

University of Southern Queensland

An Analysis of the Use of Market Intelligence Data by Senior Business Leaders – The
Development of a New Model (ICSAR) For the Identification and Implementation of
Specifically Focused Data

A Dissertation submitted by
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Abstract

Big data, analytics and data science are terms that have come to represent a growing focus on decision making built on the foundation of market intelligence data. The enthusiasm for this form of evidence-based decision making has grown with the ability for businesses to better track their customers, competitors and market. Strategy firms such as McKinsey and company have also added to the discussion by highlighting the potential for data to improve business efficiency. News headlines such as “Big data: The next frontier for innovation, competition, and productivity” (McKinsey and Company, 2011) and “Data Scientist: The Sexiest Job of the 21st Century” (Harvard Business Review, 2012) are two examples illustrating the optimism for data use in business activities.

The ability to better track customer and markets has resulted from the development of technology and the transition to more digital services. For example, a growing number of businesses offer their services and products based on a subscription model through the internet. Software-as-a-Service is one example of this. With many products now available in the digital space, there has been a corresponding increase in the volume and variety of data sources available to business leaders. For example, software services hosted in the digital space mean enhanced customer behaviour insights because digital forms and ‘clicks’ can be monitored and analysed. Marketing departments now have an enhanced ability to conduct rapid testing of video marketing content through social media that is faster and cheaper than testing two different television commercials.

The move to more digital and mobile-based services is a phenomenon that has occurred in all industries and has given business leaders access to more data sources than ever before. In theory, this should support better decision making because the amount of information has grown rapidly. However, academic studies have shown that overwhelming levels of information resulted in poorer decision making ability. Industry analysts have also extensively commented that the large variety of data sources have made it more difficult to know which data sources to use when making decisions.

These points raised questions about how business leaders were selecting from the growing variety of data sources and what factors influenced that selection process. From there, the question was raised about how data was being used in decision making.

Answering these questions holds significant potential for businesses. Understanding limitations to data use and applying this knowledge in a structured way has the potential to ensure data is used objectively and holistically in decision making. The result is that businesses are better able to take advantage of market intelligence and extract the greatest value from its organisational knowledge.

This research studied what data sources were used by business leaders, how the data was used in their day-to-day projects and what factors led to the selection of a data source over another in the decision making process. The research was an exploratory approach using a mixed methodology that included in-depth interviews, a survey and a case study. The research deliberately focused on senior business leaders to ensure the research participants were at the level that was most likely to be in a position to make decisions.

The research found that there was a varied approach to data use with multiple factors being involved in how data was used. The first finding was that most business leaders used a variety of data sources. However, data sources were selected based on a hierarchy that was specific to each individual business leader and data sources were not used consistently. The hierarchy was subjective and was based on several factors shown in the second finding. There was not a standardised approach to the use of any single data source meaning a data source like surveys could be used for behavioural tracking by one business leader and for logo feedback by another, for example. This highlighted the need for organisations to educate business leaders on the best data source for answering different business questions and to put structure around how data sources were used.

Second, the research showed there were four types of influence involved in selection of data sources. Those four influence types were organisational demographics, personal experience with a data source, time-based needs and project requirements. These four factors led to the subjective

selection of data by business leaders. For example, a business leader was more likely to use a familiar data source even if there was a non-familiar data source that would have been more accurate. Additionally, business leaders were found to forgo accuracy in favour of a data source that was available more quickly. This highlighted the need for a framework that minimised the subjectivity involved in choosing a data source and encouraged objective data use.

The third finding was that there was mix of data maturity levels and that most organisations did not have an integrated approach to data use. The possible cause of this was that many organisations lacked data leadership to ensure that data use in decision making was structured and holistic across the business. Instead, this study found silos between teams that resulted in duplicated or contradictory use of data and individual data sources used inconsistently. This highlighted the gap between the potential of market intelligence and the lack of organisational structures to support effective data use. It also showed the need for organisations to invest in data use structures and frameworks to complement data collection investments.

These findings showed that businesses seeking to capitalise on the growing number of data sources needed to examine whether business leaders were using data effectively. The finding that there was a degree of subjectivity in the selection of a data source suggests businesses needed to invest in a decision making framework that ensured a data source was used objectively and based on its ability to meet the project needs.

This led to the final section of this research which was the development of the ICSAR model for data use. The ICSAR model was designed by the research author as a five step framework that provides business leaders with a structured approach to selecting and using data objectively in decision making. The model was created based on the research findings in order to support business leaders to enhance their data use and to avoid the subjective influences. The design also promotes objective data use by tying research insights to organisational learning and is cyclical to ensure insights are continually developed.

Certification of Dissertation

This is to certify that the work contained in the thesis is the bona fide work of the researcher, that the work has not been previously submitted for an award, and that, to the best of the researcher's knowledge and belief, the dissertation contains no material previously published or written by another person except where due acknowledgement and reference is made in the dissertation to that work.

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Table of Contents

Abstract	2
Certification of Dissertation	5
Acknowledgements	6
Table of Contents	7
1.0 Study Introduction	10
1.1 Introduction	10
1.2 Background	10
1.3 Context	13
1.3.1 Practice Context	13
1.3.2 Professional Context	14
1.3.3 Personal Context	14
1.4 Practice Project	15
1.5 Purpose	16
1.6 Research Questions	16
1.7 Research Methodology Overview	17
1.8 Epistemology and Knowledge Paradigm Overview	17
1.8.1 Pragmatism	18
1.8.2 Action Learning and Action Research (ALAR)	20
1.8.3 Similarities between Pragmatism and Action Learning and Action Research	22
1.8.4 Design Thinking	23
1.9 Outline of the Report	24
1.10 Definitions	25
2.0 Literature Review	28
2.1 The Size of the Market Intelligence Industry	29
2.2 Open Market Intelligence Industry Created by Technology Shifts	32
2.3 Pressure to Show ROI and Value	36
2.4 Organisational Demographics and Their Impact on Data Source Selection	41
2.5 Complex Landscape of Data Sources and Confusion of Roles	45
2.6 Big Data and Information Overload	50
2.7 Social Networks as a New Market Intelligence Data Source	53
2.8 Data Use Missing a Structured Approach	59
2.9 Suggest Remedies	63

2.10 Summary of Overall Lessons Learned	65
3.0 Methodology	69
3.1 Methodology Introduction	69
3.2 Project Methodologies	70
3.2.1 Project One Methodology: Interviews with Senior Business Leaders	70
3.2.2 Project Two Methodology: Online Survey with Senior Business Leaders	74
3.2.3 Project Three Methodology: Case Study on the Use of Data from Social Networks	78
3.2.4 Project Four: Development of the ICSAR Model for Data Use	82
3.3 Ethical Considerations	82
4.0 Qualitative Analysis on the Use and Value of Data Sources in Business Decisions	84
4.1 Introduction	84
4.2 Analysis of Data	85
4.2.1 Types of Data Used in Day-to-Day Business Decisions	85
4.2.2 How Business Leaders Use Data	89
4.2.3 Data Sharing Within the Organisation	94
4.2.4 Lack of Data Leadership	96
4.2.5 Data Delivery Formats	99
4.2.6 Level of Data Detail	101
5.0 Survey of Senior Business Leaders on Data Use in Business Decisions	104
5.1 Introduction	104
5.2 Analysis of Data	105
5.2.1 Question 1 to 5 – Demographic Data	105
5.2.2 Question 6 – Data Sources Used in Decision Making	109
5.2.3 Question 7 – Most Valuable Data Source for Decision Making	112
5.2.4 Question 8 – Number of Data Sources Used in Typical Project Decisions	114
5.2.5 Question 9 – Most Important Factors When Considering Data Sources	116
5.2.6 Question 10 – Frequency of Meeting with Research and Analytics Professionals	118
5.2.7 Question 11 – Frequency that Research or Analytics Was Involved as a Key Partner in Project Business Decisions (Last 12 Months)	120
5.2.8 Question 12 – Formal Plans or Frameworks In-place	122
5.2.9 Question 13 – Agree to Disagree Rating of Statements Exploring Data Use	124
5.2.10 Objectivity in Data Use Correlates with Increased Sophistication of Data Use	129
6.0 Analysis of Rapid Growth of Social Networks and the Associated Use of Social Network Data within Intuit’s Small Business Group	135

6.1 Introduction	135
6.2 Analysis	136
6.2.1 Social Media Data Use is Still in Early Stages	136
6.2.2 Fractured Impact of Social Media Data Insights	138
6.2.3 Limited Collaboration around Social Media Data Insights	140
6.2.4 Social Media Data Use has a lot of Unrealised Potential	142
7.0 Proposed ICSAR Model of Enhancing Data Use in Organisational Settings	144
7.1 Introduction	144
7.2 The ICSAR Model Framework for Data Use	144
7.2.1 Introducing the ICSAR Model Framework	144
7.2.2 ICSAR Model – Steps and Overview	150
7.2.3 ICSAR Model – Detailed Breakdown	151
8.0 Conclusion	163
8.1 Summary Research Findings	163
8.1.1 Qualitative Interviews Findings	163
8.1.2 Survey Research Findings	168
8.1.3 Case Study Research Findings	176
8.1.4 Overall Research Findings	181
8.2 Anticipated Contributions of the Research	189
8.3 Research Limitations	189
8.4 Future Research Recommendations	191
9.0 References	193
10.0 Appendix	211

1.0 Study Introduction

1.1 Introduction

Market research, business intelligence, analytics and data science are business areas that have quickly expanded over the last three decades. This has been due to more services moving online and the digitisation of services across all industries. The digitisation of services has allowed for tracking developments and enhanced measurement of online customer behaviour. Recent prominent examples include web analytics, online surveys and social media analytics enabling businesses to access large amounts of data on their industry and customers.

There has been a lot of focus on investments in the technologies and storage centres for these new sources of data. However, there has not been the same level of emphasis on how business leaders incorporate these different and emerging data sources into their decision making.

Past academic research in this area has been specific to the use of market research, targeted manager-level respondents or focused on business intelligence platforms. The following research sought to expand past studies by focusing on how data is used by a more senior respondent base.

This research concentrated on gathering insights about the influences and factors that were involved when a business leader selected and used data in the decision making process. By exposing those influences and factors, the research sought to learn how data use could be improved. The study took an exploratory approach by combining different methods across both qualitative and quantitative feedback as a means to strengthen the relative weaknesses of each method. Themes and insights from the research were correlated across each section of the study to validate findings.

1.2 Background

Many commentators have joined recent discussions about the benefits of increased volumes of data and customer insights available to businesses. Terms like Big Data, database mining,

consumer insights, marketing research and analytics have all featured prominently in articles that discussed the benefits of applying data to various business areas such as marketing, sales, customer service, finance and human resources.

Analysts, such as Hofmeister and Bockemühl (2014) from the Boston Consulting Group, and many other commentators have noted that the application of data and customer insights represents a significant competitive advantage and a source of potentially large cost savings to organisations. McKinsey (2011) wrote that the use of data was a key part of business growth and competition across all industries, meaning that all companies would need to take data use seriously. They went on to say that market intelligence use would “underpin new waves of productivity growth and consumer surplus” and they estimated that a retailer using data has the potential to increase operating margins by 60% or more. Often, these discussions then urged business leaders to use data to inform their business activities.

However, applying customer and market data insights requires navigating a complex landscape of data sources. There are a number of suppliers, services and tools that can be used to collect data and generate insights for business leaders. For example, market research (also known as marketing research) has become both a functional area within businesses as well as a large industry sector comprised of market research supplier companies. New research and data collection technologies are also offered by companies that were not traditional research businesses. For example, Google started as a search engine technology company but expanded by developing a tool called Google Consumer Surveys allowing marketers to deploy surveys across Google’s publisher network and collect responses.

Organisations have also developed functional departments to apply data such as analytics, data science, database mining and applied statistics to business challenges. All of these areas may be chartered with analysing data, generating insights and presenting business recommendations to business leaders. For example, at the time of writing Intuit was a software company in California that had multiple analytics teams responsible for analysing and generating business insights across areas such as website analytics, sales chat insights, social media intelligence and in-

product analytics. These analytical functions were in addition to market researchers and finance analysts at the organisation, all of whom generated market and customer insights.

Some businesses have also created functional areas for specialised, intensive research programs as a long-term business strategy to maintain a competitive advantage. For example, Intel advertised an internal group called Intel Labs. The Intel Labs website listed various research areas like Immersive Experience, where Intel “researchers and ethnographers study people’s everyday routines to develop computing experiences that simplify, enhance, and enrich our daily lives.” (Intel Research Labs, 2013)

The ongoing development of new tools, new emerging functions within businesses and multiple industry sectors supporting market intelligence means that there is a complex and growing array of data sources. Business leaders now have a large number of data sources and ways to get business insights on their customers and broader market activity. This high prevalence of information and variety of business intelligence can be confusing and make it difficult to apply the most appropriate data measurement for a business need. (Chen, Chiang and Story, 2012; pp. 1165 – 1188)

In a 2013 survey, McKinsey Group (2014) found that 29% of Chief Marketing Officers (CMOs) said they used marketing analytics to make decisions. The survey also found only 3% of the CMOs said that data use contributed “very highly” to their company’s performance. Court writes “many executives ... remain unsure about how to proceed. They are not certain their organisations are prepared for the required changes, and a lot of companies have yet to fully exploit the data or analytics capabilities they currently possess.” (Court, 2012)

This showed that analytics and market research was a key component in business decision making however also suggested the need to focus on how data sources were used by business leaders. Businesses have made growing investments in the technology to gather increasing volumes of data to make informed decisions. However, there has not been the same emphasis on the space between the technology and how data is involved in the business decision. (Court, 2015) McKinsey wrote that “organisations need not only to put the right talent and technology in

place but also structure workflows and incentives to optimize the use of data. Access to data is critical – companies will increasingly need to integrate information from multiple data sources, often from third parties, and the incentives have to be in place to enable this.” (McKinsey, 2015)

This is an important area for investigation both academically and in practice because technology does not derive value from data, business leaders do. Therefore, the following research focused on data use to understand how data sources were being leveraged by the senior business leaders to make decisions. Namely, the research asked questions about how business leaders were selecting from the growing variety of data sources, how data sources were being used in business activities and what factors were influencing those decisions. The goal of this research was to identify limitations and ascertain ways to improve the effectiveness of data use.

1.3 Context

It is important to consider the various contexts of the following research. The following sections outline the practice, professional and personal contexts of the research.

1.3.1 Practice Context

The practice context was an important consideration for this research because it informed the research design and methods chosen to collect data.

This research program targeted senior business leaders as respondents in each research component. No other selection criteria were used, such as industry or geography. Senior business leaders were defined as Group Manager or Director-level and above. This also included job titles such as Vice President or equivalent and C-level executives. Respondents were screened based on job level in each research project. For example, the online survey included a filter question asking respondents for their job level and filtered out respondents who were below the level of Group Manager or Director.

Respondent seniority was a critical element of this research. Senior business leaders were considered likely to have the opportunity to use data in decision making as well as the authority to direct how data was used for projects managed within their team. This level of authority was considered necessary to understand what factors influence how data is used in decision making and subsequently provide the appropriate feedback for designing methods to improve data use.

Additionally, other academic and industry studies on data use were observed to have focused on manager-level respondents or research and intelligence professionals. This research adds to those studies and existing bodies of knowledge by targeting a more senior group of business respondents.

1.3.2 Professional Context

This research was conducted as part of a professional studies degree. Therefore, the professional context of the research is within the market research, analytics and business intelligence environments.

The goal of the research was to contribute both theory and practice developments to the market research, analytics and business intelligence professional areas. It was formulated at the intersection of pragmatic, Action Research and design thinking knowledge paradigms. More information on the epistemological background can be found in a following section. This means the research was informed by this professional practice area rather than a specific academic context.

1.3.3 Personal Context

The researcher's work experience and professional context had a direct relationship with this study. At the time of writing, the researcher was an analytics and research professional who had worked in market research and analytics for 12 years. The researcher's professional roles had primarily been in pricing statistics, customer analytics, marketing analytics and business intelligence.

The researcher's experience covered all aspects of research and analytics project management. This included designing measurement frameworks according to a business need, analysing results, presenting to business leaders and working with business leaders to incorporate insights into business activities. The researcher's experience also included working with all levels of business leaders from junior managers through to C-level executives.

The study topic was chosen because the researcher wanted to understand data use in more depth and work within an Action Research context to contribute to the analytics professional practice by using the research insights to develop a model framework for improved data use. The proposed ICSAR model framework created by the author was the end result of this exercise. Further information is in following practice project section.

1.4 Practice Project

The goal of this research was to produce a practical application that uses the insights from the research to support business leaders to use data more effectively. This was considered a critical component of this study in line with the aims Action Research and pragmatism to provide a practical outcome from a research project.

In this study, the research provided insights into the factors that influence and limit holistic data use in decision making. For example, one of the insights showed that senior business leaders used more familiar data sources over other data sources that were potentially more accurate. The research also found data silos and a lack of integrated approach to data use. This limited data sharing across the organisation and resulted in duplicated efforts.

The final project of this study took these insights and produced the ICSAR model for data use. The ICSAR model is a proposed framework that business leaders can implement when planning a project as a structured process to ensure objective data use. The ICSAR model is an original framework. It was created by the research author based on the factors identified in this research shown to limit data use. The ICSAR model was designed to minimise these factors and improve

objective data use in decision making. Each of the five steps in the framework has been included to address one or more of the influencing factors highlighted in this study. The framework represents a professional contribution by the author to the practice of market intelligence and data use in business.

Additionally, the ICSAR model has been made available online at <http://www.designingdata.co> as an open source tool for any business leader to use and adapt to their specific business context. The ICSAR model was designed such that business leaders have some flexibility to adapt the framework to their industry or business context while retaining the intended benefits of the framework. Business leaders, analytics professionals and others are able to freely download the ICSAR model framework and information about the research findings.

This study has attempted to provide a practical contribution to the practice of business data use by making both the ICSAR model and the summary findings available online to business professionals.

