

**An investigation of successful implementation of social media by small and medium-sized businesses**

By

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## **Abstract**

This study investigates the successful implementation of social media by small and medium-sized New Zealand businesses. The reasons for selecting social media as the focal innovation were twofold. Firstly, it is vital that marketers embrace it. Social media has revolutionised the way in which marketers can communicate and promote to customers. Fundamentally, message control has passed from the marketer to the customer.

Secondly, it provided an opportunity to explore innovation implementation from a business perspective early on in its diffusion cycle. Although businesses were only recently invited to join social media platforms, it was anticipated that many businesses would have adopted it within the last three years.

This research contributes to the sparse literature on social media. It also contributes to the growing body of literature on innovation implementation, businesses as the unit of analysis, and research which uses implementation success as its outcome variable. Additionally, it contributes to the body of research for businesses that have less than 20 employees, defined as either small to medium-sized enterprises (SMEs) or micro-organisations, depending on the country.

The objectives of this research were to identify which characteristics were most significant in influencing the successful implementation of social media and to propose a conceptual model. Due to the scarcity of literature on social media, constructs and measures were developed from other disciplines and innovation types. Research was grounded in innovation and implementation theory. The Organisational Innovativeness theory and the Variance theory (particularly the Technology-Organisation-Environment or TOE framework) were found to be of particular relevance. Marketing theory was also referred to, with the outcomes being marketing-based measures.

The research was conducted in three steps. Firstly, in the pre-test phase senior managers from the New Zealand Retailers Association and academics provided feedback on the questionnaire. The Association then sent a pilot survey to their members, generating 53 usable responses. Secondly, the main survey was distributed via Facebook to businesses operating in that medium. Following analysis, the third phase involved interviews which further explored themes identified from the quantitative stage.

Theoretical, methodological and managerial contributions were made from the research. Theoretical contributions included the development and empirical testing of a conceptual model for successful social media implementation. Significant predictor variables identified included complexity, a clear strategy, resources, access to training and education, and competition. These were measured by a number of dependent variables including use, overall management satisfaction and newly-developed scales for net benefits (including increased profit and increased brand loyalty).

Methodological contributions included the timing of the survey. As social media has only been implemented relatively recently, information was easily recalled and bias as to whether it was likely to be a successful innovation or not was reduced. Additionally, the survey was distributed through Facebook, a new channel with viral opportunities and subsequent response rate measurement limitations. Managers will also find the results of interest not only in the implementation of social media but also for other strategic types of computer-mediated communication innovations.

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# **1. Introduction**

## **1.1. Introduction**

In less than a decade social media (SM) has dramatically changed the world's communication landscape. Compared with communication through traditional media, SM facilitates interactive conversations, consumer collaboration, consumer-created content, continuous contact and real-time responses (Mangold & Faulds, 2009). Effectively, message control has been passed from marketers to consumers (Mulhern, 2009). Given the rapid uptake of SM and the way it has changed communication, it is vital that it is understood in order to enable successful marketing that contributes to an organisation's ability to establish and maintain effective relationships with stakeholder audiences.

SM can be viewed as both a technological and a marketing communications innovation with its origins linked to the evolution of Web 2.0. Of the 50 SM sites Straus and Frost (2009) recommended every marketer should know, the most widely used by businesses include Facebook, Twitter, LinkedIn, YouTube and blogs (Stelzner, 2010). There has been prolific use of SM by consumers, with Facebook alone having over 400 million users worldwide (Joe, 2010). Marketers are faced with a number of challenges and opportunities from SM's newness, widespread use and viral nature. Given SM's relative newness, widespread adoption by businesses has occurred over the last three years (Stelzner, 2010). This provides an opportunity to explore innovation implementation from an organisational perspective based on business-to-consumer interactions. The challenge for marketers is to work out what they want to achieve by using SM and how to implement it so it successfully delivers on these objectives.

## **1.2. Background**

Implementation has been selected as the innovation stage to be examined in this research. In this technological age, there is a continual stream of innovations available to businesses. However, without implementation, innovation does not help businesses meet their objectives. Wolfe (1994) has argued that it is more important to know what an organisation does than what it decided to do. This philosophy underpins this research. Frequently researchers use the words *adoption* and *implementation* interchangeably, for example Wong and Aspinwall (2005). It can be argued that in practice there is no clear line between innovation stages.

However, for the purposes of this research, implementation is viewed as the stage after adoption. Given that some researchers do use the terms adoption and implementation interchangeably, where relevant both adoption and implementation research have been consulted. The unit of analysis selected was small to medium-sized businesses (SMEs). As SMEs have different characteristics from large businesses, for example fewer resources, it enabled the research to be tailored to this group, with the aim of generating more meaningful findings.

### **1.3. Areas for Contribution Identified from the Literature**

Despite there being a substantive body of work on innovation diffusion research, there are still several areas that can be developed further to provide insights for marketers. Given the gaps identified in the literature, this research aims to contribute to the innovation implementation literature in the following areas. Firstly, the stage of innovation selected is implementation. According to a number of sources (Dewett, Whittier, & Williams, 2007; Wolf, 1994), researchers had tended to focus on adoption. Secondly, the unit of analysis selected was organisations. Prior research had mostly used individuals (Petter, Delone, & McLean, 2008; Wolf, 1994). Additionally, quantitative cross-organisational research was carried out with the aim of informing an integrative model.

A significant gap had been identified in the area of SM with “vast uncharted waters still remaining to be explored” (Boyd & Ellison, 2008, p. 224). Given that the focal innovation selected is SM, a contribution to knowledge in this area, with the focus on implementation, will be made. This will include the identification and measurement of the net benefits of implementing SM. Furthermore, as most businesses will be at the early stages of the adopter cycle, there is no prior knowledge as to how successful the implementation of SM is likely to be. This contributes in terms of reducing the bias towards researching only successful innovations (Rogers, 1995).

### **1.4. Research Problem**

This research aims to identify characteristics most salient to the successful implementation of SM by SMEs. The main research questions are:

- 1) What are the characteristics of businesses that have successfully implemented SM?
- 2) How should successful SM implementation be measured and does using multiple dimensions provide more meaningful results than a single measure?
- 3) How would a model of successful social media implementation for SMEs be conceptualised?

The research questions are addressed through enquiry utilising SM as the focal innovation and small and medium-sized New Zealand enterprises that were using SM as the unit of analysis. The quantitative phase includes a pilot and main survey. The pilot research consists of an email survey sent to a sample of New Zealand retailers via the New Zealand Retailers Association. Data was collected from the person within the organisation who was most involved in implementing SM. Based on the findings of the pilot, the email survey was modified. The main survey was then distributed to businesses identified in Facebook, by posting a link to their Facebook page. The qualitative part of the study was based on in-depth interviews and was used to further explore and add depth to the findings of the survey results.

## **1.5. Objectives**

The objectives of this study were to:

- Provide insight into similar characteristics of SMEs that have successfully implemented SM
- Explore measures for technological, organisational and environmental characteristics that are relevant to SM implementation by SMEs
- Explore measures of successful SM implementation
- Propose an exploratory integrated model of successful SM implementation for small businesses
- Contribute to the current marketing literature on innovation implementation, specifically within the area of computer-mediated communication technologies
- Inform practice (in particular SMEs), of leading research in the area of SM implementation.

## **1.6. Outline of the Research**

This thesis is presented in seven chapters. Chapter Two, the literature review, follows this chapter. Theory and empirical findings for the innovation and implementation body of literature are reviewed. Next, context-specific information for SM and SMEs is included. Chapter Three discusses the development of the constructs, hypotheses and conceptualisation guiding the research, along with an overview of the research methodology. Chapter Four includes the Phase One survey and measure development, survey pre-testing, data collection and procedures. Chapter Five presents the results and analysis of the Phase One study. This includes scale development, ascertaining the accuracy of the regression models and hypotheses testing. Chapter Six presents the qualitative phase of the study. Results of both phases of the study were then synthesised. Finally, Chapter Seven concludes the thesis with a discussion of the main findings and research implications. Contributions to theory, methodology and managerial perspectives are given. Limitations and future research directions are also outlined.

## **2. Literature Review**

### **2.1. Introduction**

The aim of the literature review is to gain a theoretical and empirical understanding of successful implementation of innovations from an organisational perspective and apply it to the selected context. The focal innovation selected is social media (SM), a computer-mediated communications technology. The unit of analysis is small and medium-sized New Zealand businesses and the stage of diffusion is implementation. As with other marketing communications innovations, such as integrated marketing communications, practice tends to be ahead of theoretical development (Kitchen, Kim, & Schultz, 2008). Indeed, there is little academic research to date available on the implementation of SM and even less from a marketing communications perspective. “Vast, uncharted waters still remain to be explored” by researchers of SM (Boyd & Ellison, 2008).

SM theory is emerging from a number of disciplines and methodological approaches including marketing (Fisher, 2009; Gretzel, Kang, & Lee, 2008; Hoffman & Novak, 1996), communications (Boyd & Ellison, 2008; Rice, 1987) and information services (Hughes & Fill, 2007; Shao, 2009). It has frequently been categorised as a computer-mediated communications technology and as a digital media. Considerable research has been carried out by marketers on new product adoption by consumers (Im, Bayus, & Mason, 2003; Mahajan, Muller, & Bass, 1990; Rogers, 1976). However, there is negligible research identified from an implementation and organisational perspective. Additionally, literature from other disciplines specific to SM implementation is also sparse, necessitating referral to other disciplines such as management and information systems, and other types of innovations, especially e-commerce, enterprise planning systems and knowledge management. The body of research around the diffusion of technological innovations provided more insights than the marketing and communications literature into the newer forms of digital communications (Owen & Humphries, 2009). From this body of research, the Organisational Innovativeness theory and the Variance theory (particularly the Technology-Organisation-Environmental or TOE framework) were found to be of particular relevance.

This chapter will take the following format. Firstly, an overview of innovation literature is provided. Secondly, literature for the innovation stage selected as relevant for this paper, namely implementation, is reviewed. In this section, conceptual models and empirical research highlighting the dependence relationships between the predictor and outcome variables measuring successful implementation will be identified. Thirdly, context-specific implementation factors are considered. An overview of both the focal innovation, SM, and the focal organisations, small to medium-sized New Zealand businesses (SMEs), follows.

## **2.2. Innovation**

### **2.2.1. Introduction**

Innovation and technical change are essential ingredients of dynamic organisations (Gatignon, Tushman, Smith, & Anderson, 2002). Interest in innovation emerged in the 1960s as a fashionable area of social sciences explored from disciplines as diverse as anthropology and economics (Downs & Mohr, 1976). However, after more than 30 years of research, fundamental concepts and units of analysis are frequently confused and conflicting (Gatignon, et al., 2002). Within this setting, this section provides an overview of innovation literature. It defines innovation, reviews innovation theory and research, considers the relevance of adopter categories and examines innovation types.

### **2.2.2. Innovation Defined**

Innovation has been defined in various ways. There appears to be two main schools of thought. One group of researchers focuses on the newness of the innovation and a second group, in addition to newness, requires implementation. An authority on innovation, Rogers (1976) viewed innovation as the first element in the classical model of diffusion, defining it as “An idea, practice, or object perceived as new by an individual or other relevant unit of adoption.” This definition has also been adopted by a number of other researchers (Damanpour, 1992; Downs & Mohr, 1979; Thong, 1999).

However, this definition indicates that a new idea is an innovation in itself. Another group of researchers proposes that the innovation needs to be adopted before it can be considered an innovation (Amabile, Conti, Coon, Lazenby, & Heron, 1996; McLean, 2005; Van de Ven & Angle, 1989). Van de Ven and Angle (1989) defined innovation as “A process of developing

and implementing a new idea” and Amabile et al. (1996) defined innovation as “The successful implementation of creative ideas within an organisation.” The preference is for this definition as it requires successful implementation (not merely adoption or innovation) and specifies organisations, which are the focus of this research.

The words *creative* (Amabile, et al., 1996), *new* (Rogers, 1976) and *uncertainty* (Downs & Mohr, 1979) are viewed as interchangeable as they all imply the necessity for there to be risk to the organisation for it to be classified as an innovation.

### **2.2.3. Innovation Theory and Research**

There is no one general theory of innovation. According to Downs & Mohr, (1976, p. 700) “Perhaps the most alarming characteristic of the body of empirical study of innovation is the extreme variance among its findings, what we call instability.” One reason put forward to explain this is that the determinants required for one innovation are not necessarily required for others. This instability of determinants from situation to situation hinders theory-building (Downs & Mohr, 1979). Also innovation has been conceptualised in a number of ways. For example, studies of innovation have included: 1) new product/technology adoption and diffusion (Beatty, Shim, & Jones, 2000; Rogers, 1976), 2) innovations at different levels of analysis such as individual, organisations or communities (Damanpour, 1992; Ko, Kim, Kim, & Woo, 2008), and 3) a focus on innovation characteristics, organisational characteristics, managerial/individual characteristics and environmental characteristics and their relationship to the adoption or implementation of that innovation (Bradford & Florin, 2003; Thong, 1999; Tornatzky & Klein, 1982; Zhu & Kraemer, 2005). This paper explores implementation at the organisational level of analysis.

From reviewing the literature, it is evident that there are a number of distinct innovation theories that are relevant to organisations. According to Wolfe (1994), the organisation innovation literature is composed of three discernible streams with different foci. The three research streams are: Diffusion of Innovation (DI), Organisational Innovativeness (OI), and Process Theory (PT). Each research stream addresses a different question, has a different unit of analysis, and a different dependent variable.

The first stream to emerge, DI research, provides a substantive body of ideas. Wolfe (1994) identified a number of criticisms of DI. One of these criticisms included its focus on

the individual rather than the organisation (Damanpour, 1991; Rogers, 1995; Wolf, 1994). Differences between organisational and individual adoption include that, unlike individuals, organisations decide authoritatively or collectively. Also, at the individual level, adoption is more likely to be a binary process of adopting or not adopting a technology (Neale, Murphy, & Scharl, 2006). Only a handful of researchers (Cool, Dierickx, & Szulanski, 1997) have studied the diffusion of innovation within organisations. The OI research stream and subsequently the PT research stream emerged in response to these criticisms.

The research stream most relevant to this research is Organisational Innovativeness (OI), with the organisation as the focus (specifically New Zealand SMEs). Variables of interest are innovation characteristics, organisational characteristics and environmental characteristics. Some managerial characteristics identified as relevant to small businesses by Wong and Aspinwall (2005) have been included with organisational characteristics. Other managerial characteristics have been omitted as subsequent research has found that these impact more on adoption than implementation (Thong, 1999; Yetton, Sharma, & Southon, 1999). One of the key criticisms of OI research is its focus on adoption rather than implementation (Dewett, et al., 2007; Wolf, 1994). To overcome this criticism, Wolfe (1994) asserted that implementation should replace adoption as the dependent variable.

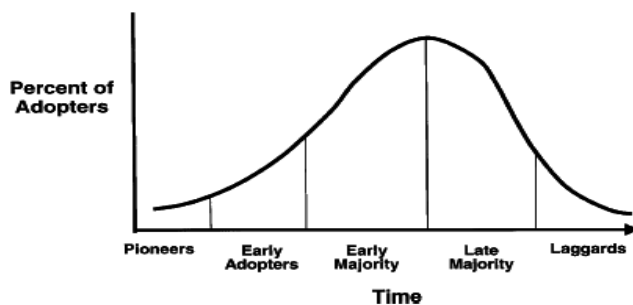
There has been little academic research to date on the adoption and implementation by organisations of social media, the focal innovation of this paper. To overcome this gap in literature, other research in the technology/communications areas has been referred to. Studies referred to include those from the broad innovation class of information services/technology (IS or IT) (Cooper & Zmud, 1990; DeLone & McLean, 1992; Ginzberg, 1981b; Seddon, 1997; Thong, 1999; Zhu, Dong, Xu, & Kraemer, 2006); customer relationship management (CRM) (Ko, et al., 2008); enterprise resource planning (ERP) (Bradford & Florin, 2003); knowledge management (KM) (Wong & Aspinwall, 2005); total quality management (TQM) (Ahire & Golhar, 1996; Quazi & Padibjo, 1998; Rao, Solis, & Raghunathan, 1999); telecommunications (Grover & Goslar, 1993); on-line portfolio management (OLPM) (Ginzberg, 1981b); and the internet (Beatty, et al., 2000; Dholakia & Kshetri, 2004; Schoenherr, 2008).

#### 2.2.4. Adopter Categories

Adopter categories are relevant to this study in terms of their cross-organisational research focus. The diffusion of innovations theory suggests it is possible to classify organisations into five adopter categories based on the point in time when they adopt the innovation relative to other organisations in their particular social system (see Figure 1) as cited in Beatty et al., 2001. Most adoption research is carried out after an innovation has been completely diffused, leading to a bias towards researching only successful innovations (Rogers, 1995).

**Figure 1**

Adopter Categories



Source: Rogers, 1983

Beatty et al.'s (2001) paper on factors influencing corporate website adoption establishes a time frame to define each of the five adopter categories (see Table 1). However, Beatty et al. (2001) did not research the success of the website's implementation and this may or may not correlate to the length of time an organisation has been using the website. However, they did find that early adopters had a different rationale from laggards for adopting a website. The early reasons for adoption were because of benefits, compatibility of the technology and organisational support. Later adoption seemed to be driven from strategic necessity to maintain their current position. It is assumed that their findings could also have some follow-on implications for implementation depending on whereabouts in the adopter cycle the organisation was.

**Table 1**

Adopter Categories (Beatty, Shim, & Jones, 2001)

| Category       | Time frame                      |
|----------------|---------------------------------|
| Pioneers       | 3 years or greater              |
| Early adopters | 2 years up to less than 3 years |
| Early majority | 1 year up to less than 2 years  |
| Late majority  | Less than 1 year                |
| Laggards       | Currently developing site       |

Source: Beatty, Shim, & Jones, 2001

#### **2.2.5. Innovation Stage**

One common view of the diffusion process divides it into stages that can be characterised generally as awareness, adoption, implementation and routinisation (Rogers, 1995; Wolf, 1994). In this view, implementation is but one of the stages of diffusion, and it can be clearly distinguished from adoption (the decision to purchase or use the innovation) and routinisation (fitting the innovation into the day-to-day work of the organisation). This builds on an earlier three-phase diffusion model attributed to Thompson (1965) cited in Zmud (1982) which included: “Initiation of an innovative idea; adoption of an innovation as represented by an organisational mandate for change; and, implementation of the innovation such that it becomes ingrained within organisational behaviours”.

Based on this stage model, the majority of innovation diffusion studies have focused on the adoption of innovations (Tornatzky & Klein, 1982). As noted in the introduction to this paper, Wolfe (1994) proposes that future studies should focus on implementation rather than adoption as their findings would be more meaningful. He asserts that concerns related to innovation stage specificity are of most direct relevance to Organisational Innovativeness (OI) theory, the research stream selected to guide this paper. He goes on to say that focusing on the adoption decision in OI research has weaknesses because: 1) behaviour frequently takes place in the absence of any discernible prior decision, 2) decisions are often announced for organisational benefit with no thought of being carried out, and 3) decisions announced with

the intention of being carried out are often not implemented due to situational changes (Mohr, 1985).

Adding definitional complexity, the stages of diffusion are defined differently by researchers. Some use the term *adoption* to describe the complete innovation process. Others use the term *diffusion* to describe the complete innovation process and then others also use the term *diffusion* narrowly, either at the start or at the end of the process. For example, Downs and Mohr (1979) assert that innovation is a process that occurs in two stages. The first is the diffusion stage, which finishes once the organisation acknowledges that it is aware of the benefits of a new idea. The second stage is adoption, which begins at the point of awareness and continues until an adoption decision has been reached by the organisation. Extent of adoption covers both implementation and routinisation. In comparison, Cooper and Zmud (1990) view infusion as the final stage in the innovation process, citing Sullivan's (1985) definition: "When the information technology application is used within the organisation to its fullest potential" (Sullivan, 1985).

In addition, the words *adoption* and *implementation* are often used interchangeably, for example Wong and Aspinwall (2005). It can be argued that in practice there is no clear line between innovation stages with overlaps, stops and starts, and changes during the innovation process. However, for the purposes of this paper the focus is on successful implementation. Awareness and adoption will be viewed as sequential stages before implementation, and implementation and routinisation will be the stages considered for successful implementation. Both adoption and implementation research have been used to guide this paper. The next section defines implementation and how it will be operationalised for the purpose of this research.

#### **2.2.6. Innovation Type**

Upon reviewing the literature, it became evident that it is conceptually difficult to separate innovation types from innovation characteristics. "Innovation research often confounds innovation characteristics, innovation types, and the hierarchical locus of the innovation" (Gatignon, et al., 2002, p. 1103). Gatignon et al (2002) provided definitions for each with the aim of reducing some of the confusion (Table 2). While Gatignon et al's (2002) article has been cited over 300 times, other well-cited researchers provide different

perspectives as to how to conceptualise innovation. One group of researchers assert that innovations can take several forms including innovation in 1) a product or service, 2) a production process, 3) organisational structure, 4) people, and 5) policy (Thong, 1999; Zaltman, Duncan, & Holbek, 1973). Another group of researchers of organisational innovations have separated administrative innovations (i.e. technologies or practices that are related to management) from technical innovations (i.e. new products or services created that are related to the primary work activity of the organisation) (Dong, Neufeld, & Higgins, 2008).

**Table 2**

Innovation Concepts and Definitions

| Innovation Concept         | Definition  |
|----------------------------|---|
| Locus of Innovation        | Core subsystems are those that are tightly coupled to other subsystems. In contrast, peripheral subsystems are weakly coupled to other subsystems.  |
| Innovation Type            | Architectural innovation involves changes in linkages between existing subsystems. Generational innovation involves changes in subsystems linked together with existing linking mechanisms.   |
| Innovation Characteristics | Incremental innovations are those that improve price/performance advance at a rate consistent with the existing technical trajectory. Radical innovations advance the price/performance frontier by much more than the existing rate of progress. Competence-enhancing innovation builds upon and reinforces existing competencies, skills, and know-how. Competence-destroying innovation obsolesces and overturns existing competencies, skills and know-how. |

Source: Gatignon, Tushman, Smith, & Anderson, 2002

A further body of research focuses on primary and secondary attributes (or characteristics) of an innovation (Downs & Mohr, 1976; Tornatzky & Klein, 1982). “Primary attributes are seen as inherent to the innovation or technology and invariant across settings and organisations e.g. size or cost; secondary attributes are defined as perceptually-based (or subjective) characteristics e.g. complexity or relative advantage” (Tornatzky & Klein, 1982, p. 28). Another approach suggests that there are three types of innovations: Type I innovations are technical innovations restricted to IS functional tasks e.g. databases; Type II innovations use IS to support administrative tasks e.g. payroll; Type III innovations integrate IS with the core business and frequently have strategic relevance (Swanson, 1994). Based on this classification, Zhu and Kraemer (2005) considered e-business a Type III innovation.

In addition to these theoretical approaches, Real and Poole (2005) drew a distinction between those innovations that are relatively fixed and those that are adaptive. They defined fixed innovations as including product type innovations such as telecommunication technologies and process innovations that are relatively mature and formulaic, such as Total Quality Management. Whereas they viewed adaptive innovations as being incomplete or in need of refinement and include product innovations that must be tailored to the user or for process innovations that do not have widely accepted standard formats, such as employee participation programs.

For the purposes of this research, the locus of innovation is viewed as less relevant as the population has been limited to SMEs so fewer subsystems are likely (Wong & Aspinwall, 2004). The type of innovation is viewed simply in terms of whether it is administrative or technical as defined above by Dong, Neufeld and Higgins (2008) and if it is Type I, II, or III (Swanson, 1994). To date there appears to be little empirical evidence to support the architectural/ generational categorisation by Gaitgnon et al. (2002). However there is some empirical evidence to support the validity of categorising innovations as either administrative or technical. For example, studies have found that individual, organisational, and contextual variables were found to be much better predictors of adoption of technological innovations than of administrative innovations (Kimberly & Evanisko, 1981).

Based on the above discussion, the focal innovation of this paper, SM, can subsequently be viewed as a Type III technical product innovation (i.e. SM is related to the core activities of the business and will have strategic relevance given its customer orientation). The innovation characteristics focus will be on secondary attributes and these, along with the impact of whether SM is viewed as an incremental or radical innovation, will be considered in more detail in a later section.

## **2.3. Implementation**

### **2.3.1. Introduction**

Studies have found that there has been a relatively high frequency of information system (IS) implementation failures (Dong, et al., 2008). Seeking to understand how organisations can succeed in implementation is a way of gaining insight into why some organisations fail.

This section will initially define implementation, then it will review relevant theory and research literature. The final section will operationalise implementation including identifying guiding models, independent and dependent variables and measures.

### **2.3.2. Implementation Defined**

Implementation can be defined as the process of gaining targeted organisational members' appropriate and committed use of an innovation (Klein & Sorra, 1996, p. 1055). Researchers are faced with the difficulty of defining when implementation begins and adoption ends. As a way of overcoming this, Downs and Mohr (1979) suggested using a fair-trial point. They defined the fair-trial point as "The extent of use at which the adopter has enough experience with the innovation to assess its costs and benefits accurately" (Downs & Mohr, 1979, p. 387). As already discussed, this paper views the stages of innovation as sequential, with implementation occurring after adoption. Implementation of SM is considered to have occurred from the time the organisation started using SM.

Another difficulty faced by researchers of innovation implementation is the decision as to whom in an organisation to survey. The reason for this is that usually the adoption decision is made by the managers/owners of the business and employees within the business will implement the innovation. In effect, there is often a separation of organisational functions into innovation and operations (Fidler & Johnson, 1984).

### **2.3.3. Implementation Theory and Research**

Implementation research has been categorised in various ways (Table 3). One school of thought is to categorise implementation research into factors research, process research and political research (Kwon & Zmud, 1987). Later research by Yetton et al. (1999) categorised implementation research into two interrelated strands; innovation characteristics theory and implementation process theory. They then proposed one further step, a unified theory of implementation combining both. A third group of researchers identified two theoretical approaches to implementation: variance theories and process theories (Real & Poole, 2005; Subramanian & Nilakanta, 1996). These researchers all recognised the importance of context on implementation success, including which employees use the innovation (individuals or groups) and the type of innovation.

For the purposes of this study, factors research, innovation characteristics theory, variance theory, and the Technology-Organisation-Environment (TOE) framework have been grouped together as they all aim to identify factors which impact on organisational implementation success. Yetton et al.'s (1999) categorises factors, narrowly considering only the impact of the innovation characteristics. According to Yetton et al. (1999), early diffusion of innovation research identified compatibility, relative advantage, complexity, trialability and observability as characteristics of an innovation that influence its adoption. Subsequent research provides empirical support for compatibility, relative advantage and complexity (Tornatzky & Klein, 1982). The main criticism of the innovation characteristics theory is that as the classical diffusion theory is underlying it, it does not consider the organisational level of analysis or other contextual factors (Fichman, 1992).

This narrow focus on the innovation context contributed to the need for Yetton et al. (1999) to propose a unified theory. Yetton et al. (1999) concluded that implementation researchers need to account for the effect of implementation context, and in particular distinguish between the individual level and the group level impacts of IS innovations e.g. implementation contexts can be characterised by high or low individual/group level impacts. For low task interdependence innovations the design of the innovation is critical to implementation success and more attention needs to be paid to the design stage than the implementation stage. Conversely, high task interdependence innovations require a high level of managerial effort during the implementation stage.

