressively difficult to distance itself. I think we've already seen this in the notion of the credit cards entering the market and it's incredibly difficult to launch a new credit card and you actually getting genuine cut through, because the cost of acquisition is so high compared to the other forms of engagement, that it essentially becomes almost impossible. Maybe it might be marketing as kind of an engaging nature of really offering a genuinely different way of engaging customers, but I think …

Most of the marketing I've done, is brand development in customer networks. It's a model that's worked well in the corporate institutional banks that actually, if we do become more social and digitally engaged and our organisations are smaller and a little bit more fragile and tenuous than the larger organisations that we think of today. Maybe this notion of leveraging networks and how we engage customers, maybe increasingly more so, so that B2B networking almost becomes more like B2C.

I'm intrigued, I know this is a background that you're engaged in, did you have any initial thoughts I maybe ought to comment on?

Interviewer: Well, I mean, what you said is all very valid. The only thing that came to my mind is, thinking of big data and how in a lot of companies, they are amalgamating data scientists and analytics scientists with marketing and marketing efforts. The whole process is becoming quite different. We're sort of going away from the basic form of digital to treating is as a real science.

Guest: It's already happening, because the link from investments to revenue is very short. Investment in our analytical platform is to demonstrating customer retention or new product cross-sell, is actually a very short time horizon.

Interviewer: Yeah.

Guest:	With those investments already being made ... If that's almost today, I find it very difficult to kind of extrapolate that out 30 years, because effectively data and potentially more deep learning and artificial intelligence are kind of redefining, if you think about with a product ... Let's take this from another angle. Think about what the products will be, that you're actually trying to market.
Interviewer:	Yeah.
Guest:	The notion of logging into your internet banking to review your balances of your accounts, or doing this type of stuff is, in my mind, very difficult to work through. The products and the notions of how to interact with bank, I expect some of them to change right. I feel that financial services and access to brokers and financial planning become more and more important, yet with a limited number of people that can actually engage and access those services, it's kind of getting instruction from people learning new mechanisms of engagement. Your WhatsApp, Facebook Messenger, entire ecosystem services around these kinds of digital channels that kind of link to yourself.

I think the notion of banking service may become more pervasive and allow essentially more the facilitation of networks, rather than necessarily sure ... I think we'll still have a version of an account, but what does it mean to have assets and liabilities and how you manage as a consumer in a company. I think it's very difficult to say. For new products it's more pervasive, more people learning, more connected engagement. Marketing may very difficult indeed. Or maybe about the lifestyle that a certain set of products engages. Or a savings account that connects to your washing machine and your grocery company and optimising into energy usage. Which fundamentally uses exchange in value to pay for those services. Connect to the internet, if they need artificial intelligence, et cetera. Be perceived as more of a lifestyle option, or more of an innovative product. I'm not sure and it's difficult to suggest how marketing differentiates itself. |
Interviewer:	Yeah.
Guest:	The accelerated commoditisation, what happens? You look for people who probably pick sectors or verticals, et cetera. They want to own a functional solution, but it's a very difficult question.
Interviewer:	It is one of a-
Guest:	The value of marketing is going to relate to that product and customer I feel. If you wanted to come pick it, you have to look at, fundamental purpose of what offer are you conveying to what customer. You probably have to write that down into segments.
Interviewer:	From a high level perspective anyway, certain things and patterns can be picked up. I quite like the link between the financial, the bank account and the Internet of Things, connected to your devices, and managing and optimising it. It's one thing I hadn't actually thought of. Quite clever.
Guest:	Look back at the singularity and universal mega trends as well. 2016 is when certain people reach a tipping point of engagement around provisioning professional advice and artificial intelligence. In genetics and in other areas. I think these things can be seen in kind of islands. I feel that when you see more engagement around how you can aggregate these things to become more pervasive and more engaged, I think there's a lot of value. It's all around exchange in value to facilitate things that happen. We've seen as well with the likes of Starbucks and others with their networks. Now you see more private networks coming in at some vertical, around exchange of value in Healthcare and so on. Might be a very interesting one to look at how you finance long term healthcare or the engagement of wealthy, and people in their elder years, what exactly might their financial requirements be, that at the same time help facilitate a great quality of life and engagement through financial products.

I don't know, but it's certainly ... I feel that we're seeing more diverse solutions instead of potential products. New marketing technique, yeah you can argue be more gated or social, yeah but you can plot that anyway now. I think it will become increasingly difficult to come out with creative mechanisms. |

Interview 6; importing/exporting industry business director

Guest:	Most of our sales strategy in terms of mainland China is driven by infant formula. We do sell other FMCG products like beef, honey, Kiwifruit juice, etc., etc.; but what we're seeing is most of the south's seasonal business is driven around the increasing demand for protein foods.
Interviewer:	Right.
Guest:	So, that's why we stick to things like infant formula, or red meat, because once you move into discretionary items like honey or other FMCG goods, they're sort of more gifting products. Or, they might be subject to the changing affluence of the consumers depending on what the stock market's doing, which at the moment, is pretty volatile. Anyway, how can I help you today?
Interviewer:	Well these questions apply to you in a bit of a special way because you're dealing with China and Hong Kong, looking quite far ahead to 2050. Now by then, the joint declaration would have expired and Hong Kong, in theory, will just be another city in China.
Guest:	Absolutely, yeah. It's changing already in terms of the influence that China has over Hong Kong and the freedoms that have generally been enjoyed here. I don't know if you've heard the stories about the missing writers and journalists, and things like that, so. There's an article actually in the paper yesterday about how some of the parents are so concerned about their children that they're now looking for education in other countries. But, I think a lot of this is kind of doomsday material in terms of day to day life.
Interviewer:	Indeed.
Guest:	Nothing's really changed. I think in terms of journalism, though, one of the biggest issues was Alibaba's purchase of South China Morning Post, which is the leading ... you know, like the New Zealand Herald back home, and the fact that they purchased that newspaper, openly stating that whatever was recorded in the newspaper about China, influenced people's perceptions of that market. For Alibaba to go out and acquire that newspaper, it must have been a direction from the state. In terms of our strategy for infant formula, it was interesting. We started off wanting to sell into the Hong Kong market because of the carry trade with a lot of products being moved across the border, and what actually happened is after we entered the market, quite soon afterwards, they implemented this one tin policy, or two tin policy, so all of that carry trade was immediately suspended. So, it does show you the regulatory effects not only in China but also in its nearby neighbours like Hong Kong, it heavily influences your business. So, we then moved to Macau, and incidentally, there's no regulatory effect there about infant formula but there's a soft interpretation of the rules where they don't allow large parcels to go across.
Interviewer:	Right, okay.
Guest:	So, very different operating in a market like New Zealand where you've got complete freedom.
Interviewer:	That's the issue with all of this of course, is obviously China's an extremely important market but really the legal things, the regulation, can easily dominate the conversation.
Guest:	The policy risk is enormous because you can start off as we did with a business sales strategy and an objective in terms of what we wanted to reach in terms of volume of cans, or revenue. Then of course, once the policy comes in, it's not necessarily that the policy ... it can have a hand brake on your business execution, but it creates an enormous amount of uncertainty. So, we always break up the market into 3 sections. You have the consumer on one side, and the consumption hasn't changed. People are still consuming just as much baby formula, if not more, and then you've got the middle section with the distribution channel, and then you've got the primary, the manufacturing. But, as soon as these new

regulations come into effect or even when the draft consultation papers are released, the middle channel stops purchasing as much. They don't want to hold so much of inventory, their nervousness when they're pre-paying for your marketing material, or advertising, or promotion, all that sort of back-tracking up and it can heavily influence your sales.

You've got not only the policy risk when it's actually implemented, but the draft consultation papers ... There's a paper that was just released earlier this month taking what we think is the final step for infant formula, and that's imposing on the manufacturers, a brand limit of only 3 brands per factory.

So, you have ... our factory in New Zealand last year that we use for manufacturing the formula, they were packaging up to 50 different brands. So, they went from a model where they had 50 brands to where they were told by CNCA that they need to produce no more than 5. Okay, so they reduced to 5, you've got some of the European manufacturers still producing about 10. Now, that's going to be cut all the way to 3.

Interviewer:	Right.
Guest:	So, there's massive implications for that like in terms of other New Zealand manufacturers. What does Fonterra do? What does Synlait do? You know, you've got these big boys that are manufacturing around 5 to 7 brands, and suddenly reducing that to 3. There's going to be a fall out.
Interviewer:	Certainly.
Guest:	So, pretty high risk.
Interviewer:	I was just going to have a quick look at your written answers.
Guest:	Okay.
Interviewer:	Obviously just looking into the past, you've written about quality problems in the region in the past, and consumer attitudes, and potential level of hysteria.
Guest:	Well, particularly in 2008 when the melamine scandal broke. I think what you saw as I mentioned in the email is that you had a shift where mothers traditionally trusted the locally manufactured brands, and they immediately shifted to the imported brands. That's when you saw really this proliferation of a large of number of overseas manufacturers come into the Chinese market because they saw a massive demand for their product. It was quite a unique scenario because they didn't need to invest in a lot of marketing and branding material. The mothers didn't differentiate so much between brands, the key driver for purchase was import. So, if you went into a baby store, you could see as many as a 100 different brands all for sale.
Interviewer:	Yes.
Guest:	So, that scandal heavily influenced the trust and the erosion of that from the mothers. Also, it drove the premium pricing. So, multi-national brands like Wyeth, they were able to launch the Illuma brand, which sells for something like 400 RMB per can, which is just unheard of. So, you've got a massive change. You know, we're traditionally for an imported brand, you'd be paying as low as a 100 RMB or equivalent for New Zealand packed infant formula.
Interviewer:	These new eCommerce platforms, particularly in China – Taobao for example – combined with the whole attitude to the digitization of marketplaces over there, how is that affecting you?
Guest:	It's like the distribution model that I mentioned earlier, being interrupted. So, it's created a lot of uncertainty and also, change, where people are trying to twist their models. If you look back on the traditional model, you sell through to a distributor, and they take the credit, risk, and they sell to the baby shops, or they sell to the key accounts.
	Now, it's even further than TMall, you've got through Taobao, you've got this TMall global, or what they call TMall Hong Kong, which is really a link with the 5 new free trade zones in China where the product can essentially come in from overseas and provided it's a direct shipment to an end consumer, once it hits that free trade zone, you can

bypass all the taxation, you bypass all the VAT, so your product should be cheaper and the consumer has an increased belief that they're genuinely buying an imported product. It's not something that's counterfeit, or something that's been relabelled as imported.

So, what we find it's disrupting the models. Some consumers are shifting to those free trade zone or TMall type platforms, but again, what we find is there's a massive difference. The theory of this model should turn everything upside down, but the reality is it hasn't yet.

Interviewer: Right.

Guest: That's because we find for online purchases, consumers only buy brands they trust. So, multinational brands like Mig Johnson, or Wyeth, or Abbott, we suspect that they will be seeing a lot of their sales shifting from traditional key chains or supermarkets to online purchasers. Whereas for a brand like us, that is relatively unknown in first tier cities, we focus more on third and forth tier cities because it's easier to compete against those multinational brands. Those consumers and those cities are not switching as fast to the free trade zone. At least again, it's a well known brand like if you look at S26 out of Australia, you see there's a massive uplift in what we believe are smuggled products. You can read the newspaper about all the Australian supermarkets being stripped of infant formula.

Interviewer: Yes.

Guest: All of that product, if it's stripped of the supermarket, then they can't have the necessary certificates to import the product through the traditional channels and get the CIQ approval, it must be going through those eCommerce channels.

Interviewer: Right.

Guest: So, it's disruptive, but my belief is that no one's really figured out the correct model for what can work on a volume basis.

Interviewer: Right.

Guest: What we find is that because of the lack of credibility and also, because our brand is relatively new, and also because you're selling directly to individual consumers, you can't achieve volume.

Interviewer: Right.

Guest: So, if I was selling to 3 or 4 distributors, I can move container loads. I can't move container loads through the free trade zone. It's 1 can here, and 2 cans here. Yeah.

Interviewer: The regulation is an issue.

Guest: Yeah, yeah. It's an issue and what we're really seeing the regulation and the opportunity to sell through the free trade zone is putting downward pressure on prices.

Interviewer: Yup.