1.5 Purpose

The purpose of this study was to uncover the specific factors that influence and determine the way data sources were used by business leaders. By understanding the limitations on data use, businesses can invest in structures that enhance data use by business leaders. The study also focused on using those findings to design the proposed ICSAR model for data use. The ICSAR model was developed by the research author to provide a practical outcome in order to support businesses overcome limiting factors of effective data use.

1.6 Research Questions

This research study focused on three questions:

1. How do business leaders select from a growing variety of data sources?
2. What factors influence the selection process of a data source in decision making?
3. How is data used in the decision making process?

1.7 Research Methodology Overview

This study employed a mixed methodology approach in order to approach the research questions from different contexts and support the relative weaknesses of each method. The study included three research projects that were conducted sequentially so that each project's insights informed the next project.

- The first research project was qualitative and included 10 semi-structured interviews with senior business leaders exploring their use of different data sources in business
- The second project was an online survey of 111 senior business leaders that provided quantitative feedback about data use in decision making
- The third piece of research was a case study that examined how social media data was used in Intuit's Small Business Group

The research methodologies for each project are discussed in greater detail in the methodology chapter. This includes notes on sampling, method options considered and the methodology notes.

1.8 Epistemology and Knowledge Paradigm Overview

This research program was located at the centre of pragmatism, Action Learning and Action Research (ALAR) and design thinking (Figure 1). Pragmatism focuses research on action-based outcomes and practical applications of the research insights. It also grounds the research with the notion that knowledge is contextual and the goal is to solve current issues because contexts are continually in-flux. ALAR supports these views and adds the element of cyclical learning and development. Because contexts are continually changing, applying research insights requires reflection and cycles of development to ensure they remain relevant. Finally, design thinking supports all of the above and encourages the application of research insights to think about the system. In this case, the organisational knowledge development as a whole was the system focus. Design thinking encourages participation, intervention and experimentation (Romme, 2003) in a similar way to ALAR. It is argued that pragmatism, ALAR and design thinking are

complementary foundations in the development of this research study. Their relationship is shown in the Figure 1 below and each is further explored in the following sections.

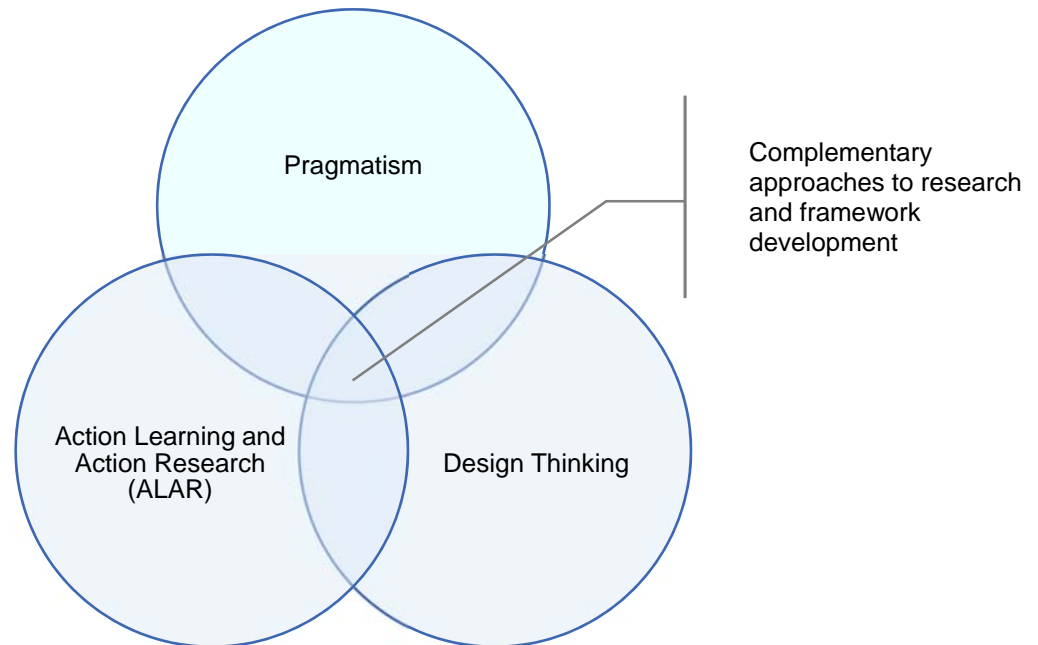


Figure 1 - Combining Pragmatism, Action Learning and Action Research, and Design Thinking

1.8.1 Pragmatism

Creswell (2013) provided a simple introduction to the assumptions and viewpoints of pragmatism. Creswell noted that pragmatism focuses on actions, situations and consequences, using all available research methods to find a solution to a particular problem. Pragmatism sees the world, and therefore organisations as continually evolving entities because “research always occurs in social, historical, political, and other contexts.” (Creswell, 2013; p. 11) This means that research and the role of knowledge discovery is to solve current, temporary problems. (Strübing, 2007)

Cherryholmes (1992) noted that Pierce was the first explicit declaration and definition of pragmatism to look at the practical consequences. From there, Cherryholmes wrote that James and Dewey built on the notions set by Pierce by putting attention on the consequences of action.

“Many research traditions from positivist/empiricist (quantitative) to phenomenological/interpretivist (qualitative) to versions of critical research aim at getting things right.” (Cherryholmes, 1992; p. 13) Cherryholmes commented that these views place theories and descriptions before action and practice. For pragmatists it is the opposite. Action and interaction precede values and theories.

Friedrichs and Kratochwil (2009) noted that the social world is constituted by inter-subjectivity and that the world is not independent from the observer. Given this inter-subjectivity, Friedrichs and Kratochwil argued that pragmatism provides an instrument to conduct research with “an appropriate degree of epistemological and methodological awareness” (Friedrichs and Kratochwil, 2009; p. 707) that provides practical outcomes. In contrast, positivism is an example of an epistemological view where there is an objective truth and the goal of research is to prove or disprove a pre-defined theory. (Cornish and Gillespie, 2009)

In terms of methodology, pragmatism argues there is no absolute best method. Instead, it focuses on the method that will solve the problem at hand because problems are transitory. Cornish and Gillespie (2009) used the example of health psychologists who apply a range of knowledge-discovery practices including: randomised controlled trials (RCTs), surveys, narrative analysis, discourse analysis, Action Research and theoretical work, for example.

Tashakkori and Teddlie (2002) wrote that pragmatism supports “both qualitative and quantitative methods in the same research study and within multistage research programs.” (Tashakkori and Teddlie, 2002; p. 21) They commented that pragmatism considers the research question to be more important than the methods used. This means that the appropriateness of the method or series of methods chosen for the research should be judged by the research question rather than an underlying epistemological position, supporting mixed method approaches. (Denscombe, 2009; Sandberg, 2005)

With this in mind, the following research study incorporated a mixed methods design including: qualitative in-depth interviews, a quantitative survey and a case study. The research was also able to consider insight from clusters of responses defined by their common positions, location

of work or other grouping. Further, the research design allowed for the development of a practice framework that is supported by validated evidence as derived from the multiple projects.

1.8.2 Action Learning and Action Research (ALAR)

This research project was also designed as part of an Action Learning and Action Research (ALAR) approach while adopting a pragmatic position. At a basic level, Action Learning involves learning from a specific example or experience and then taking action and applying that learning. Action Research “is a cyclical iterative process of action and reflection on and in action.” (Zuber-Skerritt, 2001; p. 2) Action Research is systematic, verifiable and the results are always made public.

Action Research was formed in order to provide highly applicable research insights to transitory, complex social settings. Zuber-Skerritt (2001) wrote that ALAR emerged in the 1920s in response to rapid change caused by World War I, World War II and wide-reaching geopolitical changes. The field continues to develop in recent years due to “rapid technological and socio-economic change.” (Zuber-Skerritt, 2001; p. 1)

Blichfeldt and Andersen (2006) linked Action Research with Lewin’s work in the late 1940s. They noted that Lewin was not content with studying complex social events in the laboratory. Blichfeldt and Andersen argued that Lewin “sought to develop theories appropriate for real world problem solving.” (Blichfeldt and Andersen, 2006; p. 2)

Susman and Evered (1978) provided a synopsis of Action Research that had many synergies with a pragmatic epistemological viewpoint. They noted that Action Research is situational. This means that the researcher is conscious that many of the relationships between actors (e.g. businesses, professionals, organisations) are a result of the present situation. This implies that the situation is transitory and that knowledge, therefore, is based on that particular situation.

Action Research is also agnostic. The methods chosen in Action Research are based on the research question and are subject to re-examination with any new research question. This implies there is not any one, universal best method for conducting research.

Finally, Susman and Evered (1978) noted that Action Research implied system development. The system in this case refers to a cycle of development starting with diagnosis, evaluation and learning in an ongoing circle of development. Action Research provides the capacity for generating problem-solving procedures through research insights related to real-world procedures.

This cycle of action and research followed by new action and subsequent research is a core tenet of how Action Research enables organisational development. In theory, Action Research provides an enduring cycle of development and improvement for organisations to take advantage of the rapid technological and socio-economic change that Zuber-Skerritt (2001) discussed. Market intelligence is one example where there has been significant technological change. Zuber-Skerritt, Blichfeldt and Andersen (2006) highlighted that ALAR is ideally suited to a situation like this, where the research can look at the change taking place and offer recommended action. Zuber-Skerritt highlighted that ALAR has proven to be an effective approach in organisational learning, innovation in a business setting and professional development.

Action Research has been applied to many research questions, including applying a mixed method approach. Braccini, Spagnoletti and D'Atri (2012) used Action Research when defining cooperative business models for inter-organisational cooperation across local governments in the European Union. They used a participatory Action Research approach including interviews, text analysis of business documents and direct observations. Action Research was chosen in this instance because the research could provide practical research-based insights.

Action Research has also been widely adopted and considered in the field of education and professional teacher development. Manfra (2009) wrote that Action Research helps formalise teacher inquiry or research to leverage their insider knowledge to improve classroom practices. Manfra also noted that teaching “cannot be divided into practical (e.g. lesson planning, skill

development, communication) and critical issues (e.g. cultural relevancy, hidden curriculum, gender),” (Manfra, 2009; p. 32) arguing that these are messy and interwoven. Action Research helps knowledge and learning cross the divide of practical and critical issues by enabling teachers to engage in decision making and theorising, making them responsible for both theory and practice.

Kirwan and Conboy (2009) noted that there were some limitations to Action Research that needed to be addressed. The first limitation they raised was that “like most qualitative research methodologies, Action Research was difficult to do well and easier to do atrociously.” (Kirwan and Conboy, 2009; p. 49) It can be argued that this limitation is not restricted to Action Research. Their comment implies that Action Research leans heavily on the qualitative side of research. This may be true for certain individual studies but Action Research incorporates qualitative and quantitative methods. By its very definition, Action Research is open to all methodologies and the focus is on the most applicable research method to the question, much like pragmatism.

Another limitation noted is that Action Research “involves heavy involvement in the research situation, with the opportunity for good learning, but at the potential cost of objectivity.” (Kirwan and Conboy, 2009; p. 50) This limitation was followed by the recommendation that the way to overcome this limitation is to include “multiple Action Research cycles during the collection of the results.” (Kirwan and Conboy, 2009; p. 55) They referred to Susman and Evered (1978) as leading authors in this field who advocate the use of multiple Action Research data collection efforts in one project in order to show objectivity.

1.8.3 Similarities between Pragmatism and Action Learning and Action Research

It is argued that pragmatism and ALAR approaches are complementary because they share important beliefs about knowledge creation. The following list summarises the main beliefs that pragmatism and ALAR have in-common as part of knowledge discovery and research.

- Methodology agnostic – both approaches are methodology agnostic, meaning the method is chosen according to the question and/or context. There is no one single best method.
- Support of mixed method approach – linked with the above point, both pragmatism and ALAR show support for a mixed method approach as a means of triangulating results and validating findings.
- Knowledge is contained within a specific context – both pragmatism and ALAR support the view that social science knowledge is always contained within a specific context.
- Focused on practical outcomes – both pragmatism and ALAR focus on using research to deliver practical outcomes.

The following research program used these core tenants of pragmatism and ALAR as a foundation for exploring data use in business decision making. Specifically, a mixed method approach was used to validate findings across quantitative and qualitative measures. The goal of the mixed method approach was to triangulate and validate findings via multiple methods. The mixed methodology approach also ensures that the relative weaknesses of each method are addressed by other methods. For example, the lack of a large sample in the qualitative interviews was addressed by the survey of senior business leaders. The use of the case study was to focus on one particular data source, in this case social media, and gather specific insights in a way that the qualitative interviews and the survey were not able to do. This program was also focused on providing a practical outcome from the studies, using the factors found to influence data use to build a model framework for improved data use in decision making.

1.8.4 Design Thinking

This research program also introduced design thinking into the framework development section for the final project. Design thinking was incorporated into this project based on the premise that Action Research should include a component of intervention and that the goal of research is to advocate for change. Thus the last project in this study was reserved to develop a proposed framework for improving data use in business and design thinking was leveraged to incorporate the ideas of systems thinking and cyclical experimentation.

“Design is characterised by its emphasis on solution finding, guided by broader purposes and ideal target systems.” (Romme, 2003; p. 598) As Romme argued, organisational research and thinking could benefit from adding design as a role model in addition to science and humanities. Design is grounded in a pragmatic approach to organisational development and, therefore, complements ALAR methods. Design thinking is considered as part of the final project in line with the principle that the purpose of this research is to provide a practical outcome that “changes existing organisational systems and situations into desired ones.” (Romme, 2003; p. 559) That is to say, the insights from this research program were used to help business leaders by providing a flexible framework that can be used to improve data use in an organisation.

There are clear similarities with pragmatic principles and direct references to the fact that pragmatism is a fundamental part of design thinking. “Design assumes each situation is unique and it draws on purposes and ideal solutions, systems thinking, and limited information. Moreover, it emphasises participation, discourse as medium for intervention, and pragmatic experimentation.” (Romme, 2003; p. 599)

1.9 Outline of the Report

This research report has been comprised of nine chapters corresponding to different phases in the study:

- Chapter one – Outline of the research report and epistemological background
- Chapter two – Literature review highlighting issues related to data use
- Chapter three – Methodology introduction
- Chapter four – Qualitative research with senior business leaders and initial themes
- Chapter five – Survey of senior business leaders including emerging themes
- Chapter six – Analysis of growth of social media data use and case study with Intuit
- Chapter seven – Proposed ICSAR model for data use overview and example use case
- Chapter eight – Conclusion including a summary and future research recommendations
- Chapter nine – Reference list

1.10 Definitions

There are a number of terms used in this document that reflect broader industry terms. Some have been used interchangeably in industry articles and references so the following definitions and explanations have been provided to give clarity and outline how those terms have been used in this document.

Marketing research has also been known as market research and more recently consumer insights. Industry definitions varied but typically involved the application of research methods to a business question. Common projects in this area included customer satisfaction studies, focus groups or market sizing exercises. Methods used were quantitative, qualitative or a combination of both. (GRIT, 2014)

Analytics and data science have been defined as the application of statistics or quantitative methods to business areas, often using computational programs. Examples show analytics or data science projects implemented as stand-alone functions or embedded within other business functions. (Gartner, 2015b)

Business intelligence (BI) was an “umbrella term that referred to a variety of software applications used to analyse an organisation's raw data. BI as a discipline has been made up of several related activities, including data mining, online analytical processing, querying and reporting.” (Mulcahy, 2007)

Definitions of consumer insights (or marketing research), analytics (or data science) and business intelligence show these areas are interconnected (GRIT, 2014; Kirk, 2006). For example, data science and analytics methods could be applied to a consumer insights project and reported to the organisation using a business intelligence tool. The overlapping relationship of these areas was an important concept of this research. This paper uses the term market intelligence to cover various data sources that have been defined above under each of these terms.

Big data has been defined in a variety of ways by different authors. For the purposes of this research, it has been referred to as the phenomenon of an increasing volume of data often in large data sets, an increasing variety of data sources and an increasing velocity of data being collected from the rapid growth of new technologies. (Gartner, 2015a)

Social media and social networks have been defined as websites or online platforms that enable users to communicate with other users by posting messages, images, sharing content, and maintain a profile. (Ellison and Boyd, 2007)

More specifically, Ellison and Boyd (2007) defined social networking sites as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.” (Ellison and Boyd, 2007; p. 211) In other words, social networking technologies allows individuals to connect online, often by creating a public profile and allowing people to express comments and join discussions around a topic. Businesses are also able to create profiles, join conversations and share content via social networking sites.

Chui, Drewhurst and Pollack (2012) argued that social is a feature, not a product, and therefore the potential the use of social networking technologies to business was varied with the potential for economic benefits. Social technology can also be applied to many different platforms because it is a technology enabling social interactions between people. For example, many IT-enabled tools, such as online banking, can incorporate social technologies such as the ability to comment on features or by including the Facebook ‘Like’ buttons to allow users to share information with their social circles. Social technology can also be used internally at a business to help connect employees with colleagues across the organisation.

Senior business leaders were defined as business professionals at the Group Manager or Director level and above. These professionals may have been employed by commercial, government or non-profit organisations in any industry. They may or may not have directly managed staff

however it was assumed that professionals at these levels were more likely to have staff and project management responsibilities.

2.0 Literature Review

Market intelligence, research and analytics have been developing areas for businesses. Therefore this literature was the first step in identifying how market intelligence data was being used by business leaders. The goal of the literature review was to form initial ideas that were then tested with business leaders through qualitative interviews, survey research and a case study.

This literature review examined academic and industry articles related the use of market intelligence and consumer insights data in business activity. The role of this literature review was to begin understanding the breadth of growing sources of data available to business leaders per research question one. The second goal was to begin isolating the factors that influenced how a business leader selected a data source in their decision making process. Influence was studied by looking closely at literature that discussed the value perception of different data sources. Identifying the influencing factors provided insight into how data was used in business activities which was outlined as a goal per research question three.

As the market intelligence industry grapples with new methods and new technologies, it is important to understand how business leaders perceive the value of market intelligence and consumer insights data. It is also important to understand how market intelligence data is used in a wider business context to ensure it is being utilised effectively and in a way that maximises its potential. In doing so, the market intelligence industry can continue moving towards a solution that meets the needs of businesses. This ensures that market intelligence data services are mutually beneficial to the industry as well as businesses.