Other researchers including Cooper and Zmud (1990) and Real and Poole (2005) include a broader range of categories of characteristics which reflect the importance of the context of the implementation including innovation, both organisational and individual. According to Cooper and Zmud (1988, p. 123), factors found to have a significant impact on IT implementation include top management support, good design, and appropriate user-designer interaction and understanding. In addition, another group of researchers also include environmental characteristics (Bradford & Florin, 2003; Thong, 1999; Tornatzky & Fleischer, 1990). The TOE framework considers the technological, organisational and environmental contexts of firms that can influence the process by which they adopt, implement and use technological innovations (Tornatzky & Fleischer, 1990). This broader contextual approach is seen as a more insightful way of guiding this paper.

In contrast, the other significant stream of implementation theory, process theory, requires that implementation of an innovation is considered over time and its level of analysis is a group of employees (Cooper & Zmud, 1990; Real & Poole, 2005; Yetton, et al., 1999). Yetton et al. (1999) asserted that implementation process theory was developed, in part, in response to the perceived limitations (Tornatzky & Fleischer, 1990) of the innovation characteristics theory. Cooper and Zmud (1990, p. 124) suggested that based on the variance theory, implementation success occurs when commitment to change and the implementation effort exists, extensive project definition and planning occurs, and management of the process is guided by the organisational change theories.

The final research stream included in Table 3 is the political research stream. From a literature scan, there seems to be very little research available to provide further insights for this stream. Furthermore, political considerations are viewed as less relevant for small businesses as there are usually fewer interest groups (Wong & Aspinwall, 2004) and a simpler organisation structure (Thong, Yap, & Raman, 1996).

Variance theories (used interchangeably in this paper with factors research and including the TOE framework) have been selected as most relevant to this paper. It has been primarily selected as this paper examines the impact of innovation, organisational, and competitive characteristics on implementation success. Other reasons for selecting this stream of research include that the focal innovation, SM, can be implemented by individuals within an organisation (rather than a group cooperating) and the research will be at one point in time.

**Table 3: Summary of Implementation Theory**

| Research Stream                   | Definition   |
|-----------------------------------|--|
| Factors research                  | Factors research focuses upon a variety of individual, organisational, and technological forces which are important to innovation implementation effectiveness (Cooper & Zmud, 1990).  |
| Innovation characteristics theory | Innovations characteristics theory assumes that end-user adoption of innovations is based on an evaluation of innovation characteristics. The unit of analysis is the individual. (Yetton, et al., 1999).  |
| TOE framework                     | Technology-Organisation-Environment (TOE) framework identifies three aspects of a firm's context that influence the process by which it adopts, implements and uses technological innovations:<br>a) <i>Technological context</i> describes both the existing technologies in use and new technologies to the firm.<br>b) <i>Organisational context</i> refers to descriptive measures about the organisation such as scope, size, and the number of slack resources available internally.<br>c) <i>Environmental context</i> is the arena in which a firm conducts its business – its industry, competitors and dealings with government (Tornatzky & Fleischer, 1990). |
| Variance theory                   | Variance theories of implementation regard implementation as an outcome that varies in terms of degree and success and attempt to identify the variables that influence this outcome (Real & Poole, 2005).   |
| Process theory                    | Process research examines social change activities (Cooper & Zmud, 1990).<br><br>Implementation process theory is concerned with the influence of managerial action on the end-user's adoption decision and other organisation influencers. The unit of analysis is group level (Yetton, et al., 1999).<br><br>Process theory defines implementation as a temporal process and attempts to understand how it unfolds over time and the types of events and interventions that move the process in productive or destructive directions (Real & Poole, 2005).   |
| Political research                | Political research recognises that the diverse vested interests of stakeholders affect implementation efforts and that successful implementation depends upon recognising and managing this diversity (Cooper & Zmud, 1990).   |
| Unified implementation theory     | The unified implementation theory proposed by Yetton et al. (1999) integrates the innovation characteristics and implementation process theories. This theory states that the contributions of innovation characteristics and implementation process are contingent upon the implementation context.   |

There are a number of schools of thought as to how to operationalise implementation for both the independent and dependent variables. The dependent variable has most frequently been measured in two ways: 1) *extent* of adoption/implementation/diffusion (Beatty, et al., 2000; Cooper & Zmud, 1990; Dewett, et al., 2007; Downs & Mohr, 1979; Meyer & Goes, 1988; Wolf, 1994), or 2) *success* of implementation (Bradford & Florin, 2003; DeLone & McLean, 1992; Seddon, 1997; Yetton, et al., 1999). Extent of implementation has been operationalised as ranging from awareness to expansion (Meyer & Goes, 1988), from non-adoption to infusion (Cooper & Zmud, 1990), and as the resources committed (Downs & Mohr, 1979). Success of implementation in general has been operationalised as acceptance and use, satisfied users, fulfilment of managerial expectations, and improved organisational performance (Real & Poole, 2005). It has been suggested that e-commerce success be measured differently. DeLone & McLean (2003) provide six success dimensions. These include system quality, information quality, service quality, usage, user satisfaction and net benefits. Definitions and further details will be provided in Section 2.3.4.3.

The dependent variable selected for this paper's research model is success of implementation in keeping with the stream of research chosen to guide this paper, Organisational Innovation theory. Extent of implementation fits more closely with Diffusion of Innovations theory. The independent variables (individual/management characteristics, innovation characteristics, organisational characteristics and environmental characteristics) as identified in this section from the variance theory stream of implementation research are the same for both measurement approaches of the dependent variable. Findings from research for both extent and success of implementation are therefore both considered relevant to this paper.

## **2.3.4. Implementation Operationalised**

### **2.3.4.1. Conceptual Models: Innovation Implementation**

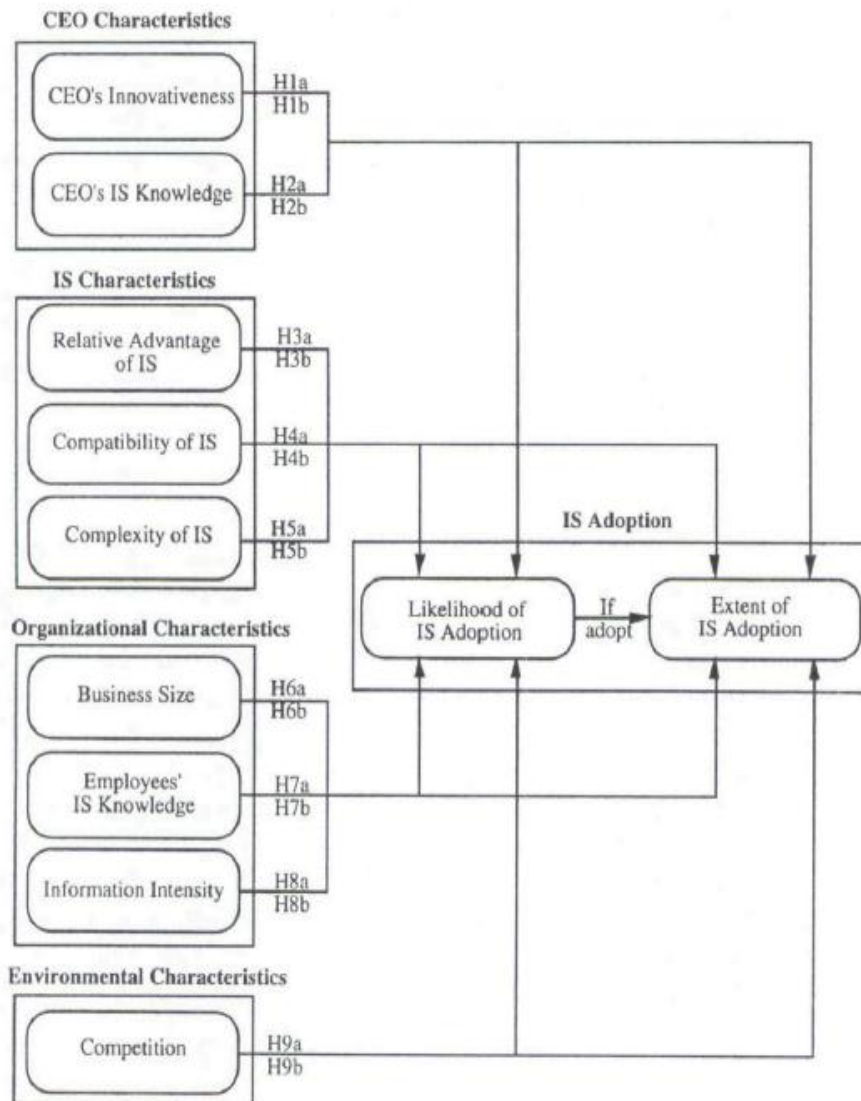
Following a comprehensive review of the literature, an implementation model for social media (SM) was not identified. Given this gap in the literature, the two innovation implementation models that appear most useful to this study are Thong's (1999) IS adoption model of small business (Figure 2) and Bradford and Florin's (2003) model of enterprise resource planning (ERP) successful implementation (Figure 3). Additionally, as Bradford and

Florin (2003) used DeLone and McLean's (1999) model of IS success as a base for developing their dependent variables, DeLone and McLean's (1999, 2003, 2008) conceptual model of IS success was also viewed as useful. Thong (1999) and Bradford and Florin (2003) had similar independent variable categories (innovation, organisational and competition in common) and different (although related) dependent variables (likelihood of IS adoption and extent of IS adoption; ERP implementation success). Zhu and Kraemer's (2004; 2005) models for e-business post-adoption and extent of adoption by organisations cross-country was also considered of interest as its focal innovation was viewed to have more similarities to SM. However, given the cross-country focus of its independent variables, particularly international scope and regulatory environment, it was viewed as being less relevant to small businesses.

## Guiding models: Successful Innovation Implementation

**Figure 2**

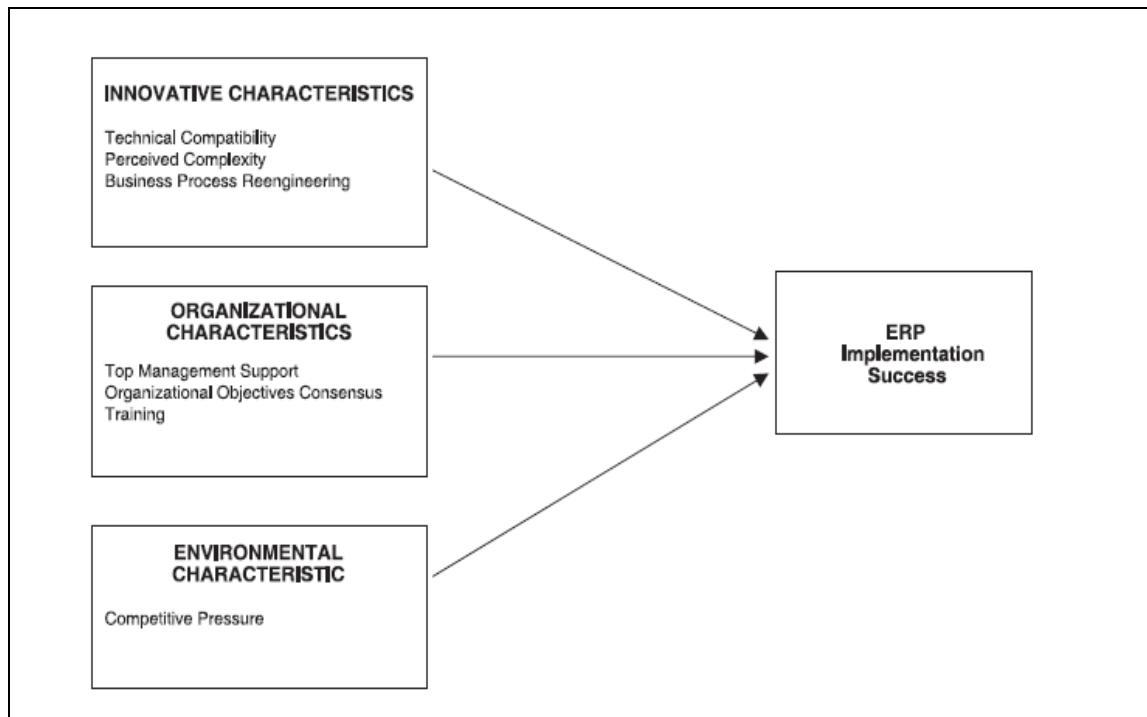
Information Systems Adoption Model of Small Businesses



Source: Thong, 1999

**Figure 3**

**Enterprise Resource Planning Research Model**



Source: Bradford & Florin, 2003

Thong's (1999) model appears to have strong theoretical and empirical support evidenced in the literature (sample size 166) with a small business focus. The key findings of Thong (1999, p. 187) are:

“Small businesses with certain CEO characteristics (innovativeness and level of IS knowledge), innovation characteristics (relative advantage, compatibility, and complexity of IS), and organisational characteristics (business size and level of employees' IS knowledge) are more likely to adopt IS. While CEO and innovation characteristics are more important determinants of the decision to adopt, they do not affect the extent of IS adoption. The extent of IS adoption is mainly determined by organisational characteristics.”

The most significant organisational characteristic that predicted the extent of IS adoption was business size. The second most significant predictor was employees' IS knowledge and the third was information intensity. However, it is worth noting that the definition used by Thong (1999, p.198) of small business is quite different from that of this paper; that is, fewer than 20 employees. Their criteria for defining a small business were taken from the Association of Small and Medium Enterprises (ASME) in Singapore:

“A small business is one that satisfies at least two of the following criteria: 1) the number of employees in the business should not exceed 100, 2) the fixed assets of the business should not exceed US\$7.2 million, and 3) the annual sales of the business should not exceed US\$9 million.”

Based on Singapore’s definition, the majority of their small businesses would be categorised as large in New Zealand.

The dependent variables Thong (1999) selected included *likelihood of IS adoption* and *extent of IS adoption*, whereas this study’s dependent variable is successful SM implementation. However, given Thong’s (1999, p. 192) definition of extent of use was “making more *use* of IS than others” it is reasonable to assume that it is related as a dependent variable to implementation success. This assumption is supported by numerous researchers who view *use* as a relevant measure of implementation success (DeLone & McLean, 1992; Real & Poole, 2005). Bradford and Florin’s (2003) model derived from DeLone and McLean (1999) was also viewed as useful to guide this research.

Bradford and Florin’s (2003, p. 205) focal innovation ERP “has revolutionised organisational computing by facilitating integrated and real-time planning, production, and customer response”. While ERP is an internally focused organisational innovation, it does rely on computers and communication linking it to the focal innovation of this paper, SM. Of particular interest are Bradford and Florin’s (2003) measurement of implementation success with constructs of user satisfaction and perceived organisational performance. Their article has been well-cited and while their model is exploratory, with a relatively small sample (65), it does empirically test its hypotheses. Results from Bradford and Florin’s (2003, p. 205) reveal:

“Top management support and training are positively related to user satisfaction, while perceived complexity of ERP and competitive pressure show a negative relationship. Consensus in organisational objectives and competitive pressure are positively associated with perceived organisational performance. Post-hoc analysis identifies user satisfaction as a moderator between certain independent characteristics and organisational performance.”

Their study used stepwise linear regression models to test the relationship of the seven independent variables with each of the two success measures.

Upon comparison, both Bradford and Florin’s (2003) and Thong’s (1999) findings (Table 4) revealed that certain organisation characteristics were predictors of their related dependent variables. If only organisational performance from Thong’s (1999) analysis is considered, then both studies found that innovation characteristics were not a predictor of either extent or success. However, findings were different for environmental characteristics.

If only user satisfaction from Thong's (1999) analysis is considered, then both studies found that environmental characteristics were not a predictor of either extent or success. However, findings were different for innovation characteristics. Additional theory and research on the predictors and dimensions of implementation success are reviewed in the following sections.

**Table 4**

Summary of Thong (1999) and Bradford and Florin's (2003) research findings

| Independent variables          | Summary of research findings   |  |
|--------------------------------|--|--|
|                                | <p>Thong (1999)</p> <p><b>Dependent variable:</b> extent of IS adoption</p> <p>(operationalised by the number of personal computers and the number of software applications in use in each business)</p> | <p>Bradford and Florin (2003)</p> <p><b>Dependent variable:</b> ERP implementation success</p> <p>(operationalised as user satisfaction and perceived organisational performance)</p>  |
| CEO Characteristics            | Not significant  | Not included   |
| Organisational Characteristics | <p>Significant (all)</p> <ol style="list-style-type: none"> <li>1) Business size</li> <li>2) Employees' knowledge</li> <li>3) Information intensity</li> </ol>   | <p><i>Significant</i></p> <ol style="list-style-type: none"> <li>1) Top management as a predictor of user satisfaction.</li> <li>2) Training as a predictor of user satisfaction.</li> <li>3) Organisational objectives consensus as a predictor of organisational performance.</li> </ol> <p><i>Not significant</i></p> <ol style="list-style-type: none"> <li>1) Top management as a predictor of organisational performance.</li> <li>2) Training as a predictor of organisational performance.</li> <li>3) Organisational objectives consensus as a predictor of user satisfaction.</li> </ol> |
| Innovation Characteristics     | <i>Not significant</i>   | <p><i>Significant</i></p> <p>Complexity was a significant as a predictor of user satisfaction.</p> <p><i>Not significant</i></p> <p>Compatibility was not a predictor of user satisfaction.</p> <p>Business Process Reengineering was not a predictor of user satisfaction.</p> <p>Complexity was not significant as a predictor of organisational performance.</p>  |
| Environmental Characteristics  | <i>Not significant</i>   | <p><i>Significant</i></p> <p>Competitive pressure was significant as a predictor of organisational performance</p> <p><i>Not significant</i></p> <p>Competitive pressure was not significant as a predictor of user satisfaction.</p>  |

#### **2.3.4.2. Predictors of Successful Implementation**

As identified in the previous section, research findings from Thong (1999) and Bradford and Florin (2003) agreed that certain organisational characteristics were predictors of extent of IS adoption/success of ERP implementation. However, the organisational characteristics selected for each model were different. Thong (1999) found that CEO, innovation and environmental characteristics were not predictors of extent of adoption. Whereas Bradford and Florin (2003) found that innovation was a predictor of user satisfaction and environmental characteristics was a predictor of organisational performance. Bradford and Florin (2003) did not include CEO characteristics. As stated previously, a similar model for SM implementation was not identified from the review of the literature. What is evident is that the context, both the innovation type and the size of organisation, does influence which independent variables to include in a model. The characteristics selected as most relevant to the context of this paper will be reviewed in more detail. First innovation characteristics will be discussed. Then organisational characteristics will be reviewed and finally environmental characteristics will be discussed.

*Innovation characteristics* research describes the relationship between the attributes or characteristics of an innovation and the adoption or implementation of that innovation. These have been split by some researchers into primary and secondary attributes of innovations. However, the distinction between the two is frequently unclear. Tornatzky and Klein (1982) defined primary attributes as inherent to the innovation or technology and invariant across settings and organisations (e.g. size or cost); secondary attributes are defined as perceptually based (or subjective) characteristics (e.g. complexity or relative advantage). In reality, primary attributes are also often subjective as they are commonly reported from one person's perspective. As complexity is a secondary characteristic, it is a subjective measure.

In the same article, Tornatzky and Klein (1982) reviewed the innovation attributes literature to date and identified the ten attributes most frequently researched. These were: 1) compatibility, 2) relative advantage, 3) complexity, 4) cost, 5) communicability, 6) divisibility, 7) profitability, 8) social approval, 9) trialability, and 10) observability. Appendix 2 has a summary table including definitions, measurement and findings for the ten attributes

most frequently researched. Only three innovation characteristics (compatibility, relative advantage, and complexity) had consistent significant relationships to innovation adoption. However, only one of these innovation characteristics was mentioned as having a significant relationship with implementation – complexity. This finding was supported by Bradford and Florin's (2003) study which found complexity to be a significant predictor of implementation success. Relative advantage was viewed as lacking in conceptual strength and compatibility was usually inferred (Tornatzky & Klein, 1982).

It was proposed that *complexity* is related to whether an innovation is viewed as incremental or radical by the organisation (Dewar & Dutton, 1985). The major difference between radical and incremental innovations is the degree of new technological process content found in the innovation, and subsequently the degree of new knowledge contained in the innovation (Dewar & Dutton, 1985). This definition differs from Gatignon et al. (2002) in that it focuses on knowledge rather than the variation in the price/performance advancement (see Section 2.2.6 for definitions). According to Dewar and Dutton (1985), based on findings from Hage and Aiken (1970), it is expected that for incremental innovations, complexity will have no link. Whereas for radical innovations, it is expected that complexity will have a positive association. They also stated that innovations will change from radical to incremental over time, referring to the example of the locomotive. As SM is a relatively new innovation, no research was identified as to whether it is viewed as an incremental or radical innovation.

Researchers have found that *organisational characteristics* influence the successful implementation of innovations (Bradford & Florin, 2003; Rogers, 1995; Thong, 1999; Wong & Aspinwall, 2005). However, as research for SM was minimal, findings for other types of innovations including IS and KM was referred to. Furthermore, different organisational characteristics have been selected by various researchers depending on the context of their study. For example: Thong (1999) in relation to extent of IS implementation included business size, employees' IS knowledge and information intensity, whereas Bradford and Florin (2003) in relation to the successful implementation of ERP selected top management support, organisational objectives consensus, and training. This makes findings difficult to generalise.

Upon reviewing the literature, it is evident that the *size of an organisation* as a predictor of innovativeness, adoption and implementation has been well-researched (Ahire & Golhar, 1996; Damanpour, 1992; Hausman, 2004; Neale, et al., 2006; Thong, 1999). For

example, Thong (1996) and Damanpour (1992) both concluded that size is a predictor of implementation. It follows that large and small organisations are different. These differences have also been well-researched. Wong and Aspinwall (2004) compiled a list of characteristics for SMEs in areas which they felt could impact on the implementation of knowledge management (KM) (Table 5). The differences are categorised into six key areas. These include: ownership and management; structure; culture and behaviour; systems, processes and procedures; human resources and customers and market. In putting together this list, they referred to a number of sources including Ghobadian and Galleear (1997), Yusof and Aspinwall (2000), Spence (1999), Haksever (1996), and d'Amboise and Muldowney (1988). It is worth noting that there is no international definition for a small business (see Section 2.4.2 for further details). Depending on which country the research was based in, it could mean less than 20 employees (NZ) or less than 500 (USA).

In addition to providing a list of differences between large and small firms, Wong and Aspinwall (2004) also put together a comprehensive list of small-business-specific organisational characteristics that may impact on the adoption and implementation of KM. Their article was well-cited and published in the leading KM journal (Serenko & Bontis, 2009). Additionally, their article was considered by Real and Poole (2005) to have statistical merit for guiding future research. In a later study, Wong and Aspinwall (2005) ranked these characteristics as critical success factors. However, they did not link them to implementation success outcomes. The eleven characteristics ranked in order were: 1) management leadership and support, 2) culture, 3) strategy and purpose, 4) resources, 5) processes and activities, 6) training and education, 7) human resource management, 8) information technology, 9) motivational aids, 10) organisational infrastructure, and 11) measurement. From this list of critical success factors, the first four and the sixth were considered most relevant to the context of this research and will be discussed in more detail in the following sections. The fifth ranking critical success factor, processes and activities, was not viewed as relevant to SM.

**Table 5**

## Characteristics of Small Businesses

| <b>Characteristics of small businesses *</b>  |
|---|
| <p><i>Ownership and management</i></p> <p>Mostly started, owned and dominated by entrepreneurs<br/> Owner is the manager at the strategic apex<br/> Centrality of decision making – few decision makers<br/> Directive and paternal management style more prevalent<br/> Top management highly visible and close to the point of delivery<br/> Modest management skills and competency</p>                              |
| <p><i>Structure</i></p> <p>Simple and less complex structure<br/> Flat structure with few layers of management and hierarchy<br/> Flexible structure and information flows<br/> Multi-tasked owner-managers<br/> Division of activities limited and unclear<br/> Low degree of specialisation – more generalist</p>   |
| <p><i>Culture and behaviour</i></p> <p>Unified culture<br/> Organic and fluid culture<br/> Departmental/functional mindset less prevalent – corporate mindset<br/> Very few interest groups<br/> Operations and behaviour of employees influenced by owner-managers' ethos and outlook<br/> Results oriented</p>  |
| <p><i>Systems, processes and procedures</i></p> <p>Simple planning and control system<br/> Informal evaluation and reporting system<br/> Flexible and adaptable processes<br/> Focus on operational processes – less focus on strategic processes<br/> Activities and operations are less governed by formal rules and procedures<br/> Low degree of standardisation and formalisation<br/> Mostly people dominated</p> |
| <p><i>Human resources</i></p> <p>Modest human resources<br/> Modest know-how with fewer expert professionals<br/> Employees are more versatile<br/> Training and staff development is likely to be ad-hoc and small scale<br/> Closer and informal working relationships<br/> Low incidence of unionisation<br/> Low degree of resistance to change</p>   |
| <p><i>Customers and market</i></p> <p>Normally dependent on a small customer base<br/> Mostly local and regional market – few international<br/> More frequent and closer contact with customers<br/> Many know customers personally and socially</p>   |

Source: Wong & Aspinwall, 2004, p. 50

\*A small business is treated as a small and medium enterprise (SME) and is taken to be an organisation that employs less than 250 employees, as adopted by the European Union (CEC, 1996), the Department of Trade and Industry, UK (DTI, 1999) and the Small Business Service, UK (SBS, 2000).

*Management support* has been identified as a critical factor to IS effectiveness in both large and small businesses (Bradford & Florin, 2003; DeLone, 1988; Ginzberg, 1981; Kwon & Zmud, 1987; Wong & Aspinwall, 2005; Yap, Soh, & Raman, 1992). The reasons provided for this include: 1) motivation, and 2) to ensure sufficient allocation of resources (Lucas, 1981). It was noted that hands-on management in IS projects could be more important in a small business where the CEO frequently makes the majority of important decisions and is maybe the only one who can link the IS project to corporate strategy (Jarvenpaa, 1991). SMEs are less hierarchical with fewer levels of bureaucracy in the vertical direction, meaning management is closer to the operational functions. Given this, they are likely to have a high degree of visibility in the organisation that may correlate with support (Wong & Aspinwall, 2004).

There has also been a lot of research around the impact of *culture* on adoption and implementation of innovations. The research findings as to the type of organisational culture that is most suited to successful innovation implementation have been mixed with different findings depending on the context, particularly the size of the organisation and the stage of diffusion. Some of the research has focused specifically on SMEs. Researchers have found that there are a number of cultural advantages for SMEs. These include that SMEs usually have a unified culture with fewer interest groups. Also the small number of employees is linked to shared values and beliefs. Finally the more organic the culture is, the easier it is to achieve cultural change (Wong & Aspinwall, 2004). Research has also found that the authoritative and uncommitted personality of some owner-managers can be problematic for implementation (Wong & Aspinwall, 2004). With regard to the stage of diffusion, research has generally found that the more organic cultures stimulate innovativeness and adoption whereas more mechanistic cultures support implementation.