Guest: I think that's what the Chinese government wants, but there's still, as with everything in China, they'll allow a little bit of freedom and they'll see how it works out, and whether they'll totally relax the rules or impose a ban – it remains to be seen. I think that personally, the free trade zone has had a bit of boost for companies that are selling supplements, or food ingredients that are beneficial for your health.

So, you look at Blackmore share price, you look at other supplement manufacturers because they don't have to go through all the drama with obtaining back label registrations, they call it 'blue hat registrations' in Beijing. They essentially bypass all that and they can bring the product through the free trade zone. So, it's helping those types of consumers, those types of manufacturers or brand owners, more so than what I would see as say, in infant formula type sale.

Interviewer:	Where do you see all this, and I know it's an incredibly difficult question that people often ask me, actually, with regards to China and your market, your background, your industry, I should say. Where do you see things going over the next 3 decades?
Guest:	The consumer will be much more savvy in China, so rather than just looking for a pure imported product, I think they'll be smart enough to differentiate between functional ingredients of products and work out, "well, this product has a lower level of DHA, or a higher level of ARA, so I should be buying that as opposed to something that's imported."
	As I mentioned in email, we expect to see a massive strengthening within china's own manufacturing play, particularly over 3 decades. So, you'll see they've already formed these national champions for industry, so we expect those national champions to be much more powerful in their distribution model, and also much more prominent in terms of marketing, have a greater share of the market, and potentially, more and more product coming through these free trade zones with a relaxation of rules about back labelling and over labelling.
Interviewer:	Yes.
Guest:	I think it's like any market as it goes from what China's been to the maturity in 3 decades. You're going to see massive change.
Interviewer:	Do you see sort of a gentle upward trend of relaxation of legislation, or do you see more of a dramatic shift?
Guest:	No, I think nothing in China happens quickly. So, I expect that it will be a very passive, slowly relaxing, making sure things are working, and then to determine whether it's in the best interest to completely relax the policy. I think what you're seeing, too, is you're seeing a large movement of capital from big Chinese companies. If you look at the recent acquisition of 50% by Shanghai Maling and the Bright Group, and Silver Fern farms in New Zealand.
Interviewer:	Yes.
Guest:	The Chinese national champions are coming down to New Zealand and acquiring equity positions, whether it's in brand companies, or farming companies, or food manufacturers, and they're teaching themselves and learning the skills that are necessary to make sure that they're able to replicate these models eventually back in China. I think once their process continues, you'll find the rules relaxing because the Chinese will understand that they themselves are ultimately controlling the manufacturing and the processing, so they'll want to see those rules become easier. It's essentially it's a protectionist type policy, right?
Interviewer:	Yes.
Guest:	They make it very difficult to get into the country, so that they can control which foreigners can come in and which cannot.
Interviewer:	The change to the one child policy is obviously a good thing for you.
Guest:	It's a good thing in theory, but again, whether the mindset of the Chinese, when they're being so used to only having one child in terms of the funding of education, the funding of after school care, and all those other costs that go with having children, I don't know whether we're going to see a massive upswing. If you look at the data that's coming through, the relaxation of the rule in theory, when you're talking to a fund manager or you're trying to sell your business, it all sounds very good, but the reality, like everything in China, is a little bit different.
Interviewer:	Yes.
Guest:	Yeah. I think it's very hard to talk about China because you can always talk about the theory of what's meant to happen, and how it should work out, but the reality is often vastly different.
Interviewer:	Yeah.

Guest:	I think full credit has to be given to the Chinese government. There's a lot of things that they try to massage in terms of the movement of this large middle class that's unheard of anywhere else in the world, and moving to a consumption based society. No one else has pulled off that kind of feat in the past, but look, they have the control to do it. They definitely have the financial muscle to do it, and they have the willpower to do it. So, I think the difference is you don't really see a lazy Chinese person. They're all very hardworking.
Interviewer:	Extremely.
Guest:	At other countries in Europe or the States that were going through a similar sort of shift, I think it'd be very easy for everyone to just throw up their hands and say, "well, we'll rely on the state's handout." That doesn't exist in China. I think it's just a matter of time how they manage this transition and they fill up all those empty cities with people. We're very positive about the China story. I think like anything, there's a tremendous amount of volatility.
Interviewer:	Yeah.
Guest:	But, if you look past the volatility, and you travel through China, you do see a massive change in a real ... This huge investment by the state, they're able to choose where they direct their investments. So, I don't think nothing is impossible. They definitely can do whatever they want.
Interviewer:	Indeed. I was in Southern China last year and it's just phenomenal some of the projects that they are doing, they can seemingly construct and finance whatever they want.
Guest:	That's the real difference, I think, when people look at change and what's happening in China is they have the ability to pull this off in terms of the mandate of the state and the control that they have over everyone. I think people are so used to having that type of system as opposed to say, a Western democracy. Who are we to say that their is system is wrong?
Interviewer:	Absolutely.
Guest:	If you look it at other attempts, you know I don't want to get off topic, but if you look at the Middle East and what people have tried to do there, it's just been a disaster.
Interviewer:	Yes, absolutely. Steering back ever so slightly towards digital.
Guest:	Yes.
Interviewer:	I know we've already had a bit of a chat about digital platforms and what they've meant for your industry. How has digital as an engagement concept or as a marketing concept affected you recently?
Guest:	Hugely. In the past, we'd invest quite heavily in above the line marketing, whether it was on TVC, or billboards, or in-store poster displays, and you'd find that a lot of this traditional media expenditure, it would generate a lot of brand awareness, but it wouldn't shift into a call for action and getting the consumer to actually proceed to engagement and purchase.
	What we find is the new digital media now allows us to directly engage with the consumer and also to market to them individually in ways we never could before. So, you can capture details about how many people they have in their family, the age group, are they male or female? We can tailor a lot of our marketing programs to that, whether they follow us on Facebook, or whether they're part of our WeChat messages where we update them with promotions. Also, we can shift their purchase behaviour so they may land on our site to buy, let's say beef or lamb, but we can also up sell them to a bottle of wine, or juice, or beer, or something that they may have not intended to purchase on the site. Because they already have the trust and confidence in what they'll receive from us before, they're willing to come back and revisit and spend again.
	So, we even see a lot of our sales shifting from about 2 years ago, where less than 5% of our sales would have occurred online. You're now seeing that move into the 20s, the 30% and it's continually growing year on year. It's almost as though what we've found in the Chinese market, they've jumped their traditional bricks and mortar type approach

	with going to a supermarket to buy their meals, they're now happy to buy red meat online.
Interviewer:	Yeah.
Guest:	They have confidence in the courier system. So, you've seen, and that's what I was trying to allude to before, the way the Chinese can change and adapt, I think it's going to catch people by surprise.
Interviewer:	One thing I found interesting in the little shops in Guangzhou is you'd walk in and the sales girl would be on a phone paying not much attention to you as a customer, she'd be on there on WeChat and other platforms basically just selling things digitally.
Guest:	Absolutely, yeah.
	Yeah. I think it's fantastic that you can reach the consumer directly. It gives brand owners much more control. What we're finding now is that there's so many different online platforms, so you really need to choose. Do you want to only be on TMall, or do you want to look at YHD? There's a new platform now launched by Suning, there's JD, the list just goes on and on, and on. So, what we've ... because obviously funding is limited in terms of a smaller type operation, you try and focus on those platforms where the biggest consumer base is, which is of course, TMall at the moment. But, you want to be present across all the platforms because then you're building your credibility. You're able to reach an even wider audience.
Interviewer:	Do you find regarding your sort of online activities, social marketing, engagement, and all forms of digital marketing ... the thing that's curious to me is, you're obviously in Hong Kong, which has more of a sort of a mixed digital marketing approach, and then you've got China with their own ecosystem entirely.
Guest:	Yes.
Interviewer:	How do you cope with dealing with both the Hong Kong and China digital ecosystems?
Guest:	Okay, so we have our own team that handles that in Guangzhou and in Shanghai.
Interviewer:	Right.
Guest:	So, basically I allow the Chinese team to drive that system, and drive that marketing. In Hong Kong, we have a very small team that's focused only on the Hong Kong market.
Interviewer:	Right.
Guest:	Whereas in China, they really emphasise the local characteristics of where they operate and what they do. But, the two markets are completely different because you find that in Hong Kong, the consumer's also a lot more sophisticated. They're more used to buying imported products, whether it's from Europe or from the States, the choices are much wider.
Interviewer:	Yeah.
Guest:	You don't have those barriers to entry, it's so for Western products to come into the border and immediately appear on a supermarket, whereas in China, it's the opposite, all those barriers to entry can actually assist businesses like ours because you don't have such a wide competition base.
Interviewer:	I had a feeling it was probably the case, but it is a big challenge for a lot of New Zealand businesses.
Guest:	Yeah, it's very hard, but even if you look at big companies like Fonterra, those companies, to the best of my knowledge, they don't manage their own ecommerce ecosystem in China. They go to third party operators.
Interviewer:	An agent.
Guest:	Load up images and handle that for themselves. It is a difficult market.

Interviewer:	Even all that for small business, all the payments in China, too. You've got to set it up all locally and then move things overseas.
Guest:	That makes it very difficult, even just setting up a company and going through the paperwork. We've had similar situations in the past where just moving an office, you change your physical address, you have to go through every single license that you have, business licenses, import licenses, sale licenses, and updating them is just an absolute drama. You're almost in China, you don't want to be making any change.
Interviewer:	So, your comments on do you think there will be few large bans on many small brands? I guess this relates a lot to the political thing as well.
Guest:	Yeah, absolutely. I think there's going to be massive amounts of consolidation and that's happening right now, especially in the infant formula space, and it's the intention of the Chinese government to reduce the number of brands that are able to compete in their market. It's obvious from the first step they made in terms of the requirement of factories are registered, which came into effect last year and now going further to say that each factory can only produce 3 brands. I think the game is over in terms of having a large number of brands in the infant formula space for mainland China.
Interviewer:	In your business, how are you finding the responsibility, I suppose you could call it, of innovation? Finding new products, markets, dealing with disruption, anticipating change.
Guest:	You just got to be on your toes. You know, everyone's trying to, as I mentioned before, twist their models so you're trying to work out what percentage of your sales and resources should you allocate to traditional channels or traditional distributors. Then, what percentage should you allocate to your online sales, or free trade zone, tied in with TMall, and TMall Global. So, you're always trying to manage disruption and change. For us, we really let, in terms of real innovation, the big boys, they kind of lead that charge because they've such a mass volume. We're really surviving on a very smaller section of the marketplace and trying to execute our sales while in control margin.
	I think what people under-estimate in China is the execution risk. You have so much execution risk with staff, with distributors, with relationships. You're really trying to stay on top of managing the day-to-day business that you're not looking forward the next 30 years or 40 years. You're trying to survive day-to-day.
	In terms of even the new policy, are we one of the 3 brands that factories are choose to work for? Does the factory turn around and say, "no, we only want our sell own brands? We don't want to sell any other brands." So, you're always trying to manage this risk or look for new markets, or look for new products. I think you've seen even in New Zealand market, there's been some of the big ... the infant formula association I think has basically collapsed. One of their biggest brands just closed shop. So, there's massive change going on within the industry and this disruption in change has to be managed really on a day-to-day basis rather than looking forward.
Interviewer:	Right.
Guest:	I think as well, the ongoing regulatory risk is quite severe for the business, but we see the next change to be almost a mandate on pricing, because you've still got infant formula prices in China almost double everywhere else in the world. So, the Chinese government is going to want to protect the local market and make sure that their consumers are not paying those crazy prices that are unseen in anywhere else in the world.
Interviewer:	I just got reminded of being asked in the airport in China if I was carrying infant formula.
Guest:	Yeah, well there's more arrests in Hong Kong airport for smuggling infant formula than there is for hard drugs like cocaine at the moment. This was a massive business; you're talking hundreds of millions of dollars'' worth of infant formula. They could smuggle, I think it was calculated, a whole container, in 4 hours was carried by those day traders. I don't know if you've been out to the ports and seen, they just have lines of cardboard, and packaging, and tape, as they repackage and move all that, and just overnight, seized.
Interviewer:	Yeah.

Guest:	The Hong Kong market is so small in comparison. There's relatively few births here and as I mentioned earlier, the mothers are very sophisticated in terms of what they buy, which is only multinational brands.
Interviewer:	Do you get many mainland Chinese coming across?
Guest:	Oh yes, they'll come across. We'll have people from mainland China that will come and find our office.
Guest:	They'll have seen the product in China, and they want to buy the product from us; but it's a little bit concerning because it shows you the lack of trust that the consumers have. They're so fearful that the product's been contaminated or that someone's tampered with it. They only trust the genuine product. I think that's why you're seeing supermarkets in Australia or previously in New Zealand, being stripped of product.
Interviewer:	Yes.
Guest:	So, how long that goes on and how can the Chinese government restore confidence to the consumers? That remains to be seen.