Articles in blogs, journals and news sites point to a complex web of issues that are all linked to how the value of market intelligence is perceived by the business community. Market intelligence is an industry that supports businesses and organisations through research and analysis services designed to inform a business process, decision or project. To provide this type of service, the market intelligence industry offers various research services, tools and specialisms that provide information to business leaders. It is also worth noting that market intelligence is a function that exists within businesses as a functional area, it exists external to businesses such as

market research agencies and it is also a feature within tools such as analysis components to sales programs. As such, the role of market intelligence varies by the activity being measured and by the department sponsoring the research. This means that market intelligence can be deployed in a wide variety of scenarios and to different degrees of impact on the organisation's activities. For example, an external research project may be initiated to gain competitive information and influence product development. In another scenario, market intelligence may support a decision that has already been made, offering confirmatory evidence from internal sources.

Due to the growing application of use of different sources of market intelligence, industry practitioners and businesses have sought to understand the value of data analysis and ask questions about the most effective application of data insights in business. That is not to say that market intelligence is not valuable, but as technology and business activities change, there is a need to clarify the role and application different data sources in business decision making.

2.1 The Size of the Market Intelligence Industry

To set a baseline for understanding the market intelligence industry at a macro level, this paper considered the revenue change of the research industry for insight into financial viability, the growth of analytics technologies and references to spending on market intelligence. There is a body of literature across various industries that linked value perception to profitability and revenue. (Hallowell, 1996; Claessen et. al., 2003)

Spending on various market intelligence technologies has been predicted to grow rapidly by various authors and industry analysts. The market research industry was arguably one of the earliest industries to formalise around offering market intelligence services to businesses. Therefore, this paper first considered the growth of market research industry.

The US Census Bureau classified market research under 2012 North American Industrial Classification System (NAICS) code 541910 'Marketing Research and Public Opinion Polling'. The US Census Bureau Economic Survey (2012) showed that businesses classified to this NAICS Code received revenue of \$7.9 Billion USD in 1997. In 2002, this same NAICS code

recorded revenue of \$10.9 Billion USD. In 2007, 'Marketing Research and Public Opinion Polling' businesses recorded industry revenue of \$15.5 Billion USD. Between 1997 and 2007, that represents a compound annual growth rate (CAGR) of 7%.

The number of establishments (a single physical place of business where the services are conducted) grew from 4,030 in 1997 to 5,823 in 2007 at a CAGR of 4%. The 'Marketing Research and Opinion Polling' industry also employed nearly 118,000 people in 2007 according to the US Census Bureau.

By comparison, the Market Research Society (MRS) in the UK undertakes a survey of UK market research each year. This showed the industry revenue grew 2.8% in 2010 after inflation after a 3.7% decline in 2009. (Bain, Tarran and Verrinder, 2011) The European Society for Opinion and Marketing Research (ESOMAR) showed that market research recovered well from the global financial crisis in 2009. ESOMAR's Global Market Research report (2011) pointed to a net growth rate of 2.8% (adjusted for inflation) for the global market research economy in 2010. Regionally, North American market research firms regained ground by growing 3.1% in 2010; the Asia Pacific market research industry grew 3.5% over the same time period and Latin America, despite being a smaller market, grew a staggering 13.9%. ESOMAR's 2010 report showed that the global market research economy contracted -4.6% in 2009 so a 2.8% gain the following year is a positive sign for the industry that registered consistent growth rates up until the financial crisis period.

Discounting the macro-economic financial crisis of 2009, these figures were a positive indicator for the market intelligence industry. Data indicates that each year has provided consistent revenue growth, suggesting that market research is an intrinsic component of commercial economies in markets like the US, Europe and others.

Research-Live, a UK-based market research news site produced by the MRS, commented that the financial growth of the industry was more insightful at the micro-level where mid-sized research companies had focused on their ability to 'try something different' and used innovation as a differentiator to achieve growth. The article also commented that mid-sized research

companies were “winning work away from bigger competitors as another fortunate by-product of the recession.” (Bain, Tarran and Verrinder, 2011) This example points to the dynamic and changing nature of the market intelligence industry.

Expanding the literature to cover other market intelligence sectors beyond market research, Columbus (2014) provided a round-up of some global spending predictions for analytics, big data and business intelligence areas. He noted that these market intelligence areas had attracted increasing investment and attention from businesses. Columbus argued that “analytics was now essential for any business looking to stay competitive.” (Columbus, 2014) He goes on to comment that analytics and market intelligence more broadly had generated a high level of awareness and hype, this had led to departmental transformations such as marketing divisions moving away from traditional tactics to more data-driven methods. All of which have driven spending on market intelligence data generation and businesses seeking access to an increasing number of data sources.

For example, “the advanced and predictive analytics (APA) software market was projected from grow from \$2.2 Billion USD in 2013 to \$3.4 Billion USD in 2018, attaining a 9.9% compound annual growth rate (CAGR) in the forecast period.” (Columbus, 2014) Additionally, the cloud-based business intelligence sector was projected to grow from just \$0.75 Billion USD in 2013 to \$2.94 Billion USD in 2018, representing a compound annual growth rate of 31%. IDC supported these forecasts with their own high growth figures, predicting the “Global Big Data technology and services revenue will grow from \$14.26B in 2014 to \$23.76B in 2016, attaining a compound annual growth rate of 18.55%.” (IDC, 2014; p. 6)

These figures point to the fact that the market intelligence industry has gone through a large technological change over the last two decades, incorporating newer data sources and new ways to analyse market intelligence data. For example, cloud-based business intelligence is a relatively new market intelligence sector compared to market research and this is reflected in the market growth from less than \$1 Billion USD in 2013 to nearly \$3 Billion USD in 2018. Columbus notes that newer technologies are changing the approach of businesses in all areas from “manufacturers looking to gain greater insights into streamlining production, reducing time-to-

market and increasing product quality to financial services firms seeking to [use new data sources] to upsell clients.” (Columbus, 2014)

Understanding the size of spending on market intelligence as well as the growth of this industry sector was important background context. These sources showed that market intelligence had become a large economic sector with high levels of growth predicted by various industry analysts. These figures showed that businesses had placed an increased level of importance on market intelligence, reflecting this with a large and growing financial investment in this area. The references also highlighted a changing landscape of market intelligence with newer technologies available to businesses. These changes in the market intelligence sector ultimately impacted how data was used in decision making.

2.2 Open Market Intelligence Industry Created by Technology Shifts

Technology has had a profound impact on data use in business, changing almost every component of the analysis process including methodologies, data delivery and data analysis. In some cases, technology has helped streamline the research process. For example, software tools were now used to calculate results like statistical significance in seconds and some had built-in analysis functions such as margin of error calculations or mean survey scores. CRM platforms now included data dashboards and tools for running basic business analysis such as simple forecasting. Traditionally, these calculations were done manually by researchers or analysts. In other areas, such as the survey market, technology has put pressure on the market intelligence industry by making research tools open to a broader market.

Surveys are a good example of a market intelligence function that has been disintermediated by the shift to a more open market intelligence industry. Surveys were previously the exclusive domain of market research agencies and those agencies were able to place a premium on the survey research process because it was a proprietary service. However, companies like SurveyMonkey (<http://www.surveymonkey.com>) developed online survey building tools enabling anyone with Internet access to develop an online survey for a very low cost. This

opened up market research services to a wider user-base and the impact has been significant, with companies like SurveyMonkey showing success in disrupting the market research industry.

TechCrunch, a news site for technology, wrote that SurveyMonkey was “growing like a weed” (TechCrunch, 2009) and that SurveyMonkey’s revenue was on the rise. In 2008, revenue numbers for SurveyMonkey were in the region of \$30 million (USD). Shortly after, TechCrunch noted that SurveyMonkey would likely reach \$45 million in 2009. Bloomberg (2011) more recently reported that SurveyMonkey has some 8 million users with 35 million surveys created monthly.

The success of SurveyMonkey and similar do-it-yourself (DIY) survey building companies has drawn criticism from the research community who voiced concerns about poor quality questionnaires, commoditised data collection and a detrimental impact on the value of research services.

Quirks Marketing Research Review (2011) interviewed several researchers about the development of market research over the past 25 years in their October 2011 edition. The issue of DIY surveys was a central focus and, in the article, several veteran researchers discussed the impact of DIY tools on market research:

“As a discipline, it is [market intelligence] on the decline. DIY, low-budget data collection that takes serious shortcuts and wanna-be [sic] moderators are all examples of where the discipline itself has fallen on hard times – anyone can write and program a questionnaire, pay \$4 a person for crappy [sic], no-quality-control online sample and generate research.” (Sellers, 2011)

“More surveys are being conducted today than 10 years ago, thanks to low-cost, do-it-yourself survey tools and the spreading spiderweb [sic] of the Internet. Surveys are now being conducted by many different departments within corporations (without the knowledge of the other departments, in many instances). ... Whether this survey data is of high quality and whether that data leads to better decisions, is open to question.” (Thomas, 2011)

Poynter (2011) also mentioned DIY research tools in his paper entitled “What is next in online and social media research?” as one of the factors that had impacted market intelligence. Poynter noted a growing number of organisations were conducting research using internal resources meaning that there was less exclusivity on surveys and analysts were now competing with their clients. Today, organisations have a choice on ways to meet their research needs including the option to run the survey internally through a low cost tool such as SurveyMonkey. This open research industry has forced the issue of value and puts pressure on the market intelligence industry to justify its premium cost over using DIY tools.

Poynter also commented that more and more businesses in related industries were offering self-serve research and analysis options that have increased the prevalence of DIY market intelligence. He noted that mainstream research panel supplier companies were looking to capitalise on the DIY trend by offering self-serve options to businesses. Other non-research companies, like customer relationship management (CRM) system providers, were also offering market intelligence tools as an add-on to their software, including surveys add-ons, analysis tools and forecasting features – showing a convergence between research and other business areas.

Market intelligence deployed in larger software packages, like CRM systems, has shown a growing convergence and positions market intelligence as one component of a wider service product. Similar to DIY survey tools, this has removed the exclusivity of market intelligence methods and analysis is no longer the exclusive domain of agencies offering market intelligence services. Other professionals who may not have any formal research training, such as a CRM system manager, are able easily deploy market intelligence tools (such as surveys) that previously were under the sole-ownership of trained market intelligence professionals. This detracts from the need to use a third party to conduct surveys or market intelligence projects and shifts the value to an internal function.

Anderson (2011b) wrote that “there are no longer any technical barriers to entry [into market intelligence], and the technology itself will move faster than your [market research’s] ability to remain competitive.” (Anderson, 2011b) Because of this technology shift, Anderson noted that

researchers have been disintermediated from the research process by cheaper tools based on modern technology platforms.

In the Quirks Marketing Research magazine article that asked some market research commentators to review the past 25 years, Mace was quoted as saying “[we blew it by] not making the transition [to the web] as an industry sooner. We allowed technology-based companies, not research companies, to take the lead in our backyard. This caused innumerable quality assurance issues and the need for end users to question the value of our reporting.” (Quirks Marketing Research, 2011; p. 27)

Poynter (2011) wrote that the impact of DIY research and analysis on the market intelligence industry has yet to be fully understood but suggests that it could lead to one of several possibilities. One option was that businesses will realise the need for higher quality research and analysts will shift from market research agencies to going in-house. Another option was that DIY research will continue to grow and that businesses will trade quality for cost-savings, settle for simpler studies and potentially more analysis errors. The final option from Poynter was that DIY research will plateau and then decline as businesses take on “more work than most of them can handle and as problems start to occur.” (Poynter, 2011; p. 7)

Korostoff (2010) suggested that DIY research tools could benefit the market intelligence community. She wrote that there was an opportunity in DIY platforms for researchers to support businesses and that DIY market intelligence was evidence that customer feedback was important and was becoming an essential part of many job roles. Korostoff made the point that DIY tools had become a ‘scapegoat’ of the market intelligence industry but relates this to a time when online surveys first appeared. “A lot of CATI-centric [computer aided telephone interviews] researchers balked and online panels repulsed many researchers but both online research and panels were now a huge part of the industry” (Korostoff, 2010) and had become a staple tool for many research agencies.

Korostoff called for an objective assessment of the growth in DIY market intelligence tools and what it might mean both for research and as an opportunity for the market intelligence industry.

This included understanding why businesses used DIY tools, how they framed business questions and how they approached the DIY research exercise in order to understand how the market intelligence industry might better meet their needs to complement DIY research tools.

However, as the DIY market progresses, there has been a clear impact from these developments on the wider market intelligence industry. Research companies were previously the only organisations able to execute surveys and other data gathering methods. Technology developments and market shifts have changed that. New vendors have emerged that not only move the ability to execute survey-based research to a wider audience but they have created new competitors such as internal business functions that were once the research clients. These businesses now have the option to run their own research and analysis, diminishing the need and value of the traditional research agency. Businesses have also invested in internal analytics and business intelligence technologies.

This section showed that business leaders were confronted with a market intelligence industry that has changed rapidly and the variety of data sources had changed along with it. Previously, market intelligence was exclusively provided by market research firms. However, technology had increased both the volume of data and the availability of different forms of market intelligence. Business leaders can now access market intelligence from external agencies, internal analytics teams or run their own intelligence-gathering projects through technology platforms like CRM systems that incorporate analysis and survey tools. This has had the effect of eroding the premium of market intelligence data collection and analysis. At the same time, it increased the importance of businesses to monitor how data was used in decision making. The complex array of data sources has increased the difficulty for business leaders to know what data source was best suited to a business problem.

2.3 Pressure to Show ROI and Value

Like many industries, market intelligence was affected by the 2009 global financial crisis (GFC). ESOMAR (2010) noted that data from 2009 revenue figures for the market research industry showed the first decline since they started measuring the industry in 1988. Global annual revenue

fell to \$28.9 billion in 2009 representing “a year-on-year decline of -3.7% and -4.6% after adjustment for inflation; a significant drop but in line with expectations given the economic downturn.” (ESOMAR, 2010; p.1)

Phillips (2011) noted that the economic downturn increased scrutiny and pressure to market intelligence costs. This change meant the need to prove their value like other cost centres such as marketing and advertising. The GFC created a new focus on measuring value and returns and Phillips (2011) quoted one company that said “if it cannot be measured now [after the downturn], it is cut.” This was part of what Phillips labels as the perfect storm for market research with three external factors contributing to increased measurement and focus on value. The first was that businesses are being measured as a result of financial crisis and more services are expected to contribute to the bottom line. The second factor was that other elements of marketing can now be measured in much more detail – digital marketing for example is heavily tracked and analysed. The third factor was that the insights were becoming a competitive advantage for businesses when linked with business objectives.

The financial crisis and external financial pressures led to clients expecting more value from their intelligence for less money. In the 2012 Greenbook Industry Trends (GRIT) Report, 79% of research buyers noted cost as being the driving factor in choosing a research method. (GRIT, 2012)

Verrinder (2010) also commented that there was an increased focus on research costs at many firms. He cited Jacobs, author of a guidebook for the advertising industry on commissioning market research, who noted that procurement departments want to know what differentiates market research from buying a fleet of vans and they wanted to know what benefits were being brought in, with more expected from limited budgets.

In response to economic pressures, the 2011 GRIT report looked at the practice of off-shoring research activities by agencies, primarily to South East Asia and Eastern Europe, in order to save costs. Some 60% of those surveyed (60% of research suppliers and 62% of research buyers) felt that this practice would “diminish respect for the market intelligence industry.” (GRIT, 2011)

Whether this practice of off-shoring research did have the expected impact remains to be seen but was an indication of the pressure put on market intelligence due to financial circumstances and clients wanting more for less. As the industry worked to handle the economic pressure, these comments showed that business enthusiasm for market intelligence was tempered by the requirement for marketing intelligence to justify the benefits through showing ROI and business value.

Murphy (2007) provided a good summary on the economic pressures and their impact on research. He noted that “tight client budgets and procurement in RFPs (request for purchase) have led to increased low-cost bidding.” (Murphy, 2007; p. 70) Murphy argued that a casualty of cost management has been rigorous sample design with “fewer business executives recognize or demand rigorous research.” (Murphy, 2007; p. 70)

This was supported by Kirch (2007) who wrote, “price has become such a driving factor on who wins a job that it is increasingly difficult for firms that are truly quality-driven to be competitive, unless they implement cost-cutting and/or corner-cutting procedures.” (Kirch, 2007)

Phillips (2011) noted that buyers and suppliers of market research were struggling to define the business impact of research and that time may be running out as there is increased competitive pressure from technology platforms, DIY sources and other data sources. However, it was difficult for market intelligence to quantify ROI because of the mixed use-case and wide-reaching impact of data analysis. For example, it was difficult to quantify the ROI where a company decided to stop the development on a product because research showed that the product would not do well commercially. In this instance, there could be considerable cost savings from a failed product launch but the extent of those financial savings and the associated value of the research exercise were hard to measure.

Reitsma (2011) of Forrester found the economic climate forced the need for market insights to show their contribution. Reitsma wrote, “In early 2011 we conducted a survey in which one third of market insights professionals said that they already had to prove their value to executives.

More than half expected this to be the case in 2012 as well, with an emphasis on showing how they are improving key performance indicators and return on investment.” (Reitsma, 2011)

Duke (2004) argued that creating economic value from market intelligence required four activities: selecting a strategy for accomplishing the goal, creating potentially valuable new knowledge and intellectual property, connecting the knowledge to a market demand with a complete value chain (profitable business decision), and orchestrating the flows of money and customer service to make a profit. Duke ultimately linked the economic value of the knowledge to a competitive advantage whether that advantage was creating a new product or by moving into a more profitable space. He linked this entire process closely with a business plan that accounts for all expenses including the investment.

The example Duke used is that of Xerox who introduced a plain paper copier in 1959 but found, through market intelligence, that they needed to invent a new business model that involved renting the copier under contract. This was different to the standard model at the time, which was to sell the copier, service and supplies separately. Research showed that a few thousand copiers could be sold at a fixed profit, however, exponentially more could be rented out at a greater profit due to re-renting machines and upgraded contracts. This example showed one way to demonstrate the ROI of research might be to look at competing scenarios and the additional profit the research enabled by helping Xerox discover a new business model and profit generation scheme.