As already mentioned, insights into culture have been gained from the mechanistic/organic theory. Burns and Stalker (1961) proposed that mechanistic organisations follow a more traditional, bureaucratic model, whereas organic organisations are more flexible, process-oriented and open. Generally, the culture of SMEs seems to be more organic and fluid than that of large organisations (Ghobadian & Gallea, 1997). More organic cultures (less centralisation and formalisation) have been found to stimulate innovation and hinder implementation (Brown & Bostrom, 1994; Grover & Goslar, 1993; Subramanian & Nilakanta, 1996). For example, in the early stage of implementation of End-User Computing it was found that a controlled and mechanistic approach was more

successful (Brown & Bostrom, 1994). In contrast, Grover and Gosling (1993) concluded from their study of telecommunications technologies that firms (mostly large) that are in a more competitive environment, have greater decentralisation of decision-making and greater dispersion of IT tend to be better implementers. “Centralisation refers to the degree of decision-making concentration” and “Formalisation refers to the degree of reliance an organisation places on formal rules and procedures” (Grover & Goslar, 1993, pp. 145-146).

A rational *strategy* helps to clarify the reason for implementing an innovation. It also provides the focus and values for everyone in the organisation (Wong & Aspinwall, 2005). Minimal research appears to have been carried out on the impact of strategy on the success of innovation implementation. Bradford and Florin (2003) produced mixed findings using a related measure of organisational objectives consensus. They concluded that it was significant on organisational performance but not as a predictor of user satisfaction (findings have limited reliability due to small sample and less relevance due to a different context). It is worth noting that the reasons strategy is an important organisational characteristic are quite different for the implementation and adoption stage of an innovation. At the adoption stage, the four types of strategies are: prospector, analyser, reactor, and defender (Ko, et al., 2008). For example, prospector companies are those that have aggressive organisational strategies and are pioneer adopters of an innovation. Whereas strategy is important for successful implementation, as it provides focus, the implication is that it is difficult to generalise research findings from studies of adoption to studies of implementation.

Small businesses suffer from *resource* poverty in terms of financial constraints, limited professional in-house expertise and a susceptibility to external forces (Thong, et al., 1996). Of relevance to this paper is the finding that most SMEs have limited computer and technology expertise (Jeffcoate, Chappell, & Feindt, 2000). However, on the positive side having fewer employees often means an advantage in terms of gaining support for an innovation and more collaboration amongst staff (Wong & Aspinwall, 2004). There seems to have been little empirical research carried out as to the impact of resources on implementation. One study found that external IS expertise was critical to effective IS implementation in small businesses (Thong, et al., 1996).

As a flow on from having limited financial resources, SMEs generally invest less in employee *training* (Wong & Aspinwall, 2004). Learning is likely to be more informal with most formal learning made available at the owner-manager level (Matlay, 2000). Little

empirical research was identified to support that training will impact positively on innovation implementation other than Bradford and Florin (2003).

*Environmental characteristics* have been less researched than innovation and organisational characteristics as predictors of adoption and implementation (Bradford & Florin, 2003). Environmental characteristics (or external factors) exist at three levels: industry, macroeconomic, and national policy level. These environmental factors can be separated into two groups: 1) infrastructure and business-related factors e.g. bandwidth available, and 2) competition-related factors (Dholakia & Kshetri, 2004). The most frequently used environmental characteristic to predict innovation adoption and implementation is competition (Thong, 1999).

*Competition* is viewed as being within the business environment in which the business operates. A small business in an environment that is more competitive would be more likely to use IS to gain a competitive advantage (Thong, 1999). A number of researchers have included competition and related measures as an organisational characteristic that could impact on innovation implementation (Bradford & Florin, 2003; Grover & Goslar, 1993; Thong, 1999). The findings have been mixed. Bradford and Florin (2003) found that for ERP implementation, competitive pressure had a negative relationship with user satisfaction and was positively associated with perceived organisational performance. Whereas Thong's (1999) study of IS adoption and extent of adoption in small businesses concluded that competition had no significant effect on adoption or the extent of adoption in small businesses. In contrast, Grover and Goslar (1993) found that environmental uncertainty showed a significant relationship with the usage of telecommunications technologies in US organisations.

#### **2.3.4.3. Measurement of Successful Innovation Implementation**

In the absence of specific SM implementation literature, this section will refer to the IS body of research. According to Petter, DeLone and McLean (2008), organisations are continuing to increase their spending on IS for projects such as decision support systems, computer-mediated communications, e-commerce, and knowledge management systems. However, based on the research, successful IS innovation implementation by organisations is proving difficult to achieve. In terms of IS implementation failure, a five-year study of 23,000 implementations found that only 26% of businesses in the USA finished their

implementation on time and within budget, and only 58% of these projects provided the expected features and functions (Aiman-Smith & Green, 2002). Another study carried out in Canada determined that only 39% of businesses met their desired results from their IS projects (Whittaker, 1999).

Not only is successful innovation implementation proving difficult to achieve from a practitioners perspective, it is also proving complex to evaluate from an academic point of view (Delone & McLean, 2003). Furthermore, while there is a strong body of research from an individual perspective, there is still little empirical evidence for organisations (Petter, et al., 2008), the focus of this paper. This section of the paper will review both theoretical and empirical literature on successful IS innovation implementation. Firstly, successful implementation will be defined, then a review of the relevant theory and research including a conceptual model will be provided, and finally relevant dependent variables will be discussed.

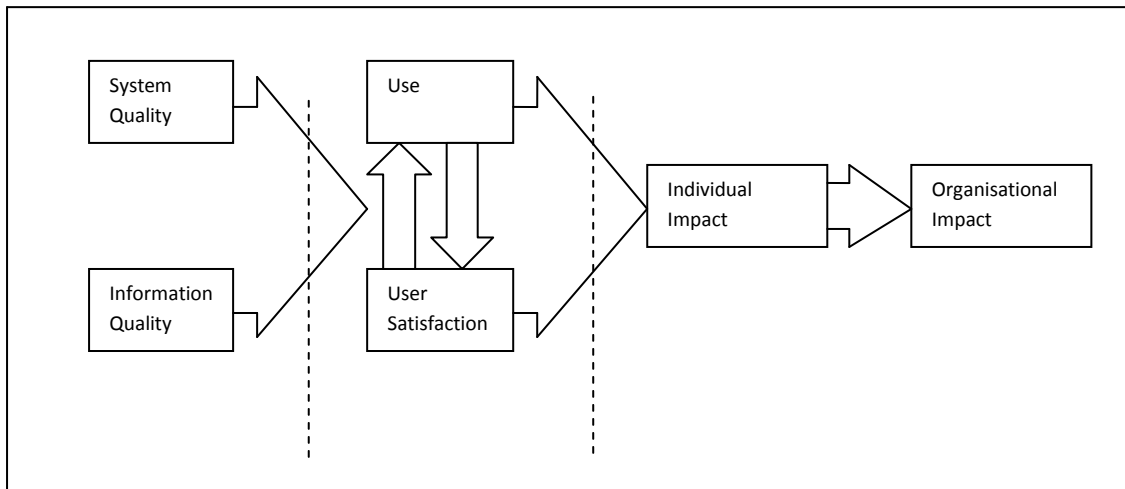
Definitions of *successful implementation* incorporate various measures of success. Real and Poole (2005, p. 74) view signs of a successful innovation as: “Widespread acceptance and use, satisfied users, meeting of managerial expectations, and improved organisational performance.” Another perspective of successful implementation of an innovation is that it “can be conceived as the routinisation, incorporation, and stabilisation of the innovation into ongoing work activity of organisational units” (Fidler & Johnson, 1984). The preferred definition in terms of its fit with this study is Real and Poole’s (2005) as it includes organisational performance as one of its criteria. Fidler and Johnson’s (1984) definition can be interpreted as focusing on use rather than organisational performance.

Another way to gain insight into implementation success is to consider what contributes to implementation failure. Klein and Sorra (1996) state that “implementation failure occurs when employees use the innovation less frequently, less consistently, or less assiduously than required for the potential benefits of the innovation to be realised. The failure of an innovation to achieve its intended benefits could be due to a failure of implementation or a failure of the innovation itself.” As the systems for SM are usually externally owned, if the SM implementation fails, it will more likely be a failure by the people rather than a failure by the technical SM systems. If the failure is by the technical SM systems then it is likely this is out of the control of the businesses surveyed.

Over the last two decades there has been a steady increase in research on successful innovation implementation, particularly with individuals as the unit of analysis. Some of the leading academics in this field include DeLone and McLean. DeLone and McLean have reviewed IS successful implementation literature from 1949 until 2007, including 280 papers in their analysis (DeLone & McLean, 1992, 2003; Petter, et al., 2008). From their review, they proposed an *IS success model* (Figure 4) (DeLone & McLean, 1992) and an updated model (Figure 5) (DeLone & McLean, 2003). The updated model was put forward in response to empirical findings, Seddon's (1997) critique, and to make it more relevant for e-commerce. Definitions and metrics related to this model are provided in Table 6. Their next step was to examine 90 empirical studies from between 1992 and 2008 to examine the relationships identified from the model in both organisational and individual contexts (Figure 6) (Petter, et al., 2008). From this review it was evident that there is minimal support for interrelationships between the success constructs at an organisational level of analysis. It is worth mentioning the Technology Acceptance Model (TAM) is an alternative way of explaining why some innovations are more readily accepted by users than others (Davis, 1989). However, it can be argued that acceptance is not equivalent to success (Petter, et al., 2008) and also from examining the scale items it is more relevant from an individual rather than organisational level of analysis (Gefen, 2000; Petter, et al., 2008).

**Figure 4**

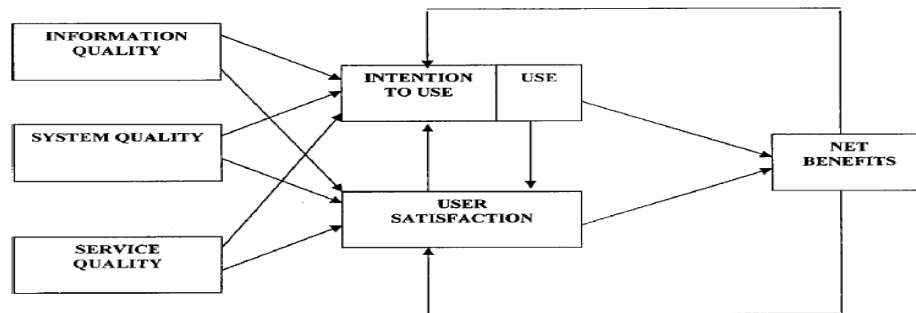
**Information Systems Success Model**



Source: DeLone & McLean, 1992

**Figure 5**

**Updated DeLone and McLean (1992) IS Success Model**



Source: Delone & McLean, 2003

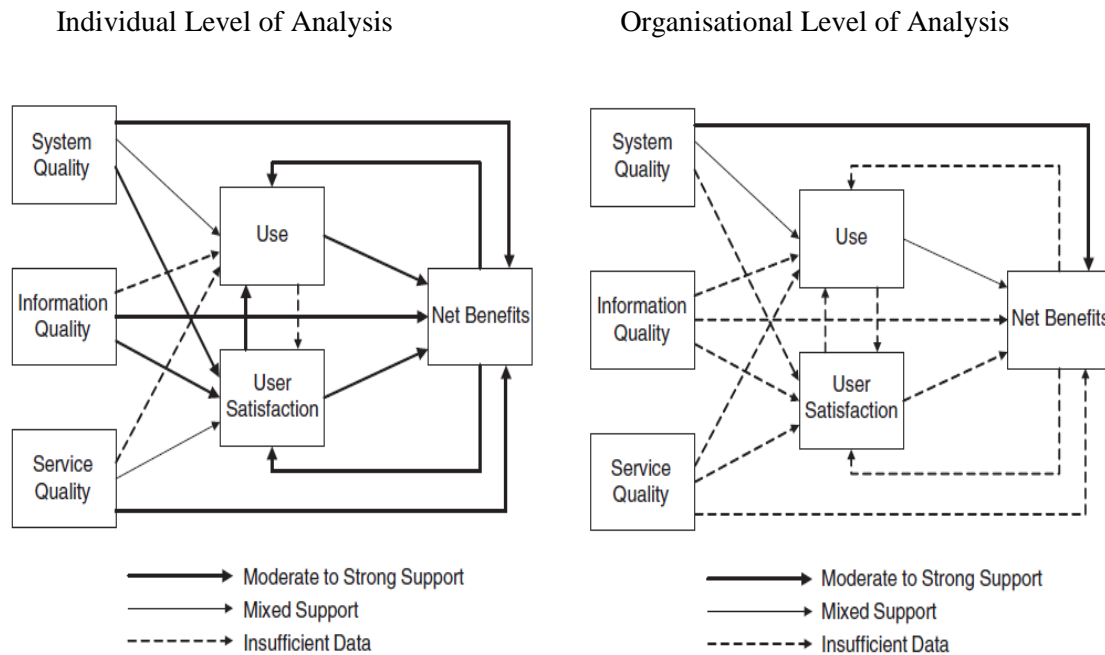
**Table 6**

Definitions and Metrics Related to DeLone and McLean's (2003) Model of  
Implementation Success

| <b>Dimension of Implementation Success</b> | <b>Definition</b>   | <b>Metrics</b>   |
|--|---|--|
| <b>System quality</b>                      | System quality in the Internet environment measures the desired characteristics of an e-commerce system. Usability, availability, reliability, adaptability and response time (e.g. download time) are examples of qualities that are valued by users of an e-commerce system.  | Adaptability; Availability; Reliability; Response time; Usability                                |
| <b>Information quality</b>                 | Information quality captures the e-commerce content issue. Web content should be personalised, complete, relevant, easy to understand, and secure if we expect prospective buyers or suppliers to initiate transactions via the internet and return to our site on a regular basis.   | Completeness; Ease of understanding; Personalisation; Relevance; Security                        |
| <b>Service quality</b>                     | Service quality, the overall support delivered by the service provider, applies regardless of whether this support is delivered by the IS department, a new organisational unit, or outsourced to an internet service provider. Its importance is most likely greater than previously, since the users are now the customers and poor user support will translate into lost customers and lost sales. | Assurance; Empathy; Responsiveness   |
| <b>Usage</b>                               | Usage measures everything from a visit to a website, to navigation within the site, to information retrieval, to execution of a transaction.  | Nature of use; Navigation patterns; Number of site visits; Number of transactions executed       |
| <b>User satisfaction</b>                   | User satisfaction remains an important means of measuring customers' opinions of the e-commerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service.  | Repeat purchases; Repeat visits; User surveys  |
| <b>Net benefits</b>                        | Net benefits are the most important success measures as they capture the balance of positive and negative impacts of the e-commerce on our customers, suppliers, employees, organisations, markets, industries, economies, and even societies. Net benefits measures must be determined by context and objectives for each e-commerce investment.   | Cost savings; Expanded markets; Incremental additional sales; Reduced search costs; Time savings |

**Figure 6**

Support for Interrelationships Between DeLone & McLean's (2003) Success Constructs



Source: Peter, DeLone & McLean, 2008

The possible dimensions that could be used by researchers to measure implementation success are numerous and often confusing. The confusion has been around the independent variable and what is part of the dependent variable, IS success. For example, “investing in ERP” (independent variable) may (or may not) lead to improved “information quality” (an aspect of IS success/dependent variable) (DeLone & McLean, 2003). For the decade up to 1992, DeLone and McLean found that most of the 180 IS implementation articles reviewed had a different measure of IS success and 85% elected to use a single success dimension. The reasons for this are twofold. Firstly, the context dictates the use of different measures. “No single variable is intrinsically better than another, so the choice of success variables is often a function of the objective of the study, the organisational context” (DeLone & McLean, 1992). Secondly, DeLone and McLean (1992) suggested that the reason for there being so many different measures of IS success was that the message in a communication system can be

measured at different levels including the technical level, the semantic level, and the effectiveness level. They cited Shannon and Weaver's (1949) communications research to define these. The technical level was defined as the accuracy and efficiency of the system which produces the information, the semantic level as the success of the information in conveying the intended meaning, and the effectiveness level as the effect of the information on the receiver.

In an attempt to make findings generalisable, measures of success have been grouped into generic categories. In 1992, DeLone and McLean categorised the dimensions for measuring IS success as system quality, information quality, use, user satisfaction, individual impact and organisational impact. Ten years on, DeLone and McLean proposed a revised list of success metrics specifically for e-commerce. These included some of the same metrics including system quality, information quality, use and user satisfaction. New metrics included service quality and the collapsing of individual impacts and organisational impacts into net benefits. The most widely used measures of innovation implementation success are frequency of use and user satisfaction (DeLone & McLean, 1992; Real & Poole, 2005). Petter, DeLone and McLean (2008) concluded that "the science of measuring information success ... has seen little improvement over the past decade. Researchers and practitioners still tend to focus on single dimensions of IS success (especially user satisfaction) and therefore do not get a clear picture of the impacts of their systems and methods" (Petter, et al., 2008, p. 258).

Most of these e-commerce dimensions have some relevance to SM. However, as SM systems are usually owned by companies separate from the user organisations, system quality is less relevant as the organisations have less control over the accuracy and efficiency of the system. As information quality requirements are also partially controlled by the SM system owner, (for example, Twitter requires a maximum of 140 characters to be entered per tweet) and will be different for each SM platform, meaningful comparisons are not possible, given this paper's context and selected unit of analysis. The dimensions viewed as most relevant to the context of this research will be reviewed in the following sections. These include use, user satisfaction, and net benefits. Service quality would need to be understood from the customer's perspective, which is outside the scope of this paper's unit of analysis. However, as it is a relevant success dimension for SM, it is also reviewed.

The explanation of *service quality* in relation to e-commerce success provided by DeLone and McLean (2003) (Table 6) is relevant in terms of its identification of external customers as being important as well as staff. The metrics suggested to measure service quality include assurance, empathy and responsiveness. These are based on the SERVQUAL 22-item scale consisting of five service quality dimensions developed to measure the gap between customer expectations and services received (Parasuraman, Zeithaml, & Berry, 1988). The five service quality dimensions included tangibles, reliability, responsiveness, assurance and empathy (see Table 7 for definitions).

**Table 7**

Service Quality Dimensions

| Service Quality Dimension | Definition  |
|---------------------------|---|
| Tangibles                 | The appearance of physical facilities, equipment, personnel, and communication materials. |
| Reliability               | The ability to perform the promised service dependably and accurately.                    |
| Responsiveness            | The willingness to help customers and to provide prompt service.                          |
| Assurance                 | The knowledge and courtesy of employees and their ability to convey trust and confidence. |
| Empathy                   | The provision of caring individualised attention to customers.                            |

Source: Parasuraman, Zeithaml, & Berry, 1988

Parasuraman et al. (1988) stated that these provide the basic skeleton and “these can be adapted or supplemented to fit characteristics of specific research needs of a particular organisation”. These dimensions were applied to an IS context (Kettinger & Lee, 1995) and DeLone and McLean (2003) provided some samples: “IS employees give prompt service to users” (responsiveness) and “IS employees have the knowledge to do their job well” (assurance).

From their review of successful IS implementation research, Petter et al. (2008) only identified eight studies with organisations as their unit of analysis that had included service quality as a success measure. They concluded that there was insufficient data to provide support for the interrelationships between the constructs of success at an organisational level of analysis.

*Use* is conceptualised in numerous ways in the 27 IS studies reviewed by DeLone and McLean (1992). These include: 1) the use of information system reports, 2) *actual* use through hardware monitors including length of time, 3) perceived use gauged by asking staff, 4) comparison of use with that which the system was designed, and 5) use versus non-use. Real and Poole (2005, p. 74) state simply that “use measures attempt to capture the degree to which the innovation is actually employed in practice”. They summarised the ways to measure ‘use’ as: 1) yes or no, 2) completeness of use, 3) number of people using the innovation within the organisation, and 4) length of time the innovation has been used by the organisation.

The measures of use chosen by researchers are numerous and varied depending on the context of the study. The measures of use proposed by DeLone and McLean (2003) for e-commerce included the nature of use, navigation patterns, number of site visits, and number of transactions. DeLone and McLean (1992) identified 27 studies that had use as a success measure and 40% of these carried out cross-organisational research. However, item instruments were not used and no statistically valid scales were identified as being transferable to SM. Peter et al. (2008) identified another 12 studies that had use as a success measure at the organisational level of analysis. They concluded that there was insufficient data to provide support for the interrelationships between the constructs of success at an organisational level of analysis.

Researchers raised a number of issues to take into consideration if use is selected as the independent measure of implementation success. The issues included:

- 1) If use was a valid measure of success (Seddon, 1997)
- 2) How to address the impact of differences in the time since adoption (Downs & Mohr, 1976; Real & Poole, 2005; Yetton, et al., 1999)
- 3) Who use is to measure (Seddon, 1997)
- 4) Use must be voluntary (DeLone & McLean, 1992; Seddon, 1997)
- 5) Self-reported use and computer-recorded use were often not correlated (DeLone & McLean, 2003)
- 6) Early use and continued use can differ (DeLone & McLean, 2003).

The first issue was raised by Seddon (1997) who queried if use was a valid measure as it only measures behaviour and not success. He suggested that researchers should focus on the net benefits that flow from use instead. DeLone and McLean (2003, p. 17) disagreed, stating that “system use has taken on new importance in e-commerce success measurements where customers use is voluntary and essential to desired outcomes”. They did agree though that often the way researchers have conceptualised ‘use’ is too simplistic and researchers need to consider the nature, extent, quality, and appropriateness of the system use (Table 6).

The next issue noted was the impact of the length of time since adoption of the innovation on implementation success. A number of researchers assumed a positive relationship between the time spent using a system and the benefits it provides (Ginzberg, 1978; Real & Poole, 2005; Snitkin & King, 1986; Srinivasan, 1985) – the assumption being that the longer the innovation has been used, the more likely the organisation will have resolved any issues and the more successful the innovation will be (Real & Poole, 2005). This is in contrast, however, to another group of researchers. Downs and Mohr (1976) asserted that is “a weak generalisation that the first organisation to adopt an innovation will be the one found to have implemented it to the greatest extent”. Yetton et al. (1999) thought that in the early stages of implementation, when the innovation has not yet become routinised, usage is the only available measure of implementation success.

The third issue raised around use as a measure of success is whose ‘use’ to measure. Seddon (1997) noted that various stakeholders will perceive the same results differently. For example, managers might be concerned with profitability, whereas administrators will more likely be concerned with difficulty of use. To overcome this issue, a few researchers (Premkumar & Ramamurthy, 1995) used two informants: a senior manager and a functional manager. However, it is more common for researchers to use a single informant (Bradford & Florin, 2003; J. Mohr & Spekman, 1994; Thong, 1999; Wong & Aspinwall, 2005).

The fourth issue raised around use as a measure of success is the necessity for use to be voluntary before it can be selected as a suitable measure (Barki & Huff, 1985; DeLone & McLean, 1992; E. Kim & Lee, 1986; Lucas, 1978; Seddon, 1997). DeLone and McLean’s (2003, p. 16) view is that no system use is mandatory as management always has the option of stopping a system that is not delivering what they want. Additionally, in e-commerce systems use is largely voluntary if you consider the customer is a vital user (Delone & McLean, 2003; Molla & Licker, 2001).

The next issue, self-reported use, sometimes does not correlate with computer-recorded use (Straub & Limayem, 1995). DeLone and McLean (2003) recommend that computer-recorded use should be a measure in future research. The final issue, that early use and continued use can differ (Agarwal & Prasad, 1997), needs to be kept in mind by researchers when they define the stage of diffusion to be studied (DeLone & McLean, 2003).

*User satisfaction* is one of the most widely-used measures of IS success. According to the IS implementation literature, a system can be considered a success only if it is perceived to be satisfactorily and willingly used by stakeholders (DeLone & McLean, 1992). User satisfaction has been defined as “in a given situation it is the sum of one’s feelings or attitudes toward a variety of factors affecting the situation” (Bailey & Pearson, 1983). DeLone and McLean (1992, p. 69) provided three reasons as to why user (and information) satisfaction is one of the most widely-used measures of IS success: “1) If users say they like it, then it has validity, 2) There is a reliable tool available for measuring satisfaction (Bailey & Pearson, 1983), and 3) Most of the other measures of success are weak either conceptually or empirically.”

User satisfaction has been measured in a number of ways, depending on the context. DeLone and McLean (1992) identified 33 studies measuring user (and information) satisfaction, of which 52% were cross-organisational. Another 11 studies were reviewed by Petter et al. (2008); however, these were viewed as having insufficient data. Some examples of measures of user satisfaction included: overall satisfaction (Bradford & Florin, 2003; Ginzberg, 1981b; Langle, Leitheiser, & Naumann, 1984); the Bailey and Pearson instrument (Bailey & Pearson, 1983; Barti & Huff, 1985; Nelson & Cheney, 1987); and multi-item scales (Doll & Ahmend, 1985; Mahmood & Medewitz, 1985).

Researchers selecting user satisfaction as their measure are faced with the same dilemma as ‘use’, that is, whose satisfaction should be considered. Also, user satisfaction has been found to be linked with the respondent’s attitude toward the computer systems, therefore introducing bias (Igersheim, 1976; Lucas, 1978). Overall though, as asserted in the introductory paragraph of this section, user satisfaction is considered to be one of the most valid measures of implementation success.

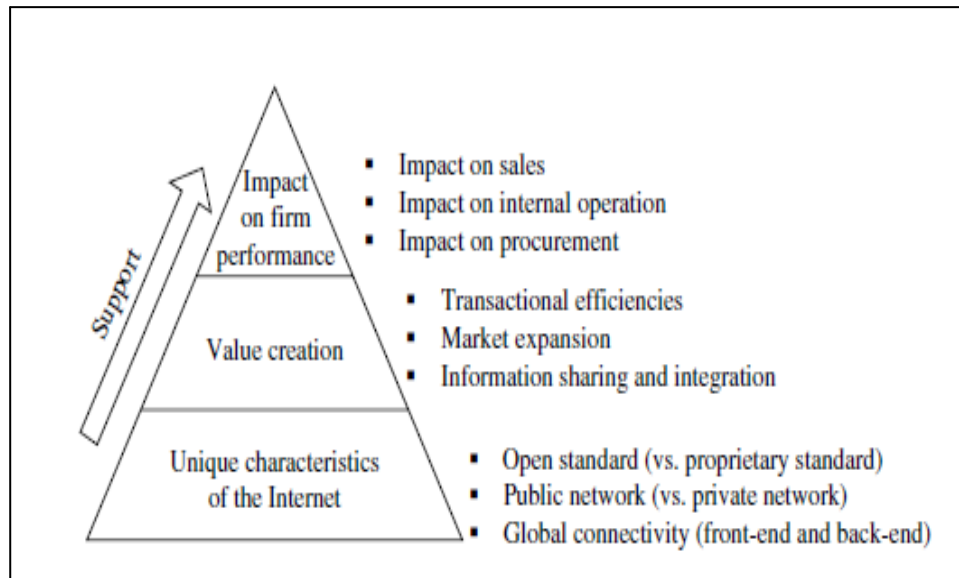
The final dimension of implementation success viewed as relevant to guide this study is *net benefits*. Net benefits are defined as “the extent to which the innovation is contributing to the success of individuals, groups, organisations, industries and nations (DeLone & McLean,

2003)”. Net benefits vary between studies, depending on the context. The e-commerce net benefit success metrics suggested by DeLone and McLean (2003) included cost savings, expanded markets, incremental additional sales, reduced search costs, and time savings. However, it was noted that these contrast with EDI in that business value (see Figure 7) is created mainly through improving transactional efficiencies and reducing costs in procurement (Zhu & Kraemer, 2005, p. 65).