Interview 7; advertising executive

| Guest: | It's interesting when you talk about the major changes and milestones, in fact I'll tell you what – it's long been a conversation in the industry that it's been a very slow industry to change, which is really interesting. If you ever look at the structure of advertising going back to watch the Mad Men TV series, the structure of the industry has not changed very much. Which is a little bit ironic, in we spend of our life telling clients how the pace of change means they all need to change all the time.

To me in my mind one of the biggest and here's had been in major changes was around 2000 and 2001 when the official un-bundling the media out of the agencies.

The traditional ad agency structure as the whole everything was basically held together and they were the jack of all trades. When media was pulled out from what an advertising agency does, that was a really significant change. Because what that led to in the industry on our side was all the money sits with the media agencies. It changed the dynamic and you saw the growth of these massive media independents financially. That's been quite significant.

The other thing externally really has been clearly the impact of the internet. The internet of everything really, which basically in our world meant the dawn on new media. It took us from TV as a default position on virtually every client ... Which to be fair still exists for some clients, to the advent of new media and having to work out how the hell we deal with things like Twitter and bloody Facebook and all those new social media things.

The other thing I'd say when I was thinking about this in terms of what's changed in the last 20 years, I think for those of us who have been around for a long term ... This is a bit of an intangible but it is a very fierce statement. The ad industry in particular has gone from being one of those ... Again if you look at the Mad Men context, lots of fun, fuller characters, primarily outrageous, lots of stuff like that going on, to something now that for people coming into it, it's a much stricter business environment. You don't get the same number of characters. You don't get your long lunches. You don't get guys drunk all day.

The death of David Walden at the end of last year – who was a bit of an icon ... It was sort of start of being the last of bit of a generation.

The industry has changed significantly. I suppose it's had to grow up over time. It's a bit of a shame really, but to be fair the industry probably did have to grow up, but it has lost a few of it's characters. It has lost the attractiveness of certain types of personalities to come in there. I think it's a hit line with the exception of the un-bundling of media it has been an industry that has been slow to change over the last 20 years. It's still grappling with that as we look to go forward basically. |
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Interviewer:	Do you think the excitement has sort of been slowly drained from it?
Guest:	Yes, and I think when we start to talk about some of the changes in the future and where it's going in the future, that excitement will get drained even further basically.
Interviewer:	Indeed.
Guest:	Not completely because there's always got to be an element of creativity in what we do. Though I can see it getting strangled further and further.
Interviewer:	It seems that media prioritisation has everything created first and foremost for new digital channels – or do traditional channels come into it?
Guest:	It's hard to generalise, it depends on the clients. We went through a bit of a year where the pendulum swung too much the other way. All the new shiny stuff, be it social media or be it whatever became a novelty. Clients sort of jumped on it and then the pendulum sort of self corrected back to go actually. There is still a lot of value in traditional media like TV and radio and though probably not to the same extent, magazines.
	The understanding is I think with a lot of the smarter clients is … For example, TV is still very relevant because of the nature of the big audience you see you can buy but how you use TV is changing. Instead of just 30 second commercials as a default mechanism, we try to use television in different ways. That's why you're seeing programs that are heavily sort of editorialised with commercial content. Might attend home shows and stuff like that, you'll get more and more commercially funded programming and editorial I think. Because how we use television as a commercial asset is going to change and continue to change.
	I think what's fair to say that clients again, the smart ones the starting point in the brief is what we want to achieve, who do we want to achieve it against. This is actually we need to have a TV commercial. Or we need to have a social campaign. We still get clients who do that, but it's not particularly smart in terms of how they brief or how they think about things frankly.
Interviewer:	That all being said, imagine the changes between now and 2050, so 34 years' time, which is quite futurist. What do you see are the key differences to today? What do you see as the main changes over the next few decades?
Guest:	We would never attempt, especially in this environment to look at as far as 2050.
Interviewer:	Right.
Guest:	At [major beverage brand] we've got clients, especially again guys like [another major beverage brand] who are constantly asking what's next because they are paranoid about not being relevant for this next generation. They are not looking much further ahead than 2025. That's because things move so quickly that even as providing with … As we do all the time, presentation takes on where the world is going and what's happening next. I mean, I bet in three times there's something in the social space that is probably going along way towards gazumping Facebook.
Interviewer:	Right.
Guest:	We don't even know what it is. It's really hard to go as far as 2050. I just want to put that as a bit of a caveat. Having said that what we are saying about the changes that we are seeing and what the big changes are clearly… Again this whole thing around the internet is massive. The internet of everything, and everything being driven off the internet, the increased relevance of apps in our life. Where a lot of this heading to and the big thing that we've been talking about is this whole area around data, and data reliance. That will be our world.
	We will be a lot more data centric in how we think about doing our jobs. We already have themes now that are developing we can't deliver on it, but we are talking about individuals of scale. That's going to be the challenge, how we do that. Things like personalising messages, we've already seen it in places like the UK with Channel Four on demand where they are sending individual TV commercials to people basically.
	It's a very rudimentary fundamental thing that they are doing at the moment, but that's the future. That is a big part of it, using data and using data analytics to be a lot smarter

about targeting people, the right people and in terms of understanding what the real needs on one side rather than the shotgun approach that just sprays everything out everywhere.

Interviewer: Yeah that does seem to be a very common thing amongst people, the big data and the notion of what's possible there, in addition to just the sheer amount of processing and computer power. If we look at more is lowering and project that out as to we can sort of get an idea of what may be possible.

Guest: This plays into your question three big time in two ways. First of all, and we are already seeing it the type of person that we're looking to hire in the media agency world is very much say sort of data analyst. A person who has that sort of analytical brain with data. We are starting to see a different type of person coming into the sector basically.

Now the counter to that is we will always need the creative types, because we're always going to need some way to get that breakthrough and that cut through. Even if we can't target the individuals at scale and bring in the right messages at the right and all that good stuff, we still need an element of creativity to capture their attention. Those types of people are not going to go away. Again it's sort of like TV, how we use them and the context to how we use them will just be different and will evolve.

You can see the nature of the industry is going to sort of evolve I think as well into an area where ... This is a slightly different topic but it again plays in with all of this, is that I can see the industry coming together. When I say coming together immediate coming back closer to creative technically now ... Now so we're involved in a project with [brewery], okay and this is a classic client project. [name] said to me "Look so what's happening in our world, this is we look at these advertising and marketing. We've got to lease marketing partners, we've got a creative agency, we've got a media agency, we've got a digital agency, we've got a social agency, we've got a PR agency."

The world is just fragmenting into too many pieces. It's too expensive for us to be eyeing all these people and by the way it's time consuming for us to have to play the role of coordination. The little project they've given me is how do you rationalise this so that it can be a much more efficient and effective way of operating. Which is really interesting and already there's been a lot of talk in the industry about back to the future, bringing all these things back under one roof basically. Instead of having all these fragmented parts and when you think of that at least so many grey areas now that everybody can develop content, it's just not the creative agency.

Interviewer: Yes.

Guest: The world has just moved on, what the definition as of social is changing. PR is now just a given element of everything we do. You can see how this is going to evolve and I can see a world where we have a lot more generalist rather than specialist. We are just going to have to, but all of it completely and depend by data and analytics and making decisions driven by data.

Interviewer: In your industry specifically, part of that question sorting of hinting at automation and some of the lower level work will be just sort of brought onto the cloud if you like. Just become automated and therefore there will be less people needed. Whether that applies to advertising I'm not too sure. What are your thoughts?

Guest: Well we've already started down that road ... We started down at rather than media with programmatic. I don't know if you've heard about programmatic but what we can do now in the context of media buying is it basically we've chosen systems all online. The automation of digital buying is ... We're doing that all the time, it has not led to a reduction of people, again it's led to a change in the type of person we're hiring.

Interviewer: Right.

Guest: I think that's the reality. It won't reduce the head count it will just change the nature of that head count.

Interviewer: To point number four now, what role do you think the overall field of marketing will have over the next few decades?

Guest: Well I think it would be that some of those things we've said before. It's going to be more personalised, it's going to be less mess, it's going to be more data driven. It's going

to be very much convenience focused and it's going to be technology enabled in the context of being the idol of the under staying consumer needs and meet those needs of technology. I love that too and I don't know if you've come across it, which has sort of sprung up recently 'Uberisation'.

Interviewer: Yes.

Guest: Okay and that's what happens. The consumer had a need and technology enabled that need. Another hint tool this is just a couple years ago we had a visit. We went to Google and we went to Microsoft and Microsoft took us around what they termed to be the house of the future. Which is really interesting and it was a proposal for the house. It wasn't something that Bill Gates could afford, it was supposed to be something that in five to seven years' time your average American could realistically be affording and operating in this way.

It was interesting right from opening the front door where you'd use a palm print as opposed to a lock. Then the first thing you do is you take your smart phone and you place it on a tray for want of a better word, which would then give you the complete analytic breakdown of your day. In terms of the heartbeat, number of steps – very health focused.

Interviewer: I see.

Guest: Because there is a strong belief that it's going to be a real orientation towards people's consciousness of their personal health. That would literary bring it up on a wall for you as you came home and walked in the door and when you put your mobile phone down. Then lot's things around convenience, and simplicity, and e-marketing.

Things like you got to take out your milk out of the fridge, it's nearly empty. On your fridge you have one of those scanners and you literally scan the bar code into the fridge and at such a point that you've got enough items on you just press a button and it's automatically ordered and will be delivered for you the next day.

All of that is pretty much reality close to now in a lot of places anyway. The whole e-commerce and e-marketing area I think it's going to be especially around things that are just commodities. I think there's going to be a massive explosion area and we are going to have to work out how we deal with it in advertising and marketing. Because it's going to be all of that convenience rather than brand frankly.

What won't go away and there's been a lot of studies on this, is the concept of shopping. Shopping for things like clothes and shoes where it's sort of just as much a social experience as it is a sort of convenience thing. That won't go away and that won't change, not in the world that we can see as well. Some of these changes that are again enabled by technology are things that are going to be challenges to us in the context of how you develop brands and brand loyalty within that. Especially if it's a safer commodity, it's going to be harder and harder to drive that brand loyalty.

Interviewer: Yes, it's going to be fascinating to see what channels emerge and evolve over the next while.

Guest: Yeah that's right, it's going to change your thinking and it's going to provide some challenges and then to a mix point actually. I thinking and this is very much my opinion, I think we are going to see many small brands as opposed to a few big brands. I think the consumer demand for that is also going to grow, like I can see the world having mini-brands basically.

Rather than just a world dominated by the P&G's and the Unilever's and we're already seeing them strangle hold breaking down. Again technology enables the cost of production, the cost of distribution to be cheaper and cheaper. It's enabling more and more players to come into the market. This is consumers that are more demanding of individual styles and brands. You can see where this is heading really.

Interviewer: Are organisations thinking and planning this far ahead? This can be beyond advertising if you like – a little bit more broadly to marketing.

Guest: I think here is to know, I think it depends on the sectors you're in. There's not an easy answer this. Some of that I think it's driven by the nature of the audience that some of the marketers are dealing with. If you've got a very young oriented audience and part of

your brand sell is an understanding of that and staying ahead of what their needs and wants are and how they're thinking about things, e.g. Coca Cola. Then you're constantly thinking ahead and planning ahead. That's the world you live in.

If you are a more staged sectors thinking, banking, insurance and things like that, of course you're embracing some of the new technologies but you're not constantly having to thinking ahead – at the same way some of the other sectors are.

Interviewer:	Yes.
Guest:	I think every organisation should be thinking about the future and how they empower themselves for the future, but there are degrees within that of what the requirement is frankly. I think my piece of opinion is just largely driven by the audience that you're trying to take a need to it.
Interviewer:	I've heard from a general consensus from the banking sector, suggesting they're slow followers. They tend to let innovation happen in other areas and then see how they can utilise it. To the airlines, saying that they are the fast followers. Well they are not the most pioneering people they do jump onto things fairly quickly. I know [airline] has done a lot of work recently with their innovations.
Guest:	Yeah I think [airline] is a good example, they're pretty smart about how they've adopted it. I think again there's probably there's a lot of latitude in their industry to be doing that sort of thing too. You're right about ... I mean banking I think is frustrating in terms of how slow it tends to move. I think that they ... Because you've got so few banking options in the greater scheme of things, as an industry they are just a very conservative and slow moving and consumers are sort of stuck.