However not all research focuses on product development. For example, research measuring the brand awareness of a company does not easily correlate directly to a product or a short-term business benefit. Rogers and Sexton (2012) found that 51% of senior corporate marketers point to a lack of sharing data within their organisation as a barrier to effectively measuring marketing and research ROI. They wrote, “when data is collected by marketers, it is often not appropriate for real-time decision making.” (Rogers and Sexton, 2012; p. 5) Also, 39% could not turn their data into actionable insight, meaning that they struggle to show the value of data to business decisions.

Hagins (2010) noted that most organisations did not measure market intelligence ROI because it was hard to do. He hypothesised that “failure to demonstrate the economic value of research has led to the commoditisation of the research function in many departments where the focus is on cost savings.” (Hagins, 2010)

Bain (2011a) reported that researchers were encouraged to learn the language of the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) at the ESOMAR conference in 2011. That meant “translating percentages and margins of error into Pounds, Euros and Dollars” (Bain, 2011a) with more effort put into demonstrating the ROI to the CFO.

Defining exactly what the return might include also compounds the complexity of showing ROI and value on research. In a paper about evaluating research and development, Hauser and Zettelmeyer (1996) categorised research into three tiers with different metrics defining success and return at each tier level. Tier 1 was basic research that was broad and applicable to many business units, such as general brand association research. Tier 2 was research matched to the core competencies of the organisation, such as a technology company running competitive analysis on functionality. Tier 3 was defined as specific projects focused on the immediate needs of a business unit, such as measurement of a recent social media campaign. Hauser and Zettelmeyer found that the research tier affects the key performance indicators used by a business.

They also commented that the way research was funded had an impact on how the research was valued. They noted that business units were better able to judge research and development projects if they had not paid the full cost and were asked to pay only a proportion. They also found that there was a bias toward short-term, narrow projects with predictable outcomes that made it difficult for broader research, such as Tier 1 projects, to define and demonstrate ROI value.

Andreasen (1983) took the view that research activity needed to be viewed from a cost-benefit angle. The costs were the research expenses as well as the lost sales and competitive advantage caused by the delay of running the research. The benefit was the improved decision quality and

was “proportional to the manager’s uncertainty about which way to go, not to the uncertainty about the future.” (Andreasen, 1983)

Hagins (2010) argued that showing ROI for research needs to be linked to one or more business impacts with many ways to calculate research value. Some of the examples given included:

- Cost Reduction – research driving cost savings resulting from the elimination of an unnecessary feature or service element
- Customer Retention – quantifying the revenue associated with saving high-risk customers or high-risk customer segments through improvement
- Sales Promotion – quantifying the economic value of inclusion of research in sales presentations, white papers or helping support sales meetings

Hagins (2010) suggested taking a conservative approach to ROI projections a way to maintain credibility and that it was worthwhile starting the ROI evaluation process even if the methodology was not perfect. “Organisations that made the attempt [at ROI] were given respect even though the methodology was not perfect because they made the effort.” (Hagins, 2010; p. 52)

This section showed that the perceived cost of a data source was an important consideration with respect to data use. The literature also highlighted that the perception of market intelligence had possibly changed from rigorous, lengthy research projects toward fast, analytical projects that provide quicker and cheaper data insights. This had potential implications around data selection in decisions. For example, business leaders may select digital analytics to answer business questions over a qualitative market research project based on cost perceptions. The result being that a data source was chosen based on cost instead of merit, and therefore may not provide the most accurate data insights.

2.4 Organisational Demographics and Their Impact on Data Source Selection

Organisational structure has been shown to significantly affect what data sources were selected and how market intelligence is used in business activities. Bednall and Valos (2005) conducted research into how structure and resource allocation impacted the perceived effectiveness of market intelligence. Their results found “market research effectiveness cannot be judged merely on the basis of the technical qualities of the project or the innovativeness of the design ... strategic intent also needs to be taken into consideration.” (Bednall and Valos, 2005; pp. 25 – 26)

Bednall and Valos (2005) found that having a dedicated group contributed to the value placed on market intelligence efforts. “Those with no dedicated market research people or those with part-time staff were less likely to see market research as being valuable.” (Bednall and Valos, 2005; p. 22) Bednall and Valos linked this with the dedicated group’s ability to gain marketing knowledge and “in assisting the marketing group and the marketing manager to promote their business cases within their organisation.” (Bednall and Valos, 2005; p. 25) An important implication of this finding was that the perception of research effectiveness has a considerable impact on strategic decision-making.

When looking at organisational type, Bednall and Valos (2005) found that entrepreneurial Prospector organisations were most likely to see market intelligence as effective at gaining useful insight, providing value to other data sets and in supporting business decisions. Entrepreneurial Prospector organisations were described as businesses that achieve competitive advantage by “being first into new markets with new products.” (Bednall and Valos, 2005; p. 12) Defender organisations, in contrast, looked to achieve competitive advantage by being more efficient in existing markets with current products. Bednall and Valos noted that Defender organisations were more likely to use confirmatory research or to use it as political support to bolster a position within the company.

Linked to this is the idea that cost leaders, businesses that focus on efficiencies in resource usage and production, “operate in a more certain and predictable environment and their research is more for insurance or long-term knowledge than short-term action; they consequently favour background research.” (Bednall, Callaghan and Valos, 2007; p. 8) In contrast, those in a more

dynamic and competitive environment require research for immediate action and look for data insights that drive decisions.

Furthermore, the research buying role title at an organisational also had an observed impact on the judged effectiveness of research projects. “More modern titles like analytics manager or consumer insights manager were related to higher levels of effectiveness” (Bednall and Valos, 2005; p. 25) suggesting the need for market intelligence to be continually reassessed so that the research department did not take on a defensive role.

A paper on the effect of organisational demographics and structure on the use of consumer insight by the Boston Consulting Group supported these findings. Boston Consulting Group’s research (2009) found four stages that described how the consumer insights team was used within the organisation. Stage one was a traditional market intelligence function where a research insights team had little access to senior executives and was mainly used by the marketing function. The use of research by sales and product teams was limited and research did not have much impact beyond marketing. Stage two was the business contribution team where there was collaboration at a senior level but the focus was still on individual research and data was not correlated with profit drivers and competitive knowledge, for example. This limited the impact of consumer insights. Boston Consulting Group (2009) found that 90% of companies were in stage one or two.

Stage three was characterised by a stronger consumer insight focus by executives, significant influence beyond marketing and a growing knowledge base that allowed the company to get much closer to market trends and their customers. Stage four was an enhanced version of stage three where consumer insights were a strong focus for the most senior business leaders and data use was involved in every aspect of the business including business planning and product development. Data was synthesised not only for reactionary projects but also long term planning and leapfrogging the competition.

Boston Consulting Group (2009) found that these stages corresponded to negative or positive value perceptions of the insights function. They noted that insights teams below stage three or

four “suffer from the curse of low expectations from line management.” (Boston Consulting Group, 2009; p. 15) The Boston Consulting Group study also pointed a gap in the perception of the insights function at an organisation between line managers and research insights professionals. This perception gap potentially prevented the insights team from being involved more widely in the organisation because research insights professionals were not meeting the needs of business managers. As an example, 73% of research insights personnel felt that they “consistently answer the question ‘so what?’ about the data they provide” whereas only 34% of Business Line personnel agreed – showing a gap of 39 percentage points. Boston Consulting Group noted a number of common themes from their interviews with Business Line personnel and Insights personnel, including:

“I am so tired of getting reams of data from the research work...I need to know the one or two key learning’s that affect my brand, and a high level recommendation on what I should do next. Brand manager in the travel industry.” (Boston Consulting Group, 2009)

“We talk about customer preference, choice, satisfaction, and needs, but those things take a back-seat position to things that we are more comfortable with, such as profitability; to win, we have to address the consumer head-on. Business-unit leader in the financial services industry.” (Boston Consulting Group, 2009)

Ambrosini, Collier and Jenkins (2009) found that the organisational demographics also influenced how knowledge was shared throughout the organisation. For example, in an organisation where knowledge transfer was explicit, collective and linked to components, the organisation typically relied on a central group of knowledge workers (such as the Research and Development department). Employees knew where specific knowledge resided and accessed it through strict procedures. Knowledge was maintained by diligent record-keeping. The impact of knowledge sharing was that market intelligence had a higher organisational value and was used more extensively by senior business leaders. The implication of this finding is that the use of market intelligence may be limited if the knowledge is not shared with business leaders or if knowledge is restricted to certain stakeholders. This would contribute to diminished use of data sources in decision making.

Yaman (2004) summarised the impact of the organisation dynamic saying, “the organisation’s resources and skills influence the types of research techniques used and ultimately affect the acquisition and utilisation of marketing research projects. The most sophisticated techniques recognized and/or adopted by decision-makers may be indicative of the innovativeness [and structure] of the organisation.” (Yaman, 2004; p. 14)

These references showed that organisational demographics, strategies and market approach influenced market intelligence use and perception within an organisation. Regardless of the technical research ability or specialism, organisational make-up influenced what type of data was used in business decision. This highlighted the need for leaders to be aware that organisational demographics are an important component in assessing how data is used throughout the business. It also showed that a lack of data sharing and collaboration around data insights hindered the use of data, showing the businesses needed to invest in data sharing tools and structures.

2.5 Complex Landscape of Data Sources and Confusion of Roles

The market intelligence industry is a complex community of research companies, methodology specialisms, industry-focused services, consultants, internal experts and other services that offer a large range of choices for businesses wanting to gather market intelligence. The large array of choices may lead to cannibalism within the industry as specialised agencies compete with broader research agencies that, in turn, compete with consultants. This complex relationship between the different agents involved in market intelligence puts pressure on both the industry as well as businesses that may find it difficult to understand what data source is best suited to a business need. A good overarching example of this is the quantitative research versus qualitative research debate that is highlighted in texts and articles on market research. This debate has parallels with data use in business such as web analytics (quantitative) favoured over focus groups (qualitative) or vice versa.

Morgan and Smirchich (1980) noted the growing concerns of using natural science methods in social and market intelligence and the commentary that some consider the methods inadequate.

They talked about a noticeable call in favour of more qualitative methods due to the focus and reliance on quantitative methods in organisational research. The authors also highlighted the call for one method over another was an oversimplified case and that there was a danger that the pendulum may swing from a period (they refer to 1960 through to the end of the 1970s) of “abstracted empiricism from quantitative methods to a period of abstracted empiricism from qualitative methods.” (Morgan and Smirchich, 1980; p. 491)

Bryman, Liao and Lewis-Beck (2004) provided a good overview of the quantitative versus qualitative research debate in the SAGE Encyclopedia of Social Science Research Methods. Their textbook highlighted the seriousness of this debate and why it has been an important discussion in the research industry. They wrote:

“The debate about quantitative and qualitative research is concerned with the question of whether the two research strategies should be considered contrasting epistemological positions or whether they are better conceptualised as simply referring to different clusters of techniques of data collection and analysis. The issue is very significant in terms of the prospects for multi-strategy research. If quantitative and qualitative research are viewed as distinctive and largely irreconcilable epistemologies, multi-strategy research is very difficult to envision.” (Bryman, Liao and Lewis-Beck, 2004; p. 895)

In the text, the authors argued that data integration is hindered by the debate over quantitative and qualitative methods as if they are mutually exclusive. Bryman, in a sub-article of the same text as above, wrote that some proponents in the debate still argued that research methods can only be combined at a superficial level and cannot be fully integrated. Niglas (2007) noted that an examination of educational research articles found that “substantial integration of qualitative and quantitative data during the analysis was exercised very rarely.” (Niglas, 2007; p. 9)

In the Spring 2012 GRIT study, 536 researchers from market intelligence supplier companies (supplier-side) and client-side researchers were surveyed about research trends. In the study, the respondents were asked about their use of qualitative and quantitative methods. 15 qualitative methods were listed as being used by the group along with 11 different quantitative methods.

The report listed innovative, new methodologies as one of the greatest opportunities amongst the supplier-side researcher group and 38% of those who expected to do more qualitative research in 2012 said that they were introducing new qualitative methods.

Thomas (2011) noted that many organisations faced confusion because they were confronted by the culmination of “data, consultants, gurus and professors and do not know who to believe or what to believe.” (Thomas, 2011) Thomas also made the point that this created an opportunity for a business to be led astray.

These references illustrate that market intelligence was an increasingly complex sector with many options for data insights. They also highlighted the lack of an integrated or transparent approach to data use. This allowed for the potential of ‘cannibalism’ where one data source is promoted by interested parties at the expense of others, regardless of the business consideration. The complex array of data sources and various organisations offering market intelligence made it difficult for business leaders to know which data source was most appropriate for a given business problem. Within the research community, there was also evidence of confusion over terms adding to the difficulty for business leaders in selecting data sources.

In the Fall 2011 GRIT report, 52% of respondents classified as Research Buyer or Client said that ‘marketing research’ no longer represented the entire industry. 40% of respondents classified as Research Providers or Suppliers also said that ‘marketing research’ was not representative. Alternative terms offered by these groups included ‘consumer insights’ (39% of those who said ‘marketing research’ is not representative chose this option), ‘market research’ (34%) and ‘market intelligence’ (10%). The report noted: “There has always been a bit of a schism between the terms Market Research and Marketing Research.” (GRIT, 2011; p. 17)

Barker (2007) spoke about the confusing array of options that define the qualitative research market. Barker said, “the world of commercial qualitative research is awash with apparently new techniques, new models, new approaches. The self-image of the sector is of creative developers, inspired gurus, bearers of always new wisdom and unique insight to the tables of brand managers and advertisers.” (Barker, 2007; p. 39)

Bain (2009) asked whether it made sense to define market intelligence separate from marketing activities and wrote: “researchers have always been at pains to disassociate themselves in the eyes of the public from other activities like marketing and advertising, which people see as self-serving or untrustworthy.” (Bain, 2009) However, as the article explained, the lines were increasingly blurred. New methods like co-creation and Market Research Online Communities (MROCs) crossed the bridge between research and marketing. Co-creation, for example, may include surveys and research methods to gather information but these are also brand touch points where enthusiastic brand advocates could help the company create or develop their next product. Bain explained that as social networks become subject to legislation in countries like the US, this was another area where market intelligence needed to consider its definition and role. For MROCs, the article drew on the commentary of Poynter who noted that the brand aspect was vital in encouraging people to get involved and “only really works when there’s a community of interest.” (Poynter, 2009)

However, Gosling (2009) of the Market Research Standards Board in the UK noted that while research methods had changed, the purpose of research remained the same. Gosling further argued that self-regulation by the UK market research community through industry bodies like the Market Research Standards Board had helped ensure that market research is separated from the activities like telephone marketing that is subject to the Do Not Call legislation.

Linked to this, Anderson (2011a) called for market intelligence to move away from surveys as the author linked DIY survey tools with the commoditisation of the market research industry. Anderson noted that continuing to define itself through methodologies, such as surveys, that can be done cheaper outside of an agency may adversely impact market intelligence.

Ellis and van Druten (2002) added that “traditionally, [market research is] seen to be peripheral or separate with a preoccupation with detail, data and patterns that is as foreign in its work styles as it is in its language. Whether internal or external to the organisation, market researchers must be seen to be service providers and business partners – integral to business success.” (Ellis and Druten, 2002; p. 22)

Cambiar's 2011 report on 'The Future of Research' supported this view. In this study with client-side researchers, the top barrier to greater business integration was that market research has been 'too reactive' with 28% of respondents citing this as an issue. The second highest response was that 'too much budget was spent on tactical or validation research' with 26% of respondents citing this as a barrier. However, 92% felt that market intelligence should take on a more thought-partner role and that over the next decade, 82% felt that market intelligence would need to report to the C-Suite (for example, Chief Marketing Officer or Chief Strategy Officer) as part of the development of the industry.

While market research may have worked to differentiate itself in the past, newer methodologies were blurring the lines between market intelligence and other business areas like marketing, for example. This was combined with the fact that business leaders faced a growing array of choice between methodologies, data sources within and outside market research, market research companies and consultancies. For example, Sprint, a US telecom provider, needed to hire a consultant from a business advisor group to manage its market intelligence projects (Cambiar, 2011). This example showed that business leaders were facing challenges managing data insights projects and functions, needing to bring in outside help to provide structure to this growing area.

Defining market intelligence around methodology has been difficult and speaks to the point made by Gosling earlier in this section that, although methods were changing, the purpose of market intelligence remained constant. "Researchers need to redefine multiple understandings of their potential contribution to business. In taking new pathways along with support departments and line managers within an organisation, they ensure their own relevance and success." (Ellis and van Druten, 2002; p. 22)

In this section and in earlier discussions, there was evidence that market intelligence needed to transcend technical ability and methodology. As noted, business leaders were faced with a growing and complex menu of market intelligence sources. It was also shown that business leaders thought about market intelligence in terms of its ability to meet a business challenge where as the market intelligence community talked about market intelligence in terms of

methodologies and technical arguments. In defining its role and value to businesses, it was recommended market intelligence should focus on the strategic role that the industry can provide through its ability to span all data sources and direct business leaders towards the data sources that are best suited to each business problem.

2.6 Big Data and Information Overload

Data growth has surged in recent decades due to fast growth in technologies that create and capture data such as digital photos, social media, video and other sources. Groves noted that “we are entering a world where data will be the cheapest commodity around, simply because society has created systems that automatically track transactions of all sorts.” (Groves, 2011; p. 868) It was also clear that the growth in data has not been restricted to a limited number of data sources producing a larger volume of data. Instead, the data growth has increased in both volume and variety of data sources available to businesses.