A number of possible benefits for businesses using SM were identified from the literature. It was suggested that social networks add value by: “1) building brand awareness and image, 2) providing access to the voice of loyal customers, 3) increasing supplier commitment, and 4) generating revenue from new and loyal customers” (J. Kim, Choi, Qualls, & Han, 2008). According to the 2009 survey commissioned by the CAANZ Digital Leadership Group, marketers expect the benefits of social media for their business to include increased brand loyalty, greater knowledge of what customers and prospects think of their brand, ability to communicate directly with customers, and increased lead generation and sales. Stelzner’s 2010 international social media survey identified additional benefits, including reducing overall marketing expenses, new business partnerships and increased website traffic/subscribers/opt-in list.

**Figure 7**

E-Business Value Hierarchy: From Internet Characteristics to Value Creation



Notes: This value hierarchy depicts the unique characteristics of the internet and how these characteristics enable value creation via e-business.

Source: Zhu & Kraemer, 2005, p.65

There are difficulties in measuring net benefits from an organisational perspective. These difficulties include separating the contribution of the innovation on performance and the length of time required for net benefits to become evident. DeLone and McLean (1992) stated that practitioners see organisational impact as important while academics preferred not to use it because of the problem of separating the outcome from the innovation and from other influencers on the organisation's performance. Another reason is that access to performance data on privately-owned firms is usually restricted (Dess & Robinson, 1984). This is evident in the relatively few studies (20) identified using this success measure (DeLone & McLean, 1992). These studies unit of analysis were half cross-organisational but showed little evidence of using item-scale instruments. However, the use of net benefits as a measure of implementation success is increasing with 18 further studies identified by Petter et al. (2003). From these latter studies moderate to strong support was found for the relationship between system quality and net benefits (Figure 6). There was insufficient data to support any of the other inter-relationships. None of these studies used SM as their focal innovation.

To overcome these difficulties, it was evident from the IS implementation success studies reviewed (DeLone & McLean, 1992; Petter, et al., 2008) that frequently subjective performance measures were used in the absence of objective measures (Pelham, 1999; Thong, et al., 1996; Zhu & Kraemer, 2005). The usefulness of subjective and self-reported objective measures of organisational performance for privately-owned firms have been explored and validated in certain situations including “1) when accurate measures are unavailable, and 2) the alternative is to remove the consideration of performance from the research design” (Dess & Robinson, 1984, p. 271).

## **2.4.Context-Specific Implementation: Social Media and SMEs**

### **2.4.1. Focal Innovation: Social Media**

#### **2.4.1.1. Introduction**

Social media (SM) is a relatively new communications media that emerged in the mid-1990s, with SM sites initially targeted at individuals. It has only been in the last decade that SM sites for businesses materialised. These included LinkedIn in 2003, Facebook (corporate networks) 2006, and Twitter 2006. Given the relatively short time frame that SM has been available to businesses, it is understandable that the academic literature for SM is sparse, although this will no doubt increase over time. There are a few marketing articles which provide insight as to how to include SM into the communication and promotional mix and these are discussed later. The fundamental change is that message control has passed from businesses to consumers. While there is a growing body of practitioner research around the volume of businesses that are using SM, there is little analysis as to how successful businesses have been in their implementation of SM.

In this section, SM has been defined, its evolution and use summarised, existing theory and research reviewed and its strengths outlined.

#### 2.4.1.2. Social Media Defined

In this section SM will be defined. The way in which SM has been categorised will then be considered. Commonly-used metrics will be identified and ownership commented on. As authors use the terms *sites*, *tools* and *platforms* interchangeably, this paper will also.

There was some confusion as to what should be included as SM, and how it differs from the concepts of user-generated content and Web 2.0 (Kaplan & Haenlein, 2010). Web 2.0 (first used in 2004 featuring Adobe Flash, Really Simple Syndication or RSS, and Asynchronous Java Script or AJAX) can be viewed as the platform for the evolution of SM. User-generated content (a popular term from 2005) “can be seen as the sum of all ways in which people make use of SM” (Kaplan & Haenlein, 2010, p. 61). According to the OECD, (2007) to be considered user-generated content, it first needs to be published either on a publicly accessible website or on a social networking site available to a specific group of people. Secondly, it needs to be creative and thirdly, it needs to be created outside of professional routines and practices. Since 2007, when this definition was published, SM sites such as Facebook (corporate networks) have been made available to businesses and in contrast to the OECD (2007) definition, content has been increasingly created inside professional routines and practices.

There are varying definitions of SM but all have the same underlying themes: the internet and content sharing. Some focus more on the technology aspect and others on the content characteristics of SM. A more technological definition is put forward by Kaplan and Haenlein (2009, p. 60): “Social media is a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content”. Strauss and Frost (2009, p. 326) have a more content-focused definition, stating that “social media is online tools and platforms that allow internet users to collaborate on content, share insights and experiences, and connect for business or pleasure”. Given that the focus of this study is on business use of SM, Strauss and Frost’s (2009) definition is viewed as most relevant for the context of this research.

The way SM is categorised also varies between authors. There are four types of SM according to Strauss and Frost (2009): reputation aggregators, blogs, online communities, and social networks (Table 8). While they recognise that there are overlaps between the types of SM, they still see it as a helpful way of examining SM because each type has unique properties. Rather than categorising SM by its unique properties, Dewing (2010) categorised

SM based on the kind of internet service it is associated with. They stated that the kinds of internet services commonly associated with SM include: blogs, wikis, social bookmarking, social network sites, status-update services, virtual world content and media-sharing sites. Dewing (2010) also acknowledges that the SM categories do overlap. Twitter, for example, is a social network site as well as a status-update service. This variance in the way SM is categorised can be attributed to the relatively new and evolving nature of SM.

**Table 8**

Social Media Types

| <b>Social Media</b>    | <b>What is it?</b>  | <b>Examples</b>   |
|------------------------|---|---|
| Reputation aggregators | Databases allowing users to search for content                                      | Google, Yahoo!, MSN, Tripadvisor.com, ePinions.com                              |
| Blogs                  | Online multimedia journals with frequent updating                                   | Technology: TypePad, Blogger, Wordpress.<br>Site: Marketingpilgrim.com          |
| Online communities     | Sites offering professional or user content and allowing members to upload content. | CNN, Slate, YouTube, Google Groups, Flickr, Del.icio.us, Wikipedia, Second Life |
| Social networks        | Associations of internet users for social connection                                | Myspace, Facebook, XING, LinkedIn   |

Source: Strauss & Frost, 2009

In terms of measuring the return on investment (ROI) of SM, the Interactive Advertising Bureau (IAB) divided SM into three groups:

- 1) *Social media sites* – Unique visitors, cost per unique visitor, page views, visits, return visits, interaction rate, time spent, video installs, relevant actions taken
- 2) *Blogs* – Conversation size (number of sites, links and reach of a conversation whose content includes conversation phrases relevant to the client), site relevance (conversation density, author credibility, content freshness and relevance)
- 3) *Widgets and social media applications* – Installs (number of applications), active users, audience profile, unique user reach, growth, influence, installs (number installed per use) (IAB, 2009).

These IAB definitions were met with a mixed response – the main criticism being that they do not take into consideration the qualitative aspects of SM (Fisher, 2009).

#### **2.4.1.3. Social Media Evolution and Use**

This section will provide an overview of SM's evolution and usage. Firstly a chronological history and overview of the SM tools is provided. Next SM usage is discussed and the reasons for its prolific growth outlined.

SM is dependent on the Web 2.0 version of the internet. The Web 1.0 version of the internet was started in 1969 and evolved into Web 2.0 by the mid 1990s. Strauss and Frost (2009) explain that whereas Web 1.0 connected people to computer networks, Web 2.0 connected people with machines and also with each other in social networks. The first major social network site, Six Degrees.com, was launched in 1997 (Boyd & Ellison, 2008). Following 1997, there has been a proliferation of SM platforms added and some removed (Figure 8). However, it was not until the 21st century, with the arrival of LinkedIn in 2003 and Facebook (corporate networks) in 2006, that businesses were specifically catered for by SM. By 2009, Strauss and Frost had identified 50 SM sites that they felt every marketer should know (Appendix 2). Other than blogs, social media platforms are usually owned by companies. Facebook and Twitter are privately owned, LinkedIn is publicly owned, and YouTube is a limited liability company (Strauss & Frost, 2009).

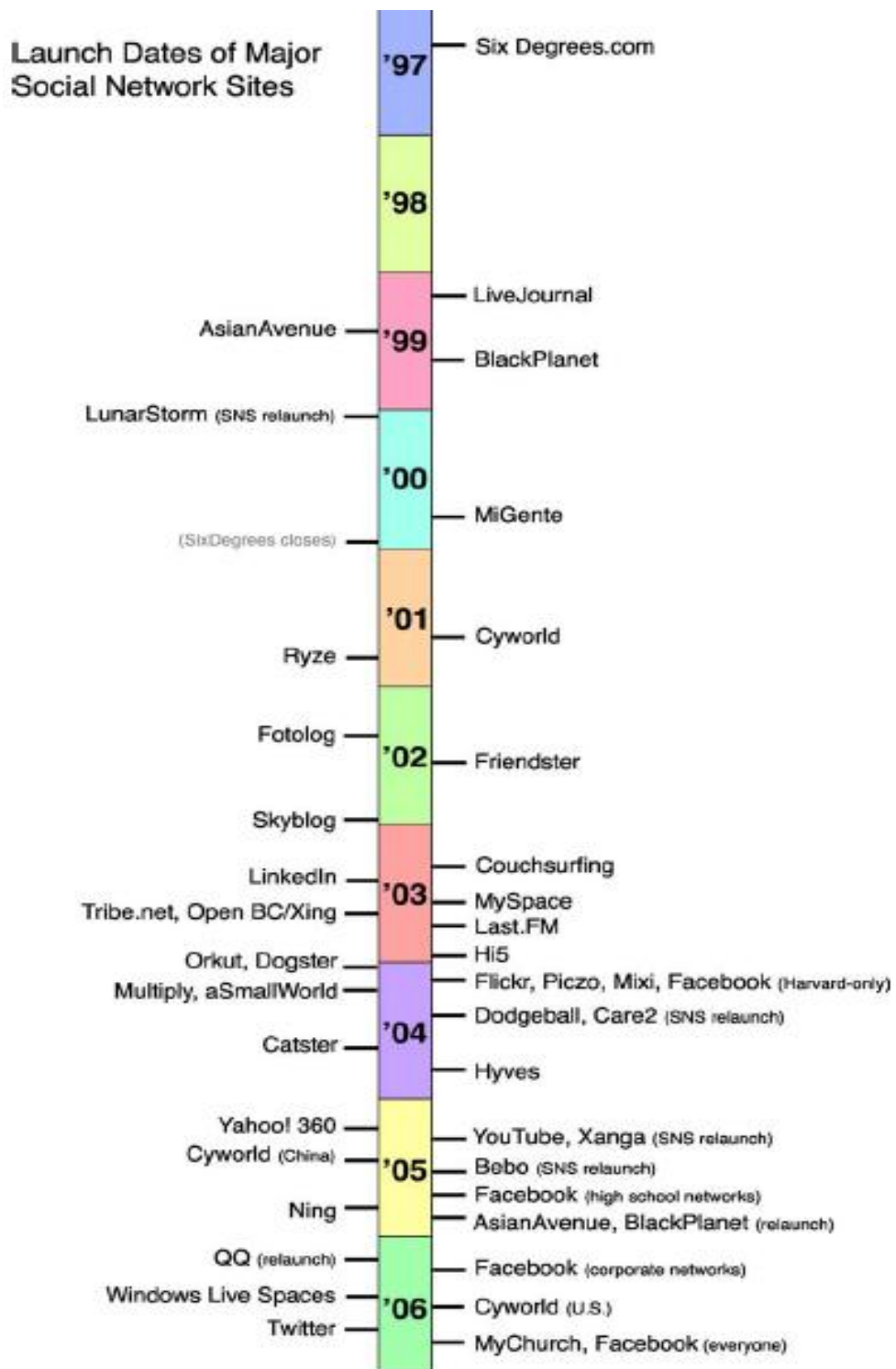
There has been prolific growth in SM use. From a consumer perspective, in New Zealand in 2010, 2.3 million people were using SM: 72% were using Facebook; 14% were using Twitter; 11% were using Bebo; 9% were using Myspace; 8% were using LinkedIn (Saatchi & Saatchi and Colmar Brunton Social Networking Survey, 2010). A Statistics New Zealand survey (2010) had a similar result, determining that 46% of the population had used the internet for social networking in the previous year (Schwarz, 2010). Globally, according to research by The Nielsen Company, in 2010 Facebook had reached over 400 million users and Twitter had reached 50 million tweets a day (Joe, 2010).

The growth in SM use has been due to a number of reasons. These include technological, social and economic factors (Organisation for Economic Co-operation and Development (OECD), 2007). According to the OECD (2007) report, technological factors included increased broadband availability, the improvement of software tools, and the development of more powerful computers and mobile devices. For example, according to Schwarz in 2010, people in 80% of New Zealand homes used the internet and more than a million homes used broadband. Social factors included the rapid uptake of SM by younger age groups. For example, 75% of New Zealanders aged 15 to 39 years (1.6 million) were

using Facebook. Economic factors included the increasing affordability of computers and software and the increasing business interest in SM sites. By 2010 in New Zealand, only one-fifth of homes had no computers (Schwarz, 2010). Internationally, a survey of the world's 100 largest companies found that 66% were using Twitter, 54% had a Facebook page, 50% managed at least one corporate YouTube channel and 33% had created company blogs. Overall, 79% of Fortune 100 companies were using at least one social media channel, with the highest use in European (88%) and U.S.-based (86%) companies (Burson-Marsteller PR firm, 2010).

**Figure 8**

Timeline of the launch dates of many major social network sites and dates when community sites re-launched with social network sites features



Source: Boyd & Ellison, 2008

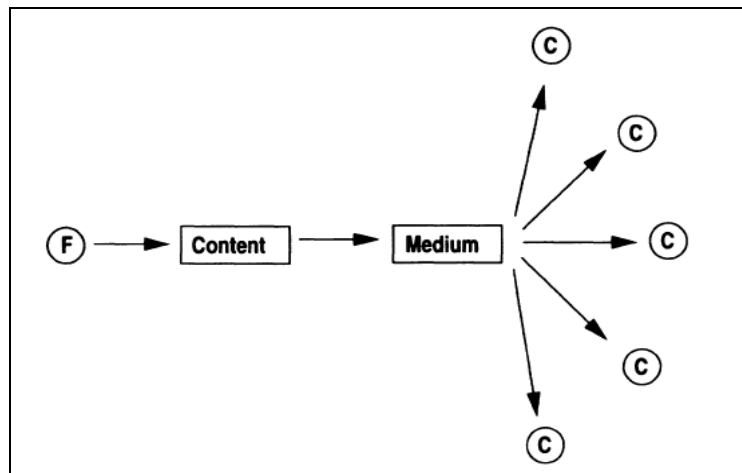
#### **2.4.1.4. Social Media Theory and Research**

SM theory is emerging from a number of disciplines and methodological approaches including marketing (Fisher, 2009; Gretzel, et al., 2008; Hoffman & Novak, 1996), communications (Boyd & Ellison, 2008; Rice, 1987) and information services (Hughes & Fill, 2007; Shao, 2009). SM has been referred to as computer-mediated communications (CMC) (Boyd & Ellison, 2008), as a user (or consumer) generated media (Gretzel, et al., 2008; Mangold & Faulds, 2009; Shao, 2009) and as a digital media (Mulhern, 2009; Strauss & Frost, 2009). Digital media are electronic tools used to store, transmit, and receive digitised information (Wikipedia). According to Strauss and Frost (2009), SM is the newest digital media. Media can be theoretically divided into digital media (often called non-traditional or online) and physical media (also called traditional or offline) although the lines are blurring (Strauss & Frost, 2009).

Hoffman and Novak (1996) are leading academics in the field of computer-mediated environments (CME) and provide valuable theoretical insights that can be applied to SM. At the time of their article they stated that “virtually no scholarly effort has been undertaken by marketing academics to understand hypermedia CMCs. We draw from relevant literature in psychology, communications, media studies, organisational behaviour, and human-computer interactions” (Hoffman & Novak, 1996). While their article slightly preceded popular SM, a related communications technology, internet relay chat, was included in their review and classified as a CMC (Appendix 5). They defined hypermedia CME as “a dynamic distributed network, potentially global in scope, together with associated hardware and software for accessing the network, which enables consumers and firms to 1) provide and interactively access hypermedia content (i.e. machine interactivity), and 2) communicate through the medium (i.e. person interactivity).” One of their contributions was to provide a conceptual model for CME (Figure 9) compared with a traditional marketing communications model (Figure 10). Their conceptual model for CME would need further modification for SM as it does not show the interactivity between consumers and firms.

**Figure 9**

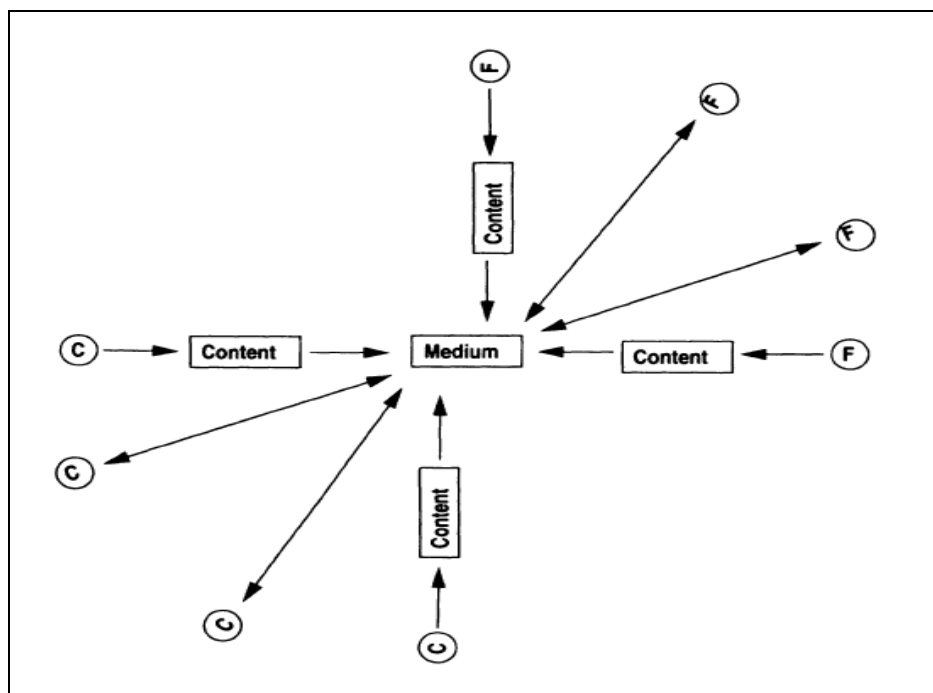
Traditional One-To-Many Marketing Communications Model for Mass Media



Note: F = firm; and C=consumer

**Figure 10**

A Model of Marketing Communications in a Hypermedia CME



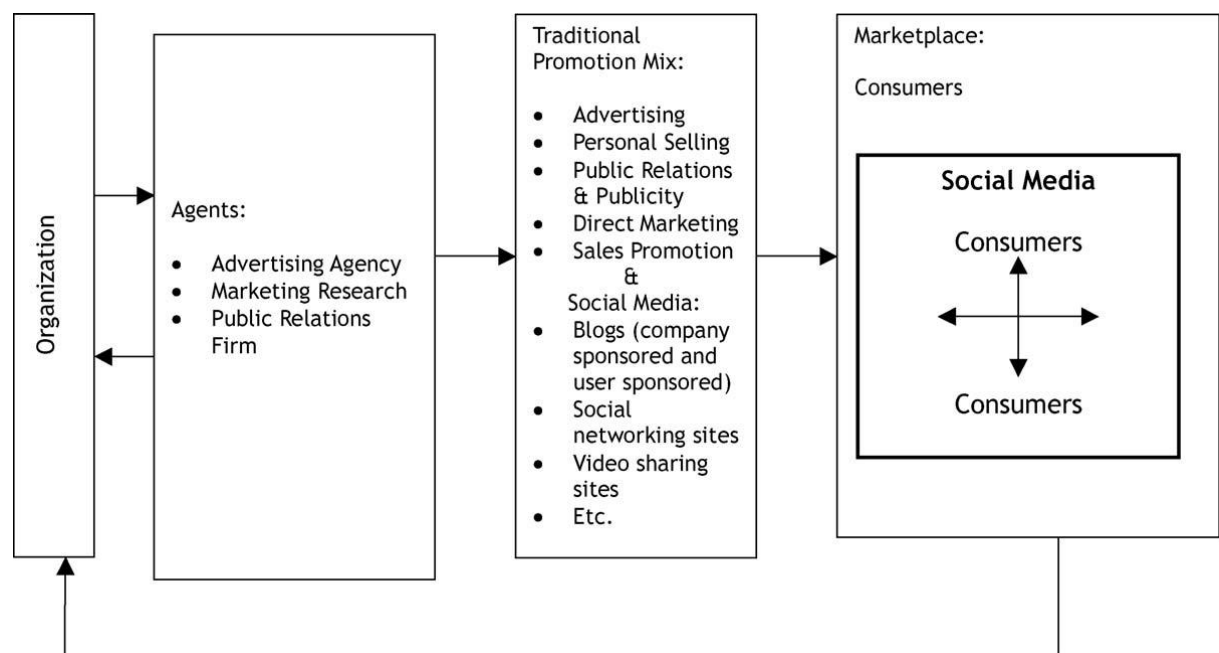
Note: F = firm; and C=consumer

Source: Hoffman & Novak, 1996

SM has two interrelated promotional roles for businesses according to Mangold and Faulds (2009). First, they can communicate with their customers and second, customers can talk to each other (similar to word-of-mouth communication except on a much larger scale). SM also has a market research role as it facilitates customers communicating with businesses. The most profound change is that control of communication has passed from the organisation to the customer as demonstrated in Figure 11, The New Communications Paradigm (Mangold & Faulds, 2009). Given this change in message control, businesses need to communicate differently, aligning messages to their values and objectives. To develop trusting relationships in SM, businesses need to be active, interesting, humble and honest, according to Kaplan and Haenlein (2009).

**Figure 11**

**The New Communications Paradigm**



Source: Mangold & Faulds, 2009

“Vast, uncharted waters still remain to be explored” by researchers of SM (Boyd & Ellison, 2008). Boyd and Ellison (2008, p. 219) found that most of the social network sites research up to that time had been on impression management and friendship performance, networks and network structure, online/offline connections and privacy issues. There is very little research on the adoption and implementation of SM. One article was identified which researched the adoption and use of consumer-generated media and social networking

applications in the travel industry (Gretzel, et al., 2008). However, as its unit of analysis was cross-national and one industry only, it had little relevance to this study. It is also worth noting that, until relatively recently, there has been little academic opportunity for students to examine how to conceptualise social media, with few courses available at tertiary level. For example, it was less than five years ago when the first Social Media Theory and Practice course was approved in 2007 by the Rochester Institute of Technology (Jacobs, Egert, & Barnes, 2009).

#### **2.4.1.5. Social Media's Attributes and Benefits**

Overall, SM has a number of strengths when compared with other media. According to Strauss and Frost (2009), internet-based communications are medium to strong in terms of their specified attributes. SM is interactive, permits multimedia, can be global, is medium-priced, has good reach, and excellent targeting, tracking and message flexibility. SM can be used in a number of ways by marketers to provide value to businesses. Marketers can communicate with their customers, their customers can talk to each other, and SM can be used for market research (Mangold & Faulds, 2009). To recap from the net benefits section, a number of possible benefits for businesses using SM were identified from the literature. It was suggested that social networks add value by: “1) building brand awareness and image, 2) providing access to the voice of loyal customers, 3) increasing supplier commitment, and 4) generating revenue from new and loyal customers” (J. Kim, et al., 2008). According to the 2009 survey commissioned by the CAANZ Digital Leadership Group, marketers expect the benefits of social media for their business to include increased brand loyalty, greater knowledge of what customers and prospects think of their brand, ability to communicate directly with customers, and increased lead generation and sales. Stelzner's 2010 international social media survey identified additional benefits, including reducing overall marketing expenses, new business partnerships and increased website traffic/subscribers/opt-in list.

## 2.4.2. Focal Organisations: SMEs

### 2.4.2.1. SMEs Defined

There is no one international definition of small and medium-sized enterprises. The UK, US, Singapore and New Zealand all have different definitions of SMEs (Table 9). However, all of these countries use the number of employees as one of the determinants for defining an SME. The number of employees to meet the criteria for being an SME ranged from less than 20 in New Zealand to less than 500 in the US. Micro-firms ranged from five employees in Australia to 10 employees in Europe. Qualitatively, an SME can be defined as “an independent business, managed by its owner or part-owners and having a small share of the market” (Wong & Aspinwall, 2004, p. 45).

**Table 9**

A Comparison of Definitions of SMEs

| SME definition  | Source  |
|---|---|
| An SME is an organisation that employs less than 250 employees, as adopted by the European Union (CEC, 1996), the Department of Trade and Industry, UK (DTI, 1999) and the Small Business Service, UK (SBS, 2000).*   | *(Wong & Aspinwall, 2004)<br>**(Gray & Gonsalves, 2002) |
| Less than 250 salaried employees for medium-sized firms, less than 50 for small firms and less than 10 for micro-firms.**   |   |
| The US considers small firms to include those with less than 500 employees.   | (Wong & Aspinwall, 2004)                                |
| The Association of Small and Medium Enterprises (ASME) in Singapore define a small business as one that satisfies at least two of the following criteria: 1) the number of employees in the business should not exceed 100, 2) the fixed assets of the business should not exceed US\$7.2 million, and 3) the annual sales of the business should not exceed US\$9 million. | (Thong, 1999)   |
| SMEs are defined as enterprises with 19 or fewer employees.   | (MED, 2009)   |
| A survey of Australian organisations categorised those having more than 51 employees as large.*<br>Micro-businesses were defined as having up to five employees and small businesses 6-20 employees.**  | *(Neale, et al., 2006)<br>**(Still & Walker, 2006)      |

#### **2.4.2.2. SME Theory and Research**

A number of researchers have found that firm size does impact on the success of an innovation implementation (Damanpour, 1992; Thong, 1999). The reason for this is that SMEs have different characteristics from large businesses (Quazi & Padibjo, 1998; Thong, et al., 1996; Wong & Aspinwall, 2005). In relation to IS, according to Thong et al. (1996), some examples of different characteristics include: highly centralised structures; employ generalists rather than specialists; operating procedures are less likely to be written down; resource poor, both financially and in terms of expertise; managers often have a short-range planning perspective, and; simpler structures often translate to fewer political problems. A more comprehensive list of small business characteristics is provided by Wong & Aspinwall (2004) and is reproduced in an earlier section (Table 5).