Where consumers again have a lot of choice, if you get caught behind and you're not going to move with the times, you just get ignored. I do think though and viewing this as an asset of point seven; organisations with dedicated innovation teams, I don't see that very often and if you want to be brutal I think there is more talk than reality in this space. |
Interviewer:	Yeah.
Guest:	I think one of the real realities is all of these major companies that we're talking about they've got a 90-day profit turn around target. They've got analysts to report to every 90 days. For better or worse they've got a reasonably short term focus. Sometimes that does not allow for the luxury of doing things much longer term.
Interviewer:	You see these new innovation teams and hints of innovation popping up around the place.
Guest:	You see I would argue, if you want to be harsh about it again, I would argue that every role you've got should have an element of innovation and then otherwise you're not doing your job.
Interviewer:	It's an assumed responsibility yeah.
Guest:	Yeah absolutely, otherwise you're advocating it to one person or one role.
Interviewer:	Yep.
Guest:	That basically says "Actually he's the only guy who looks after innovation." Well that's fundamentally flawed and its thinking. I think you're going to see different and thinking about different marketing categories and how they tackle different target audiences, you're going to see different degrees of aggressiveness in terms of innovation and change. Again against all of that I would imagine there is going to be some underlying things that are pretty clear over the next couple of years I would have thought.
Interviewer:	Yeah precisely. If you think of the channels or advertising say in 10 years, do you think there'll be any resemblance to the channels today or do you think it's all just going to completely shift?
Guest:	I think we'll still have much ... Again I think many of the channels we use today will be much the same. There's has been the prediction of the death or radio and the death of print, to the death of television is much over-hyped really.

Interviewer:	Well in a way interesting.
Guest:	I do and a greater believer in how we use them will continue to change. I think it would be different users. I can see us using radio actively. Radio is going to become quite visual I think.
Interviewer:	Well the move to radio on the web, I mean it happened years ago of course, but it's revived a lot of things too.
Guest:	Yeah, I think radio has been really smart as an industry about how they have embraced the future. These stations and how they have driven their social activity and you're right. Webcams filming it, I mean look at the likes of [celebrity] – his weekly rants that he does that are all video based and visually based. I mean that's a big trend that we're seeing at the moment.

As an industry we're seeing this whole moving to with Instagram and away from the likes of Facebook as a communication mechanism amongst young people. People are using Facebook as a directory and to store friends and names and all that sort of stuff but they are actually communicating more through things like Instagram.

Very smart purchase by Facebook to buy Instagram, they could see where the world was going and Zuckerberg is not an idiot. That was very clever. There are some trends that are happening there that are pretty apparent. We as an industry as well are moving away from talking about ... we used to talk about storytelling. Well now we talk about story making. The marketing age it used to be show and tell and now it's invite and involve.

Tui – that has become a global case study, such a simple thing what they did with the cricket. Getting to get people to spend all that money buying T-shirts, wearing their brand, having it on the news, and the crowd having that much involvement as a spectator in the game is incredible. I mean it's become a sports marketing study. I'll tell you now, rugby, every other sport is trying to work out how they get the crowd that engaged in the game.

What's really interesting and just funny enough because my whole interest in the sports side and being involved in that many ways ... I've just read this whole study in the US about how this next generation are not interested in being passive fans. They want to be involved and that's why you're getting more and more growth in things like fantasy teams, online involvement in games, picking camera angles, all of that sort of stuff. They just don't want to sit there and passively watch it, they want to have some sort of active involvement.

I think you're going to see that is going to be something that will start to permeate its way into a lot of the media and how they think about things. TV is another classic, some of the most successful programming they've had. Recently things like New Zealand Idol where you don't just sit and watch the show but you're going to be actively involved using your smart phones, through voting or whatever. You're using a couple of devices, this dual devising at once, which is quite important. |

Interview 8; cybersecurity executive

Interviewer:	The first question is how has the sector, IT in general, evolved over the last few decades and the major changes that have shaped it into what it is today? Really those big, key things for you.
Guest:	We've been going 7 or 8 years. We operate at the enterprise end of the market, and we started life operating as infrastructure specialists in the area of virtualisation. Virtualisation is a precursor technology to cloud, and so our whole environment is dominated by the change in the IT industry, rather than affected by it. In fact, we would argue that we are part of the cause of that change, rather than a response to that change. Clearly the meta concepts of cloud and outsourcing, and abstraction of resource from workload, all those concepts have been quite fundamental in the last 7 or 8 years, when combined with the internet. The ability to deploy workloads in other people's IT environments, whether it's a SaaS application, a cloud provider or what we might call a

poster data centre, it really evolved and changed the market dramatically since we've started.

Interviewer:	How do you see this evolving over the next 5 years?
Guest:	I have no doubt, in that time frame and shortly after, the majority of workloads, whether enterprise or startup or small business or any class of IT workload, will be run in the cloud. They'll be run on large-scale, multi-tenanted, publicly accessible clouds like Azure or Amazon, possibly with the exception of banking. Even those environments are profoundly affected by the economics of the transformation, not the technology of the transformation. Ultimately economics wins out. Where non-differentiated IT outcomes can be offloaded to somebody who can do it cheaper, faster, better, that's what will happen. The whole business that I'm in is set up to make that happen for enterprises, make them make that transition, help them make that transition. We are seeing increasing momentum in that space.
Interviewer:	Digging deeper, this may seem somewhat far fetched, but 34 years. Imagining the sector in 2050, what do you think are the big key changes do you think?
Guest:	I think the transition to mobile only, and transition to completely cordless, ubiquitous connectivity, combined with the ability of processing to be radically more powerful than it currently is. I would argue, and this is completely top of mind, because I haven't had a chance to contemplate or research this. I would see a time where all computing is done in mobile fashion, even if you're sitting down as we are now. Friends using video and other things which, we're only just beginning to imagine what they might be like. Think of augmented reality at the moment. Those things will be commonplace, because processing power will be abundant, spreading that position technologies would be possibly radically different than we understand now. I can see a few technologies combining and coming together to make those things happen. Mobile, totally connected and very high processing power, opening up cool ways of doing things.
Interviewer:	How do you see technology and humans coming together even further? Obviously, we're now in an era of more wearable technology. How do you see that coming even closer?
Guest:	I think there is an iterative process of the interface technology. At the moment we interface with technology relatively crudely, largely through 5 senses, and I think that there are some technological breakthroughs around the true concept of wearable. That's both sensor based stuff and user-interface stuff, which are happening as the 3 things I mentioned earlier, connectivity, processing power and mobility, those things are leapfrogging each other in an iterative fashion. It's hard for me to predict what 34 years looks like, because the last decade has seen rather unimaginable changes. Certainly if the pace of change continues to accelerate, I think what many pundits ignore is the what I consider the second order effect. The second differential effect of the rate of change changing, because there are many innovations which become available as the environment within which we innovate becomes more creative.
	Amazon would argue, and leave often with this in their presentations, that as the cost of failure drops to zero the rate of innovation becomes exponential. By using some of the tool sets we've been talking about, people can invent and play and muck around without having to have massive research labs or ... You can access these publicly available data sets for cents, you can process them overnight for nothing. I think these things are going to have a pretty radical second order effect and the pace of change will continue to accelerate.
Interviewer:	This is a bit of a niche on its own, but do you see quantum computing happening?
Guest:	I think there are a whole lot of mechanisms which could be useful. Obviously the physics is getting pretty tricky around processor heat and speed, and I think there's a whole bunch of things occurring. The physicist in me says that that is related to the paradigm of which we currently compute. That is, high levels of computing power at our fingertips, whereas I think in the future we're going to see almost infinite computing power available at the end of a connectivity pass, however that looks. Therefore, some of those barriers of physics might mean that ideas that are incredibly expensive to invent, like quantum computing or biological computing, or any other kind of pseudo-binary processing methodology, might fall away to a more efficient mechanism of applying computing resource to the instant that is needed. I think cloud's a really good example of that. We're seeing lots of stuff, that auto-scales to mean that systems can have access to immense amounts of computing power for very small periods of time. That

	computing power goes away. Maybe there's going to be some of those breakthroughs, but who knows.
Interviewer:	And nanotechnology as well.
Guest:	I think there's a bunch of those things. The questions are whether the race is going to survive long enough to actually get the inventions over the line, and save the race.
Interviewer:	Coming back to the present ... this is relating to your industry, and your business as well. How has the big drive towards digital over the last few years really affected you?
Guest:	I think that the challenge with the drive to digital is that for many enterprises they are culturally unable to understand what that means, and then even if culturally they can understand what that means, their systems and process and way that they go about doing business, their culture if you like, is legacy. It's hierarchical, it's command and control, it's multi-tiered, it's complex from a business operations point of view. It's not agile. I mean that in both senses of the word. The challenge of digital for them has been primarily at the systems of engagement layer, how they attract staff and customers. I think of engagement of course to access, one is the commercial engagement of customers and the other is their organisational engagement of staff. That's been really challenging for them. Boiling all that down to IT is, "Okay, if they go digital, what does it actually mean?"
	How do they process the data, how do they get insight? Everyone's using the phrase "Actionable insights" at the moment. The challenge is, even if they are trying to do things at the systems of engagement level, where vision and capacity, capability at IT level is often significant. It's kind of common law in our business that 80 or 85% of an IT budget goes on keeping the lights on, and about 15% goes on innovation. That is primarily because money spent on IT doesn't return on investment the way it does in other ways of spending money in the cyberspace environment. 90, you pick a number, but something like 90% of IT is non-differentiating. My invoice is the same as your invoice, printing is printing, file storage is file storage, it's just nonsense. At least the cloud has the ability to wipe a lot of that away.
	The big benefit of cloud in fact, I argue that it should be cost benefit and certainly enterprise cloud, that's a nonsensical statement. Cloud as deployed in enterprises is becoming cheaper and cheaper and cheaper. There is an arguable race to the bottom, and certainly Amazon and Microsoft are dropping their compute rates for images that will run enterprise workloads to 8 to 12 cents recently. Storage; all of that is going cheap. What's getting more expensive is the consulting, the architecture and the people, the testing, the security, of those systems in the cloud. That'll change, so cost will become an important factor. The much more important factor however, is the agility that cloud environments bring. If you have legacy systems that are stuck with really large investments, and enterprise IT is full of really large investments, you are unable to simply abandon those investments and do something different.
	Short of market change, or short of a better way to doing something up here. Again, there are 2 layers here, the obvious layer is the physical and financial investments that organisations have and the way they did things. The second and more insidious effect is, in my view, the way that people protect the past for their own self-interest. "If we've done it a way, we'll always do it that way, I will create any arguments you want, and I'll gather any data that you want, that supports my point of view." Again, in my presentations I would argue that turkeys don't vote for Christmas. It's not a good time for them.
Interviewer:	You're absolutely right.
Guest:	The grasp of digitisation has a couple of problems, and again, one is at the front end and the other is at the back end.
Interviewer:	There's certainly an issue with sticky technology, for example Lotus Notes. Companies are heavily invested in it in terms of infrastructure and how they do things and processes, also I know with [bank redacted] they're moving over to MS Exchange, not considered an upgrade in the tech world. There's things like they have dedicated IBM full-time technicians in these places that literally just are there to keep Lotus Notes working. It's a dramatic shift, and it actually was quite ironic. They went from, I think it was 3 servers for Lotus Notes to something like 20 or 30 for exchange. It almost seemed like a downgrade in their eyes.