IDC found that the ‘digital universe’ created 281 Billion Gigabytes of data in 2007 (IDC, 2008). McKinsey (2011) estimated that by 2020, all sectors of the US economy would hold an average of 200 Terabytes of stored data per company with over 1,000 employees. To put that figure in context, the McKinsey report notes that this is double the amount of data contained in Wal-Mart’s entire data warehouse in 2009. The McKinsey report also attempted to capture the potential of the data growth and estimated that:

- US Healthcare could save \$300 Billion in value every year by using Big Data to be more efficient and drive quality
- Governments in developed nations in Europe could save €100 Billion in operational efficiency alone, not including using Big Data to reduce fraud, errors and increase tax revenue
- Users of services enabled by personal-location data could capture \$600 Billion in consumer surplus

Ashkenas (2012) noted that the ability to synthesise overwhelming amounts of data was a growing problem in organisations. He wrote about a consumer product company example where

a team of people sorted through dozens of reports every week to monitor the business. Ashkenas cited a Division President for the company who used her team's resources to sort through 'dozens' of reports every week in order to see how the business is doing. "Similarly, in a technology firm, the leadership team described getting inputs from so many sources that they often could only react to what they learned last, rather than seeing trends or distinguishing reliable sources from one-off complaints." (Ashkenas, 2012) Ashkenas noted that senior leaders used to receive simple financial reports to review performance and business results in the past. Now, there was a constant flow of reports, emails and data presentations from many different sources requiring resources to both manage the information and to also dissect its value.

Market intelligence is in the business of creating information and there is both competition and opportunity in the data explosion. On some levels, market intelligence groups now compete with other data sources such as social media monitoring. These tools capture user-generated data across social networks and offer analytical services for companies to have a direct view into what customers are saying about them. However, this also provides the opportunity to combine the methods of market intelligence, data mining and anecdotal feedback from comments in directing business leaders towards holistic insights.

Page (2011) made the point that "over the last few years the breadth of insight sources and the maturing of analysis technologies and techniques have begun to open up new opportunities. We can now find patterns and trends from different data sources and, indeed, find new insights from existing data which would once simply have been lost in the siloed, survey-by-survey methods of the past. Now, organisations can begin to construct an integrative research function or 'research blender' that will allow them to work systematically with their research data as an asset and use it in new ways." (Page, 2011)

Wee (2001) shared this view, arguing that marketing intelligence needed to focus on rigorous, systematic collection of data in areas like competitive developments in order to provide management with key insights for 'efficient business decisions'.

Researchers must also consider the issue of information overload that might prevent businesses using, and therefore valuing, data insights. Researchers have discussed information overload and its effects for several years. Given the recent exponential growth in data, market intelligence must be ever-conscious of the role that information overloads might play on impacting the value of its data. Wee noted that the “onus is on market research agencies to provide not only data but information.” (Wee, 2001; p. 248)

Elliot (2006) wrote that “irrespective of when information overload occurs, it can lead to poorer decision-making, because information overload can make it difficult to determine what information is relevant, let alone identify the most important information.” (Ellis, 2006; p. 40) If a manager is overloaded with data and unable to use the information to make a decision, the use of data may suffer and possibly perceived as unhelpful in the business decision-making process.

An example of this was shown earlier when a business line manager was quoted in research by the Boston Consulting Group (2009) as saying that they were “sick of receiving reams of data” (Boston Consulting Group, 2009; p. 9) and that they wanted the one or two key findings that affected the brand and top-level recommendations on how to use those findings.

Casey (2006) performed a study on the banking and finance sector to show that there is a correlation between “information overload and decision quality degradation”. (Casey, 2006; p. 40) Casey found that “bank loan officers who were asked to assess bankruptcy potential of firms took significantly longer to mentally process the information and did not make any better predictions about those bankruptcies when they had more information.” (Casey, 2006; p. 40)

Beall (2010) suggested that market intelligence information was not useful unless it could be used to make major decisions and that data needs to be synthesised and tied to business decision-making. There was little value to market intelligence if the information was not used and could not support business decision-making. Data by itself represents little value and presenting too much data inhibited decision-making. This consequently diminished the value of the market intelligence and data insights.

The increasing volumes of data and information presented new opportunities for correlation and analysis. However, they provide a challenge for market intelligence groups to deliver business-focused results that were not simply ‘reams of data’ and to act as a trusted source for a summary of the relevant information. This requires managing or curating the growing variety of data sources. Google and other technology companies had shown success with data that was turned into easily accessible products (Loukides, 2010; Needham, 2012). Several of the authors suggested market intelligence professionals had the opportunity to become specialists in bringing together data insights and sources in a way that is easy for business leaders to digest and use. There were also lessons for business in this area. The literature showed the need for businesses to have resources in place that curate the overwhelming number of data sources and present useable information to business leaders. Those resources may be a tool, a market intelligence team or a combination of both.

2.7 Social Networks as a New Market Intelligence Data Source

Social networks were a relatively new media compared to traditional communication channels such as radio and television. Public-facing social networks, such as Facebook, used the Internet to function so their development has followed the development of the World Wide Web. Similarly, private social networks within organisations also used the intranet or internet-based technologies. Social networks have become an important communication channel and technology for organisations. This includes becoming an important source of broad market intelligence data for many business areas including sales teams, marketing, product development and customer feedback functions. Furthermore, the growth of social network technologies has resulted in a substantial social media intelligence industry that provides market intelligence to businesses based on data from social networks. For these reasons, social networks were considered to be an important portion of this research study.

Social technology has had a large impact on communication methods in a relatively short period of time. Adoption of social technology “took off with unprecedented speed and intensity” (Chui, Drewhurst and Pollack, 2012; p. 17) compared with other technologies like television or the internet. Commercial television, for example, took 13 years to reach 50 million households and

US Internet service providers took three years to get 50 million subscribers. Social networks reached the same levels much faster. Facebook gained 50 million users in one year while Twitter reached the same milestone in nine months. YouTube cited the statistic on their website that over 1 Billion unique users visited the site each month (YouTube, 2013). Flickr, the photo-sharing social network owned by Yahoo!, reportedly had 87 Million users (Jeffries, 2013).

A McKinsey Group report (2012) on the value opportunity of social technology showed that companies were engaging consumers directly through social media, listening to online conversations from consumers, crowdsourcing ideas from social networks, extending the skills of their high-skilled workforce and even using social networks as an avenue for different parties in the supply chain. The McKinsey Group report discussed how companies were using social networks across all areas of their business, from marketing to customer care to supply chain management. They wrote that social networking technologies had the potential to impact various departments throughout the organisation including service, customer retention, sales, business intelligence, supply chain management and other business functions.

There has been a growing level of investment in social networks by the business community. Many social networks have looked to business for generating revenue (Pudzemyte, Kralev, Zaunders, 2010; iStrategy, 2013). They have done this by enabling specific functionality for businesses like business pages, advertising options and avenues for selling products through social networks (Edosomwan et al., 2011). All of these functions provide additional market intelligence back to businesses that use these services.

Some examples of functionality available to businesses through social media networks included:

- Facebook, for example, had created several options for brands to connect with Facebook users (Indvik, 2013; Barefoot and Szabo, 2010) Businesses can create a Facebook page and use the page to create an audience of followers, promote products, communicate with followers and solve customer issues. Facebook gives businesses access to data on page performance.
- H&M, a Swedish-based clothing retailer with stores around the world, uses the Google+ social network. The H&M published clothing images on Google+ and linked this with

other online marketing activities such as ads through Google's AdWords (search engine and online display advertising). This example shows the combination of social media data alongside advertising data that can be tied to purchase data. (Google Think Insights, 2012)

As mentioned earlier, marketing is one use and businesses also used social media for other purposes such as customer care. In 2010, online news site Mashable published a story highlighting examples of good customer service in social media. Their first example featured Zappos, an online shoe retailer. Zappos focused on "authentic connections via social networks rather than selling or promoting products." (Peters, 2010)

In addition to customer care and marketing, social networks have also enabled the rapid dissemination of public relations (PR) information to broad audiences worldwide. Gartner published a case study showing the example of KLM airlines using social technologies to take advantage of all of these benefits. Mann (2012) wrote that 50,000 KLM customers were stranded because the European airspace was closed for 96 hours after a volcano erupted and sent ash into the air. This event put intense pressure on the KLM customer service call teams and websites.

During this event, KLM used basic monitoring tools to find comments on social networking sites such as Twitter and Facebook related to travellers being stranded (Mann, 2012). "KLM offered the ability to rebook flights directly from Facebook, through a direct interface to their booking engine, and through Twitter by communicating with agents by direct message." (Mann, 2012; p. 2) Mann noted that KLM also used the crisis to learn about new developing situations and what customers found important in a time of crisis. This experience helped KLM develop response processes for similar crises that they used "later that same year when heavy snowstorms across Europe and North America cancelled hundreds of flights." (Mann, 2012; p. 3)

Shipping company Maersk, leveraged their 14,000 archived photographic images to share the company's "rich history and engage both employees and outsiders." (Chui, Drewhurst and Pollack, 2013; p. 2) The initiative doubled the number of job applicants and created thousands of interactions. Now, executives at Maersk "track social media's impact on everything from

persuading recruits that they should join the company to aiding innovation and the gathering of customer insights.” (Chui, Drewhurst and Pollack, 2013; p. 3)

Finally, businesses have also used social technologies to create their own social networks or communities. The reasons for creating a community are vast and include the ability to gather detailed market intelligence from the community members. Some examples of social networks created by businesses for this purpose included:

- NetApp, a data storage technology company, created an online community to enable sharing amongst their partners and customer base as well as demonstrate capabilities in video tutorials. (iStrategy, 2011)
- Amex Open Forum, a community for small business owners was developed by American Express. The Amex Open Forum was built to enable small business owners to participate in discussions about small business topics such as hiring or choosing a payment processor.
- TD Bank Group launched an internal network where individuals were designated as ‘Geniuses’ to spur adoption and help colleagues use the social network for business collaboration (Chui, Drewhurst and Pollack, 2012).
- Coca-Cola Spain created an online community to connect with youth aged 14 to 25 (Sicilia and Palazon, 2008). Using their community, Coca-Cola found that market research costs were lowered for this age group, promotion costs were reduced and advertising was more effective for that particular market target.

The notion that research data, market trends and business intelligence from social media can be applied to multiple business divisions is important. It shows that social media data needs be considered as part of a wider measurement strategy rather than being restricted to supporting one department because it can impact multiple areas of the business.

Berkman (2008) noted that at any given minute, millions of people around the globe were publishing opinions on social networks, sharing experiences, communicating with companies and offering their opinions. These offer “timely and authentic opinions and behaviours” (Berkman, 2008; p. 4) as well as intelligence on the development of certain industries. Pettey

(2008) echoed Berkman's points that businesses can collect customer feedback and observe the way their brand is discussed and perceived. Bolotaeva and Cata (2011) cited several industry commentators who said that one of the main advantages to businesses using social networks is the amount and diversity of information that can be obtained.

The McKinsey Group (2012) estimated the value of social technologies for customer insights to sales and marketing in customer-facing financial institutions, as one example of a business type that benefit from social media data intelligence. They cite that these areas could amount to a value of approximately \$133 Billion to \$218 Billion per year globally to business and that the financial industry (including Intuit) could receive annual productivity improvements of 0.4 – 0.7% over the next 10 years.

The McKinsey Group report also attempted to value the cross-functional application of social technologies and associated benefits from social media intelligence. Some of the divisional benefits (McKinsey Group, 2012) for the customer-facing financial industry included:

- Fraud reduction and increased operations productivity – \$47 Billion to \$79 Billion a year worldwide
- Product development improvement – 7 to 13% of costs or \$5 Billion to \$8 Billion a year worldwide
- Value generation for the customer service centre – up to 26% of the current cost base

Using social networks across the enterprise functions helps “generate rich new forms of consumer insights.” (McKinsey 2012; p. 14) They estimated that companies in the consumer packaged goods industry have an opportunity to use social networks to create value of 15 – 30% of current spending on consumer insights and market intelligence.

The potential for the widespread use of social media research insights has resulted in the creation and growth of a set of businesses dedicated to providing both qualitative and quantitative data insights from social networks. These social media monitoring and social analytics companies provide data on an organisation's customers, its competitors and industry category insights.

Radian6, a social media measurement platform owned by Salesforce, is one example of a tool that was created to provide businesses with social media data insights. Radian6 was designed around the workflow where a social media professional would monitor the river of news about a company or set of key words. The social media professional would then respond to a negative comment, for example, about the company on a social network like Twitter or Facebook.

Additionally, Radian6 aggregated data so that an analyst or social media professional could look at metrics such as:

- Total number of negative or positive comments in a set time period
- Total number of brand mentions of an organisation and its competitors – to indicate share of voice in social channels

NetBase was a tool (similar to Radian6) that also collated and analysed social media data for organisations. Like Radian6, users of NetBase could set up company profiles that track metrics such as:

- Total number of brand impressions
- Number and type of positive comments
- Number and type of negative comments
- Net sentiment of the brand across social media
- Profiles of people talking about the brand and the associated sentiment of the posts
- Sentiment and number of mentions of competitors

Other companies, like Spredfast for example, provided more quantitative measures on the performance of an organisation's social media channels. Spredfast provided an analytics dashboard that included social media metrics such as:

- Number of followers
- Number and type of engagement such as number of retweets on Twitter or number of video shares for YouTube
- Reach (number of people who potentially saw the message) of a given update or piece of content

While social media measurement has been a growing market intelligence sector, benefits and risks needed to be considered when considering social media data use and monitoring tools in business. At the top level, IDC (2012) listed some of the benefits as:

- Cloud-based reporting tools
- Easy access to large volumes of social media content
- Integration across some platform technology providers
- Partner expertise with deployment and operation

Conversely, some of the risks included:

- Difficulty measuring sarcasm in sentiment analyses
- Integration with structured data analytical processes is difficult
- Proliferation of tools across departments make it hard to see the big picture
- No standard metric definition across providers

Access to large volumes of social media content and integration across some platform technology providers spoke to the potential of social media research insights driving action across the organisation. The proliferation of tools across departments making it hard to see the big picture was a risk that highlighted the need to standardise measurement and data collection in order to fulfil the potential benefit of social media insights to organisations. (Thomson, 2011)

Omiyale (2013) noted there was the potential for social network data to have a large impact across an organisation. Given this, it was considered a necessary component of understanding market intelligence to also understand how business leaders used social media data.

2.8 Data Use Missing a Structured Approach

The volume of data and market information available to business leaders as an input to business decisions has been on a steep growth trajectory. New tools, systems and vendors were continually entering the market with the promise of supporting businesses to make decisions based on research and data analysis. However, senior leaders are the final gatekeepers who decide how data is used in their business activities.

The need for a structured approach to data use in organisations has been documented across industry analyst and academic literature. Chandler (2012) noted that organisations needed to take a federated approach to business intelligence. Specifically, he wrote that business leaders should adopt “federated data models to support the expansion of the volumes, velocity, variety and validity of new information.” (Chandler, 2012; p. 1) Chandler went on to suggest that business leaders needed to identify all of the different data sources and outline how they will be integrated.

In referring to the variety of market intelligence data sources in Asia, Wee and Ahmed explicitly suggested that “market research be conducted in a more integrated, analytical and systematic manner by research agencies for their clients, especially in a highly competitive and turbulent economic environment.” (Wee and Ahmed, 1999; p. 301)

Susan Athey, an Economist at Stanford University, noted in an interview that there was a need for organisations to manage the variety of data sources available and data insights. She was cited as saying that organisations needed to develop “a new domain [that] involves managing large-scale experimentation platforms and analysing data from experiments.” (Athey, 2013)

Evgeniou, Gaba and Niessing (2013) took this thought further by commenting that businesses benefited from more than simply management of larger volumes of data. Instead, they argued that the integration of diverse data sources together in a market and customer insights function resulted in ‘reaping rich rewards’. Specifically, those rewards included increasing market share or faster business processes that were able to improve customer service times. Munchbach’s (2013) research showed that a small but sophisticated group of business leaders had a centralised function that pulled together diverse data sources to drive marketing decisions and deliver on customer needs. In some instances, enabling business leaders to be more sophisticated at using data required organisational change (Court, 2012). Court suggested that organisations needed to provide a decision support tool and framework for business users.

The Corporate Executive Board Marketing Leadership Council (2012), an organisational research organisation, identified four problems with data use amongst marketing departments:

- Marketers only consulted data for 11% of all decisions. They tended to trust their own intuition, though this is often flawed – requiring training and mechanisms to highlight knowledge gaps
- Marketers had difficulty spotting data limitations – requiring a checklist to overcome common data mistakes
- Incomplete data led to biased decisions because marketers overweight known information in spite of more important unknowns – requiring explanatory data platforms
- Marketers got sucked down low-value “rabbit holes” by data digging at random – requiring recommendations for the most appropriate analysis types

These observations supported the need for a formal measurement framework and common approach to data use to overcome these challenges.

An example of these issues in an organisational setting was illustrated in a follow-up case study from the Corporate Executive Board Marketing Leadership Council with MTV Networks (2010). The case study noted that MTV was facing an increasingly complex consumer environment with large amounts of consumer and market research information available to senior business leaders at the organisation. In order to provide a toolkit for managing the increasing volume of information, the case study explained that MTV Networks developed a decision framework for deciding on marketing projects and optimizing marketing spend. While this refers to marketing specifically, it supports the need for organisations to implement a structure to support business leaders to use data effectively when making decisions.

Brosnan (2013) and Davenport (2014) both advocated for considering a cross-functional approach to data sources when discussing how to put market and customer data to work in a business setting. Brosnan suggested focusing on the entire program including data insights, processes and technology. Davenport cited a number of organisations that were developing functions and senior roles with the task of bringing together different data sources under one framework. Davenport highlighted AIG, an American multinational insurance corporation, as an

example of a company that developed a group to integrate a variety of data sources in business activities. The group at AIG was responsible across data types such as structured and unstructured data, analytics and data science. Davenport also highlighted American brokerage and banking organisation Charles Schwab. This organisation recently created a department called Analytics, Insight and Loyalty as a first step in integrating market and customer data for the purposes of increased customer loyalty. Creating a new group to integrate data shows that leading businesses were looking for ways to bring together data sources.

Murray and Schaub (2013) recommended that organisations needed to “transition from organisational silos to systems that reconnect the specialist roles with a network orientation around collaborative workspaces and end-to-end process ownership and data stewardship.” (Murray and Schaub, 2013; p. 4) This supports better data use by senior marketing professionals through a more integrated approach bringing together data sources across both market research and customer insights data.