As different countries have varying definitions of SMEs, it is proving difficult to generalise research findings across countries. However, some academics have determined that the number of employees at which size matters can be quantified (Thomson & Gray, 1999; Wilkinson, 1999). For example, Wilkinson (1999) reported that it is only when a firm employs more than 20 staff that informal styles of management and communication become less effective. Thomson and Gray (1999) found that in the context of determining management development, size was only an important factor in organisations with fewer than 10 employees.

#### **2.4.2.3. Importance of SMEs**

SMEs account for most of the businesses in many countries (*OECD Small and Medium Enterprise Outlook*, 2002). For example, in 2000 SMEs accounted for 99.8% of all businesses in the European Union and 99% of businesses in USA and Japan. In 2010 the percentage of SMEs in New Zealand was 97%. Wong and Aspinwall (2004) suggest that SMEs are important to economies for numerous reasons. These include: job opportunities (e.g. OECD, 2000, reported that SMEs accounted for 33% of European Union jobs and over 50% of private workers in the USA); source of innovation; niche products and services and specified markets; provide competition and a check on monopolies.

Like a number of other countries, New Zealand is a nation of small businesses. Some important SME demographics (SMEs in New Zealand Structure and Dynamics, 2010)

include: 1) 97% of enterprises employ fewer than 20 people, 2) 90% of enterprises employ fewer than six people, 3) 69% of enterprises have no paid employees, 4) SMEs accounted for 30% of all employees, 5) firms with fewer than six people accounted for 12% of all employees, 6) self-employed people comprise 10% of the labour force, 7) SMEs accounted for 42% of the economy's total output, and 8) firms with fewer than six employees had the highest average real profits per employee.

## 2.5. Conclusion

In conclusion, the literature review sought to gain a theoretical and empirical understanding of determinants of the successful implementation of innovations from an organisational perspective. Relevant innovation and implementation literature for the focal innovation (SM) was sparse. Given this gap in the literature, research findings from the implementation of innovations of a similar type to SM were referred to. From definitions given in the literature, SM was categorised as a Type III (i.e. has strategic relevance given its customer orientation), technical, product innovation. Innovations viewed as being of a similar type to SM included information systems (IS), e-commerce, knowledge management (KM) and enterprise planning systems (ERP). Gaps identified in the literature are summarised in Table 10.

**Table 10**

### Gaps Identified from the Literature Related to Social Media Implementation Research

| Gaps identified from the literature   | Explanation and source  |
|---|---|
| Implementation as the stage of innovation.  | Research had tended to focus on adoption rather than implementation (Dewett, et al., 2007; Wolf, 1994).   |
| Organisations as the unit of analysis.  | Research mostly used individuals rather than organisations as the unit of analysis (Petter, et al., 2008; Wolf, 1994).  |
| Cross-organisational research to inform integrative models of innovation diffusion. | Although cross-organisational studies of the determinants of innovation adoption are abundant, there has been little cross-organisational quantitative research to inform integrative models in the area of innovation diffusion (Damanpour, 1991; Klein & Sorra, 1996; Nord & Tucker, 1987). |
| Social media research.  | There are large gaps still to be explored in relation to social media (Boyd & Ellison, 2008).   |
| Measurement and scales for net benefits of implementing information systems.        | There is still a lot of work to be done in the area of assessing the business value of information systems in terms of measures of success following implementation (DeLone & McLean, 1992).  |
| Research of innovations early in the adopter cycle.                                 | Most adoption research is carried out after an innovation has been completely diffused, leading to a bias towards researching only successful innovations (Rogers, 1995)  |

The Organisational Innovativeness theory with implementation as its dependent variable was found to be the best fit with the objectives of this research. The theoretical framework selected from the implementation stream of research to guide this study was the Variance theory with the TOE (Technology-Organisation-Environment) framework found to be of particular relevance. Success (in preference to effectiveness or extent) of implementation was found to have the most appropriate fit for measuring the dependence relationship. Three guiding models were identified, including Thong's (1999) IS adoption model of small business; Bradford and Florin's (2003) ERP implementation success research model, and; DeLone and McLean's (2003) IS implementation success model.

Mixed empirical support was found for a number of dependence relationships between some of the innovation, organisational and environmental characteristics and implementation success dimensions. Findings differed between studies, depending on the context, making it difficult to generalise results. Aspects of the context that impacted on the outcomes included the stage of diffusion, the type of innovation, and the unit of analysis. For implementation, research findings for other types of innovations found mixed evidence that complexity and competition act as predictors of success. In terms of organisational characteristics, varying organisational characteristics were selected by different researchers. Usually only a maximum of three organisational characteristics were included in researchers' models. Empirical evidence was found to support that the size of organisations does impact on adoption and implementation success and a number of researchers provided information as to the differences in characteristics between large and small organisations. As this study's unit of analysis is SMEs, the most relevant research was in relation to those characteristics identified as belonging to small businesses.

Wong and Aspinwall (2005) provided an empirically validated list of the top 11 organisational characteristics that are critical for small businesses to have in terms of the successful adoption and implementation of ERP. While these had not been linked to success outcomes, based on findings from other research, five of the critical success factors were viewed as likely to have empirical significance. These included management and leadership support, a supportive culture, a clear strategy and purpose, available resources and access to training and education. The two organisational characteristics that had the strongest empirical foundations were management and leadership support, and culture. However, the findings as to the impact of culture were mixed. The dimensions used to determine an organisations culture were mechanistic or organic with formalisation and centralisation being the most

well-used measures. The cultures of small businesses were generally found to be more organic than those of large organisations. Usually research had found that the more mechanistic cultures support implementation.

The variables used to measure the success of an innovation implementation were numerous. While this proliferation of measures is understandable given the different contexts, they make it difficult to generalise findings. DeLone and McLean (2003) suggested a way of categorising measures of implementation success to make research findings more comparable. These dimensions of implementation success included: 1) information quality, 2) system quality, 3) service quality, 4) use (and intention to use), 5) user satisfaction, and 6) net benefits. From a review of the literature it was evident that the most frequently-used measures included use and user satisfaction. Additionally, only one or two dimensions were usually selected. DeLone and McLean (2003) recommended that to make future research more meaningful, multiple dimensions should be used and whenever possible net benefits should be included. Later research by Petter, DeLone and McLean (2008) proposed a model and empirical findings to show the interrelationships between the dimensions of implementation success. However, while there is substantial empirical support for a number of the linkages at the individual level of analysis, there was insufficient data for the majority of the connections at the organisational level of analysis. The only interrelationship at the organisational level that there was moderate to strong empirical support for, was between system quality and net benefits.

The last section of the literature review provided context-specific information. The importance of SM to marketers in terms of its high usage and its unique attributes were outlined. SM's major point of difference for marketers is that message control has passed from them to the customers. However, it was recognised that SM as a communication and promotion channel had only been an option for marketers for less than a decade. For example, two of the most used SM platforms, Facebook and Twitter, have only been available to businesses since 2006. Given SM's relative newness, there has been little time for research to be conducted. Most of the SM research has been on impression management and friendship performance, networks and network structures and online/offline connections and privacy issues (Boyd & Ellison, 2008). There are also articles and text books providing a theoretical framework for including SM into the marketing and communications paradigm. However, these are still at the descriptive stages and there was negligible research identified in the area of diffusion of innovations.

With regard to context, the significance of SMEs was also outlined. As there is no one international definition of SMEs (i.e. the number of employees ranging from less than 20 in NZ to less than 500 in the USA), it is difficult to generalise research findings across countries. Definitions of micro-firms ranged between five (Australia) and ten (Europe) employees. There has been a substantial amount of research investigating the unique characteristics of SMEs and the impact of organisation size on the adoption and implementation of innovations. SMEs are viewed as important contributors to economies. For example, in New Zealand SMEs accounted for 42% of the economy's output and accounted for 30% of all employees (SMEs in New Zealand Structure and Dynamics, 2010).

Chapter Three now follows. It outlines the conceptual model derived from the literature review, along with the hypothesis to be tested. At the conclusion of the chapter is an overview of the research methodology leading into Chapter Four.

### **3. Hypotheses and Conceptual Model**

#### **3.1. Introduction**

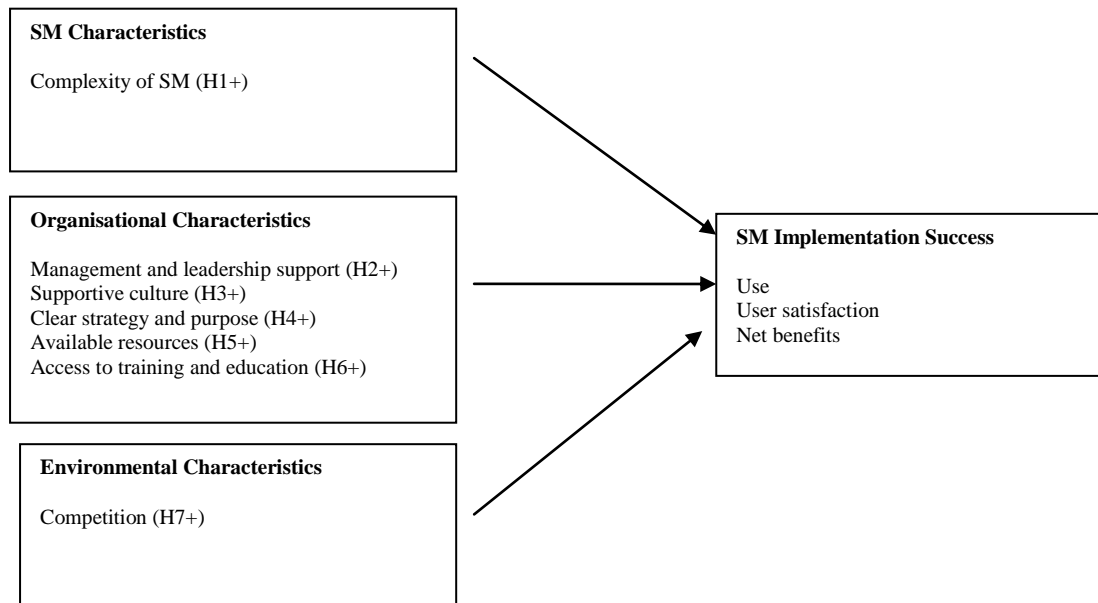
The literature review identified several constructs that have impacted on the successful implementation of a number of information systems (IS) related innovations by organisations. However, the literature for SM is sparse. Given this, a substantial amount of scale development was necessary. These were based on measures for other types of innovations and developed through exploratory factor analysis. An existing model was used to inform and propose hypotheses for empirical testing. As a result of these factors, an exploratory approach was adopted. This chapter includes the conceptual model that guides the research, a discussion of the constructs and the related hypotheses, and an overview of the research methodology.

#### **3.2. Conceptual Model**

Based on the analysis of the literature within a range of research areas, including innovation adoption and implementation, small business management, SM marketing, and successful IS implementation, an exploratory model for the successful implementation of SM by SMEs was developed to guide the empirical research. The model, as presented in Figure 12, includes the key characteristics expected to influence the SM implementation success. The SM characteristic of complexity is expected to impact positively on implementation success for those organisations that rate SM as the least complex. The organisational characteristics of 1) management and leadership support, 2) supportive culture, 3) clear strategy and purpose, 4) available resources, and 5) access to training and education, are anticipated to have a positive influence on SM implementation success. Lastly, the environmental characteristic of competition is likely to have a positive impact on implementation success for those organisations that rate competitive pressure the highest. Two of the characteristics, complexity and competition, were expected from the literature to be more relevant to innovation adoption than to implementation research so were not initially included. However, they were added to the model after the pilot survey as respondents identified them as possible influencers.

**Figure 12**

Conceptual Model: Factors Influencing SM Implementation Success in New Zealand SMEs



### 3.3. Development of Constructs and Hypotheses

Taking an organisational-level perspective, this study examines the relationship between innovation, organisational and environmental characteristics and the implementation success of SM. Guided by the Variance theory, seven constructs have been selected to measure innovation, organisational and environmental characteristics within the context of SM and New Zealand SMEs. One construct has been selected to measure SM characteristics: complexity of SM. Five constructs have been chosen to measure organisational characteristics: 1) management and leadership support, 2) supportive culture, 3) clear strategy and purpose, 4) available resources, and 5) access to training and education. One construct has been selected to measure environmental characteristics: competition.

This study places greater emphasis on measuring the impact of organisational characteristics as previous research for other types of innovation (ERP and IS) found that these were the most significant factors contributing to implementation (rather than adoption) (Bradford & Florin, 2003; Thong, 1999), whereas CEO and innovation characteristics have been found to be more important determinants of adoption (Thong, 1999). Mixed results have

been found as to the impact of competition depending on the measure of the dependent variable used (Bradford & Florin, 2003; Thong, 1999). Complexity and competition measures were added, based on findings from the pilot of this study.

In determining dimensions and measurement of SM implementation success, IS implementation success theory (Delone & McLean, 2003) has been referred to. In keeping with this paper's exploratory nature, a number of dimensions for measuring SM implementation success were included. The most relevant dimensions were considered to be use, service quality, user satisfaction and net benefits. Use is viewed as the only measure of success in the early stages of implementation (Yetton, et al., 1999). As SM is a relatively new innovation that has been sparsely researched, more emphasis has been placed on use than the other dimensions.

The following sections will consider each construct and dimension in more detail. Hypotheses will be proposed and any insights into the relationships between the independent and dependent variables identified.

### **3.3.1. Independent Variables**

#### **3.3.1.1. SM Characteristics**

From reviewing the literature, complexity has been determined to be a possible predictor of successful SM implementation. Complexity can be defined as "the degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers & Shoemaker, 1971). Complexity is assumed to be negatively related to innovation adoption and implementation and this relationship was supported by the majority of studies reviewed by Tornatzky and Klein (1982). However, a later study by Bradford and Florin (2003) of ERP implementation success had mixed results. Their study revealed that perceived complexity of ERP showed a negative relationship with user satisfaction (a measure of implementation success) but no significant relationship with organisational performance (the second measure of implementation success). It is worth noting that the sample size was quite small (51 managers), some of the companies had over 50,000 employees, and the innovation was ERP (an internally-focused group level innovation). For these reasons, while Bradford and Florin's (2003) dependent variable has similarities to this paper, findings are viewed as less reliable and generalisable to the context of this paper.

The reason for the perceived complexity of an innovation to lead to resistance is due to the lack of skills and knowledge of employees (Rogers, 1995). Businesses that perceive their innovation to be complex will tend to diffuse more slowly (Bradford & Florin, 2003). Based on these assumptions and from existing research findings (for different contexts), the following hypothesis is proposed:

**H1:** The less complex SM is perceived, the more positive its relationship to implementation success.

From the literature review, Wong and Aspinwall (2004) provided the most comprehensive list of organisational characteristics that may impact on the adoption and implementation of an innovation (specifically KM) for small businesses. While these characteristics were not linked to success dimensions, they were ranked as critical success factors in a later study published in 2005. The 11 characteristics ranked in order were: 1) management leadership and support, 2) culture, 3) strategy and purpose, 4) resources, 5) processes and activities, 6) training and education, 7) human resource management, 8) information technology, 9) motivational aids, 10) organisational infrastructure, and 11) measurement. From this list of critical success factors, the top five relevant to SM were selected for inclusion in this paper's model. The fifth-ranking success factor, processes and activities, was not viewed as relevant to SM and was therefore replaced with the sixth-ranking critical success factor, training and education. Based on these success factors, the predictors of successful SM implementation in New Zealand SMEs selected were culture, management support, strategy, training and resources. A brief discussion of each factor and the subsequent hypotheses follows.

### **3.3.1.2. Organisational Characteristics**

From the literature review, *management support* was identified as a critical factor to IS effectiveness in both large and small businesses (Bradford & Florin, 2003; DeLone, 1988; Ginzberg, 1981b; Kwon & Zmud, 1987; Wong & Aspinwall, 2005; Yap, et al., 1992). The reasons provided for this include: 1) motivation, and 2) to ensure sufficient allocation of resources (Lucas, 1981). SMEs are less hierarchical with fewer levels of bureaucracy in the

vertical direction, meaning management is closer to the operational functions. Given this, they are likely to have a high degree of visibility in the organisation that may correlate with support (Wong & Aspinwall, 2004). Wong and Aspinwall's (2005) study ranked having management and leadership support as the most critical success factor in the adoption and implementation of KM in the UK SME sector.

Given the supportive findings from the literature review, the following hypothesis is proposed:

**H2:** Management and leadership support will have a positive relationship to SM implementation success.

The findings for the impact of *culture* from the literature review were mixed. From the literature, organisations that are early adopters of innovations have usually been found to have more organic cultures, whereas successful implementers frequently have more mechanistic cultures (see the literature review for definitions and a discussion of empirical findings for mechanistic and organic cultures). Centralisation and formalisation are the two most frequently used measures of culture. Wong and Aspinwall's (2005) study ranked having a supportive culture as the second most critical success factor in the adoption and implementation of KM in the UK SME sector. More exploration as to which type of culture (organic or mechanistic) within a New Zealand SME context is more supportive of SM implementation is required.

**H3:** A supportive culture will have a positive relationship to SM implementation success.

A rational *strategy* helps to clarify the reason for implementing an innovation. It also provides the focus and values for everyone in the organisation (Wong & Aspinwall, 2005). Minimal research appears to have been carried out on the impact of strategy on the success of innovation implementation. Bradford and Florin (2003) had mixed findings using a related measure of organisational objectives consensus. They concluded that it was significant on organisational performance but not as a predictor of user satisfaction (findings have limited reliability due to small sample size and less relevance due to a different context). Wong and

Aspinwall's (2005) study ranked having a clear strategy and purpose as the third most critical success factor in the adoption and implementation of KM in the UK SME sector. Based on the literature, a clear strategy and purpose could be a predictor of successful implementation and the following hypothesis is put forward:

**H4:** A clear strategy and purpose will have a positive relationship to SM implementation success.

Small businesses suffer from *resource* poverty in terms of financial constraints, limited professional in-house expertise and a susceptibility to external forces (Thong, et al., 1996). There seems to have been little empirical research carried out as to the impact of resources on implementation. One study found that external IS expertise was critical to effective IS implementation in small businesses (Thong, et al., 1996). Wong and Aspinwall's (2005) study ranked having available resources as the fourth-ranked critical success factor in the adoption and implementation of KM in the UK SME sector. Resources referred to in their study included the allocation of financial resources, human resources and providing time. The hypothesis below has been proposed in recognition of the role resources are likely to play in terms of successful implementation of SM.

**H5:** Available resources will have a positive relationship to SM implementation success.

*Training* is more likely to be informal due to limited resources (Matlay, 2000; Wong & Aspinwall, 2004). Only findings by Bradford and Florin (2003) were identified to support that training does have a positive impact on innovation implementation. Wong and Aspinwall's (2005) study ranked having access to training and education as the sixth-ranked critical success factor in the adoption and implementation of KM in the UK SME sector. Given that there is some evidence to support that having access to training and education can have a positive impact on implementation, the proposed hypothesis is:

**H6:** Access to training and education will have a positive relationship to implementation success.

### **3.3.1.3. Environmental Characteristics**

For the purposes of this paper, *competition* is viewed as being within the business environment in which the business operates. A number of researchers have included competition and related measures as a characteristic which could impact on innovation implementation (Bradford & Florin, 2003; Grover & Goslar, 1993; Thong, 1999). The findings have been mixed. This variation in findings is likely to be influenced by the different contexts of each study including the type of innovation and the size of the organisations and the validity of the survey.

According to Thong (1999), a small business in an environment that is more competitive would be more likely to use IS to gain a competitive advantage. Based on this assumption and the positive findings from the literature review, the following hypothesis was proposed:

**H7:** Competitive pressure to adopt SM will have a positive relationship to implementation success.

### **3.3.2. Dependent Variable: Successful Implementation**

For the purposes of this paper, successful implementation can be defined as “widespread acceptance and use, satisfied users, meeting of managerial expectations, and improved organisational performance” (Real & Poole, 2005). Successful implementation is proving complex to evaluate from an academic point of view, with the majority of studies using different success measures depending on their context (DeLone & McLean, 2003). Furthermore, while there is a strong body of research from an individual perspective, there is little empirical evidence from an organisational perspective (Petter, et al., 2008). The majority of researchers (85% for the decade up to 1992) elected to use a single success dimension, usually use or user satisfaction (DeLone & McLean, 1992).

However, in 2003, DeLone and McLean provided an extended model of IS implementation success to guide future research which included six dimensions: system

quality, information quality, service quality, use, user satisfaction, and net benefits. Definitions are included in the literature review section. They suggested that there are sequenced interrelationships between these dimensions, starting with system quality, information quality and service quality, which then flow onto use and user satisfaction. It was theorised that all of these impact on net benefits and interact with each other. Based on empirical evidence in 2008, there is only support for one of these interrelationships, between system quality and net benefits.

With regard to measuring the success of this paper's innovation, SM, its particular context needed to be considered. Its primary objective is to communicate with prospects and customers; it is a relatively new innovation so it is likely that organisations will not have been using it for long periods of time, and the actual SM systems are usually owned by companies separate from the user organisations. Little academic research for SM implementation was identified. With reference to these factors, and that organisations (rather than consumers) will be surveyed, the dimensions of success viewed as most actionable included use, user satisfaction and net benefits. Net benefits measures are viewed as the most important success dimension and need to be determined by the context and objectives.

### **3.4. Overview of Research Methodology**

Following the development of the conceptual model and hypotheses, a pre-test including expert critique was carried out. Next were three phases of research using a combination of quantitative and qualitative approaches (see Figure 13). The first phase included the pre-test and pilot, including an expert critique and an electronic survey. The electronic survey was first sent to 149 Dunedin members of the New Zealand Retailers Association (NZRA). Then it was sent to the remainder (about 5,000) of NZRA's membership (excluding Christchurch due to the recent earthquake). The second phase involved posting the link for the final electronic survey onto Facebook. The third phase included three SME interviews.

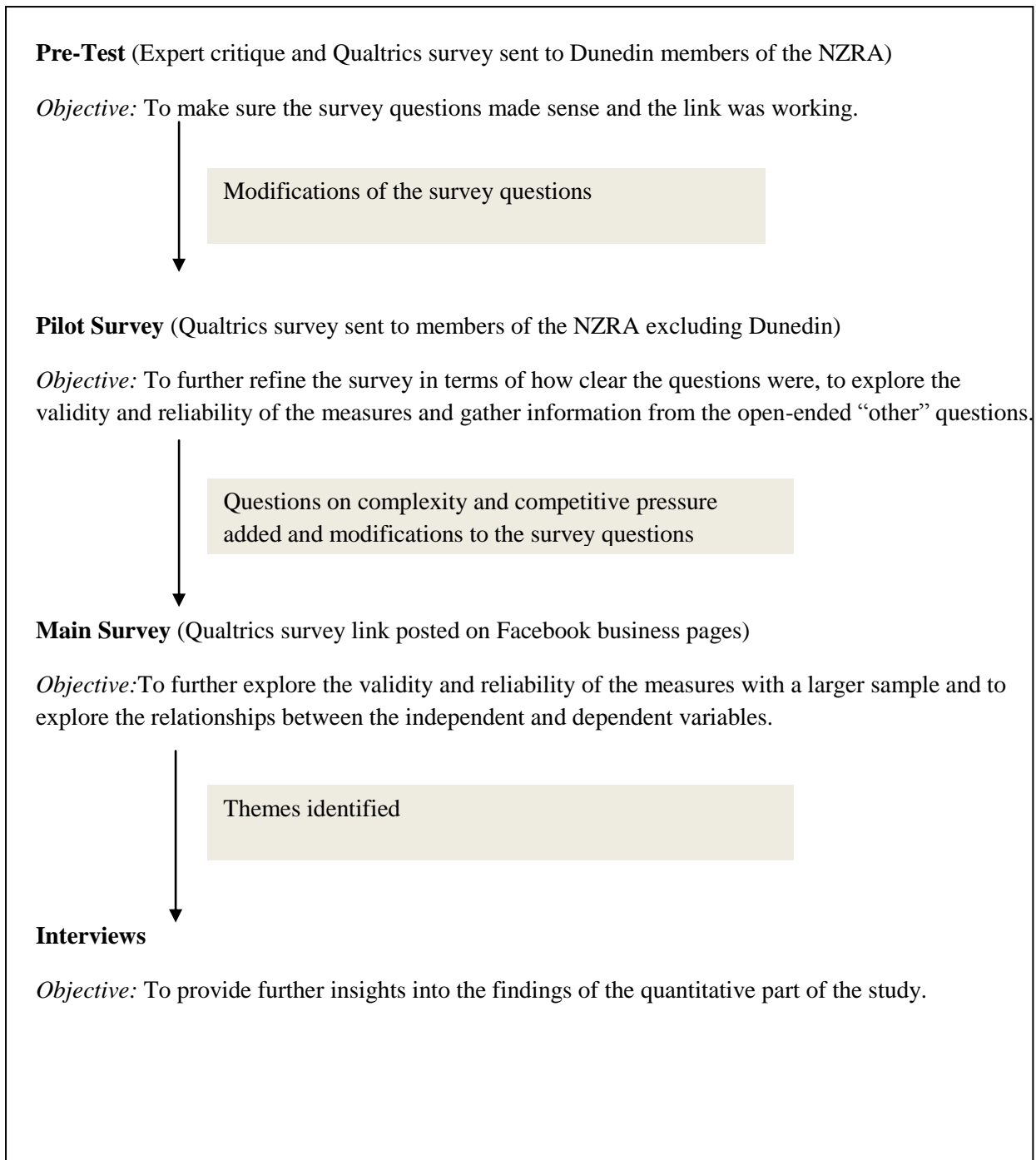
While many academics see the differences in underlying assumptions of the quantitative and qualitative paradigms as being conflicting, another group thinks that they can be reconciled if they are used to complement each other in a single study (Johnson, 2007; Sale, Lohfeld, & Brazil, 2002; Tashakkori & Teddie, 2003; Yu, 1994). This paper uses quantitative and qualitative approaches to add depth to the overall findings. While the paper has an

exploratory thrust, primarily due to the lack of data for SM, there is a base of related research for other innovations to provide guidance for quantitative research. However, further insights into the specific context of this survey, New Zealand SMEs and SM, has been gained from the qualitative phase of the study. The logic behind exploratory data analysis is to perform the function as a model builder for later confirmatory data analysis (Yu, 1994). A similar approach was taken by researchers, determining the adoption of another new innovation: third generation mobile multimedia services (Pagani, 2004).

Development of the quantitative phase of research is covered in Chapter Four and the results are reported and analysed in Chapter Five. The qualitative phase of research is covered in Chapter Six.

**Figure 13**

Overview of the Research



## **4. Phase One Survey Development**

### **4.1. Introduction**

This chapter gives an overview of the focal innovation, the survey design, operationalisation of the constructs, survey pre-testing and the implementation of the quantitative stage of the study.