Guest:	It's almost like "Welcome to the 90s," isn't it?
Guest:	The challenging thing that we see is that they will use ... At a corporate strategy, they would use whatever defences they can to support their position. They will use lobbying legislators; they will use ... This is the Uber-Taxi argument. I don't think that they're going to be challenged from a technology point of view, they're going to be challenged from a business model point of view. People will simply find a more efficient way of arranging banking. At the moment, a lot of enterprising behaviour is in fact going backwards in terms of agility and freedom. There's anti-money laundering, they've found full beneficial ownership, and with challenges ... The challenge of actually doing something with the bank is getting worse, not better. I think I would argue that I need to argue more about how they serve the customers than, as the taxi industry and the movie industry and the accommodation industry, all these disruptive industries, will happen to banking as well. 4 years.
Interviewer:	The other thing that has interested me – the supposed cost of hardware plummeting, as well as the cost of processing power plummeting. Obviously you've got infrastructure on demand as a service and that sort of thing, but really the cost of developing software at the moment and the cost of exploring ideas is still very, very high. One of his hopes was that with maybe some form of software automation, this cost can also plummet soon and people would be doing more thinking rather than more doing. What were your thoughts on that?
Guest:	Maybe, I look at it from an enterprise software development point of view, not an independent software vendor point of view. I see most of the costs are around self-inflicted wounds, failure. Their costs are in testing and deployment, and obviously when they make a screw up then the costs of the screw up are high, therefore the cost of testing is made high. I think that adopting different methodologies, Google or Amazon methodologies, it says "Hey, this is a beta." A continual deployment, we know organisations who would try and do a single digit, like a 1.0, 2.0 release maybe once or twice a year, and a dot release or a point release maybe once every quarter. That kind of point release is coming out of the good software development companies, maybe twice a day? I think this is really a cultural revolution rather than a technical revolution here.
	I think on that basis the cost may plummet, and none of these things are in isolation. The reason they can do rapid release is because they're using some fairly advanced software automation, or configuration management tool sets. That means that they can keep all those details under control. The biggest issue is in legacy, keeping your monolithic environment going, or even with your older environments. They are certainly sucking a huge amount of money out of enterprise.
	The interesting thing though, just before you move on, is, arguably, IT budget, 3% of revenue, arguably. Even if you say it's 50% of your IT budget, which you won't, because most of it's in people anyway, you're not moving the needle on your profitability future. If you look at a bank and say "Hey, the risk of something going bad is large," and compare that against the potential benefits of doing something differently, this tinkering around the outside is never going to get the guys who are in their 50s and 60s to change their minds. It's really only, I think, when you see a business model threat, and the risk is not security, the risk is that somebody's doing it better than you and will wipe you out. It can happen to banks as much as it can happen to software companies, IBMs, Hewlett-Packard, anybody.
Interviewer:	Given everything we've spoken about and going back to the future now, what do you think human capital and employment will look like?
Guest:	It's a disaster, it's a disaster. The level of sophistication in software is reaching or has reached a point of infliction in my view, which means that many of the middle office functions that we might have been typically doing, claims approval, mortgage approval, able to be done by automated systems. Much of our bureaucracy, I think, is going to be annihilated, should we choose to go down that path with artificially intelligent or very nearly artificial intelligence systems. We call it machine learning, but it's machines learning by induction of process. By simply observing heuristically what is accurate and then picking up on that. We've talked already about the availability of processing power, we've talked about on a totally scalable basis, we've talked about mobility and other stuff.
	You start putting intelligence in behind that, and even in the last 12 months, if you have a look at what AWS, Google and Microsoft have done around machine learning on their clouds, it's kind of spooky. I think what happens here is that unless you are a truly

innovative, truly ... I had a phrase, value-adding role, the chances are that your role will not just be outsourced, it will be eliminated globally. We're seeing a little bit of this in China, we're seeing a bit of it in India. People say "Hey, there are going to be new jobs created, you don't need to worry," the new jobs that are being created are for smart people and most people are smart. The vast majority of our population is thick, and so sorry mate. I think over the time frame you've discussed it's going to be a very serious issue.

Interviewer: These sentiments are echoed amongst various people. Some say that you don't really need an accountant anymore, and even in the future you hardly need a marketing department.

Guest: It's interesting you say that, because that would be the theory, but here I am, wishing I had a better marketing department, wishing I had a better accounting ... It's not better in the sense of having to do more processing, it's better intelligence out of it, better effectiveness out of it. We use Hubspot, we use it extensively, we can track our digital footprint all over everywhere. If we're smart enough and we've got enough time and money, we can attract content that will attract people digitally.

Not as easy as it sounds. I want a better accountant, even though I want her to do less accounting. I want to know what it means, what we should do next, I want to know what to do next. That's often challenging. We have tremendous tool sets available in the cloud, but we still need some degree of sophistication to use them. What that means is that I would quite happily pay more for less of someone who could help me where I need to be helped. You're right, that's not in the sense of entering data into an accounting system, because a lot of that can be automated. It's in helping understand what it means, actionable insight, there's that phrase again.

Interviewer: The intelligence behind it.

Guest: I don't need as many of them, I don't want that person every day. I might want a day a week of that person. I can see this pyramid effect, where the workforce is concentrated up into higher values, smaller number of roles. Everybody else goes on basic support.

Interviewer: What do you think marketing will be like in that sort of time frame?

Guest: I'm a mechanical engineer, and so I have no concept of marketing. All I know is that at the moment, our customers, should they choose to, can know as much about what we know as we do. The sales process of identifying needs, outlining a solution and then closing, that's kind of gone. Customers go to the internet, they explore an area, they look for people that have expertise in that area. They'll engage a multiple to and fro kind of loop with them, and then they may execute something. That may or may not involve us, or it may or may not involve them doing it themselves. Ultimately everybody wants to get things done quickly, speed is money, time is money. If there's an argument that says "We can do something quicker and better," that may justify a business case. Certainly going out and cold calling and selling, we don't do any of that, and it doesn't work.

It's highly expensive. When we don't do it we miss out as well, because the relationship stuff's still important. Marketing and sales are an area, and IT especially. If you Google future of sales, you'd see a lot of stuff from Tiffani Bova. I've heard her a couple of times, and she's very smart on this. Most of what I said comes from her.

Interviewer: The next question is – do you think that there will be few large brands or many small brands, or a mixture, or do you think it goes through cycles? What are your thoughts?

Guest: I can't answer that particularly coherently, that assumes there was some coherence in any previous answers. The challenge here is the perception of the user, and I think micro brands are valid. I get to use, know and trust something because the way I've interacted with it, typically either online or from a referral, that is not necessarily a global brand, but it may well be a global brand for the niche that I occupy. I think niche is not defined by geography, it's defined by a focus, and special interest. I would also argue that from my own perspective, that global brands have as much negative associated with them as positive. Increasingly, and I'm not sure about your generation, I think my generation sees global brands as part of the reason behind the problems that we have at the moment. Big brands can have just as much negative connotation as positive, opening the way to small, trusted organisations like yours and hopefully mine.

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Small, trusted organisations like yours can actually be global. I don't know any, just going through my top of line responses, I don't know any global brand that I would choose to engage with, certainly in the mainstream of life. That's fast moving consumer goods, household goods, and what do they call them? It's not tangible, the centre of the economy that's manufactured goods. Cars, white ware, that sort of stuff. All of those organisations in my mind are specifically American or similar multinationals who are tasked to create wealth for their shareholders at the expense of almost anything. Their management structures are in created to do things that support their core mission, and their core mission is to grow and increase the value of their share price. That's inherently unpalatable, and again, your father would argue this very strongly.

It's unsustainable in the broadest sense of the word, including in an ecological sense. I think those brands are responsible for that being like that, however, not all global brands are American multinationals. I think of my golf clubs, or I think of other things. They're well known brands and they're very small companies. I guess you've got to try and separate those 2 things.

Interviewer:	In your experience, are organisations thinking and planning this far ahead?
Guest:	No.
Interviewer:	No?
Guest:	No, 2 to 4 years.
Interviewer:	2 to 4 years, that seems to be, as people say, accounting years, it seems to be what people are mostly coming back with, 5 year plans and things like that.
Guest:	In our business we don't even go to 5 years, we go sort of 1 and a half years out. The change we've been through in the last 3 or 4 years, the whole wave of ... The way I describe our business is, when we started we were specialists in virtualisation, and we aimed to be the preferred supplier for the top 100 IT users in the country. It was a very simple kind of strategic position for us, and it solved many, many questions about, "What do we become good at, what do we train our people on, what's our core messaging?" All that was simple. Customers had many problems, but only one solution available. That is virtualise your workloads, and that way many of your problems, overspending, disaster recovery, a whole lot of things would be resolved. Nowadays, customers have many, many solutions to their many problems, and unlike virtualisation none of those solutions necessarily stand out with a very clear cost benefit kind of equation. Where there's the whole virtualisation wave was simply mind boggling in terms of its return on investment. Now we have this horrible space of a confusing solution set, relatively low or un-differentiated value between the different solutions, and many competing voices trying to tell the market which way to go. That's a particularly challenging place to be, and therefore planning for 5 years of that is impossible. I would refer you to the Cynefin framework. That certainly talks about different states and appropriate management responses for the different states. I've used that model extensively. If you're an unknown state probe, make sense of it, then respond. If you're in a known state, just respond, don't waste time.
Interviewer:	What does innovation look like in your firm? Do you apply that, is it an assumed responsibility for everyone, or is it more of a silo type thing?
Guest:	No, it's not silo, but it definitely comes from sectors inside our business. We have an office of the chief technical officer, if you like, that's the brains trust. These guys are ... One of them is an owner director, and one of them is a senior employee. These guys are challenged, always looking over the horizon, as am I. My job is to look over the horizon, try to understand how the technology is affecting the larger questions that you and I have been discussing. Position ourselves with our organisations at senior level, whereas these guys are deep into containerisation, and micro service architecture and all of the kind of gearbox of the transformation. That's kind of how we roll, and try to pick that 18 months out, no.

Interview 9; IT executive

Guest:	It's a pretty big question with a pretty big answer obviously. Software has evolved a lot over the last few decades, so we've moved from ... If we go right back to the 70s, we've kind of gone full circle because we've gone from mainframes and mini-computers through the personal computer revolution, and then back to shared computing and shared infrastructure. Now we find ourselves with software and service in the cloud, so if you consider the delivery channel to the users of software over that time, it's changed very significantly. But probably the thing that has driven the changes in software the most, I suspect, is the approach to building it. We've gone from software being the cheapest part of the computer and hardware being the most expensive, to hardware being a negligible cost and the effort and the cost required in producing software being really, really significant.

We've evolved ways of working to build the software that are a lot more collaborative. I suppose the software of today, one person sitting alone can't really produce it. Everything is very connected. In the last few decades, the internet happened as well. With every single software system being connected, the complexity is very high. Personally I believe that you can't really produce anything material these days without a reasonable number of people working on it. We've evolved fairly sophisticated ways of having people work together to create something that's actually going to meet an end. As I said, in that time there's been a user experience revolution. We've gone from doing whatever's easiest for the programmer and the computer to trying to meet needs for users, and deliver them experiences they didn't even know they actually wanted.

We're connected as much stuff and more stuff every year to the software experience. It's not just the software systems connected to each other, it's also the devices we use and the way we interact and the way people interact, has all become part of that great, big, scary web of stuff. That's the main things that I can probably think of off the top of my head. If you think about integrated software being delivered and the kinds of problems it's trying to solve, the other thing that's happened is of course business as a whole has become more global and more connected. It's the technology that's actually supported that, none of that would be possible without the technologies that the sector's also involved. Essentially, because it actually needed to double as a support, those changes are basically the globalisation of business.

For us, for example, big crime, organised crime is really where most of our sales come from. The only reason those criminals can operate in that sophisticated way is because of the technology. Technology allows them to do that. The only way that the guys who are fighting them can fight it is the same deal, they have to use sophisticated technology to be able to cope with that, because they need very large global organisations that can communicate and share information and so on to be able to solve those crimes. They use technology to do that, so that's very much shaped it. It was the same with my previous employers, around health and manufacturing software is exactly the same thing, the technology enables the businesses to grow, and then the businesses need new technology. We provide the technology to do that. |
Interviewer:	I quite like the comments about the UX revolution, because that started quite some time ago, and all of a sudden ... it's really come back into full force over the last few years as well. It sort of appeared and then it went all out. We've got a full time UX guy at work now, for example. You wouldn't have thought maybe 3 years ago that you'd need a full time UX person, but ...
Guest:	It would be unthinkable having any UX people in a mid sized or small company 10 years ago, and these days it's essentially just because we've gone and stuck consumer tech in the hands of everybody. Where it used to be that the user might never use a computer system outside their job, and so they just took what they were given. These days everyone expects that connected Facebook experience where they can't understand – why – if Facebook can make their messages appear instantly, and put stuff where it needs to be, and work on different devices, why it shouldn't enterprise software do the same thing. Why shouldn't it be enjoyable to use?
Interviewer:	Why is the government still using Lotus Notes?
Guest:	Because it's very hard to un-stick sticky technology.
Interviewer:	The question next, is imagining the sector, IT, in 2050. What do you think it will largely look like in this time period? What are the key differences to today and the big changes? If you can imagine your 2050 I'd love to hear it, but I'm happy to hear the smaller changes or the immediate changes over the next little while that you can think of too. The ones that you really, really see over the horizon.