However, creating a group focused on data integration was one step in improving data use within an organisation. There was still a need for a framework tool to guide business leaders and organisations alike to ensure they were pursuing an objective, holistic approach to data use in business decisions.

Crawford (2013) noted that the use of data and data sets themselves were not objective: there were hidden biases in the selection of a data source, the analysis of the data and the presentation of the data insights. Crawford suggested that organisations “bring together Big Data approaches with small data studies — computational social science with traditional qualitative methods. We know that data insights can be found at multiple levels of granularity, and by combining methods such as ethnography with analytics, or conducting semi-structured interviews paired with information retrieval techniques, we can add depth to the data we collect.” (Crawford, 2013)

Chandler (2011) showed that there were a number of factors that influenced how a business leader approached market and customer data use as part of their business projects. The result was that organisations varied in the level of sophistication of data use in business decision making

(Chandler, 2011). Some organisations had a sophisticated approach to data use, implementing a combination of measurement frameworks, processes for holistic data use and systems to formalise organisational learning. The estimated majority did not have systems and frameworks in place to leverage the full benefits of holistic data use in business activity. The Corporate Executive Board Marketing Leadership Council, for example, wrote that “marketers have very low analytical maturity, on average ... leading brands have embraced tactics like checklists, explanatory data platforms, productive analysis recommendation engines and trainings designed to ... ensure thorough use of data.” (Corporate Executive Board, 2012)

These examples showed the need and opportunity for organisations and business leaders to take a more structured approach to data use. Authors noted that a more structured approach to data use would minimise limitations to data use and enable businesses to leverage the full value of data insights available to them.

2.9 Suggest Remedies

Finally, it is necessary to include a brief examination of some of the suggested remedies regarding the value perception of market intelligence in business. In reviewing news articles, industry blogs and other articles, there were a number of suggested changes for market intelligence professionals to ensure that the industry continued to provide a valuable service to business leaders. In the same fashion as the changes to the market intelligence sector, the suggested remedies were complex and showed a conflicted voice of market intelligence.

Evensen (2011b), a senior analyst writing for Forrester Research in Market Insights, suggested that researchers needed to connect with stakeholders in the customer service division to illustrate how data could support their success. “A lack of involvement can reduce your [market intelligence] value and influence and ultimately affect your budget and viability.” (Evensen, 2011b) Schillewaert (2012) also talked about the need to connect with stakeholders in the boardroom in a meaningful way and to use research to start discussions.

A number of articles pointed to the need to view and construct research respondents more as contributors as opposed to passive vehicles in the research process that were mined for their information and viewed as unaffected by the research.

Catterall and Clarke (2001) wrote, “the market research model of focus groups has not altered significantly for five decades. Participants in market research focus groups continue to be constructed largely as passive subjects in the research process ... Turning this model on its head and constructing focus group participants as active participants in the research process may open up new possibilities for focus group research. This might involve the adoption of more collaborative and participative models of the focus group research process.” (Catterall and Clarke, 2001)

Lorch (2012) supported this by arguing that the traditional method of respondents answering pre-determined questions “has been replaced by a more collaborative relationship. Now researchers must adapt to participants and find ways to fit into their lives.” (Lorch, 2012)

A few analysts and authors called for the development of ‘soft’ skills such as better communication abilities from the market intelligence community to improve their ability to connect with business leaders (Evensen, 2011a; Ellis and van Druten, 2002).

In an examination of how the Dunkin’ Donuts consumer insights team had created a culture of central insights and measurement across the brand, Vitale (2011) noted that researchers at the company were expected to have “great communication and presentation skills, and to be persuasive in their interactions with colleagues throughout the company.” (Vitale, 2001; p. 32) The example pointed to a cooperative work style being the most effective way for a consumer insights research team to influence brand strategy.

Cambiar’s 2011 report on ‘The Future of Research’ highlighted the view that 96% of corporate researchers felt research professionals needed to have great consulting skills in order to have a more strategic position with senior management.

There was also pressure to innovate in the industry given that data analysis or business intelligence was increasingly commoditised with a more open research market. Brennan and Camm (2007) wrote that there was a desire for supplier side market intelligence agencies to differentiate themselves and this might bring quality issues that had a long-term, negative impact on the industry. They wrote “the commercial pressures to innovate (occasionally for the sake of it) are indeed very great – client research briefs often literally beg for new ways of approaching problems.” (Brennan and Camm, 2007) Brennan and Camm argued that this pressure had led to a proliferation of methodologies that had not been validated as robust methodologies for research and may do long term damage to the market intelligence profession.

One example highlighting the need for cautious innovation around measurement related to new eye-tracking technology. This technology had been used to understand viewer engagement with advertisements and websites. Bain (2012) interviewed Fromm, Head of Sales and Strategy Research for US television network ABC, in an article on biometric market research. Fromm noted that one piece of eye-tracking research indicated that a top banner on the website had attracted more attention than a bottom banner or no banner at all. This suggested that the top banner had some advertising impact however a later survey revealed that “fewer people ... had actually noticed the banner when it was at the top ... people seemed to be looking at the banner but not noticing it was there.” (Bain, 2012) This indicated that ‘looking’ does not necessarily translate into recall or impact. Bain commented that while biometric data can be valuable as a newer data source, it needed to be correlated with other data.

While innovation was often a positive component to an industry’s development, there was a view that there needed to be systematic innovation that continues to ensure measurement was robust and reliable.

2.10 Summary of Overall Lessons Learned

The literature review revealed a number of important factors in relation to data use by senior business leaders. The literature review was used as a foundation for developing and focusing the

interview guide, survey questionnaire and case study approach for examining how business leaders selected a data source in their decision making process.

First, it was clear that there was a large amount of investment and spending from businesses toward the market intelligence industry. Various sub-sectors of the market intelligence industry were listed as having multi-billion dollar valuations and many were predicted to grow at high compounding annual growth rates (CAGR). For example, cloud-based business intelligence was expected to grow at 31% CAGR between 2013 and 2018, reaching a market size of nearly \$3 Billion USD in 2018. This level of spending showed that market intelligence was an important and valuable industry. The figures also began to show that market intelligence was a complex industry, incorporating a wide variety array of methods, tools and services available to businesses. This complexity followed the change of all business sectors to more digital and internet-based services that allowed for a greater variety of customer and market tracking. New communication channels such as social media had also added to this already complex landscape by adding more data sources.

Linked with this was the idea that market intelligence had developed into a more open market of tools and services, creating more complexity in the availability of different data sources and market intelligence tools. Until recently, market research and market intelligence agencies had exclusive data collection tools and methods such as surveys. Now, various tools existed that allowed anyone to create surveys and collect data. In addition, market intelligence and analysis tools were now add-ons to various technology platforms such CRM systems or marketing tools. Analytical tasks that were once performed by analysts had been standardised within these technology platforms allowing business managers to collect their own data and perform their own basic analysis. This meant that senior business leaders were confronted with sources of data from many different angles, making it necessary for businesses to curate data sources and support business managers to understand which data source is most appropriate.

Despite the predicted growth in spending, various commentators noted that market intelligence agencies and teams were under scrutiny to show the value of market intelligence to the business. This meant market intelligence needed to be communicated in terms of ROI and its ability to

contribute to the business. This had implications in the way that business leaders used data sources. Senior leaders may avoid data sources perceived as costly and resource intensive, such as focus groups, in favour of cheaper data sources. The result of this was that data sources were not selected based on merit and business leaders may not have received the most accurate data.

Organisational demographics were shown to have a large impact on what data sources were selected and used by senior business leaders. Various authors noted that factors such as the access of market intelligence teams to senior leadership or the organisation's market strategy influenced data use, rather than the ability of the data source to meet the business need. This has the implication that businesses needed to invest in structures around data use to ensure the organisational demographics do not override the selection of a data source based on merit.

The complexity of the market intelligence landscape was another theme that emerged from the literature review. In this section, authors talked about the overwhelming number of data sources, agencies, consultants and other actors that promote certain data sources within market intelligence. This section spoke to the need for the market intelligence industry to transcend methodologies and data source. Instead, the focus should be on the curation of data sources and supporting businesses to use the most appropriate data source for the business need. There was also the lesson that businesses needed to provide the structures and resources that curate data sources and provide only useful insights to business leaders to prevent them being overwhelmed.

Big data and information overload were closely linked with the need for data source curation. The idea of big data was that the transformation to more digital services had resulted in the fast growth of both data volumes and a higher number of data sources available to businesses. Big data offered the opportunity for more accurate insights but also the challenge of managing the growing volume of information. Data source curation was critical because other research cited in the literature review showed that a greater volume of information often resulted in poorer decision making.

Social networks and social media emerged prominently in various texts about market intelligence. Social networks were noted to represent a significant opportunity for gathering

greater customer insights and knowledge for all areas of the business. Patino, Pitta and Quinones (2012) summed up the situation in their reference to the rise of social media's growing importance in market research. They stated, "traditional research methods suffer from changes in consumer communication patterns" (Patino, Pitta and Quinones, 2012; p. 233) and that research was under pressure from the diminishing capacity to reach respondents and reduced effectiveness of traditional market research methods. While their work specifically focused on the impact of social media on market research, it starts to illustrate how technology shifts impacted the market intelligence industry.

Finally there was the theme that there was structure missing from data use. Businesses had invested in the technologies, teams and services to start analysing various data sources however there had not been a corresponding investment in the structures to support managers to use the growing volume of data insights. Data volumes and variety were predicted to continue growing, adding further urgency to the need for business structures to support more effective data use.

3.0 Methodology

3.1 Methodology Introduction

The overarching research design of this project was based on Action Research principles. As noted earlier, this research was conducted as part of Professional Studies program and within the context of the market research, analytics and business intelligence areas. The goal of the study was to contribute to both theory and practice within that professional context. This lent itself to Action Research because Action Research aims to develop both understanding in the topic and contribute to practical developments in that professional context. (University of Southern California, 2015)

The research undertook an exploratory program with a mixed methods approach. The research combined both qualitative and quantitative methods as part of the exploratory approach to the topic. The mixed method approach was an important part of the research design, incorporated to limit the potential of Action Research to be biased by the researcher being involved as a participant in the research topic in the epistemology section. (Kirwan and Conboy, 2009; p. 55)

The projects included in this research study were:

- semi-structured interviews with senior business leaders to provide qualitative data
- online survey with senior business leaders
- case study with a business on how they utilise a new data source like social media

This research was centred on how business leaders selected and used different sources of market intelligence data as part their business activities. This topic was broken down into these three research projects to understand different aspects of market research, customer insights and business analytics data use.

The research was designed as a process of sequential studies to explore emerging themes. That meant each project was informed and directed by the preceding project. For example, the results

and findings from qualitative interviews informed the research questionnaire in the quantitative survey project, and so on throughout all pieces of research.

3.2 Project Methodologies

The following section outlines the respective methodologies for each project of this research study including different methods considered, sample and methodology used.

3.2.1 Project One Methodology: Interviews with Senior Business Leaders

Project one was a semi-structured qualitative interview project. This qualitative study was comprised of ten interviews with senior business leaders. 'Senior' was defined as those with a Director title or higher. This project specifically targeted more senior roles to speak to individuals that were more likely to:

- make significant business decisions
- have staff management responsibilities
- have a large influence over the value and use of data for business projects

Part of the initial process in designing this study included considering other options from the Action Research environment, including: face-to-face interviews, written or online questionnaires, focus groups, video conferencing, phenomenology and web conferences. Each of these were considered and evaluated:

- Face-to-face or in-person interviews were strongly considered because they minimise non-response (Lavrakas, 2008) as well as the ability to explore answers. However, the barriers to using this method were that it would involve prohibitive costs and considerable amounts of time in travelling to meet with each of the respondents.
- Written interviews and online questionnaires were another option. The advantage of the written or online questionnaire is that the respondent can provide feedback at his or her

own convenience. Unfortunately, the limitation of this convenience is that it also prevented the researcher from probing answers without additional respondent burden.

- Focus groups offer the benefit of a structured discussion around a specific topic that is both focused and interactive (Litosseliti, 2003) where the researcher can clarify and discuss answers to get detailed responses. The disadvantage of the focus group is that it requires all of the respondents to meet in the one location (online or physical location) so it was considered impractical given the seniority of the respondents.
- Video or web conferences were also considered as a research methodology. These offer the benefit of a face-to-face interview conducted via the internet. The limitation to this method is that it requires the respondent to be able to access a computer or another piece of technology with video conferencing capabilities.
- Phenomenological approaches including methods like participant observation, analysis of personal texts, conversations and Action Research were also considered. These involve broad observations and large amounts of observational notes (Balls, 2009) where the goal is to accurately describe a lived experience. However this was ruled out as the goal of the research was to understanding conscious uses of data by senior business leaders.
- Semi-structured interviews conducted over the telephone were chosen as the best method in order to minimise respondent burden, allow research across any geography, meet the need for a flexible methodology considering the respondent demographic and also meet the needs of the research guide. Telephone interviews allowed the researcher to garner direct responses and to probe respondent feedback for more information and clarity.

The qualitative interviews were included as a necessary first step to begin to understand what data sources were being used by business leaders and how those data sources were brought into business activities (research question one). The discussion explored why those sources were chosen over others (research question three) and through those discussions, the researcher sought to understand what influences were involved (research question two).

Semi-structured qualitative interviews were used because there was little research available that covered the topic of data use by business leaders to inform this study. Therefore, this research started with an exploratory approach to begin to build up some knowledge of the topic and

explore themes that were discussed in the literature review. The interview guide took the broad themes from the literature review as the foundation and aimed to get feedback the influences and factors at play with respect to data use. The purpose was also to inform and support the development of a questionnaire for the subsequent survey research.

The qualitative interviews were conducted using purposive sampling. The target population was at the Director level and above which meant that other forms sampling would have been expensive or difficult. Purposive sampling was considered appropriate because this research was exploratory to gather qualitative feedback and it was not required to be representative of the total population. The role of this research was to examine themes from the preceding literature review and to inform the online survey that followed. This report acknowledges that there were some limitations to purposive sampling and those have been listed in the research limitations section found in the conclusion.

Most of the respondents were located in the US with one respondent in the UK. Geographic location was not a criterion for inclusion. Instead these regions made up the sample due to the availability of senior leaders. No restrictions were placed on industry and this breakdown, along with titles, for participants is shown in Table 1.

Job Title	Division / Department	Industry / Product Focus
Divisional Director	Small and Medium Business	Human Resources Software
Director	IT Communications	Pharmaceutical
Chief Executive Officer	<i>Not Applicable</i>	Human Resources Software
Vice President	Marketing	Lead Nurturing software
Director	Marketing (Snacks Division)	Food
Director	Group Account Management	Advertising
Vice President	Marketing	Battery Technology
Senior Vice President	Marketing and Development	High-tech Software
Director	Marketing and Public Relations	Supply Chain Management
Senior Vice President	Global Development Marketing	Computer Manufacturer

Table 1 - Respondent Job Title, Division or Department and Industry or Product Focus

Interviews were conducted by phone at an arranged time using a semi-structured questionnaire format. Each respondent was given a short introduction to the research and the aims of the study. It was explained that their names would not be linked with their responses to ensure a level of anonymity. Respondents were also asked their permission for the phone calls to be recorded to aid with post-interview transcription; all respondents agreed. The recordings were later transcribed by a transcription agency with a guaranteed accuracy level of 99% in order to minimise researcher bias in transcribing the feedback from the respondents.

The researcher read all of the transcripts and the coded the responses using the interview guide as an analytical framework. (Laforest, 2009) This approach was chosen because it provided a simple framework for analysing qualitative data. (Burnard, 2004) This involved a staged process for data analysis with open coding. That is to say, all data was accepted and coded without a filter. (Jones and Alony, 2011) The stages were:

- Codes - key points from each interview were noted
- Concepts - Collections of key points by question topic were grouped
- Categories - The concepts brought together to form broader deductions
- Theory - Bringing the categories together as a theory

Using this approach, the analysis was matched to the questionnaire. Category headings were generated from the data under the question areas from the interview guide which were:

- Types of data used in day-to-day business decisions
- How data is used
- Data sharing
- Data delivery formats
- Data leadership
- The level of data detail

3.2.2 Project Two Methodology: Online Survey with Senior Business Leaders

Research project two was a quantitative survey with senior business leaders, using the common themes that were presented in the literature review and supported by the qualitative interviews. The goal of the quantitative survey was to provide support to general theories about factors and influences on data use by business leaders. Like the qualitative interviews, the target population for the survey were senior business leaders at the Group Manager or Director level and higher.

Given that this project was designed to support the qualitative interview research project, only quantitative options were considered. This was part of a triangulation approach to data collection using a “combination of methodologies to study the same phenomenon” (Jick, 1979; p. 602) in order to validate data findings through different methodologies. The online survey also supported the sample size limitation of the qualitative interviews project by providing the opportunity to collect data from a large number of business leaders.

The methods considered included online surveys, telephone surveys, in-person quantitative interviews and analysis of secondary data:

- Telephone surveys were considered because they could provide a certain level of access to the senior audience group that was selected for this research. However, the barriers to this method were the costs associated with the research and the time it would take to conduct the study over the phone. Additionally, telephone surveys were also deemed unsuitable due to known industry challenges such as survey fatigue (Gorard, 2003) and sampling challenges (Dawes, 2002).
- In-person quantitative interviews were also considered but rejected due to the significant time challenges with interviewing 100 senior leaders as well as the significant travel involved in meeting this sampling requirement.
- Analysis of secondary data was also included as an option. The advantage of this would have meant significantly lower costs as well as a shorter research period given the data would have been already collected. However the emphasis of this larger investigation was on research projects that build on each other and inform the next project. This made it difficult to find data from another study that would fit the requirements of this larger project. Therefore, analysis of secondary data was ruled out.
- Online surveys were also investigated. Initially, there was some concern over whether the online survey tools would be able to reach the target audience given the seniority level required. Some online survey panel providers were not able to target respondents above the manager level. Exploring different panel providers available through the Quirks Market Research Directory, an online panel provider was located that had an option to target Group Managers and above. A feasibility study invited 50 respondents to participate and it was determined that the panel provider was able to get a collection of respondents from Group Manager to C-level executives, in both large and small organisations. Early testing was successful and an online survey was ultimately chosen as the best method in order to collect data from 100 senior business leaders while minimising cost and time barriers and allowing for a customisable data set.