### **4.2. Focal Innovation: Social Media**

SM represents a communications and promotions opportunity for marketers. SM can be defined as “online tools and platforms that allow internet users to collaborate on content, share insights and experiences, and connect for business or pleasure” (Strauss & Frost, 2009). Given SM’s prolific and recent growth, it is viewed as a relevant innovation to research at this time. In terms of the New Zealand environment, as most homes have a computer and 80% use the internet, it is expected that SM will be an option considered increasingly by businesses to communicate with their consumers (Schwarz, 2010). While it is not clear how diffused SM is in the New Zealand marketplace, indications internationally are that it has been widely used. International research for large firms found that overall 79% of Fortune 100 companies were using at least one SM channel (Burson-Marsteller PR firm, 2010).

### **4.3. Survey Design, Distribution and Data Collection**

When designing the survey instrument, the principal objective should be to collect reliable, valid and unbiased data from a representative sample, in a timely manner and within given resource constraints (McColl, et al., 2001). To achieve this objective, decisions around the mode of data collection, the format and content of the survey had to be made. After consideration of the literature, the context and the available resources, the mode selected was a self-administered survey designed in Qualtrics with the link posted into emails for pre-testing and then onto Facebook.

There are a number of studies on print versus electronic surveys (Boyer, Olson, Calantone, & Jackson, 2002; Mavis & Brocato, 1998). According to Boyer et al., the overall findings indicated that electronic surveys are generally comparable with print surveys in most respects.

Advantages of electronic surveys included fewer missing responses and greater flexibility, with different respondents receiving different questions depending on the response to earlier questions (Boyer, et al., 2002). Additionally, electronic questionnaires were found to be less costly and the initial returns were received more promptly than through the post (Mavis & Brocato, 1998). However, response rates for electronic questionnaires were found to be lower and reminders were less effective (Mavis & Brocato, 1998). Also electronic surveys generally required a greater pre-investment of time and resources to develop and presented additional challenges in terms of learning the software (Boyer, et al., 2002).

The format of the survey took into consideration Dillman's Total Design Method (1978) within the context of an electronic mode. This included ordering questions so that general questions preceded specific questions and vertically aligning answer boxes on the page (Dillman, 1978, 1998). Specific research in the electronic survey environment was also referred to. It was reported that electronic surveys need to be plain and include automatic log-in functionality (Porter, 2004) and use a consistent ground-figure format (e.g. black typing) to increase the accurate comprehension (Dillman, 1998). The format of the survey also took into account Porter's (2004) assertion that the ideal survey has been found to take 13 minutes or less to complete.

The first two questions of the final survey were used to screen out those respondents who did not fulfil the criteria. If respondents qualified, they were asked some general questions followed by questions on the focal innovation, SM, including its complexity, competitive pressure and associated perceived net benefits. After this there were questions on resources. Then there were questions on the training and education construct, management and leadership support construct, culture construct, and the strategy construct. The final section included demographic questions. The survey is included in Appendix 6.

#### **4.4. Operational Measures**

Operational measures for this study's model of successful implementation of SM have been adapted from existing scales wherever possible for modification to the current context. Given the gap in literature for SM, other IS-related measures have been referred to in order to guide the development of the measures of the independent variables. The leveraging of existing scales wherever possible and then making refinements for the context is a

recommended approach (Moore & Benbasat, 1991). The adapted scales were based on the principal factor (reflective rather than formative) model and therefore items could be dropped without affecting the construct validity. The main difference between the two types of measures is that indicators of reflective measures are interchangeable whereas for formative measures every item is critical to complete the coverage (Diamantopoulous & Winklhofer, 2001). As the scales were reflective, it was expected that when less relevant items in terms of an SM context were dropped, the Cronbach alpha (a numerical coefficient of reliability) would still be relevant although it was expected to reduce (Jarvis, Mackenzie, & Podsakoff, 2003). The coefficient alpha was used as the measure for the internal consistency of the items as recommended by a number of academics (Churchill, 1979; Jarvis, et al., 2003).

The independent variable constructs used to measure organisational characteristics constructs were modified from Wong and Aspinwall's (2005) study of the important factors for KM adoption in the SME sector. They chose to use a six-point Likert scale. Their reasoning was that a Likert with a mid-point would tend to undermine extreme positions (Albaum, 1997). By avoiding a mid-point, the occurrence of the central tendency error would be prevented (Gotzamani & Tsiotras, 2001). The six-point Likert scale has also been selected for this paper based on the same reasons. The constructs for the independent variables complexity and competition were modified from Bradford and Florin's (2003) study of characteristics which influence the successful implementation of ERP and were added after the pilot.

However, in order to measure the dependent variable—successful implementation of SM—new context-specific measures were required. In addition to modifying scales to measure the independent variables, one of the objectives of this research was to get a feel for measures of successful implementation of SM across a number of success dimensions as specified by Delone and McLean (2003). To learn something, such as which measures to include, which can then be used in future confirmatory research, is viewed as a suitable objective for exploratory quantitative research (Cavana, Delahaye, & Sekaran, 2001).

#### **4.4.1. Independent Variables**

##### **4.4.1.1. Complexity**

There are existing scales to measure complexity (Beatty, et al., 2000; Bradford & Florin, 2003; Moore & Benbasat, 1991; Thong, 1999). The four-item Perceived Complexity scale selected to guide this study was adapted from Moore and Benbasat (1991) by Bradford and Florin (2003) (Table 11). This scale had an acceptable Cronbach alpha of .88 and was also fitting as its focal innovation, ERP, was viewed as having enough similarities to SM to be able to be modified. There are some limitations in borrowing from this ERP research. Firstly, ERP is an internally-focused innovation whereas SM is a customer-focused innovation. Secondly, the firms were a lot larger than those in this research. ERP was replaced by SM for the purposes of this study.

**Table 11**

Scale for Perceived Complexity

| <b>Perceived Complexity items</b>   |
|---|
| 1. Our firm's interaction with the ERP system is clear and understandable.            |
| 2. It is easy for firm employees to get the ERP system to do what they want it to do. |
| 3. Learning to use the ERP system has been easy for employees.                        |
| 4. Overall, the ERP system is easy to use.  |

Source: Bradford & Florin, 2003

##### **4.4.1.2. Organisational Characteristics**

Organisational characteristics research in relation to the context (SM and New Zealand SMEs) of this study is limited. To fill this gap, as mentioned in the literature review, measures for knowledge management (KM) were modified from Wong and Aspinwall's (2005) research. There are some limitations identified in doing this. These include: 1) the

differences in the type of innovation, 2) in the definition of the stage of diffusion, and 3) in the size of the organisations surveyed.

Firstly, the difference in innovation type was considered. KM was defined as “an emerging set of organisational design and operational principles, processes, organisational structure, applications and technologies that helps knowledge workers dramatically leverage their creativity and ability to deliver business value” by Gurteen (1998) and cited in Wong and Aspinwall (2005, p. 65). Based on this definition, KM was viewed more as an administrative innovation (i.e. for the benefit of management) whereas SM fitted more closely as a technical innovation (i.e. new service created that is related to the primary work activity of the organisation) (Dong, et al., 2008). The main difference is the target audience – internal for KM and external for SM. However, both KM and SM rely on computers, information and communication, that is, computer-based information systems (IS) and therefore KM was viewed as having enough similarities to borrow from.

Secondly, Wong and Aspinwall (2005) used the terms *adoption* and *implementation* interchangeably. This is in contrast to this paper which views implementation as being separate to adoption. Therefore some of Wong and Aspinwall’s (2005) constructs were more about establishment rather than performance and therefore less relevant to this paper. Thirdly, while Wong and Aspinwall (2005) asserted that their research was for small businesses, their definition is different from the New Zealand definition. Their definition was the European Union definition: the total number of employees is fewer than 250. They viewed firms with fewer than 10 employees as micro-firms, 10-49 employees as small enterprises, and 50-259 employees as medium enterprises. All were included in their research results.

Given these limitations, the organisational characteristics selected from the eleven provided as most relevant to this paper included management and leadership support, culture, strategy and purpose, resources, and training and education. These were ranked in the top six critical factors for KM adoption in the UK sector. The fifth-ranked critical success factor, processes and activities, was not included as it was seen as less relevant to this paper’s focal innovation. These constructs will be outlined below and items detailed in Table 12. Items discarded by the author or not selected as relevant for this research are indicated in the Table. For this paper, KM was replaced by SM.

**Table 12**

## Scale for Organisational Characteristics

| <b>Management and leadership support construct</b>   | <b>Critical Success Ranking</b> | <b>Cronbach Alpha</b> |
|--|---------------------------------|-----------------------|
| 1) Leaders act as catalysts for KM.<br>2) Management establishes the necessary conditions for KM.<br>3) Management acts as role model to exhibit the desired behaviour.<br>4) Leaders encourage knowledge creation, sharing and use. (Item not selected.)<br>5) Management recognises KM as important to business success (Item discarded by author.)<br>6) Management demonstrates commitment to KM.<br>7) Management demonstrates support for KM.  | 1                               | .71                   |
| <b>Culture construct</b>   |                                 |                       |
| 1) A culture that values knowledge seeking and problem solving (Item not selected.)<br>2) High level of trust among employees in sharing knowledge.<br>3) Sharing of mistakes openly without the fear of punishment.<br>4) Extent of collaboration among employees.<br>5) Encouraging teamwork among employees. (Item discarded by author.)<br>6) Empowerment of employees to explore new possibilities.<br>7) Extent to which individuals are encouraged to ask.<br>8) Acceptance of knowledge sharing (not hoarding) as a strength. (Item not selected.) | 2                               | .87                   |
| <b>Strategy and purpose construct</b>  |                                 |                       |
| 1) A common vision that people support.<br>2) Development of a KM strategy.<br>3) Clear objectives and goals for KM.<br>4) Alignment of the KM strategy with the business strategy.<br>5) Extent to which the KM strategy is supporting a vital business strategy.<br>6) Identification of the potential value to be achieved.   | 3                               | .86                   |
| <b>Resources construct</b>   |                                 |                       |
| 1) Consideration of resources availability when investing in KM.<br>2) Proper budgeting and allocation of resources for KM.<br>3) Sufficient financial resources for building a technological system.<br>4) Sufficient human resources to support a KM initiative.<br>5) Providing time to employees to perform knowledge related activities.  | 4                               | .85                   |
| <b>Training and education construct</b>  |                                 |                       |
| 1) Training on the concepts of knowledge and KM.<br>2) Building awareness of KM among employees through training.<br>3) Training on using the KM system and tools.<br>4) Training for individuals to take up knowledge related roles.<br>5) Training in skills development such as creative thinking, problem solving, communication, soft networking, team building etc. (Item not selected.)   | 6                               | .89                   |

Source: Wong &amp; Aspinwall, 2005

#### 4.4.1.3. Competition

From reviewing the literature, there were no environmental characteristics measures identified specifically for SM. Given this, Bradford and Florin's (2003) competition scale for ERP was selected as the base for this paper's scale (see Table 13). It was a general scale with little implication as to the context of the innovation. Additionally it was used to measure implementation success, the same dependent variable as this paper. There are some limitations in borrowing from this ERP research as noted under complexity. Firstly, ERP is an internally-focused innovation, whereas SM is a customer-focused innovation. Secondly, the firms were a lot larger than those in this research. However, what was still considered relevant was adapted.

The two-item competitive pressure scale was developed by Bradford and Florin (2003) based on an earlier work by Thong (1999). The Cronbach alpha was slightly on the low side at .60. However, as this was for exploratory research it was considered adequate. ERP was replaced by SM for the purposes of this study.

**Table 13**

Competitive Pressure Scale

| Competitive pressure construct  |
|---|
| 1) Our firm experienced competitive pressure to implement an ERP.<br>2) Our firm would have experienced a competitive disadvantage if ERP had not been adopted. |

Source: Bradford & Florin, 2003

#### 4.4.2. Dependent Variable

As determined in the section on construct development, the three dimensions of implementation success selected as most relevant were use, user satisfaction and net benefits. Given the exploratory nature of this research, in some instances interval scales, without absolute certainty that the difference between each response was the same, were used. Cavanna et al. (2001, p. 198) state that "in business research it has become conventional to accept that such response scales on questionnaires are interval scales". Responses were viewed as being for the organisation as a whole rather than from an individual perspective.

Two measures of use were selected. These included: 1) the number of platforms used, and 2) the percentage of customers using SM. These measures help to understand the nature of use. The number of platforms used is also an indicator of service quality as it could be assumed that the more platforms offered then the more responsive they are to customers' needs. Use is voluntary in terms of customers and is measured from the time of adoption. Whose use to measure was decided as the person in the organisation who was responsible for implementing SM. One informant was viewed as suitable, given the unit of analysis was SMEs with less hierarchical structures (Thong, et al., 1996).

The next dimension included was user satisfaction. Upon examination of Bailey and Pearson's (1983) tool for measuring computer user satisfaction and the other multi-item scales identified, the items were not transferable to measuring user satisfaction of SM. The reasons include the differences between the innovations (IS and SM), the unit of analysis (one organisation versus many and/or individual versus groups) and also the type of study (laboratory or field). However, from the research a number of overall satisfaction questions have been identified as being suitable to guide this paper (Bradford & Florin, 2003; Ginzberg, 1981a; Langle, et al., 1984) (Table 14). As there was only one question, reliability analysis was not relevant. The resultant question to measure management's overall satisfaction with SM was: How satisfied are management with the performance of SM in terms of meeting firm-specific objectives measured by hits, comments, leads or sales?

**Table 14**

Overall Satisfaction Questions

| Overall satisfaction questions   |                           |
|--|---------------------------|
| Question   | Source                    |
| Functional managers are satisfied with the ERP package(s) adopted by our organisation. | (Bradford & Florin, 2003) |
| Indicate your general level of satisfaction with systems.                              | (Langle, et al., 1984)    |
| All in all, how satisfied are you now with OLPM?                                       | (Ginzberg, 1981b)         |

The third dimension of SM implementation success was net benefits. Based on the SM organisational benefits identified (Table 15) (CAANZ Digital Leadership Group, 2009;

Stelzner, 2010), increases in brand loyalty and profit are expected to be key net benefits of organisations implementing SM. Given the difficulties in measuring net benefits already highlighted in the literature review, and that SM has in many cases only been used for a short period of time (less than one year), subjective measures will be used in this paper’s research. Additionally, marketing academics have indicated that there is a “lack of valid and reliable measures concerning loyalty” (Odin, Odin, & Valetter-Florence, 2001, p. 75). Subjective measures used for measuring the value of e-business are provided in Table 16. Zhu and Kraemer’s (2005) research had a similar type of innovation, was from an organisational perspective, and had a large dataset (624 firms). Both brand and financial measures for net benefits of SM will be explored in the pilot and main survey.

**Table 15**

Perceived Net Benefits of Using SM Based on Previous Research

| <b>Perceived net benefits of using SM</b>                               |
|---|
| Increased brand loyalty.  |
| Greater knowledge of what customers and prospects think of their brand. |
| Ability to communicate directly with customers.                         |
| Increased lead generation and sales.                                    |
| Reducing overall marketing expenses.                                    |
| New business partnerships.  |
| Increased website traffic/subscribers/opt-in list                       |

**Table 16****E-business Value Measurement**

| <b>E-business value (Continuous variable, 5-point Likert scale)</b> |   |
|---|---|
| <b>Construct and Cronbach alpha</b>                                 | <b>Items</b>  |
| Impact on sales (.88)   | 1) Sales increased<br>2) Sales area widened<br>3) Customer service improved                               |
| Impact on internal operations (.90)                                 | 1) Internal processes more efficient<br>2) Staff productivity increased                                   |
| Impact on procurement (.87)   | 1) Procurement costs decreased<br>2) Inventory costs decreased<br>3) Coordination with suppliers improved |

Source: Zhu & Kraemer, 2005

#### **4.4.3. Additional Survey Questions**

As previously mentioned, two questions at the beginning of the survey were used to screen out those businesses that were not using SM and those that had more than 19 employees. The next section contained general questions including type of industry, when the business was established and determining other communications technologies used. The pilot survey contained some different questions to the final survey. For those businesses not using SM, there was an additional question as to the reason why. Also an open-ended “other” question was included to determine additional reasons why businesses were and were not using SM and to determine where the technical support for SM came from. The data collected from these questions led to further review of the literature, modifications of the model and additional questions added to the final survey. At the conclusion of the survey, information of a demographic nature was requested. This included the role of the respondent, their gender, whether they had an IT or marketing background, the annual revenue of their organisation and regional location of their head office. The respondent was then thanked for completing the survey.

## **4.5. Validity and Reliability Analysis**

### **4.5.1. Face Validity**

Face validity is “an aspect of validity examining whether the item on the scale, on the face of it, reads as if it indeed measures what it is supposed to measure” (Cavana, et al., 2001, p. 456). The expert critique and convenience sample pre-test were the steps taken to test the survey for clarity and to ensure it was comprehended in the intended way.

### **4.5.2. Content Validity and Reliability**

Content validity is the “assessment of the degree of correspondence between the items selected to constitute a summated scale and its conceptual definition” (Hair, Black, Babin, Anderson, & Tatham, 2006, p. 102). Hair et al. (2006) goes on to say that validity is about how well the concept is defined by the measures, whereas reliability relates to the consistency of the measures. Where possible, a strong conceptual foundation in terms of prior research was sought to support the validity and reliability of this paper’s measures. A two-step research approach was taken to assess the validity and reliability of the proposed measures. An exploratory factor analysis including a reliability analysis using the Cronbach alpha was carried out on the pilot (N = 53) and the main survey (N = 136).

## **4.6. Survey Pre-testing**

After receiving ethics approval from the Research Committee at Victoria University, data collection was carried out. The draft survey went through a number of levels of pre-testing. These included: 1) an expert critique including academics and practitioners, 2) the survey link was emailed to a small sub-set of the pilot sample (Dunedin NZRA members), and 3) the survey link was emailed to the remainder of the members of the NZRA (excluding most of the Christchurch members as they were recovering from a major earthquake). Changes were made to the survey following each round of feedback. A summary of the changes made following the pre-testing is included in Table 17.

**Table 17**

Summary of Research Constructs and Measures for Pre-testing including Pilot

| Construct/<br>Variables           | Source of Draft Measure  | Summary of Draft Measure<br>for Pre-testing   | Summary of Changes for Main<br>Survey  |
|-----------------------------------|--|---|--|
| Management and leadership support | Modified from KM measure, Wong and Aspinwall (2005)  | 4- item measure   | No change to items.  |
| Supportive culture                | Modified from KM measure, Wong and Aspinwall (2005)  | 5-item measure  | No change to items.  |
| Clear strategy and purpose        | Modified from KM measure, Wong and Aspinwall (2005)  | 6-item measure  | No change to items.  |
| Available resources               | Modified from KM measure, Wong and Aspinwall (2005)  | 5-item measure  | No change to items.  |
| Access to training and education  | Modified from KM measure, Wong and Aspinwall (2005)  | 4-item measure (reduced from 5)   | No change to items.  |
| Complexity of SM                  | Modified from ERP measure, Bradford and Florin (2003)  | 4-item measure  | Added after pilot. Identified from answers to question: "What are the reasons that your business is not currently active in SM?" Originally not included as little support from successful implementation literature to do so.   |
| Competition                       | Modified from ERP measure, Bradford and Florin (2003)  | 2- item measure   | Added after pilot. Identified from open ended "other" question as part of "Why is your organisation using social media?" Originally not included as little support from successful implementation literature to do so.   |
| Use                               |  | Three questions: 1) What SM platforms does your organisation use now? 2) How frequently are your platforms updated? 3) What is the percentage of customers using SM?    | Another question was added to find out how many SM platforms they were using. Also, the scale for recording the time commitment to SM was changed as "other" comments said it was confusing. Additionally, both changes would allow for answers to be evaluated as interval scales.                                |
| User Satisfaction                 | Modified from ERP measure, Bradford and Florin (2003) and made relevant to SM from research that found the primary indicators of SM success were hits, comments, leads or sales, Barnes and Mattson (2009) | One question measuring overall management satisfaction of using SM.   | No change  |
| Net benefits                      | Perceived net benefits of using SM were identified from research by the CAANZ Digital Leadership Group (2009) and Stelzner (2010).   | Seven questions were included. There was no existing theoretical research to base assumptions on in terms of how the questions might load together to form a construct. | From the pilot, it was evident that the questions did load on two components and these had $\alpha$ 's above .6. This indicated that there were potentially two sub-scales, increased brand loyalty and reduced expenses, for measuring net benefits. A larger sample was required to substantiate these insights. |

#### **4.6.1. Expert Critique**

Two academic experts and four user experts critiqued the survey. The two academic experts were selected for their knowledge of the survey design and academic methodology. Two user experts were selected for their knowledge of SM. One was the owner of an SM company. The other person had attended a number of courses on SM and was implementing it as part of her work. The other two experts were selected for their knowledge of SMEs. One was the CEO of a business association and the other was a senior manager from the same association. The comments from the expert academics and users were incorporated into the survey to enhance its face validity. The changes were around clarity.

#### **4.6.2. Test Survey**

The test survey Qualtrics link was emailed on 24 March 2011 by the New Zealand Retailers Association (NZRA) to Dunedin members. The survey was accepted by 149 members and completed by three respondents by the close-off date of 4 April. A reminder was sent a few days before the close-off date. The response rate was lower than expected, at about 2%. While few new insights were gained as to the question clarity, the link and survey flow were successful. Given the low response rate, an incentive of a draw to win a case of wine was added to the pilot survey.

#### **4.6.3. Pilot Survey**

##### **4.6.3.1. Survey Distribution, Data Collection and Response Rate**

The pilot survey Qualtrics link was emailed on 14 April 2011 by the NZRA to about 5,000 members (excluding Dunedin members who had already been sent the test survey). The survey was completed by 199 respondents by the close-off date of 30 April 2011. A reminder was sent a few days before the close-off date. The incentive of a draw to win a case of wine increased the response rate to around 4%, compared with 2% for the test survey. Of the 199 responses, only 53 met the criteria and had completed all of the questions. Of the 146 that were not relevant, 104 respondents were not using SM and 25 were not SMEs. The remainder of respondents (about 8%) had not completed all of the questions and, given the relatively small percentage (Hair, et al., 2006), were deleted to simplify analysis.

As non-response was high, its impact on the validity of the study needs to be considered (Hair, et al., 2006). “Non-response bias refers to the mistake one expects to make in estimating a population characteristic based on a sample of survey data in which, due to non-response, certain types of survey respondents are under-represented” (Berg, 2005). In this study the assumption is that the high level of non-response was due to the low relevance of the survey due to the low adoption of SM. This assumption was based on the fact that only 52% of respondents were using SM. It is likely that the number of responses is over-representative of the NZRA’s membership base as an SM survey would have been of more interest to users (or those thinking about becoming users) of SM. However, as this study was interested in identifying successful implementers of SM, the non-response bias should not impact significantly on the validity as the bias would be towards excluding non-users of SM.

#### **4.6.3.2. Exploratory Factor Analysis**

In this phase of the study, exploratory factor analysis was used to identify logical combinations of variables and gain insight into the interrelationships between the variables. Firstly, the organisational characteristics were analysed. Secondly, the perceived net benefits of using SM were investigated. The method selected for discovering factors in the data was principal component analysis (PCA). It was viewed as more relevant than factor analysis as there was prior knowledge of measuring organisational characteristics and of net benefits. PCA assumes that the sample used is the population. This means that “conclusions are restricted to the sample collected and generalisation of the results can be achieved only if analysis using different samples reveals the same factor structure” (Field, 2009, p. 637). It follows that as the assumption of normality is most important for generalising the results of the analysis beyond the sample collected, it is not so important when using PCA. Furthermore, some degree of multicollinearity was viewed as good, as the objective was to identify interrelated sets of variables (Hair, et al., 2006).

##### **4.6.3.2.1. Organisational Characteristics**

The sample size of 53 was above 50 so it was considered sufficient for factor analysis according to Hair et al. (2006, p.112). However, given the smaller sample size, Hair et al. (2006) suggested that the guideline for identifying significant factor loadings based on a

sample size of 50 was .75. Principal component analysis (PCA) was conducted on the 24 items measuring organisational characteristics. Firstly, an unrotated factor matrix was computed. To improve interpretation, an orthogonal rotation (varimax) was applied. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis, KMO = .85 which is 'great' (Hutcheson & Sofroniou, 1999). Additionally, all of the 24 communalities were above 0.6. If a factor has four or more loadings greater than 0.6 then it is considered reliable regardless of the sample size (Guadagnoli & Velicer, 1988). Furthermore, as all the communalities were above 0.6 then relatively small sample sizes of less than 100 may be adequate (Field, 2009).

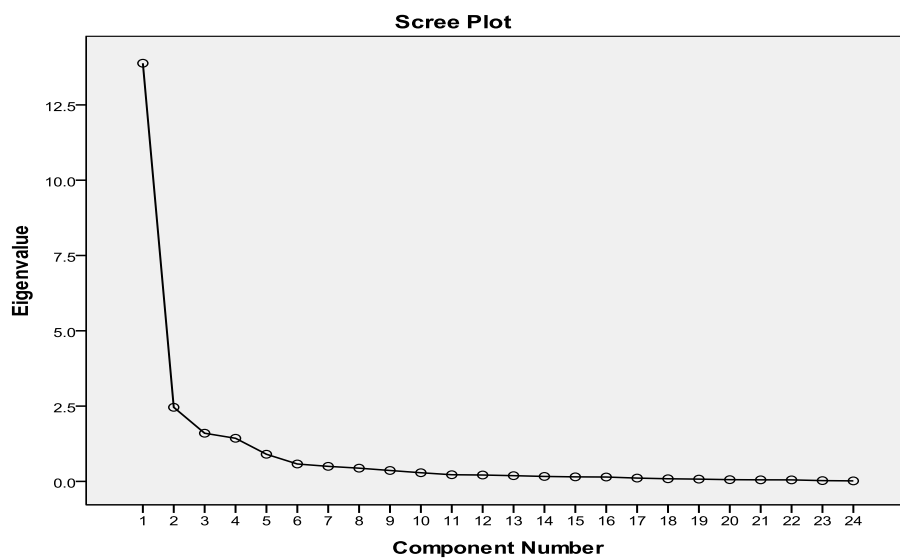
Bartlett's test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The first analysis was run to obtain the eigenvalues for each component in the data. Four components had eigenvalues over Kaiser's criterion of 1 and in combination explained 80.72% of the variance. "In social sciences, where information is often less precise, a solution that accounts for 60% of the total variance (and in some instances even less) is satisfactory" (Hair, et al., 2006, p. 120). As a final guide, the scree plot (Figure 14) was referred to. This curve was slightly ambiguous in that it began to tail off after three factors, but there was another drop off after four factors before a stable plateau was reached. Based on the requirement to include components to the left of inflexion (and not the point of inflexion itself) there was justification for retaining either two or four factors. However, as the recommended sample was 200 for a scree plot to provide fairly reliable criterion for factor selection (Stevens, 2002), it was viewed as less reliable in this instance due to the small sample size. Additionally, as there were less than 30 variables (i.e. 24) and communalities after extraction were greater than .7 it was reasonable to assume that four components as per Kaiser's criterion was accurate.