Guest:	I'll give it a go and I'll try to frame it. If I think about 2050, it's looking 34 years away from today, aren't we? This is my daughter being in her 40s, and what the world would look like then ... We're talking digital natives in the workplace making up the greater percentage of the workplace, although we've probably got a lot more older workers. Retirement age is probably edging towards 80 by that stage, I would suspect. I would think that by then, we'd hope, that application software would be easier to create. A lot of the donkey work and plumbing that we take for granted we have to do today might have gone away, you never know.
Interviewer:	Automated…
Guest:	The expectations of connectivity will be even higher, I think everyone will just take for granted that they can ... Probably that systems are a lot more autonomous, are a lot better at guessing what it is that they want to do next. If I think about that leap from search engine technology. I remember using Google for the first time, in 1999 or 2000, somewhere around there. Being amazed that it could even just produce relevant search results compared to other search engines, whereas today I take it for granted that if I type a misspelled word, it's not just going to come back with relevant search results, but it's actually going to use the context that I'm sitting in to answer the question. It's going to present me with a map of what's on, where it is and ask me whether I want directions to it.
	That's going to predict whether information about that specific location, or it's going to pull out metadata and semantic information that's specifically relevant to my search, and so on. I'm expecting that by the time we get to 2050 everything's going to be doing that for us based on just what we're having a conversation about, what we just passed in the street or whatever. That sort of sense of technology's going to be completely connected. I imagine there'll be an even greater burden on people to be more like the imagination and the creativity of building enterprise software, rather than the plumbing and the making of enterprise software.
Interviewer:	That would be nice across many software fields.
Guest:	Wouldn't it be lovely?
Interviewer:	It would be very lovely; we wouldn't have to spend so much money on development.
Guest:	I think that most of my time is spent wrangling with difficult people rather than trying to get the most out of ... I suspect that would still be a very large part of it.
Interviewer:	Do you envision any fundamental changes – thinking that far ahead – any fundamental things in the world, in existence, where there are hurdles today? Do you see difficulty in achieving what you think we should be at by then?
Guest:	Hurdles today that don't exist, or new hurdles, or ...
Interviewer:	Hurdles that do exist. If you think about an ideal state in 2050, ideal state of technology, state of affairs, do you see anything today that doesn't naturally lead to that, or just stuff that needs to fundamentally change?
Guest:	Yeah, I suppose we still have a habit of creating new technology all the time that people then have to learn and do all the hard work with. An awful lot of the time that my team spend plumbing is actually plumbing having learned a new style of plumbing, but they're not really advancing anything that much. It's sort of picking up new things because they're new and exciting, not necessarily actually taking what we're doing forward that far. That said, we're doing it at a slightly different part of the architecture to what we would have previously done. I suppose the big data challenge, the challenge of computation and that time might have changed, so yeah. For example, quantum computing might realise its promise.
	We might take for granted the ability to compute things extremely quickly, even though our calculations are horribly inefficient. In the same way that we take for granted being able to do that today, things that we could never have done in 1986. We could never have computed things like this Skype conversation, for example, right? There's a codec very carefully taking our video stream and audio stream, compressing it sufficiently to get it over an amazingly complex piece of packet routing. It's doing all this on the back of chips that, compared to what we should be seeing by 2050, will seem extremely primitive. Perhaps some of the donkey work will be extracted by the sheer fact that the

computation power will just be so much better. It might not be that the transistors on the die, it might not be the clock speed. It might be just a whole new kind of computing.

Interviewer: That paradigm shift towards quantum computing, do you see that happening?

Guest: Yeah, quantum computing or something that we haven't discovered yet. A 30-year time span should be sufficient for some leaps like that to happen, I would have thought.

Interviewer: I'd love to talk about that some more in future, it's an interesting field – quantum computing.

Guest: There's also some pretty fascination changes in specialist systems and things like really unusual substrates and things from a semiconductor perspective that will even cause really interesting things to happen. Technology for both the drawing on wafers but also completely new substrates and things that are being experimented with at the moment that would see us getting crazy leaps and very specific kinds of computing. That might be stuff that helps us with very particular routing problems, or really, really highly concurrent calculations or whatever. Just really unusual things that are out there on the fringe at the moment that will make big changes. I also hope that in that time we might see another couple of leaps of battery technology, which would obviously make that kind of ubiquitous interconnected stuff that I was talking about before and the senses and things that'll help that move forward a little.

I think we've seen some very big leaps in battery technology. I think that lithium polymer batteries and things, and those little 40-dollar helicopter you can fly around inside, that would have been unthinkable 20 years ago without the lithium polymer. There's even more promising stuff that's coming there, doubtless, with other elements and things. All that sort of stuff will take away those barriers to dealing with huge amounts of data, crunching through it. Transmitting huge amounts of data, being able to carry around huge amounts of computing power.

Interviewer: One of the questions on here was, just talking about the digital way of life now, and how has it affected your sector over the last few years? In this case, your sector is IT, so it's obviously affected it enormously. Maybe, do you have some comments from a business perspective as to how has digital shaped your industry over the last few years?

Guest: From a business perspective, I suppose it's allowed us to reach much further. If we think about the fact that our customers and prospects for example in the Middle East, they all have access to the internet. They all have websites; they all have the ability to communicate digitally. Technologies have allowed them to make use of software and systems and things that they would never have been able to do without things like the internet to be able to transport that software to them, or connect to cloud systems and so on. That's allowed us to become a much more global business than we would otherwise. Obviously, it's created the need in the first place, without that technology organised crime wouldn't be what it is today. That's fully created the need for us, as a business, to be able to do that.

It allows us, as people working in cyberspace to function globally as well. We think nothing of organising meetings that cross time zones and require sharing of screens and information and statistics about what we're doing, all of that sort of thing. The banking system that lies behind it and so on, without digital that would be very tough. Digital marketing plays a huge role in what we do, much of the new business we create is reached through digital means in the first place. If you're in a small agency often somewhere in the middle of the US, how are you going to find out about us? Yes, you might go to a trade show, traditional way sort of thing, but it's more likely you're going to sit down and Google one day and ask for investigation case management tools, or something like that, and find us that way.

Interviewer: Here's an interesting question, human capital and employment. Do you think about how the sector's going to evolve over the next few decades in this context? In 2050, what do you think employment is going to look like in the IT sector? What are humans going to be doing?

Guest: I'm hoping, I'm optimistic, that we will be spending most of our time imagining how to make things better rather than doing the making the things get better. I suppose we've already watched a few major revolutions of jobs disappearing, people who used to spend their time taking tapes off one drive and sticking them on another or feeding punch cards, or such things ... They only delivered the mail 3 times a week now, right? With all that sort of manual work has been slowly disappearing. Certainly on a smaller

scale in infrastructure IT, where traditionally data centres were packed with people who had to run around making their cables and plugging it in, and troubleshooting pieces of hardware and so on. All with things like software defined networking, and scaling the economies of scale that we get out of client tech and things like that. The number of people required to do things like that is shrinking, and most of that stuff just happened virtually and digitally. I'm imagining that that employment will really be about thinking and imagining, and communicating and collaborating rather than so much doing.

Interviewer: I hear similar sentiments across various sectors. From a software point of view, it's definitely a bit of a dream, isn't it? There was a quote, many many decades ago. It was predicted, with the future powers of computing, whatever it looks like, sort of this conceptualisation of automation through sophisticated machinery, that human beings would be working a day or two a week at most by the year 2000. That didn't quite work out, did it? I think hopefully we're on to something now in terms of moving forward.

Guest: That's an interesting point actually, if we think about geopolitically northern Europe and the role it kind of plays in that frontier of what works should look like, work and leisure and all that sort of thing, I wonder what will happen there? It always seems kind of removed from what we get up to. I can't remember who was just legislating for a 30-hour week, I think it was Sweden. Can we really do that, or will the US way of looking at things continue to dominate? It sort of depends on whether it's from a power perspective, and then if you think about China and the rise of the Asian countries and so on, that's another kind of way of looking at life and what it means as well.

I'm not sure where we can be, which one of those will kind of win out and whose style of work will end up dominating. I'd love to come back to about 30 hours, it sounds good.

Interviewer: It does sound quite good. Question 8, in your experience are organisations, in any industry, thinking, planning this far ahead?

Guest: No, no.

Interviewer: No?

Guest: We'll have trouble getting to 3 years out, let alone 30.

Interviewer: Further to that, does your organisation have a dedicated person or team who is dedicated to, as a role, to just innovation and conceptualisation and high level thinking? Does it have a full time person? Would you say it's just a shared responsibility?

Guest: Yeah, it's an assumed responsibility. There's various people who will want to spend time doing that who will voluntarily do it, and it'll enter discussions. It's certainly a very small part of thinking, generally.

Interviewer: The focus is more on what's around the corner next week and next month, and over the next ...

Guest: Accounting years, accounting years. It's the way our customers work, it's the way we work, it's the way our investors think

Interviewer: That makes perfect sense. I've gotten through the bulk of the questions here. Did you have any other thoughts or anything that sort of entered your mind that you wanted to chat about?

Guest: I thought your number 7 was quite interesting, do you think there'll be a few large brands ...

Interviewer: That is actually a very good question, I'm glad you brought it up because I did want to ask that. What are your thoughts?

Guest: I expect it'll keep cycling around. Cycles, doesn't it? I don't think that there's ever been a time when we really have a few large brands, or many small brands. It's kind of like just a fragmentation and consolidation, fragmentation and consolidation, sort of as technology evolves, the same thing. It keeps happening. As a new category gets invented it starts off with a lot of small brands, and then they potentially get a bit of consolidation. Then, it spins out and happens again. I imagine it would look very much like it does now, I think if anything it always kind of looks like that, small brands in some categories and big ones in others.

Interviewer:	Any thoughts about the growth and rise of ... It seems to be constant these days, startups, of course, and disruption.
Guest:	I think there's a kind of rhythm there. I'm assuming that it'll just continue. I hadn't thought to challenge myself on that assumption. It's always happened, by the way, I think. I think we're much more conscious of it now, and it's a lot easier for it to flourish in a way that we can all see it. I think there's always been disruption, categories have always found themselves disrupted. It's just that it's easier for it to proliferate. Does that really mean it's any faster? I'm not sure that it is, it's just more visible, yeah.
Interviewer:	I do wonder though, if there is an acceleration of disruption over the next few years. It makes sense that it keeps going, but what is the threat then to these large incumbents?
Guest:	I don't know, large incumbents just have the ability to swallow change some of the time, or reform. I know you've got your book, the Kodak's and so on, but the sleeping ones will always fall behind. I don't know if it's really ... It could just as easily be another large incumbent that thinks a bit more quickly, that takes them necessarily a small disruptor each time. I'm still suspicious that even behind the big companies and the small ones, you tend to have that same community of people funding the whole bunch anyway. It's not like there's a whole new group of people becoming wealthy, the venture capital scene isn't that new. This country certainly runs on one particular group of investors who pretty much have got stakes in everything, regardless of whether it's incumbent or new.

Interview 10; financial services and banking executive

Interviewer:	How has the sector evolved over the last few decades and what are the major changes that have shaped it today?
Guest:	Well, some of these questions you could spend hours talking about.
	So, as you know, the banking services sector has changed immeasurably. If you look over the last couple of decades, you've got global financial crisis post 2000. And if you're looking before that, in the 1990s, there are a number of challenges in the banking sector there.
	So, I think, the way it's shaped is that the economy of, the global economy, I would say, has affected banks in two ways. One, it's really attacked the core of what they are representing, not just economically or commercially but at the cornerstone of, if you like, a country's financial stability. And we've seen that very much in the last decade because the global financial crisis led to, certainly the UK and the US, seeing basically banks fail and a requirement for governments to bail them out to allow a stability within economies. And that has caused banks to actually be required to hold more capital, to sustain problems in the future. And capital is expensive to hold and to raise and so you're beginning to see a bit of a survival of the fittest.
	So, a flight to quality, a flight to consolidation, a flight to fail, sell off bits that are not core. So you'll see that with NAB who are just about to sell their UK investments and retrench to a much more local strategy.
	So it's caused banks to become a lot more sanguine about investment of capital, cost of capital and the strategy that's really going to resonate with share holders. And I think it's caused governments to be a lot more, choosing my words carefully here, a lot more circumspect about the banking fraternity, basically.
Interviewer:	I wonder then if you can share some insights looking ahead. The very next question jumps straight to 2050, but rather than cement yourself in 34 years' time, what do you see as the major changes over the next few decades leading up until that point, and how do you see disruption fitting into this, into the banking industry?
Guest:	I think the biggest challenge of the banks is disintermediation of some of the other players coming in, particularly in the payments area. And also, big data is causing people to be very careful about transactions that they do online and information that the banks might have in terms of who owns that information and what they can do with it.