The online survey with senior business leaders involved simple random sampling from a predetermined panel provided by a market research company. The market research company

maintained a panel of business professionals that was accessed for this study. Panel members were emailed asking them to participate in the online survey.

Respondents were asked to complete two filter questions prior to answering the main questionnaire. The filter questions were included to ensure only specific people answered the survey. The first filter question asked if the respondents were working in market research, data analytics, data science, statistics or mathematics. This question was designed to exclude business leaders who had a greater exposure to the application of research data in business. The focus on this research was directed at business leaders who were likely to use data insights from market intelligence professionals. Given the survey was created to collect feedback from business leaders who do not work in these areas, any respondent answering yes to these areas was filtered out.

The second filter question asked respondents to select from list of job levels. Respondents that indicated they were a Group Manager or higher were included in the survey. Respondents who noted that they were below the level of Group Manager were filtered out of the survey.

There were no other filters or quotas set, meaning respondents were accepted in the order they completed the survey.

The online panel provider offered a pay-per-response service that allowed people to opt into the email survey in return for points or financial rewards. The online panel provider guaranteed the quality of respondents by running evaluations on the speed of response to avoid “streamlining” (clicking any option to get through the survey quickly), limiting the number of surveys each respondent could complete in a given timeframe and by validating demographic details. It is important to be aware that these respondents self-select to be included in these survey panels. This report acknowledges that there were limitations to using online surveys and panels and those limitations are listed in the research limitations section found in the conclusion.

The survey was programmed into an online survey tool so that respondents could answer the questions online using a web browser. The survey was open to respondents for a period of 5 weeks in July and August 2013.

The questionnaire was initially tested using a pilot study of 10 senior business leaders who completed the survey using the online survey tool. The pilot study testers provided feedback on the question wording, ease of answering questions, ease of using the online survey tool, length of questionnaire and general perceptions of the survey. Their feedback, particularly on question wording, was used to improve the questionnaire before releasing the survey more broadly. Some notes on the improvements were included in the data analysis section. The fieldwork involved several waves of invitations sent out via an email that included a link to the online survey.

All of the responses were from the US. Geographic inclusion was not a selection criterion for the project. The US makes up the full sample due to the availability of online panel providers that target senior business leaders in the necessary job levels. No rewards or incentives were offered to respondents above the standard rewards included by the online panel provider.

Additionally, the introduction paragraph of the survey explained that this research was being conducted for a Doctorate-level research project. The paragraph explained that results would be analysed in aggregate and all information was completely confidential with no personally-identifying information collected. Respondents were assured that their answers would not be linked to any individual. The last question in the draft survey initially offered an early copy of the results in order to thank the respondent for their time however panel providers would not allow the surveys to collect personal information beyond basic demographic details so this was removed.

Once the fieldwork was complete, the responses were reviewed and cleaned. Cleaning the data involved removing responses from partially completed surveys or respondents who skipped questions. Two completed but suspicious survey responses were also removed based on responses in the other category for multiple questions indicating that the respondent was not completing the survey properly.

3.2.3 Project Three Methodology: Case Study on the Use of Data from Social Networks

Research project three specifically focused on data and customer insights from social media. At the time of writing, social media was a relatively new focus for businesses both in terms of participating and obtaining data insights from social networks. Given that social media was a relatively new source of intelligence and shown to potentially impact multiple areas of a business, this project was included to provide insights into the way business leaders applied new sources of data to business activity. Project three was a case study of Intuit, a software company based in the United States that sells small business accounting software, personal finance software, tax preparation software and auxiliary software that supported these markets. The data was collected from three in-depth interviews with senior leaders who were stakeholders in the use of social media within Intuit's small business group.

At the time of the research, Intuit was a large organisation with multiple groups and departments therefore this case study focused specifically on Intuit's Small Business Group. The case study was devised to understand how business leaders in a division such as Intuit's Small Business Group thought about incorporating social media data insights as part of their wider use of market intelligence.

The case study approach was chosen because it provided an "empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence." (Hancock and Algozzine, 2006) This meant looking at the use of social media data and research within the natural business context at Intuit. The case study was also chosen because social media was a relatively new technology however analyst firms such as McKinsey (2012) estimated the value of market intelligence from social networks to be worth up to \$218 Billion in USD per year. Intuit was considered an early adopter of social media (Bain & Company, 2011) and featured in various industry articles about using insights from social media. A case study method was chosen because it would give the option to provide in-depth feedback on the business application of market intelligence from social networks.

Additionally, the case study approach was chosen because applying data insights and intelligence may be considered a competitive advantage and organisations may be reluctant to discuss specific instances. This was considered a barrier to collecting data from a larger population of business leaders through other methods. A case study format allowed the researcher to explore themes and insights in a less formal setting with greater detail.

In this sense, the case study was “generally more exploratory than confirmatory” (Hancock and Algozzine, 2006; p. 26) which was considered appropriate given that the application of social media data measurement was a relatively new field compared to methods such as customer surveys or focus group research. Therefore, the role of the case study was to “identify themes and categories of behaviour rather than prove relationships.” (Hancock and Algozzine, 2011; p. 26) This case study took an intrinsic, descriptive look at the practices used by business leaders at Intuit. The purpose of the descriptive method was to present a “description of the phenomenon within its context.” (Hancock and Algozzine, 2011; p. 26)

The data collection included three separate in-depth interviews with business leaders at Intuit who were actively involved in Intuit’s small business group social media efforts. The job titles of the three respondents at the time of the interview were:

- Group Marketing Manager – responsible for social media marketing in the US and social media programs for Intuit’s Small Business Group
- Director of Marketing – responsible for digital channels such as Web, Paid and Organic Search, Advertising (offline and online) and brand campaigns for the Small Business Group at Intuit
- Senior Marketing Manager – responsible for social media marketing and all social media activity for the Accountant Group at Intuit

The case study project did not involve sampling because only one business was included. Intuit was chosen as the subject of the case study because the researcher had access several senior business leaders at the company to conduct the case study.

At the time of the research, the three respondents interviewed were the business leaders responsible for Intuit's Small Business Group social media activity. Two of three respondents worked directly for Small Business Group at Intuit. The third respondent worked in Intuit's Accountant group, a group that developed financial services for Accountants to service small businesses, and this respondent was included because the Accountant Group activities linked directly with the Small Business Group efforts.

The case study guide was structured to explore where social media data was used within Intuit's Small Business Group and asked questions at all stages; from data collection through to reporting of the data and the expected development of social media research and analytics at Intuit. This was done in the context of understanding where social media was situated in relation to other data sources.

Accordingly, the broad topic sections used in the discussion guide were:

(a) The role of social media at Intuit

This section of the discussion guide was incorporated to understand how Intuit's Small Business Group used social media. As seen in the examples and literature citations, social media can be used in different ways such as for marketing or customer service. The use of social media has implications on areas of the business that can benefit from associated social media data.

(b) How social media data is collected and used

The second section of the discussion focused on social media data collection and how the data was used by the three social media leaders interviewed. The goal of this section was to explore specific metrics and familiarity with different types of social media data. The variety and volume of data from social network is potentially both an asset and a liability to extracting value from the market intelligence found in social networks.

(c) Social media data reporting and use of social media data at Intuit

The third component of the interview discussion guide focused on how data from social networks was reported and the level of collaboration across groups. This focused on exploring

how different groups in Intuit's small business group leveraged social network data as part of their business activities. Some industry analysts, referenced earlier in this chapter, have shown that data from social networks crosses traditional organisational silos and boundaries. For example, text and sentiment analysis of customer comments on social networks can potentially yield insights for product improvements, areas for content development such as product help guides, cues for customer care teams on improving service wait times or market developments. For these reason, it was worth exploring whether businesses like Intuit were taking the opportunity to apply insights across different departments from this source of data.

(d) The development of social media research and analytics

The fourth and final section of the interview focused on the development of social media research and analytics in order to understand where the respondents felt data from social networks would play a future role in the organisation. The idea that data from social networks can apply across organisational groups suggests that this data source has a lot of potential to provide significant cross-functional value to businesses. This section was included to understand if the social media leaders at Intuit agreed with this suggestion and what their unprompted vision was for social network data.

Each interview explored questions related to these four headings while allowing for unstructured discussions on topics that the respondents wanted to discuss.

Similar to the qualitative research earlier in this program, each interviewee was given a short introduction to the research and the aims of the study. To encourage open discussion, each respondent was informed that their names would not be used in the report. Respondents were also asked their permission to record the interview to aid with post-interview transcription; all respondents agreed. The recordings were later transcribed by a transcription agency with a guaranteed accuracy level of 99% in order to minimise researcher bias in transcribing the feedback from the respondents. This was the same vendor used for the qualitative research presented earlier in this report.

The researcher read all of the transcripts and the coded the responses according the interview guide as an analytical framework (Laforest, 2009), consistent with the earlier qualitative research. Coding was conducted using a staged process for data analysis with open coding. All data was accepted and coded without a filter (Jones and Alony, 2011). The stages were:

- Codes - key points from each interview were noted
- Concepts - collections of key points by question topic were grouped
- Categories – the concepts brought together to form broader deductions
- Theory - bringing the categories together as a theory

3.2.4 Project Four: Development of the ICSAR Model for Data Use

The final component of this study was focused on the practical application of the insights gained from the preceding projects. The goal of this project was to design and outline a model for approaching data use in business activity. The result of this was the development of the proposed ICSAR model for data use, created by the author of this study. The model considers the fact that the application of data insights is highly contextual and varies according to factors like industry or business approach. The aim was to make the model framework flexible so that business leaders could tailor aspects of the framework to their situation while still taking advantage of the research insights and improving data use in business decisions. In this way, the model encourages participation whereby business leaders can tailor the framework to a certain degree but they will also be supported by a structured approach to improving data use. It also takes on a systems approach, encouraging business users to consider data use as part of wider organisational learning and development. In many ways, this model should be considered a first step and is open to development as the business landscape changes, which is consistent with design thinking and Action Research approaches.

3.3 Ethical Considerations

Ethical considerations were factored into the design of this research study. Those ethical considerations fell into five groups. (Laerd, 2012) Those five groups were: minimising the risk of

harm, obtaining informed consent, protecting anonymity, avoiding deceptive practices and providing the right to withdraw.

In accordance with these principles, all of the research projects provided respondents with an upfront explanation of the project and noted that the research was being conducted as part of a Doctorate research project with the University of Southern Queensland. Respondents were informed that the research would be published in accordance with the University of Southern Queensland's thesis publishing guidelines. All respondents were also given an email address that they could use to get access to the research publication if they wished to view it.

All respondents were informed that their answers would be treated with the strictest anonymity. Respondents were informed that their names and contact details would not be linked with their responses. It was explained that only the researcher would know their names and that the transcripts or survey responses would not link personal information to responses in any way. In the case of the semi-structured interviews, respondents were informed that the only identifying information used was their business category however this was being done at a level that was not able to be linked to them personally. No personal information was collected in the survey research in accordance with the rules set by the panel provider meaning survey responses were not able to be linked with an individual. Respondents were also informed that their feedback was only be used for the purposes of this research study and was not going to be provided to any other parties.

In both the semi structured interviews and the case study interviews, consent to record the interview was requested upfront from each of the respondents. It was explained to each respondent that the recordings were only going to be used for the purposes of transcription and were not going to be used for any other purpose nor would the recordings be published anywhere. Respondents were also advised that they could withdraw from the interview at any stage and, if they did so, that their interview was not going to be used in the research. All respondents consented to the interview recording on this basis and none of the respondents withdrew.

4.0 Qualitative Analysis on the Use and Value of Data Sources in Business Decisions

4.1 Introduction

The literature review highlighted a number of factors and potential influences on the use of data in business decisions. Examples included an open research market with a number of new data sources competing with existing market intelligence or a lack of structure around data use in business activity.

Various commentators discussed the implications of these different factors on the value and development of the market intelligence industry. However, there was not comprehensive research that explored how business leaders use, value and interact with data as part of their day-to-day decision making process. Some research projects on this topic presented data and opinion from research practitioners such as market research professionals and client market research managers. A few studies explored the use of consumer insights teams within the business and the role of that function as part of the organisational structure but did not go into great detail about the type of data used, how the data was used and what sources were valued by specific business leaders.

Understanding the data used by business leaders and the breadth of use for a particular data source is important to understanding the value of market intelligence. As Page (2011) noted, new technologies and industry developments have created new opportunities and new sources of data. For example, an executive can run DIY surveys on an internal customer database instead of commissioning a piece of research from a market intelligence company. Web and social media analytics offer insights into customer sentiment, offering a alternatives to traditional satisfaction surveys. This means business leaders can access market intelligence from a growing and complex pool of data sources.

What follows was the first of three projects that examined how data was being used in day-to-day business decisions. It was a qualitative research study designed to start looking at exactly what data sources, such as market research or social media analytics, were being used by

business leaders. The research also provided insights provided how business leaders value one data source over another. This was based on the presumption that data use was linked to the value of that data, as highlighted by industry authors such as Wee (2001) and Duke (2004). This study also informed the second project, a quantitative survey with senior business leaders.

In summary, the aim of this qualitative research project was to understand how business leaders access and use different data sources as part of their day-to-day decision making process.

4.2 Analysis of Data

The qualitative interviews with the senior business leaders produced interesting results that supported some the themes that emerged in the literature review. The interview feedback has been included below under the respective interview guide headings.

4.2.1 Types of Data Used in Day-to-Day Business Decisions

All of the business leaders noted using a reasonably extensive amount of data. They all cited several sources of data, types of data research and metrics that they use on a regular basis. In some of the commentary on market intelligence, authors questioned whether business leaders used data in business decisions and raised the question of business leaders using their ‘gut instincts’ instead of a data-driven decision making process. Tarran (2012) quoted Scott Miller, former research agency CEO, as saying that “more and more decisions being made by CEOs and CMOs [are] without the benefit of market intelligence.” (Tarran, 2012)

Findings from these interviews show the opposite, with all of the business leaders using multiple sources of data for projects and business activity. Each respondent was able to talk extensively about the types of data they accessed. However, the use of the data sources varied by business leader. For example, market research surveys were used by one business leader to collect data that would be used for marketing materials. Another business leader used market research to estimate their addressable market size for the business. The use of multiple data sources by itself is not especially insightful however the fact that data sources were used inconsistently has

implications for overall objective data use. These results begin to show that there were some subjective filters involved in data use and these warrant further investigation.

One of the respondents was the Director of Small and Medium Business Products at a human resources software company. She noted using industry data on the employment market and trends from syndicated studies, benchmarking data reports, customer satisfaction data in the form of a Net Promoter Score study, lead scoring data, basic customer segmentation analysis using their internal database and ad-hoc customer surveys.

Another respondent, a Marketing Director in the Snacks Division of a food company, talked about using focus groups, syndicated supermarket sales trends data, broad consumer trends analyst reports, internal sales figures, data on marketing activities and competitive insights.

The Vice President of Marketing at manufacturing company producing battery technology spoke about a wide variety of data being used on projects and activities. Some examples included analyst research on the industry, pricing research data, market forecasting (modelling), product requirements research, distributor surveys and internal employee surveys.

These examples point to an expansive use of data by business leaders and show that multiple data sources were accessed as part of their activities. As mentioned earlier, each of the respondents talked about deploying the methodologies in different ways. For example, the Vice President at the battery technology company ran surveys with distributors to understand what components should be factored into their future development projects. However the same respondent felt that survey were not reliable for customer insights. In contrast, the Director at the human resources software company used surveys for customer satisfaction insights. This showed that a certain data source or type was not always used in the same capacity. This will be discussed in more detail later on in this section.

The varied approach to data use may be linked with the fact that the research data and data insights market has expanded rapidly through the development of technology tools and research methods built into other functions such as CRM software with survey capabilities. (Anderson,

2011b) This was identified in the literature review under the idea of an ‘open research market’ whereby market intelligence was now awash with a complex array of data sources, as well as interested parties competing and promoting their own data sources.

Vision Critical (2012), a market research company, wrote about how business intelligence (BI) and customer intelligence (CI) had developed alongside increased business deployment of more sophisticated CRM systems. It was noted that this parallel development had also resulted in data sources being used inconsistently and sometimes in ways that contradicted other uses.

These interviews also showed that business leaders thought about all data inclusively. At the outset, they all talked about internal data, market data, market research, internal employee data, analyst data and tool performance data, for example. There were not clear distinctions between analytics and qualitative data, for example. They spoke about all types of data being used. This showed that not only was there a considerable breadth to the number of sources of data being accessed but also that there was no clear distinction between the different data disciplines. Table 2 gives a more complete overview of data sources used by four of the respondents.

Vice President of Marketing (Lead Nurturing)	Director of Small Medium Business (HR Software)	Vice President of Marketing (Battery Seller)	Senior Vice President (Computer Seller)
Customer surveys Benchmarking data Lead funnel data CRM analysis Client project data Social media data	Lead funnel data Sales tracking data Industry data US census data Customer loyalty CRM data Net Promoter Score Service call data Benchmarking data Employee surveys	Pricing research Competitive data Distributor feedback Industry research Technology research Industry analyst data Employee surveys Custom research Customer surveys Website surveys	Analyst data Net Promoter Score Customer surveys In-depth interviews Service call survey Employee surveys CRM data analysis Lead funnel data Financial planning Social media data

Table 2 - An Overview of the Different Data Sources Cited By Four of the Respondents

One of the respondents was the CEO at a large, global software company with around 2,000 employees. He talked about using three broad categories of data in strategy and review meetings:

- Financial data such as sales goals, market share data and competitive data
- Customer data such as customer satisfaction and customer retention
- Employee data such as employee surveys, turnover rates and engagement

In theory, a data discipline such as business intelligence or consumer insights could span all of these categories. Research studies, analytics and other methodologies could be deployed across each of these areas that the CEO was examining.