Based on prior research for knowledge management, the items were modified from five constructs anticipated to measure management and leadership support: training, strategy, culture and resources. However, as discussed in the previous paragraph, only four components were extracted. Based on the requirement that factor loadings need to be at least .75 for a sample of 50 (Hair, et al., 2006), the significant items are highlighted in Table 18. None of the leadership support items had significant loadings based on the size of the sample. However, they were all over .5 and had similar loadings indicating that they may form the basis of a component with a larger sample size. Four out of the five training items

had significant loadings; three out of the five resources items had significant loadings; all five of the culture items had significant loadings; and four out of the six strategy items had significant items. The training, strategy, culture and resources sub-scales all had high reliabilities with all Cronbach's  $\alpha$  over .8. "The generally agreed-upon lower limit for Cronbach's  $\alpha$  is .70 although it may reduce to .60 in exploratory research" (Hair, et al., 2006, p. 137). Only one item from the resources sub-scale had a higher  $\alpha$  than the overall  $\alpha$ , indicating that it may be appropriate to delete it from the scale to improve its reliability. Deleting this question would increase the  $\alpha$  from .841 to .847. However, this increase would be relatively small and overall both values reflect a good degree of reliability.

**Figure 14**

Scree Plot Showing Components of Organisational Characteristics



**Table 18**

Pilot Survey Exploratory Factor Analysis Results for Organisational Characteristics (N = 53)

| Item  | Rotated Factor Loadings |             |             |             |
|---|-------------------------|-------------|-------------|-------------|
|   | Training                | Strategy    | Culture     | Resources   |
| Consideration of resources availability when investing in social media.         | .080                    | .270        | .082        | <b>.789</b> |
| Proper budgeting and allocation of resources for social media.                  | .137                    | .204        | .097        | <b>.880</b> |
| Sufficient financial resources for supporting the social media strategy.        | .476                    | .234        | .090        | <b>.702</b> |
| Sufficient human resources to support a social media initiative.                | <b>.590</b>             | .071        | .266        | .488        |
| Providing time for employees to perform social media related activities.        | <b>.689</b>             | -.076       | .290        | .271        |
| Training on the concepts of social media.                                       | <b>.761</b>             | .387        | .212        | .262        |
| Building awareness of social media among employees through training.            | <b>.774</b>             | .378        | .156        | .072        |
| Training on using the social media system and tools.                            | <b>.859</b>             | .373        | .162        | .034        |
| Training for individuals to take up social media related roles.                 | <b>.817</b>             | .323        | .172        | .117        |
| Leaders act as catalysts for social media.                                      | <b>.633</b>             | .432        | .476        | .176        |
| Management establishes the necessary conditions for social media.               | <b>.640</b>             | .445        | .465        | .180        |
| Management demonstrates commitment to social media.                             | <b>.634</b>             | .496        | .362        | .166        |
| Management demonstrates support for social media.                               | <b>.511</b>             | <b>.527</b> | .427        | .201        |
| High level of trust among employees.  | .232                    | .000        | <b>.870</b> | .061        |
| Sharing of mistakes openly without fear of punishment.                          | .208                    | .195        | <b>.848</b> | .153        |
| Extent of collaboration among employees.  | .138                    | .379        | <b>.831</b> | .058        |
| Empowerment of employees to explore new possibilities                           | .324                    | .234        | <b>.797</b> | .092        |
| Extent to which individuals are encouraged to ask.                              | .242                    | .227        | <b>.855</b> | .071        |
| Common vision.  | -.006                   | <b>.611</b> | <b>.556</b> | .159        |
| Development of social media strategy.   | <b>.538</b>             | <b>.633</b> | .215        | .255        |
| Clear objectives and goals for social media.                                    | .440                    | <b>.765</b> | .202        | .244        |
| Alignment of the social media strategy with business strategy.                  | .398                    | <b>.768</b> | .237        | .215        |
| Extent to which the social media strategy is supporting a vital business issue. | .340                    | <b>.819</b> | .239        | .158        |
| Identification of the potential value to be achieved.                           | .247                    | <b>.826</b> | .188        | .324        |
| <b>Eigenvalues</b>  | 6.23                    | 5.22        | 5.14        | 2.79        |
| <b>% of variance</b>  | 25.95                   | 21.73       | 21.41       | 11.63       |
| <b><math>\alpha</math></b>  | .948                    | .959        | .948        | .841        |

**4.6.3.2.2. Net Benefits**

As net benefits were analysed from the same data set as organisational characteristics, the same criteria applied. Principal component analysis (PCA) was conducted on the seven items measuring net benefits. Firstly, an unrotated factor matrix was computed. To improve

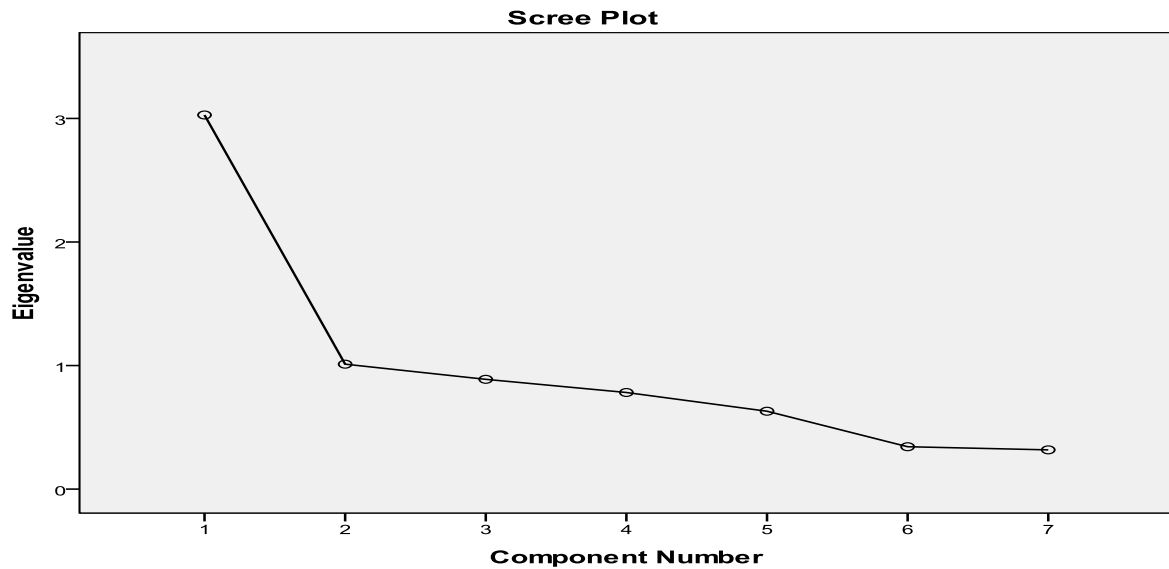
interpretation, an orthogonal rotation (varimax) was applied. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis,  $KMO = .72$  which is 'good' (Hutcheson & Sofroniou, 1999). Additionally, four out of the seven communalities were above 0.6. If a factor has four or more loadings greater than 0.6 then it is considered reliable regardless of the sample size (Guadagnoli & Velicer, 1988).

Bartlett's test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The first analysis was run to get the eigenvalues for each component in the data. Two components had eigenvalues over Kaiser's criterion of 1 and in combination explained 57.7% of the variance. "In social sciences, where information is often less precise, a solution that accounts for 60% of the total variance (and in some instances even less) is satisfactory" (Hair, et al., 2006, p. 120). As a final guide, the scree plot (Figure 15) was referred to. This curve did not support the findings, with only one component to the left of inflexion and, given the small sample size, was viewed as a less reliable guide. Additionally, as there were fewer than 30 variables (i.e. seven) and as four of the communalities after extraction were greater than .6 it was reasonable to assume that two components, as per Kaiser's criterion, were accurate.

Based on prior practitioner research for SM, it was expected that all of the items used would be relevant measures of the expected perceived benefits of using SM. Based on the requirement that factor loadings need to be at least .75 for a sample of 50 (Hair, et al., 2006), the significant items are highlighted in Table 19. However, given the small number of items, and as this is an exploratory study and the pilot for the main phase, factor loadings over .60 were also included (indicated in bold). According to Hair et al. (2006) a sample of 85 would be desirable at the lower level of factor loading. The brand loyalty and expenses sub-scales both had satisfactory reliabilities with Cronbach's  $\alpha$  over .6. "The generally agreed upon lower limit for Cronbach's  $\alpha$  is .70 although it may reduce to .60 in exploratory research" (Hair, et al., 2006, p. 137). No items had a higher  $\alpha$  than the overall  $\alpha$ .

**Figure 15**

Scree Plot Showing Components of Net Benefits



**Table 19**

Pilot Survey Exploratory Factor Analysis Results for the Net Benefits (N = 53)

| Item  | Rotated Factor Loadings |                 |
|---|-------------------------|-----------------|
|   | Increase Brand Loyalty  | Reduce Expenses |
| Increased brand loyalty.  | <b>.804</b>             | -.073           |
| Greater knowledge of what customers and prospects think of their brand. | <b>.648</b>             | .403            |
| Ability to communicate directly with customers.                         | .524                    | .460            |
| Increased lead generation and sales.                                    | <b>.721</b>             | .304            |
| Reducing overall marketing expenses.                                    | .037                    | <b>.812</b>     |
| New business partnerships.  | .266                    | <b>.800</b>     |
| Increased website traffic/subscribers/opt-in list                       | .561                    | .137            |
| <b>Eigenvalues</b>  | 2.25                    | 1.79            |
| <b>% of variance</b>  | 32.11                   | 25.59           |
| <b><i>α</i></b>   | .707                    | .627            |

#### **4.6.3.3. Modifications for Final Survey**

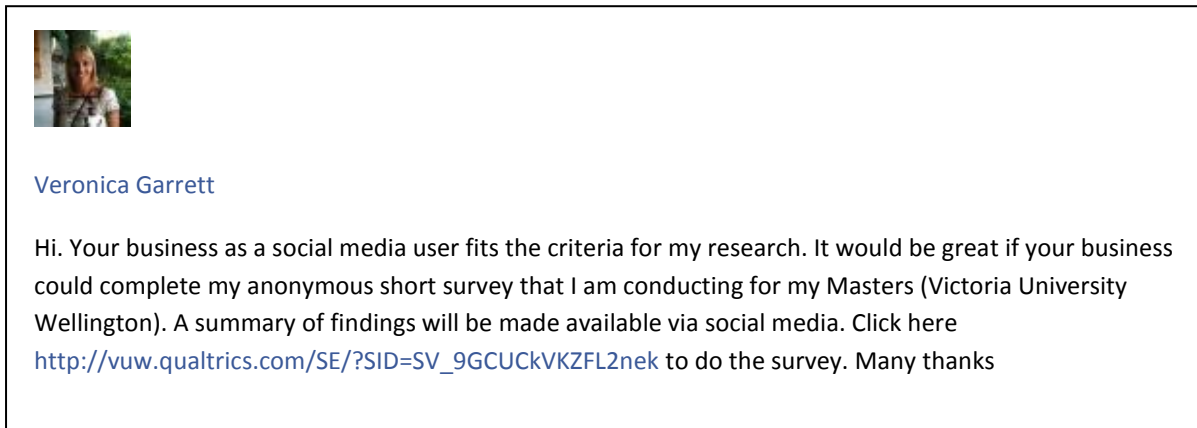
Some questions were added and some were changed in the final survey, based on respondents' answers in the pilot. Two concepts were added: complexity and competition. These were identified previously in the literature and excluded due to limited empirical support. Complexity was added as 34% of respondents indicated that the reason that their business was not currently active in SM was because they do not understand it. Four questions were added for complexity. Competition was added as the comments "market leaders" and "way of the future" indicated that it may be significant. These comments were made in the "other" part of the question "Why is your organisation using SM?" Two questions were added for competition. Both the complexity and competition questions were modified from existing scales used by Bradford and Florin (2003) in ERP innovation implementation research. A question was added to find out the number of SM platforms they were using to simplify analysis. Based on the results from the exploratory factor analysis in the previous sections, no changes were made to the questions for organisational characteristics and net benefits.

### **4.7. Main Survey Distribution and Data Collection**

After receiving ethics approval from the Research Committee at Victoria University, data collection was carried out using the modified version of the pre-tested Qualtrics survey. Given the low response rate for the test/pilot and the difficulty in identifying businesses that were using SM, a different channel was selected through which to distribute the main survey. As the unit of analysis for this survey was only those businesses already using SM, the best way to connect was through SM. By logging into Facebook, businesses were identified and an invitation to complete the survey, along with the Qualtrics survey link, was posted (Figure 16). Overall, the feedback from the businesses that completed the survey was very positive with a number of "good lucks" and "likes". As Facebook is viral and the link was able to be forwarded on by businesses, there is no way of knowing how many businesses actually received it. This means that there is no way of knowing what the response rate is.

**Figure 16**

Invitation for Businesses with Facebook to Complete the Survey

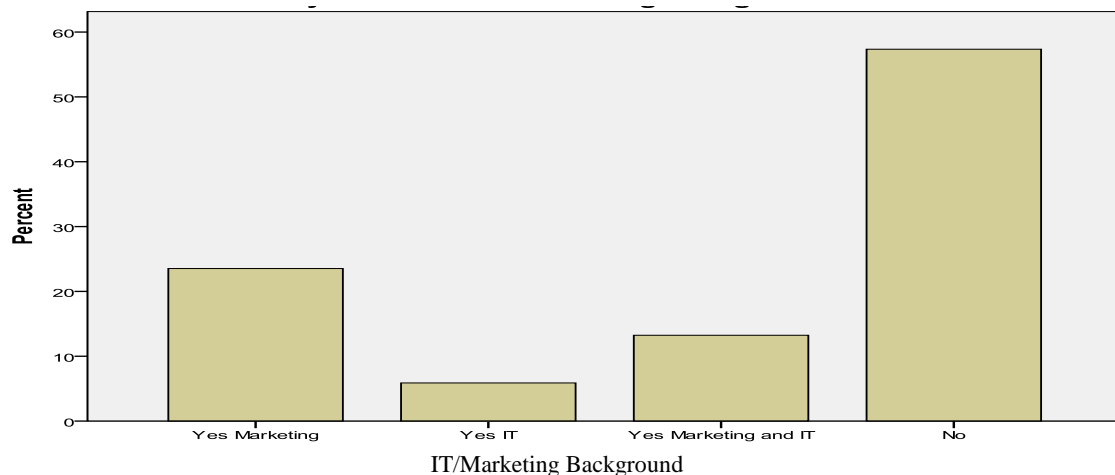


#### 4.8. Respondent Profile

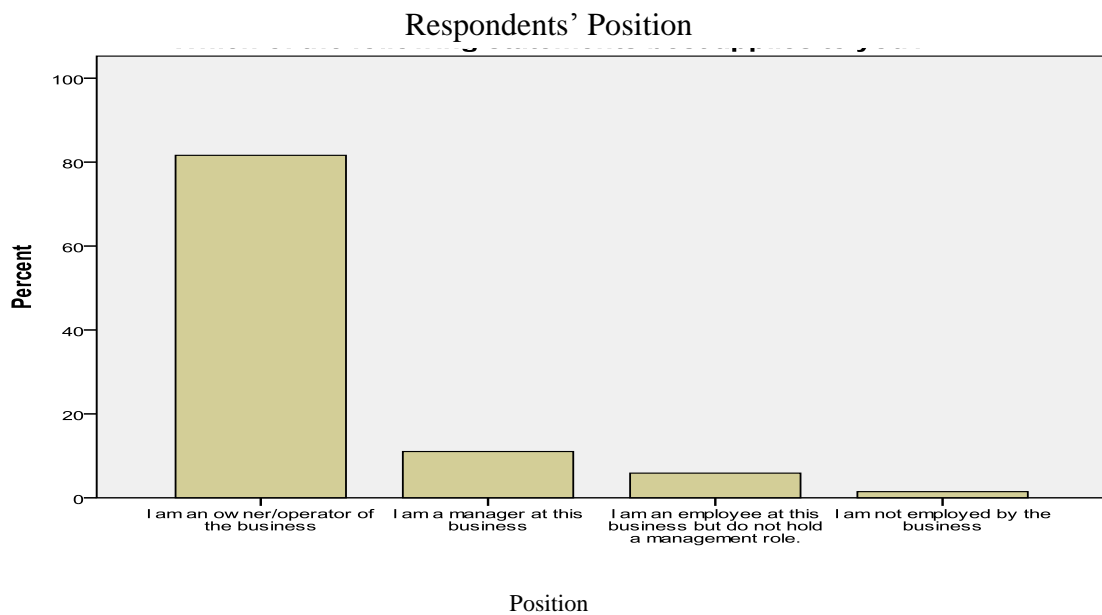
The characteristics of the respondents are based on a sample size of 136 and are of interest from three perspectives: personal, business, and technology and SM usage. The informant was the person within the organisation that was most involved in the implementation of SM. In terms of personal characteristics of the informant, 67% were female, most were either an owner/operator (82%) or a manager (11%), and most of them did not come from a marketing or IT background (57%). The following bar charts, Figures 17 and 18, show further details.

**Figure 17**

Respondents' Background: IT or Marketing



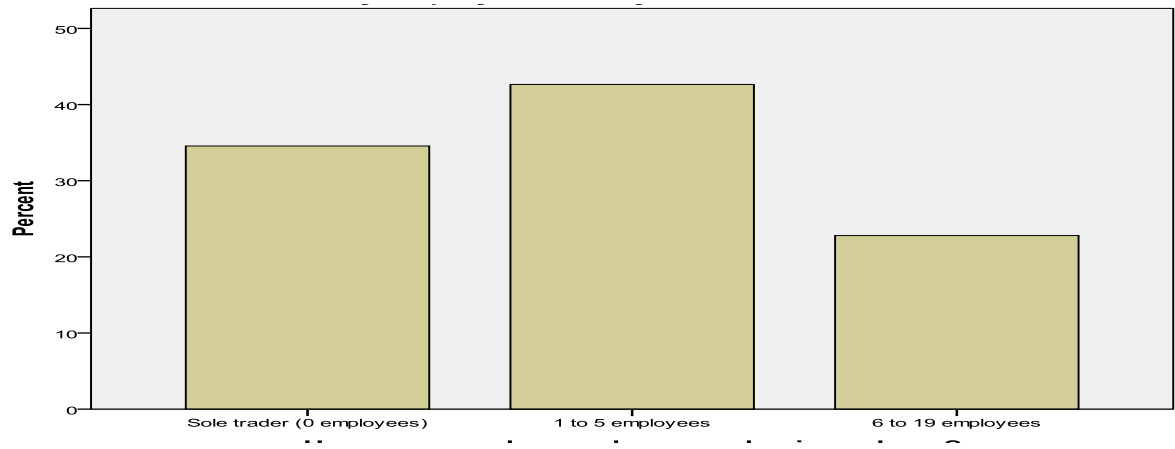
**Figure 18**



A summary of the business demographics of the sample can be found in Table 20 and visual representations can be seen in Figures 19, 20, 21 and 22. In terms of the SMEs business demographics, based on the number of employees, most had one to five employees. Combined with sole traders, these two categories accounted for 77% of the respondents. Compared with findings that 90% of enterprises in New Zealand employ fewer than six people (SMEs in New Zealand Structure and Dynamics, 2010), those businesses with more than six employees are overrepresented in this sample. The businesses were from a range of industry verticals, with the retail trade the most frequent, representing 29% of respondents. Excluding the other category, the next largest industry was accommodation and food services (13%) followed by manufacturing (9%) then arts and recreation services (8%). The distribution by city covers New Zealand, with higher response rates in the larger cities reflecting the larger population base. Christchurch city is relatively underrepresented due to the recent major earthquake in February 2011, with many businesses closed. Interestingly, the majority of SMEs using SM were established in either the last two years (33%) or between two to five years ago (30%).

**Figure 19**

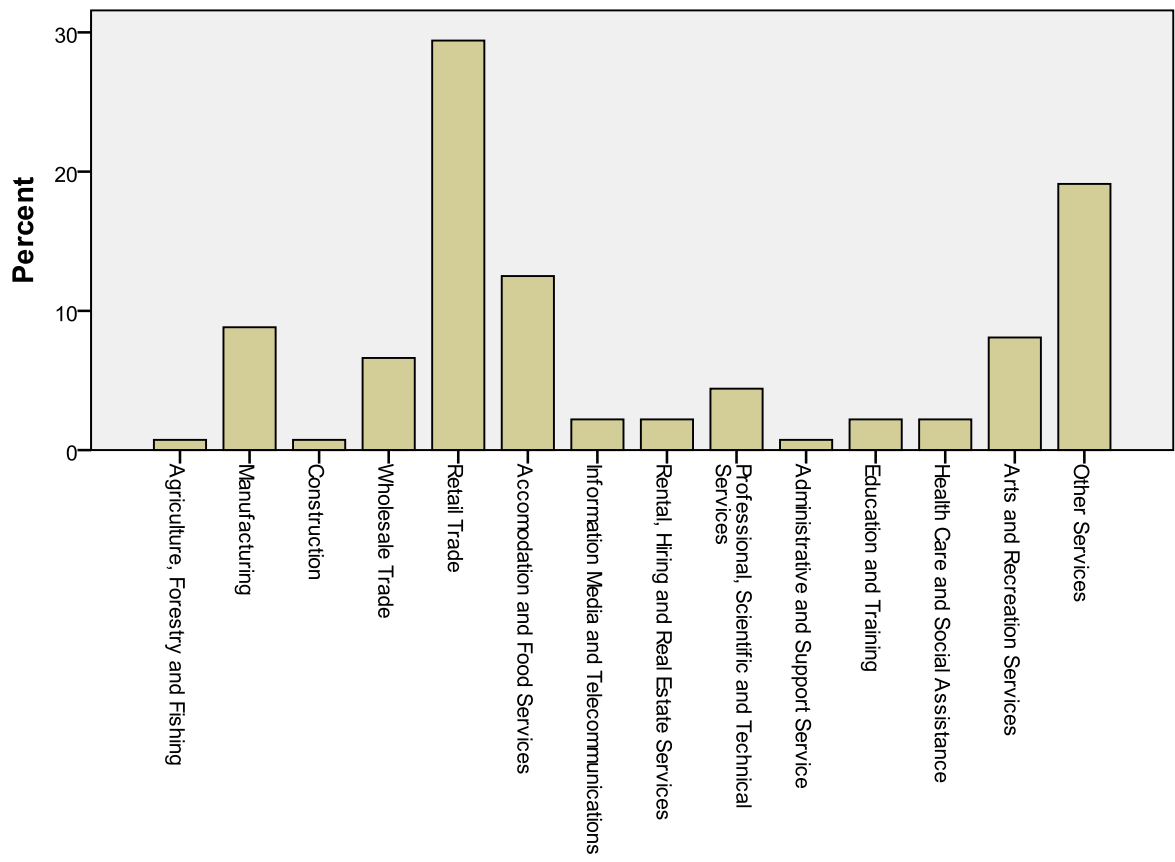
Number of Employees



Number of employees

**Figure 20**

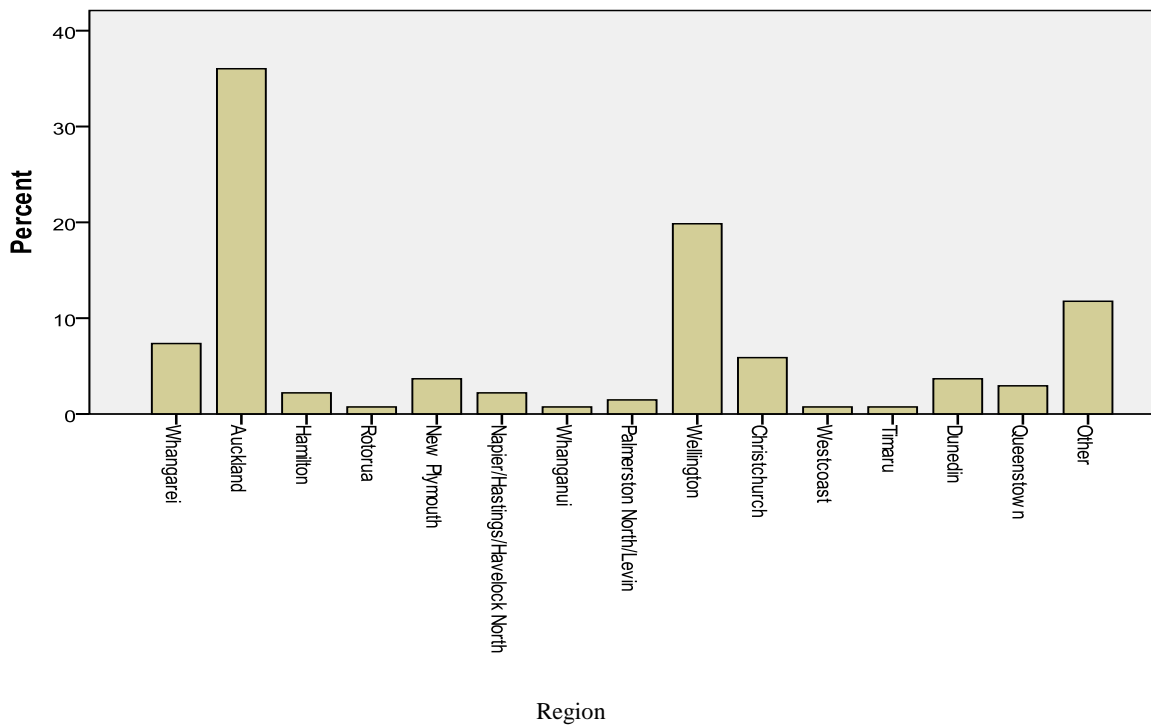
Industry



Industry

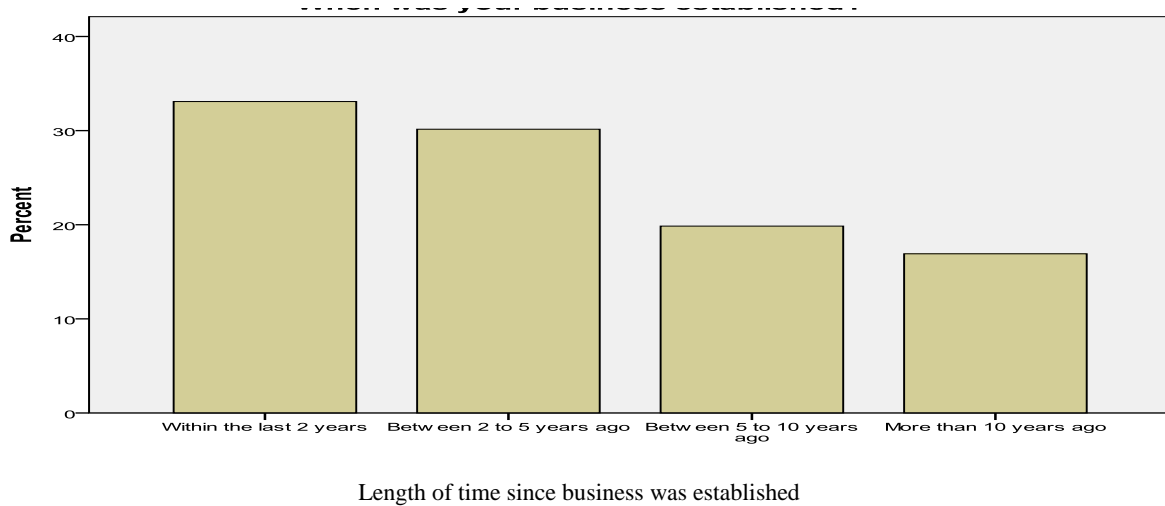
**Figure 21**

Region Head Office is Located



**Figure 22**

Length of Time Since Business Established

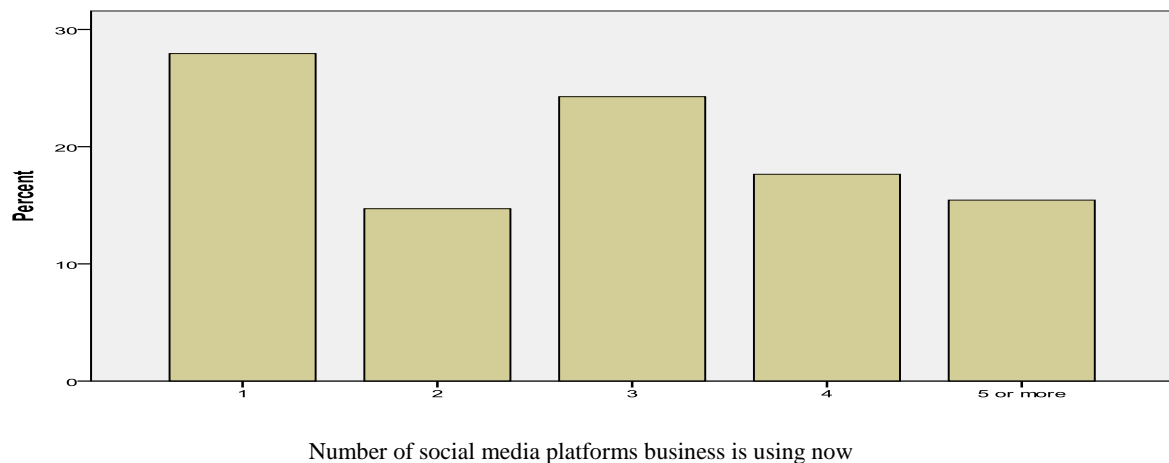


With regards to other related technology used by the respondents, the majority had a website (90%) and a company email address (95%). In terms of SM use, the first platform used in 82% of cases was Facebook, followed by a blog (25%), Twitter (24%) and LinkedIn

(12%). Most businesses were using only one SM platform (28%) or three (24%). The majority of businesses had been using SM for less than two years (77%) and spent one to five hours a week implementing it (70%). Mostly the technical support for SM came from employees (82%). For the 18% of respondents who required external technical support, 18% came from contractors, 16% from a friend/family member either unpaid or in return for token monetary payment, 6% from an agency and 2% had no support. In terms of how much budget was allocated to SM, 7% allocated more than 76% of their marketing budget to it and another 7% allocated over 51%. Most (72%) allocated less than 25%. Figures 23, 24, 25, 26, and 27 show a summary of the data.