So I think that the general public are becoming more demanding about quicker, faster, easier services, low cost, secure.

I think, probably, the second biggest thing is digital or digitisation. And that, because the banks have got a fairly old fashioned infrastructure around their technology, that's quite a big challenge and a big expense for them. And even cyber security, how do you provide what the general public want let alone the ultra high net worth? And so I think you're going to see a scaling back of physical premises to much more self service when you go to those premises.

So, at the ATM, you're starting to see that already when you go in. Well, overseas, if you go into Barclay's now, their branches are much smaller and you will five banks of machines which will all basically help your self administer your account.

So they're providing, the data and you just do everything. And so behind that there will be a level of advice but a lot of the information that's provided to help you self transact will be public so other organisations are providing economic information, advisory information, financial currency, whatever it is.

So that's at the, mid wealthy to upper wealthy, but the day to day banking people just want very fast, quick, mobile type transactions. And banks are beginning to provide that but they're going to have a massive challenge with their cost base in order to provide that cost efficiently.

So, I think if you look over the next couple of decades, digitisation is going to be the biggest challenge for them. And, really looking into the strategy that ANZ are into, that's global. They're looking at Asia. Is that really going to give them the returns? Are they really going to get brand loyalty from Asian people? I think the jury is still out about that strategy.

Interviewer:	Looking all the way ahead to say 2050's, 34 years away, do you see physical branches playing much of a role? A few years ago [company] decided that by 2020, they could probably afford to close 75% of their nationwide branches. Is that realistic in your view? Is that the way to go?
Guest:	If you're looking at the next 20, 30 years, yes. I think if you've looked at the last 20, 30 years, it's been a bit of a pipe dream. But the reality is, my generation, even though we ... I mean I can't remember the last time I've been into a branch. I think if you look at the, 50 plus, there are a number of older generations that still go into branches. I think if you look at the next 30 years, branches will become irrelevant. So, yes, I think, that is a real possibility that they will close.

I think that in terms of, you might have a few of what I call, money shops, or holes in the wall but they don't necessarily need to have full time staff there. |
Interviewer:	What about the human factor, of say the big end of town with institutional banking for example?
Guest:	They don't go into branches. They deal with corporate guys and they will do that by going into the corporate business centres or have them visit them on location at their own corporate site. So branches are not relevant to them. For the medium enterprises, possibly, but I think what you'll do is have consolidation of a regional centre where small, medium and commercial and large businesses can go in and will still be quite small and quite specialised.
Interviewer:	Regarding peer-to-peer lending ... what's your view on that over the next little while?
Guest:	Well, I think it's interesting. I think it is gathering momentum. I think, like a lot of these new initiatives, the proof is in sustainability and security. But I actually think it's a very interesting model. I think the banks ignore it at their peril.
Interviewer:	Good point. What do you see, if you look at an ideal banking structure or banking sector in 2050, what are the major things that need to change compared to today? What needs to go? What needs to completely radically change?
Guest:	The infrastructure of banks is very, very heavy, it's very ... they talk about cost / income ratios of 40%. They need to cut that by half. And there needs to be, probably a lot more specialists at the front end and then pretty much automated at the back end. That's

expensive. It is also, I think a huge opportunity to leverage cloud services but people are still a little bit nervous about the security.

I think that banks still try to sell people services they don't want and don't necessarily deliver to a high standard, services that they use every day. They're starting to get better, so mobile banking is a good example of that. And, I would see more of that in the future.

You know, I think people are comfortable to log on, pay people, look at their balances, transfer money around. And if you think about it, fundamentally, a good 70, 80% of banking, that's what it's about.

Interviewer:	As a side question, what's the general attitude towards, say purely digital currencies that have emerged and then proven to be very unstable at present and then some have disappeared? Do banks see that as a big future thing or a temporary thing?
Guest:	Not at the moment. Not at the moment. That may change in the future. But, no, not at the moment.
Guest:	I can't see that coming easily mainly because of the global infrastructure of currencies being pegged to countries. So it's kind of hard to think about some of these digital currencies which are not quite ... I mean they're commodities, but then they've not quite been accepted as such.
Interviewer:	And they are incredibly difficult to acquire too.
Guest:	They are. So, I mean, a lot of banking needs to be e. I think people are quite used to now dealing in currencies, which ... when I was growing up, you had things like traveller's check. You had countries with foreign currency quota's and rules, to cope with all the transactions that are much easier and more accepted now. But this idea of digital, Bitcoin kind of currencies is not quite acceptable at the general level yet.
Interviewer:	It will be interesting to see what happens, nevertheless.
Guest:	Oh, I agree. I think as banking becomes more digitised, any commodity can be traded.
Interviewer:	Jumping now to the human element in all of this, I was told by someone that, and these are rough figures but, about two decades ago there were around 200 000 people in the banking industry in Australia and now that's halved. Before we continue, does that sound accurate to you?
Guest:	Yes, it does actually. And it depends how you're defining the banking industry. If you're looking at the big four and then a few of the smaller ones, that would be about right. If you're including all of the banking fraternity, it might be a little bit more than that. But it certainly has reduced significantly.
Interviewer:	So, given the future time period over the next few decades, particularly by 2050, how do you see human capital and employment in the sector?
Guest:	Well, reducing significantly.
	I mean, some of it may shift overseas and then disappear. And that's only because overseas is cheaper. But, yeah significantly. It could halve again.
Interviewer:	And I would imagine the roles would be very different.
Guest:	Yeah, I think you'll see a flatter structure in banking and specialists and then a lot of the middle and back office will be done automatically, automated.
Interviewer:	What role do you think marketing will have in 2050 in the sector?
Guest:	It's a really interesting one actually because marketing has changed significantly from print to TV to digital, online. I think there will be a lot more...I guess sorry, taking a step back it's kind of like, where will print go? Where will newspapers go? Where will all the traditional areas that banking used to advertise ... and I think they will lead and banks will follow. And so, I guess it will be a lot more online. And even, probably think, less on television. I think people look at television now and think, oh that's boring, and I don't

	think they get the cut through that they used to. Sponsorship, I think will still be a big thing. So, sport, that's the big one. But, I think marketing will change quite significantly.
Interviewer:	Regarding this next question, do you think there'll be few large brands or many small brands? One little view I've had on that is that incumbency has a great deal of embedded value. What are your thoughts on that question?
Guest:	That's a really interesting one. I think it's all going to be about cost to deliver, and generally bigger makes it easier to provide a lower cost. However, I think, you could easily argue against that if you look at some of the smaller brands like Kiwibank, Trust Bank, where there's quite a lot of loyalty. My question would be, do they have the deep pockets to deliver some of the, I guess bells and whistles that the bigger brands will be able to deliver. So, I think for me, the foreseeable future will still be dominated by the bigger banks. You know, safety, security, innovation. I think New Zealand has been quite burnt by finance companies. And I think that smaller regional banks ... there'll be a handful, but I don't see that being a trend as it were.
Interviewer:	Within the frame of that question as well, do banks see risk or potential threats if large incumbents in other industries start to intrude...?
Guest:	Oh yes, I know where you're going with that question, absolutely...
Guest:	We always thought that GM and some of the other disintermediates would make inroads and they haven't made as much inroads as we thought in the 80s and 90s. But I think you'll start to see others come in, Google etc., and there'll be payment processes because that's actually the biggest reason for banking, transferring, paying. So if you've got other payment vehicles third ones that involve, that disintermediate the banks...
Interviewer:	I was also thinking, something along the lines of – if Apple partnered with and launched a MasterCard for example.
Guest:	I'm sort of being a bit silent about that because I'm never quite...it's not their core business. So they're going after expansion in a segment that they think that will be profitable. I've seen that before. Apple might make a success of it but I'm not convinced.
	You're kind of the new kid on the block, and that's sexy and that's always well known, well used internationally. But there's some fundamentals behind banking that I think some of these companies don't get. And it's easy to launch, as you say, a credit card, or a payment system. We've seen many, many different credit cards, but to provide a full-blown banking system, that's actually quite challenging.
Interviewer:	Is it true that in terms of innovation, banks at present are naturally risk averse and innovation tends to come from other places or do you feel that the banks are leading the charge on innovation in certain ways or heading that way?
Guest:	I wouldn't say they're leading the charge. And I wouldn't say they're risk averse. They're trying to figure out the future market and their future sustainability and they know that they have to reinvent themselves. They're looking at digitisation, but because they don't have that in-house.
	You probably saw ANZ today, you've got, [person] who I know very well, is appointing a Head of Digital at the executive level. And that to me signals that they understand that they've got a big journey to ... if not innovate internally but partner, look at how they're going to take that forward in the future.
	So I think banks are definitely open to new ideas. By nature, they are very conservative and risk averse but they are also not bad at understanding survival. So they may partner with other people. So, I think they're on the front foot.
Interviewer:	Well that's the bulk of the questions. Is there anything else that's on your mind that you'd wanted to chat about?
Guest:	No, I think that all I'd say is that banks are pretty good at reinventing themselves even though they go through crises every ten years. I've been in banking 40 years and I've probably been through five major global events.
	I think it's going to be challenging for them is actually. there will always be the relevance of finance being the cornerstone tied with a country's political and financial stability. But

I think what they're going to be struggling with is what makes them relevant beyond that.

So, I think the next generation, because there are so many more options. You know, when I was growing up, it was the bank and the insurance company but now you've got advisors and stock brokers. You know we're back to the ... you don't go for one stop shops. I think banks have really, seriously got to get their costs under control and really, seriously understand their customers at every level and to make themselves relevant and sustainable going forward and that will be very much how they embrace digitisation.

Interview 11; health foods executive

Interviewer:	In your eyes, how has the sector evolved over the previous few decades, and what are the major changes that have brought about the industry today?
Guest:	40 years ago, when [company] started, Manuka honey was considered to be a waste product. It was actually dumped. There weren't many players in the industry at all, and now, as you probably know, there are thousands of people trying to get into Manuka honey. It's been referred to as liquid gold, for a reason. Demand definitely outstrips supply, which is a constant challenge.
Interviewer:	Certainly exponential growth worldwide.
Guest:	Certainly, although even globally the majority of our consumers are Asian. Even in Australia and the UK and the US, it's Asian consumers that like our product. I guess they're all on the health and wellness spectrum, because of Chinese medicine and so on. Asian people are much more proactive about their health than Westerners, Westerners wait until they're sick and they look for something. Asian people usually take health and wellness products to make sure that they don't get sick.
Interviewer:	They certainly place a huge emphasis on it – it's not seen as a fringe thing. It's sort of seen as the norm, and failing that you can explore what the West sees as traditional options.
Guest:	Whereas in the West, it's changing now, but certainly my mother's generation will instantly go to the doctor for anything, and get synthetic or prescribed drugs as opposed to ... She despairs of me, when our children were small and they had a cough or a cold and I would never take them to the doctors, she thought I was the most terrible mother. I think now, our generation and younger, like your generation probably, are taking a more proactive interest in their health. It probably will change.
Interviewer:	How do you see the health food sector in general evolving over the next few decades?
Guest:	I think there will have to be more regulations around it, certainly with Manuka honey. At the moment there are still some cowboys operating, and giving the good operators a pretty bad name. People don't know the difference, often. In the UK especially, there's lots of Manuka honey going over, and then there's a lot of confusion as to whether it really is Manuka honey. I think the industry needs stronger, tighter regulation, and I think that will then weed out sort of the chaff from the grain, there will become then less supplies and probably bigger for fewer, bigger suppliers, I think.
Interviewer:	Do you see supply ever meeting demand?
Guest:	No, I think, because it's a limited natural product, I think it would be very hard to meet demand. There may well be other products that start coming out that are comparable, and they've already done research into Manuka of course, and then in Scotland they're talking about the heather honey having similar antibacterial properties. I guess there might be other products that can do similar things, in which case maybe the supply is more varied, and increase of actual New Zealand Manuka honey. It's pretty hard to create a greater supply of it.
Interviewer:	Has China been – in terms of regulation, has it been a major challenge?