Another respondent in the study was the Group Business Director in Account Management at a national advertising agency. In the same way as the CEO, the Group Business Director talked about broad categories data used on projects:

- Optimisation data such as online advertising data feedback, brand awareness and marketing impact

- Market trending data such as consumer buying habits, trends, new technologies and broad brand sentiment
- Sales and financial data both internally and for clients

Again, a data discipline such as business intelligence or consumer insights could span all of these categories. Business leaders framed their data source selection in a way that divorced from a methodology or data source. Each of the respondents talked about the data sources in terms of their business application. This appeared to be at odds with the way that data insights practitioners, such as market researchers or analytics managers, framed their services. Many of the market research articles, for example, spoke to different methodologies and tools when talking about changes to the market intelligence industry. One prominent example was the extensive industry discussion about the impact of the growth of DIY survey and analysis tools. A number of articles in the literature directly commented that the market intelligence industry needed to use terms that business leaders were used to. This research supported that argument and showed a contrasting view between the business leader who focused on the business problem and the market intelligence community focused on methodologies.

Hagins (2010) cited in the literature review discussed how most organisations did not talk about market research ROI because it was hard to do. Bain (2011a) was also quoted about the need for the market intelligence community to translate research terms like margins of error into clear business impact via Pounds, Euros and Dollars. If the industry can move away from methodological discussions when collaborating with businesses, it may be possible to hold a more strategic role for business leaders. Market research or data insights teams could match their tools and services to the way business leaders categorise data use to a holistic solution to the business. Framing the tools in a way that directly addressed the need of the business leaders would seemingly encourage more use of data and potentially increase the value of data insights.

4.2.2 How Business Leaders Use Data

A large portion of each interview was dedicated to looking at how data was used and how business leaders implement data insights as part of their activities. This included asking whether

data was shared across the organisation and whether data insights were used in senior level meetings. Rather than directly asking what data was most valued by the business leader, the research sought to elicit value from what data was being used and the level of use associated with each data source.

Discussing how data was chosen, the respondents offered insights into how they decided what data was needed for a given project. The findings showed that the respondents relied on three criteria when looking at what data to use in a given situation.

Those three criteria were:

- Organisational demographics and goals
- Project-specific goals and attributes
- Personal research and data experience

The findings show that business leaders used these three criteria as part of their process to select the data in business activities.

The Boston Consulting Group (2009) found that the Consumer Insights teams at an organisation influenced how data was used by different teams. For example, they classified businesses into one of four stages with respect to the use of their Consumer Insights team and found that businesses in stage one (traditional market research function) did not use insights at the senior executive level. Instead, data insights were restricted to the marketing group. This suggested that the use and value-perception of research data insights were influenced by the organisational demographics and set-up. Yaman (2004) supported this by saying that the resources and skills of the organisation influenced the research techniques and utilisation of research projects. Yaman went on to say that the adoption of more sophisticated research methods may be indicative of the organisation at large.

The findings from this research support the examples above but introduce two more factors that influence the use of data in a given situation: project goals and personal experience. This is in addition to the 'Organisational Goals' and demographics factor discussed earlier. Considering all

three factors, the results also suggest that the most valuable data source for a given situation resides at the intersection of these three factors. These factors also mean that each business leader values different data sources in different ways. For example, one business leader might find more value in brand awareness research as a measure of their market impact while another may put more value on the return and engagement data insights from a trial piece of software as a form of business growth.

One of the respondents was a Senior Vice President at a high-tech company. His company had a strong focus on mergers and acquisitions (M&A) because he worked in an industry that evolved quickly and they looked to M&A activity and venture capital (VC) funding to measure market trends. They did not invest in market research or syndicated research trending studies because they did not find it as valuable as their VC funding trackers for product development. In this example, the Senior Vice President placed a high value on M&A and VC funding activity data because the organisation's goal was to use this as a competitive tactic for deciding on product development projects.

The same respondent noted that his team ran internal surveys on their customer database as a way to generate customer data for their infographics (a graphical representation of data or information) and content marketing activities. In this example, the organisation's marketing focus was around content marketing. To do that, the Senior Vice President looked to survey data to help create content like an infographic. This type of data could be available from a number of different sources such as research reports, market research surveys, analyst studies and other places. However, the team chose internal data because it met the project goals, provided content for the organisation's marketing goals and was consistent with the Senior Vice President's experience with this type of research activity.

In another example, the Vice President of Marketing at a battery technology company said that her group used an industry analyst firm to get specific information on technology markets. Their company sold its products through distributors (as opposed to selling direct to consumers) so their opportunity to survey or conduct research directly with consumers was limited. Because of this, the company used a third party research analyst firm to provide information on what

technologies could benefit their customers. In this example, the organisational approach was to sell through distributors and that affected what type of data source was used.

The Vice President mentioned that their company had tried to conduct research through their distributors, using a market research company to reach the end user of the battery technology. They felt this research ‘wasn’t as reliable’ so they preferred to use an industry research analyst firm instead. This showed that both her personal experience in using a market research firm for this type of exercise and the project goals influenced the decision to use the industry analyst firm for the information over using a market research company.

These three factors were also evident in the feedback from the Group Business Director of Account Management at an advertising agency, where the interviewee discussed the agency’s use of research data internally and how the agency used research data on behalf of clients. The Group Business Director explained that data used to measure and understand their advertising projects for clients was dependent on the project. For example, for a digital advertising campaign they typically used tools that offered metrics on the number of clicks on the ad, the number of impressions and the best performing websites. However, for a strategy-planning meeting, the agency pulled together market research data on consumer trends and syndicated market trend research data for their consumer brand clients. The agency then reviewed the data at a high-level with the client as part of developing ideas for advertising campaigns and strategies.

In both examples from the Group Business Director, the company goals and strategies of the agency’s clients dictated much of the data that would be used to inform decision-making. In the first example, if the agency and the client pursued a digital marketing campaign then advertising analytics was used. In the second example, if the client was focused on the consumer market (as opposed to a business-to-business company) then the agency used market research data on consumer trends. There were also clear ties between the type of data and the type of project. The digital analytics provided insight on the performance of a digital marketing campaign. The broader market research on consumer trends supported a strategy-planning exercise project for a group of advertising campaigns.

Table 3 was drawn up to show an example of how all three factors influence a data decision using feedback from the interviews using direct quotes from the respondents.

<p>Organisational Demographics and Goals</p> <p>“We are doing a lot of customer research [database analysis]; it has a lot to do with the type of product that we sell. It is fact-based. We have access to a lot of non-confidential or insensitive data that we are able to get and analyse at an aggregate level and look at things like conversion rates, and contact times, things like that to draw insights across the customer base to see if [we can] establish [business] benchmarks.”</p> <p>VP of Marketing at a lead-nurturing company discussed how their organisation product gave them the opportunity to run database analysis to create business benchmarks for business development.</p>
<p>Project-specific Goals and Attributes</p> <p>“Another one [data source] which is floor cleaning machines –we back into it [the market size data] based on square footage of building sizes, parking lot sizes, arena sizes, retail stores, because that is where the equipment is utilised. And we have to unfortunately back into the data with batteries based on overall square footage and cleaning space. So it is just very complicated.”</p> <p>SVP of Marketing for a battery technology company discussed how they obtained market size research data for an industrial cleaning-machine market sizing project. They collected market information on building sizes, for example, and calculate a proxy for market sizing.</p>
<p>Personal Research and Data Experience</p> <p>“We engage with an outside consulting firm every year as part of our strategy review process. They are looking at the data we collect from our sales team ...They are also looking at all the standard periodical information about the industry, trends, ... our existing customers, the rates of growth ... I think something like that it always helps to have an outside perspective of the markets. Organisations internally largely end up having a view of the world, which is very much shaped by your current environment. I think those types of analyses as it relates to market share and also alarming industry trends, etcetera. I think it is very helpful to have an outside perspective.”</p> <p>CEO, talking about how his past experience with organisations and their internal focus prompted him to bring in external consultants as part of market sizing, market trend analysis and business analysis research.</p>

Table 3 - Quotes from Respondents Relating To Three Factors of Influence

These examples show that a research data source, like a market research or website analytics, does not have a consistent value assigned to it. These findings also point to the fact that the value does not necessarily vary by methodology within a data source. For example, surveys do not necessarily hold a lower or higher value than focus group exercise. Instead, market intelligence consists of a growing menu of data sources available to business leaders and these three factors influence whether the business leader will choose to use a data source. One business leader may consider a market research survey to be the best source of data for brand awareness, for example. Another business leader may consider product use to be more relevant because the organisation focuses less on brand awareness as their measure of market share and looks to product-use data as their proxy for market impact. In this second example, market research has presumably little value compared to the product-use data source but has more value to the business leader in the first example.

4.2.3 Data Sharing Within the Organisation

Once data had been collected, the respondents discussed different processes for how data and insights were disseminated throughout the organisation. Some of the respondents noted that there was a reasonably mature process for using data that might involve meetings and projects assigned to business leaders based around the data insights. Others talked about how data was disparate and siloed and there was little process around the curation or use of data insights.

The IT Director at a pharmaceutical company noted that research data and insights at her organisation were largely siloed with a number of departments running their own data-related projects. The IT Director felt that her organisation did not have a formal information sharing practice. There was not a central portal that is maintained by any single data information group. Instead, they had an internal intranet but it was ‘overloaded’. She also linked this with comments that it was increasingly hard to absorb data and difficult to know what is important from the data reports.

In similar feedback, the Senior Vice President at the high-tech software company noted that there was not a central research group. Instead, project managers collected their own research data for

a project. Data was rarely shared between the departments and was often highly specific to a certain activity rather than a wider part of the decision-making ecosystem of the organisation.

The Small and Medium Business Divisional Director noted that there was little investment in the market intelligence function at her organisation. The research data team was simply there to run reports from the internal database but did not centralise insights or data feedback. One example of siloed data related to the customer satisfaction research that the organisation ran with any customer that called for customer service support. Each customer was asked to rate their customer service support score, giving the organisation a lot of customer satisfaction data on their support department. However, the data was not analysed at an aggregated level or tracked overall. There was not an overall report on the average customer satisfaction score, for example. Managers only received individual survey feedback in an email when a customer gave feedback below a certain level on a satisfaction scale.

These were examples of organisations that had not developed mature, widespread ways of incorporating data insights throughout the organisation. Conversely, several respondents talked about data being part of a more defined development process.

The Marketing Director (Snacks Division) of a food company noted that they had an internal research team that coordinated between the product teams and the market intelligence agencies to conduct studies that met the data request from the product manager. They had specialist roles in the team such as having one person for reporting on data and the analytics. Standardised product testing research was also used if applicable. For example, when the company wanted to launch a new product they ran taste-testing focus groups and looked at Nielsen research sales data for similar products. When they ran regional advertising efforts, they conducted market research before the advertising campaign was released and then after the campaign to measure impact. All of this data went into a presentation to the Vice President of Marketing who might then present to the CEO, depending on the size of the project. The research feedback was also presented at the quarterly company meetings with Regional Directors so they knew what was in the marketing plan and the justification for new developments. From there, feedback was

incorporated into the development plan and work documents were drawn up for new business activities like product development.

In another example of a closed loop process, the Vice President of Marketing at the battery technology company talked about how their annual customer feedback survey research was brought to the board level for all of the Vice Presidents to discuss. The team looked at strategic indicators like satisfaction levels, service response times or shipping speed. The Vice President noted that the company put a lot of emphasis on these indicators so the information was taken seriously by all of the business leaders. Where there was an area for improvement, a project outline was drawn up at the meeting that included goals to fix a particular issue. That project was then given to a Director to implement and manage.

These examples showed that there were different approaches to the wider use of research data insights across organisations. In some cases, data use was sporadic and isolated. In others, there was more structure to the data review process and the use of data insights to drive projects.

4.2.4 Lack of Data Leadership

Another finding from the interviews was that there was no evidence of data leadership even though some of the respondents talked about a more integrated and structured use of data insights. More sophisticated data users in the interviews did not have a holistic approach to data management that was centralised within the organisation that would have allowed all departments to learn from data insights. The respondents who mentioned having a central research team described them as functional only. That is, they executed research, coordinated research projects for specific managers or brought together data on a particular topic. They did not appear to develop more comprehensive data development and sharing processes.

Many of the respondents noted that their organisations had dedicated people in a market research or analytics type role. Only one respondent mentioned not having a dedicated person. However, the role of the team or person in the research or analytics capacity was mainly focused on filtering data sources and coordinating research activities. There was little direct tie-in from the

market research or analytics team to the senior management levels. Their role was described in more of an administrative or support capacity rather than a strategic or planning role.

The reasons for the lack of data leadership range from a lack of resources and collaborative tools to simply not having a coordinated data insights approach on the roadmap for the organisation. For example, the Director of Small and Medium Business products at the human resources software company noted that they had a small data reporting team of three or four people. They were there to run reports on the organisation's database but she also ran a lot of the reports herself because the reporting team did not pull out strategic insights. They simply provided the reports. The Director noted that the organisation did not invest in the reporting team and did not give them the tools they need.

The Vice President of Marketing for a lead-nurturing company noted that the company had a researcher but did not have sophisticated measurement across departments. Their data focus was on internal financial data but he wanted to look at more market trending data and potentially run surveys on social media. He said the marketing department ran some wider projects aimed at giving other groups access to data but this was done through 'lunch and learn' seminars. Overall, the organisation found it difficult to develop better research data-use practices because of the lack of resources.

The Senior Vice President at the high-tech software company noted having a centralised research group at a previous company but his current company could not afford this so they had no choice but to rely on managers to access and use data in business decisions.

The Vice President of Marketing at the battery technology company seemed to have a more sophisticated data-use practice but even in this example, the projects were restricted to key initiatives. There was not a central portal of data, for example, and limited data sharing across teams suggested there was not a holistic data-use culture.

The data use examples by the Group Business Director of Account Management at the advertising agency seemed to be the closest to providing a centralised, holistic approach. He

noted that the agency had a data analytics team that was working on a platform that could pull together advertising data insights, website analytics, performance data and even sales data if the clients provided the information. Unfortunately, the Group Business Director also noted that few clients were willing to share that level of information and that the advertising agency rarely interacted with wider business intelligence functions. They often went through the head of marketing and did not have much access to a client's data beyond marketing research. This limited what the tool could achieve and provided barriers to implementation.

This idea of multiple data sources coming together in a centralised, holistic database links to the idea of Big Data that has been touted as offering several benefits including greater efficiency and intelligence. This topic was raised in the literature review. McKinsey (2011) estimated that businesses involved in services linked to personal location data could realise an additional \$600 Billion USD in consumer surplus. Ashkenas (2012) noted that synthesising data was a barrier for many businesses. Many business leaders used the piece of information they “learned last” because of the overwhelming amount of data insights available.

A number of the respondents linked data use barriers to the lack of a centralised research or a data function that had the responsibility of driving a more holistic research insights program at the organisation. This presents both a challenge and opportunity for today's businesses and market intelligence teams. The results show businesses were looking for a way to synthesise and centralise data in order to gain the benefits of linked data sets. Research teams could use this opportunity to become specialised curators of data sources and offer the ability to synthesise data for businesses, or develop methods to provide value in enabling one data source to be linked to other data within business technology platforms like CRM systems. Clicktools, for example, is a company that provides the ability for a business to run a survey through a CRM service called Salesforce. The Clicktools platform enables the business to map the data from the survey to individual contacts and businesses within the Salesforce CRM. This can enable real-time business actions around data such as a customer service representative being notified if a customer gives a low score on a customer satisfaction survey.

These interviews showed a lack of data leadership and present an opportunity for businesses to improve with a more centralised, comprehensive data program. Wee (2001) made the link between a systematic, rigorous marketing intelligence program to efficient and effective business decisions. Wee noted three key benefit areas for a more holistic, mechanised marketing intelligence program within businesses:

- Systematic, comprehensive planning
- Effective responses to problems
- Creative, entrepreneurial insights

These three benefit areas described by Wee were supported by the efforts of the McKinsey (2011 and 2012) reports that quantified the financial benefits of utilising multiple data sources available to organisations. The McKinsey report showed that there was a significant financial opportunity for companies including efficiency savings and untapped revenue opportunities.

4.2.5 Data Delivery Formats

In the final section, respondents were asked how they would like to receive data. For example, did they prefer an email summary, a PowerPoint presentation file or a research application through an internal site or portal?

The responses were mixed and seemed to vary by individual preference and the project type. Some respondents wanted the research to be delivered in PowerPoint, some wanted an excel document. A couple of respondents wanted notifications and the summary to be delivered in email so that they could decide if they wanted more information.

For example, the Vice President of Marketing at the lead-nurturing software company talked about how he preferred internal data to be delivered in PowerPoint with summary charts and tables. For external reports, he favoured a PDF report with a summary. The Vice President of Marketing at the battery technology company wanted the data in a summarised PowerPoint file with an email notification of the data being released.

While respondents had individual preferences for format of data delivery, most supported the idea of a centralised data insights system. That is, a place where teams throughout the organisation could access relevant research and data insights. A few respondents were either developing this ability or already had a version of this in place. Others thought the idea would be beneficial but noted resources constraints were a barrier to implementing this type of system.

For example, the Marketing Director (snacks division) at the food company talked about their company recently releasing an application that presents sales data to their teams in the field down to the postcode (ZIP code in the US) level. While this was not linked with customer intelligence data like market research, it started to synchronise data insights and distribute them throughout the organisation through a central tool.

As mentioned earlier, the Group Business Director of Account Management at the advertising agency talked about building a central portal for their clients that brings together multiple data sources like advertising performance and website metrics. Again, this was not fully linked with market trends data and other data sources but it started to pull together multiple data sources in a central location.

The Director of Small and Medium Business at the HR software company supported the idea of a single point of access with tools to get standardised dashboards and basic analytical tools on data.

The Senior Vice President of Marketing at the high-tech software company said that their company would benefit from a centralised research function where managers could get data. However, resources prevented them from developing this sort of function at the company and they had no choice but for managers to be responsible for accessing their own data.

These findings show that the type of data format (e.g. a PDF report or PowerPoint presentation file) is largely subjective. Each of the respondents talked about different ways that they would like data and research insights delivered. However, there seemed to level of interest and