Guest:	Yes, China is very challenging. We have to jump through lots of hoops to get our products across there, and they constantly change. Even once you've got products there, something will change and we'll have to do something else then to carry on bringing it into China.
Interviewer:	I was speaking to someone who sells consumables into China, and like many Western companies, they use Hong Kong as a stepping stone, because they can get supply into Hong Kong but they can't really get much of it easily into China. A tremendous amount of mainland customers come over the border to buy it.
Guest:	That's exactly what we do, we have an office in Hong Kong, and Japan and Korea. We used to have one in Taiwan but we've just recently closed it. We send it to Hong Kong, and then into Chinese distributors, so we don't actually do it ourselves. We've got a [company] store, a little store, then stores in China but they're not our stores. They're simply distributors. It's getting much, much harder more recently, because Hong Kong is getting stricter with allowing Chinese tourists regulating what they're allowed to do when they're in Hong Kong. The business is definitely decreasing as other countries, like Taiwan and Korea, are welcoming Chinese tourists with open arms. That's a huge risk obviously [for us].
Interviewer:	I have actually seen [company] products in Guangzhou, in one of the shops. The New Zealand products tend to stand out when you're over there.
Guest:	You can actually read them as well, like you say, you can understand what it's saying.
Interviewer:	Call me sceptical, but I hope that it was real [company] products.
Guest:	Yes, that is also a danger.
Interviewer:	I've certainly come across a lot of counterfeit consumables, counterfeit food brands over there including health products.
Guest:	Beautiful French wine, they're famous for counterfeiting that, aren't they? We have seen counterfeit versions of our product too unfortunately.
Interviewer:	Looking well into the future again, is there anything that you think needs to fundamentally change compared to today? Is there anything today that's just, you think, "In a few decades we need to be doing this totally differently?"
Guest:	Again, I think it's the regulations, really. It's just making sure that it is what it says it is on the packet. Educating people better as to ... We go with this UMF, unique Manuka factor, so they're 5+, 10+. Manuka health of course goes with the MGO, which is a slightly different way of grading honey. It's quite confusing to the consumer, and I think if we are to ... We've already got a lot of loyal consumers but we can never take that for granted. I think there needs to be one standard grading, that everybody understands, and to make it simpler, and to make it easier for the consumer. At the moment, the second sense of arrogance in some ways, because the Manuka honeys and then the good supply, you sort of take it for granted. I don't think you can ever do that with consumers, can you?
	When [company] first started, we just used to make products and put them on the shelves and expect them to sell without actually going talking to our consumers very much. Now, things are already changing, with the whole innovation and design led thinking, and all of that where you actually go out and do this empathy work with consumers and find out what they actually want and what their issues and problems are before coming up with a product that will help with that. That's already started in a big way, and it will need to continue because I don't think we can ever be arrogant that they'll always be there for us.
Interviewer:	That leads nicely into the next point, which is, how has the digital transformation across virtually every sector, affected your sector? I imagine in terms of global expansion into other markets like China, it must have had an impact.
Guest:	A huge impact, obviously in China, as you say. We're now just tapping into the USA, obviously West Coast and East Coast first. All of that is digital, not the traditional retail model. I suppose in the past we haven't been particularly good at it, and we need to get better at that. Consumers are very savvy, in fact often we can see them come into our business centre and they've looked up our product online first, know exactly what they

are and how much they cost. They're already looking before they buy. I think retail, we can see it already, it's already in decline generally. We need to be a bit more ahead of the game than we are currently online.

Interviewer: Regarding the relationship between digital engagement and exploration and people going online and finding out about products and reviews – and then physically making an appearance and purchasing things in hand, has the industry got into the notion of big data? Where there's huge analytics and attribution based on what consumers are actually doing both on- and offline?

Guest: We're sort of dipping our toe into that. I can't really say how much because I don't work in that team, I'm in corporate services, and learning and development. I don't know, from the outside it doesn't look like compared to other heads on the analytics as they could be. I think more could be done, but I think we're realising that now we're even, we're actively recruiting. We just got a young lady from Google who's going to be working for us in the USA, and has no experience in the health and wellness industry. That kind of shows you how things have changed, and we need to do more of that. New Zealand, our web team, very much sort of inherited their role. They started off in marketing, and sort of ended up in web by default. I think we're realising that they don't necessarily have the skills, even if they've been on lots of lovely training courses and conferences and whatever, they still don't.

We're actively recruiting, now, people with those skills. I think we're realising that there's a definite gap there for us.

Interviewer: Indeed. Do you think there'll be few large brands or many small brands in future?

Guest: Few large brands, I think regulation will increase and lots of people will fall by the wayside, which is good really. It's good for the consumer anyway.

Interviewer: Certainly a lot more legitimacy, you'll foresee in the industry.

Guest: Yes, yes.

Interviewer: Is disruption a word that arises in the industry at all?

Guest: It seems sort of with the young and savvy who are into the buzz words, I think, our leadership team certainly understand what it is, but I think they're still fairly traditional at the moment. It will change, it's already starting to feel like it's changing, but I think they're wanting this new innovation team to certainly look at disruption and look at things differently. One guy that's on the team went to Stanford and did an 8-week program with the whole de-school boot camp and all that, so that's a start. We've certainly invested in that. I think we're still a little bit tentative and not exactly sure what it means, but I think we know that we need to sort of look outside the box and do things differently. We kind of see ourselves as a leader in the industry, and to be a leader you obviously need to do things differently.

Interview 12 (test interview); banking CEO

* Interviewer denoted in bold

Imagine the banking sector in 2050 (35 years' time): What do you think it will largely look like in this time period? What are the key differences to today?

It's an enormously big question because 35 years ago there was no such thing as ATMs, the internet, etc. I would say that the function of banking may move more in the direction of the shared economy, e.g. Airbnb, Uber, etc. I can imagine this because marketplaces are becoming much easier to manufacture electronically and there is potential for decentralisation. Peer-to-peer lending will grow, and I see a marketplace that's more public and with more visibility and transparency.

In the good old days, you had to go to the bank with cap in hand to borrow money, and the bank manager (who was always a man) would say that your savings experience isn't adequate. You then needed to go and show the bank that you can save for the next year and then come back. You compare that to now, where you can get a loan online very easily. If you carry that forward, then I would say that the ability for marketplaces to be transparent and efficient would mean that 'the world needs banking but doesn't necessarily need banks' (a Bill Gates quote).

[company] is in the process of reducing its number of branches by 75% before 2020 simply because of digital. Kids, for example, find it perfectly normal to video chat to their grandmother who's in another city. You can roll that trend forward; whilst we want to have human interaction in banking, there will be more of what we're doing right now. You can still see another person there, you can see the body language, but you don't necessarily need to be in the same building. Keep in mind that the model of technology will get better and better – and you have to admit that this is pretty good as it is, for free I might add. I think the vast majority of people who are wanting to originate or service their product will be much happier to do it just like this, from their lounge.

I did some internet shopping yesterday, and it's fascinating to think that you can source some stuff from China or Hong Kong or wherever, and it's typically delivered within a few days. That's the future but in banking.

The credit assessment process though – well, banking is about managing and pricing risk, not about eliminating it. With market efficiency around information, knowing whether someone has missed payments, has savings/job, are friends with crooks and so on, all of those things are available today although a little bit clunky – one can imagine that going forward 5-10 years that it will be a much more efficient market to get information. The ability to then form an assessment to see what sort of price a person will be charged for their mortgage or personal loan. Everyone can ultimately get a loan, and pay-day lending is a classic example of that.

What do you feel, if anything, needs to fundamentally change in the sector for 2050?

It's a long way away, but the challenge with these things is taking people along with you. Whilst I think I was spreading the word at [company] about the excitement of what the future holds for [company] and the shareholders and the employees, there's a rump of employees who don't want anything to change. The vast majority of people work in the branch network for example – 190 branches by the time I left – are middle aged females; people who I would proffer aren't ultimately interested in working in branches. While there are some good points, e.g. human interaction, a lot of their work can be automated and digitised. For rural areas, we implemented high quality video conferencing for life insurance which includes very personal questions. It seemed that customers were more comfortable answering these personal questions in this manner. There is disconnect, I feel, that helps the customer in this situation. Face to face could be more embarrassing. If that's a pointer into the future – well, you could be underwriting my loan and we are in totally different places. This helps match lifestyle with work. In society, there is a lot more mobility in work. People have more careers and live in many more different places.

Given that systems, processes and even core business functions are in the beginning stages of moving to the cloud, do you think that there will be physical branches in 2050? If yes, what do you think they will look like? If no, why not and how will these services be replaced?

I think there will have to be some branches for the big end of town. Some institutional banking for example couldn't be done by video, there would likely be an office and people would meet over many days to work through numbers, etc. I can therefore see a need for person-to-person in the institutional sense, but heading into the consumer segment of the market – well, as cash becomes less prevalent (e.g. NFC phone payment, etc.) – there's very little need for branches. At [company], we have 135 smart ATMs (those that can take cash and cheque deposits). Our total fleet was about 500-600 ATMs. These smart ATMs were handling more than 30% of all deposits, including the over-the-counter stuff. People were self-selecting to use these smart ATMs; they didn't want to deal with the bank on their hours.

Another point is that the user experience is different in future – method of distribution is online, pricing models are different (often no negotiations). Related to Tesla purchase process. Implies changes for other industries

Given the above, what are your thoughts regarding human capital and employment in the sector?

By definition it means a lot less people. At present there are staffing issues anyway regarding capacity and customer flow. There's not much for branch people to do anymore, and their tasks can largely be automated.

~200,000 people in AU banking 25 years ago
~100,000 people now

What role will marketing have? How do you think it will function?

Banking is fundamentally a commodity if you're a borrower – you don't care who you are borrowing from. If you are a lender however, you do care. Hence why without modern technology, P2P lending didn't arrive 50 years ago. Technology fixes issues with that. Smaller challenger brands (Virgin Money, Kiwibank, St. George Bank, credit unions, co-op bank, etc.), they typically have higher reported customer satisfaction despite customer service being worse in many cases. With these brands, there's an element of fashion statement that artificially bolsters satisfaction. People can talk up their experiences if they are close to the brand. They may hugely recommend a brand, but it may not be a statement of reality. If you're a major bank – there is a high duty of care expected; people are quick to downgrade you if you stuff up. Pricing in the marketplace is likely to become more transparent – people are less attracted to brand and more interested in price and features. Maybe brands will bid for customers and their requirements/demands? Think of Fund-It.

Do you think there be few, large brands – or many small brands?

Incumbency has a great deal of embedded value, though there are many brands that can fall by the wayside. So just because you're a big brand doesn't mean you're safe forever. Also, other brands that are highly desirable can step into different markets and be easily trusted – an Apple-branded MasterCard could be popular for example.

In your experience, are organisations (banks or otherwise) thinking and planning this far ahead?

Because banks are awarded for managing risks, there's a natural risk-aversion. Innovation comes from places other than banks typically. Banks tend to rush to keep up rather than innovate. So when you put innovation teams in traditionally conservative organisations, they have real difficulty in operating well. It comes down to innovative leadership being more important than simply having dedicated 'innovators'.

In the banking context, it was decided that by 2020 – every product they service should be available on a mobile device. At [company], of $100 million R&D, only $3 million was in digital. $35 million on branches. From that point it was decided that $30 million was to go to digital and the balance for branches – this began the process of reducing the number branches. Now services are built for mobile first and digital teams have 7-8 times the money as last year. It takes boldness to turn the dial – and it's important to realise that it doesn't cost huge amounts.

Concept of oil and water when it comes to management and innovators. Entrepreneurship, innovation, and nimbleness mixed with banking. You can put it in the same jar and mix it up – but if you put it down and let it settle for a minute, it all separates.

You can't take real entrepreneurship and stick it in the corner of a bank. It would be difficult to attract the right people for this role anyway. Real entrepreneurs would be doing things for themselves. You can also crowd course cool stuff with this notion of a marketplace. This along with the shared economy, the utilisation of under-utilised assets (think Uber). It's pretty difficult to know how the digital revolution is going to play out.

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