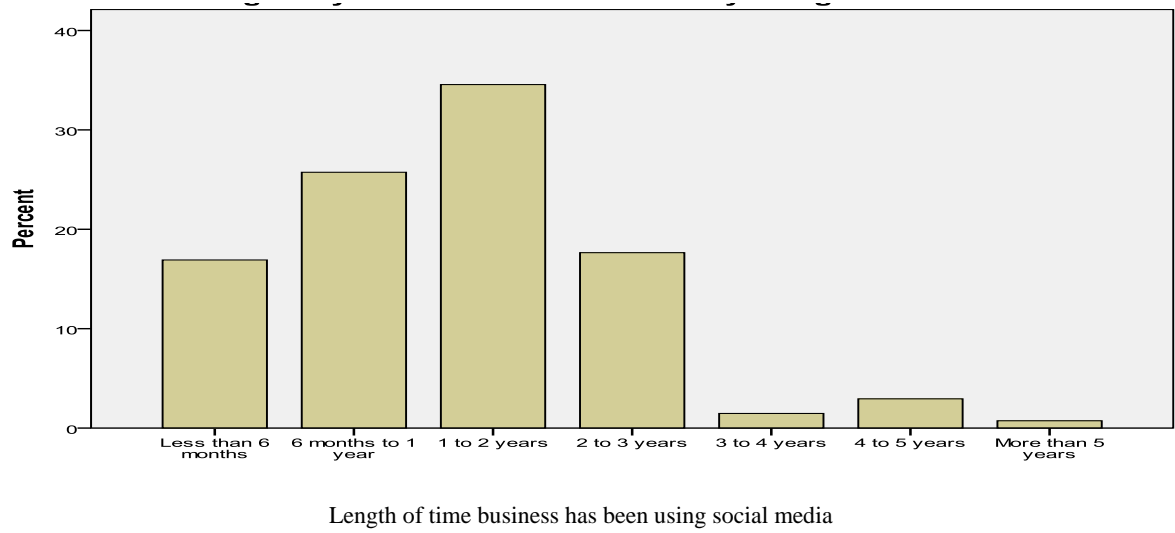
**Figure 23**

**Number of Social Media Platforms Used**



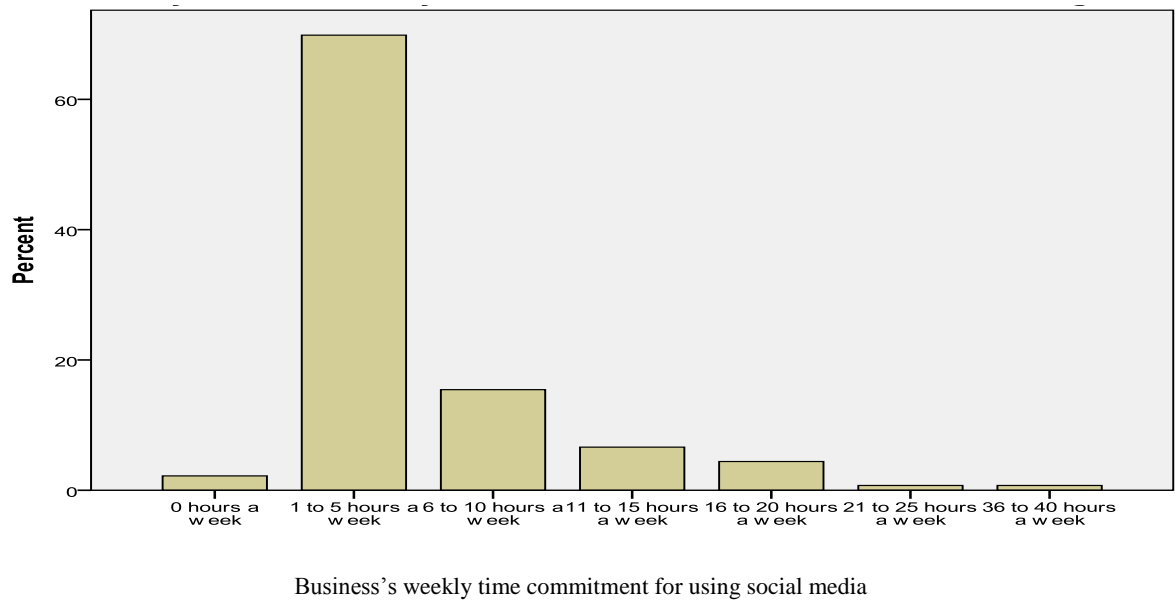
**Figure 24**

**Length of Time Business has been Using Social Media**



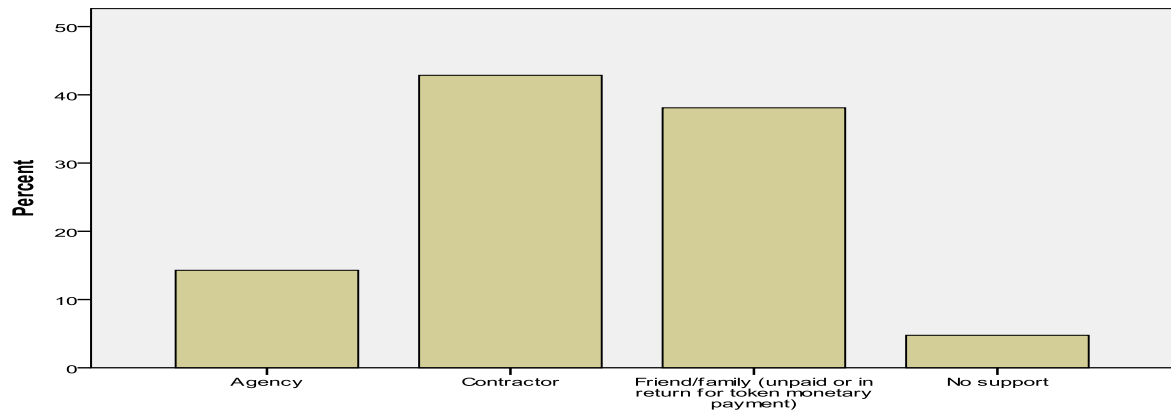
**Figure 25**

**Business's Weekly Time Commitment to Social Media Marketing**



**Figure 26**

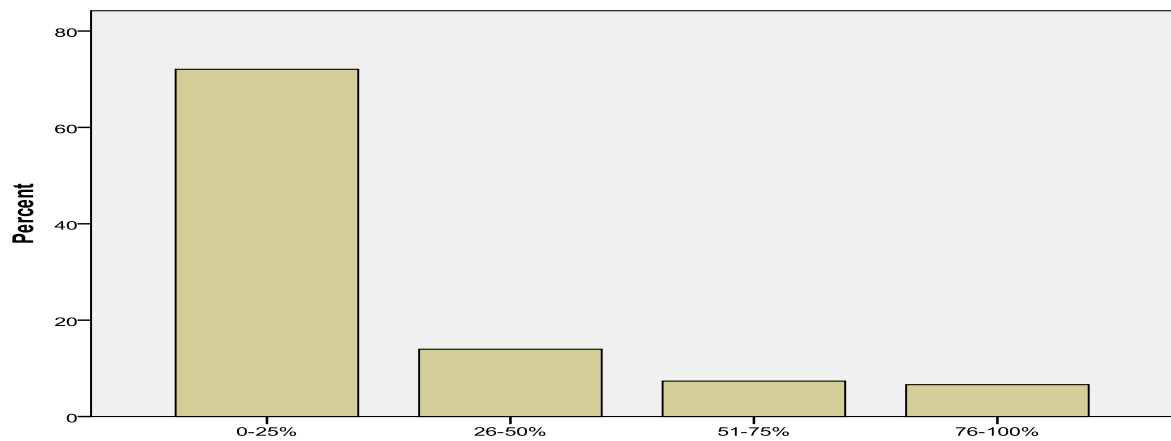
External Technical Support used for Implementing Social Media



External resources used to provide technical support for implementing social media

**Figure 27**

Percentage of Marketing and Communications Budget Allocated to Social Media



Percentage of marketing and communications budget allocated to social media

**Table 20****Business Characteristics**

| <b>Firm Size (Number of employees)</b> | <b>Frequency (N = 136)</b> | <b>Percent</b> |
|--|----------------------------|----------------|
| Sole trader (0 employees)              | 47                         | 34.6%          |
| 1 to 5 employees                       | 58                         | 42.6%          |
| 6 to 19 employees                      | 31                         | 22.8%          |
| <b>Total</b>                           | <b>136</b>                 | <b>100%</b>    |

| <b>Industry</b>                                 | <b>Frequency (N = 136)</b> | <b>Percent</b> |
|---|----------------------------|----------------|
| Agriculture, Forestry and Fishing               | 1                          | .7%            |
| Manufacturing                                   | 12                         | 8.8%           |
| Construction                                    | 1                          | .7%            |
| Wholesale Trade                                 | 9                          | 6.6%           |
| Retail Trade                                    | 40                         | 29.4%          |
| Accommodation and Food Services                 | 17                         | 12.5%          |
| Information Media and Telecommunications        | 3                          | 2.2%           |
| Rental, Hiring and Real Estate Services         | 3                          | 2.2%           |
| Professional, Scientific and Technical Services | 6                          | 4.4%           |
| Administrative and Support Services             | 1                          | .7%            |
| Education and Training                          | 3                          | 2.2%           |
| Health Care and Social Assistance               | 3                          | 2.2%           |
| Arts and Recreation Services                    | 11                         | 8.1%           |
| Other Services                                  | 26                         | 19.1%          |
| <b>Total</b>                                    | <b>136</b>                 | <b>100%</b>    |

| <b>Region of Head Office</b>   | <b>Frequency (N = 136)</b> | <b>Percent</b> |
|--------------------------------|----------------------------|----------------|
| Whangarei                      | 10                         | 7.4%           |
| Auckland                       | 49                         | 36%            |
| Hamilton                       | 3                          | 2.2%           |
| Rotorua                        | 1                          | .7%            |
| New Plymouth                   | 5                          | 3.7%           |
| Napier/Hastings/Havelock North | 3                          | 2.2%           |
| Wanganui                       | 1                          | .7%            |
| Palmerston North/Levin         | 2                          | 1.5%           |
| Wellington                     | 27                         | 19.9%          |
| Christchurch                   | 8                          | 5.9%           |
| West Coast                     | 1                          | .7%            |
| Timaru                         | 1                          | .7%            |
| Dunedin                        | 5                          | 3.7%           |
| Queenstown                     | 4                          | 2.9%           |
| Other                          | 16                         | 11.8%          |
| <b>Total</b>                   | <b>136</b>                 | <b>100%</b>    |

| <b>Time since business was established</b> | <b>Frequency (N = 136)</b> | <b>Percent</b> |
|--|----------------------------|----------------|
| Within the last 2 years                    | 45                         | 33.1%          |
| Between 2 to 5 years ago                   | 41                         | 30.1%          |
| Between 5 to 10 years ago                  | 27                         | 19.9%          |
| More than 10 years ago                     | 23                         | 16.9%          |
| <b>Total</b>                               | <b>136</b>                 | <b>100%</b>    |

## **5. Main Survey Results and Discussion**

### **5.1. Introduction**

This chapter covers the development of scales and then explores the relationships between the independent and dependent variables. Exploratory factor analysis was used to refine reflective scales for the independent organisational characteristics variables (available resources, management support, training, strategy, and supportive culture) and the dependent (outcome) net benefits variables (increased brand and increased profit). The validity and reliability of the reflective scales for the two additional independent variables, complexity and competition, will then be established. Following this, the dependent relationships between the seven independent and the five outcome variables was analysed and the accuracy of the regression models reviewed. Next, as there are five outcome variables, the results will be provided in two stages. Firstly, results will be considered for each outcome variable. Next, results will be discussed for each of the seven hypotheses.

### **5.2. Scale Development and Analysis**

In the main phase of the study, exploratory factor analysis was used in a similar way to the pilot phase, with the aim of developing scales to measure the dependent and independent variables of this paper's model. Firstly, the organisational characteristics were analysed. Secondly, the perceived net benefits of using SM were investigated. Next, competition and complexity were reviewed. The method selected for discovering factors in the data was principal component analysis (PCA). As already mentioned with regards to the pilot survey, it was viewed as more relevant than factor analysis as there was prior knowledge as to the constructs for organisational characteristics, net benefits, complexity and competition. Complexity and competition were added to the final survey as they were identified from the pilot that they may also be important contributors to SM implementation success.

To recap, PCA assumes that the sample used is the population. This means that "conclusions are restricted to the sample collected and generalisation of the results can be achieved only if analysis using different samples reveals the same factor structure" (Field, 2009, p. 637). This means that as the assumption of normality is most important for

generalising the results of the analysis beyond the sample collected, it is not so important when using PCA. It is also assumed that the sampling distribution will tend to be normal regardless of the population distribution, as the sample is greater than 30 (Field, 2009). Furthermore, some degree of multicollinearity was viewed as ‘good’ as the objective was to identify interrelated sets of variables (Hair, et al., 2006). The sample size was 136 and as it was above 50 it was considered sufficient for factor analysis according to Hair et al. (2006, p.112). For a sample of between 120 and 150, Hair et al. (2006) suggested that the guideline for identifying significant factor loadings was .5.

Missing data due to a lack of response to particular items was relatively high. Out of the 165 respondents that met the selection criteria, only 136 completed all of the required questions (18% missed questions). Upon examining the data, the majority of the cases had missing data for the dependent variables. As recommended by Hair et al. (2006, p. 56), these were deleted to avoid any artificial increase in the relationships with independent variables.

### **5.2.1. Organisational Characteristics**

PCA was conducted on the 24 items measuring organisational characteristics. Firstly, an unrotated factor matrix was computed. To improve interpretation, an orthogonal rotation (varimax) was applied. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis, KMO = .86 which is ‘great’ (Hutcheson & Sofroniou, 1999). Additionally, all of the 24 communalities were above 0.6. If a factor has four or more loadings greater than 0.6 then it is considered reliable regardless of the sample size (Guadagnoli & Velicer, 1988). Interestingly, these results matched the findings of the pilot.

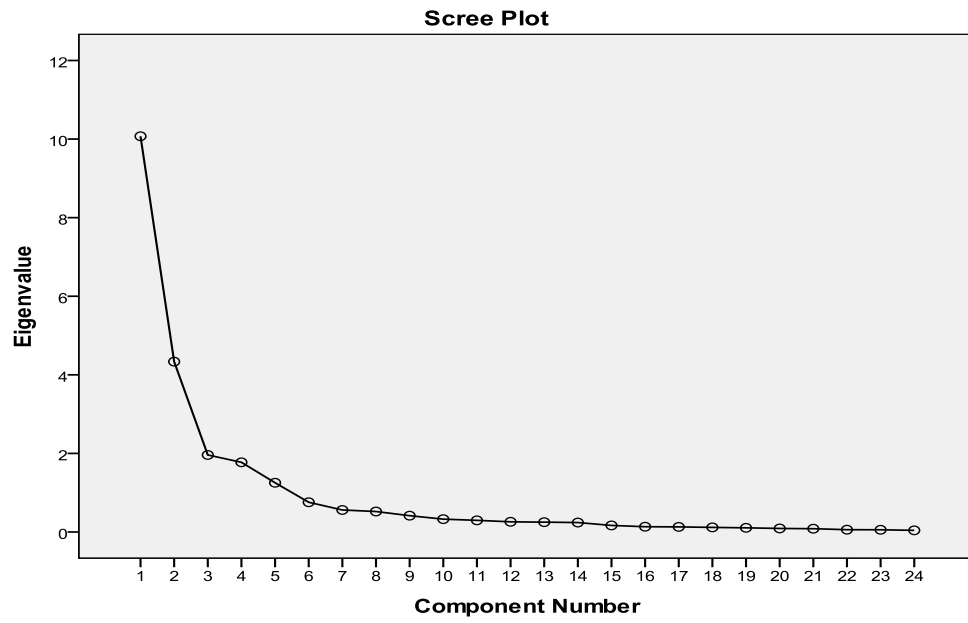
Bartlett’s test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The first analysis was run to get the eigenvalues for each component in the data. Five components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 80.81% of the variance, well over the 60% viewed as satisfactory by Hair et al. (2006). The total variance was less than one percent different from the pilot. However, the pilot only clearly identified four components (management support items loaded with training). As a final guide, the scree plot (Figure 28) was referred to. This curve was slightly ambiguous in that it began to tail off after three factors, but there was another drop off after the fourth and

fifth factors before a stable plateau was reached. Based on the requirement to include components to the left of inflexion (and not the point of inflexion itself) there was justification for retaining either two or five factors. However, as the recommended sample was 200 for a scree plot to provide fairly reliable criterion for factor selection (Stevens, 2002), it was viewed as less reliable in this instance due to the smaller sample size. Additionally, as there were fewer than 30 variables (i.e. 24) and communalities after extraction were greater than .7 it was reasonable to assume that five components as per Kaiser's criterion was accurate.

As mentioned in the pilot, the items were modified from five constructs anticipated to measure management and leadership support, training, strategy, culture and resources. All five constructs loaded as anticipated. Based on the requirement that factor loadings need to be at least .5 given the sample size (Hair, et al., 2006), the significant items are highlighted in Table 21. All of the sub-scales had high reliabilities with all Cronbach's  $\alpha$  over .9. "The generally agreed upon lower limit for Cronbach's  $\alpha$  is .70, although it may reduce to .60 in exploratory research" (Hair, et al., 2006, p. 137). As found in the pilot, one item from the resources sub-scale had a higher  $\alpha$  than the overall  $\alpha$  indicating that it may be appropriate to delete it from the scale to improve its reliability. Deleting this question would increase the  $\alpha$  from .905 to .906. Additionally, if the strategy item 'a common vision' was deleted the  $\alpha$  would increase from .921 to .937. It is considered that including 'a common vision' contributes to the depth of the construct by adding another perspective. Furthermore, both of these increases would be relatively small and overall both values reflect a good degree of reliability so no items were deleted.

**Figure 28**

Scree Plot Showing Components of Organisational Characteristics



**Table 21**

Exploratory Factor Analysis Results: Organisational Characteristics (N = 136)

| Item  | Rotated Factor Loadings |          |           |                    |          |
|---|-------------------------|----------|-----------|--------------------|----------|
|   | Culture                 | Strategy | Resources | Management Support | Training |
| Consideration of resources availability when investing in social media.         | .117                    | .350     | .742      | .067               | .205     |
| Proper budgeting and allocation of resources for social media.                  | .086                    | .340     | .814      | .054               | .151     |
| Sufficient financial resources for supporting the social media strategy.        | -.008                   | .348     | .811      | .053               | .131     |
| Sufficient human resources to support a social media initiative.                | -.005                   | .102     | .819      | .288               | .195     |
| Providing time to employees to perform social media related activities.         | -.028                   | .061     | .716      | .273               | .286     |
| Training on the concepts of social media.                                       | -0.10                   | .309     | .241      | .203               | .764     |
| Building awareness of social media among employees through training.            | .123                    | .213     | .202      | .282               | .774     |
| Training on using the social media system and tools.                            | .074                    | .238     | .216      | .185               | .864     |
| Training for individuals to take up social media related roles.                 | .167                    | .129     | .266      | .255               | .814     |
| Leaders act as catalysts for social media.                                      | -.018                   | .321     | .225      | .788               | .298     |
| Management establishes the necessary conditions for social media.               | .056                    | .322     | .054      | .837               | .222     |
| Management demonstrates commitment to social media.                             | -.053                   | .297     | .192      | .850               | .236     |
| Management demonstrates support for social media.                               | -.067                   | .267     | .235      | .850               | .236     |
| High level of trust among employees.  | .902                    | .026     | .051      | .011               | .012     |
| Sharing of mistakes openly without fear of punishment.                          | .919                    | .064     | .015      | .034               | .018     |
| Extent of collaboration among employees.  | .917                    | .045     | .078      | -.074              | .063     |
| Empowerment of employees to explore new possibilities.                          | .925                    | .016     | .019      | -.001              | .092     |
| Extent to which individuals are encouraged to ask.                              | .927                    | .040     | -.047     | -.013              | .111     |
| Common vision.  | .329                    | .558     | .113      | .306               | -.151    |
| Development of social media strategy.   | .040                    | .803     | .242      | .271               | .234     |
| Clear objectives and goals for social media.                                    | .033                    | .826     | .249      | .246               | .284     |
| Alignment of the social media strategy with business strategy.                  | .038                    | .806     | .243      | .249               | .199     |
| Extent to which the social media strategy is supporting a vital business issue. | -.024                   | .800     | .228      | .153               | .218     |
| Identification of the potential value to be achieved.                           | .021                    | .708     | .193      | .231               | .201     |
| <b>Eigenvalues</b>  | 4.41                    | 4.39     | 3.71      | 3.53               | 3.36     |
| <b>% of variance</b>  | 18.36                   | 18.31    | 15.46     | 14.70              | 13.98    |
| <b><math>\alpha</math></b>  | .956                    | .921     | .905      | .956               | .927     |

### 5.2.2. Net Benefits

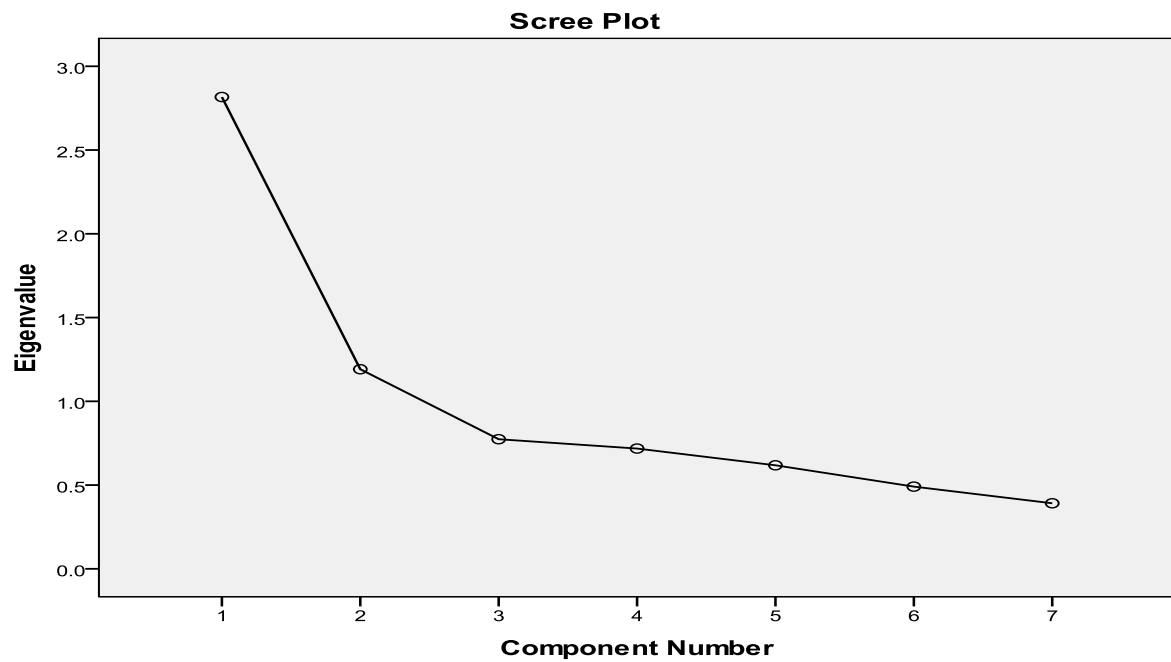
As net benefits were analysed from the same data set as organisational characteristics, the same criteria applied. Principal component analysis (PCA) was conducted on the seven items measuring net benefits. Firstly, an unrotated factor matrix was computed. To improve interpretation, an orthogonal rotation (varimax) was applied. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis,  $KMO = .75$ , which is 'good' (Hutcheson & Sofroniou, 1999). Additionally, four out of the seven communalities were above 0.6. If a factor has four or more loadings greater than 0.6 then it is considered reliable regardless of the sample size (Guadagnoli & Velicer, 1988). Interestingly, the results were very similar to the pilot.

Bartlett's test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The first analysis was run to get the eigenvalues for each component in the data. Two components had eigenvalues over Kaiser's criterion of 1 and in combination explained 57.26% of the variance. According to Hair et al. (2006), a solution that accounts for 60% of the total variance (and in some instances even less) is satisfactory. The final guide, the scree plot (Figure 29) was referred to. This curve did support the findings with two components to the left of inflexion. Additionally, as there were less than 30 variables (i.e. 7) and as four of the communalities after extraction were greater than .6 it was reasonable to assume that two components as per Kaiser's criterion were accurate. Most of these results aligned with the pilot other than the scree plot. It is likely that the scree plot of the final survey was more reliable given the larger sample size.

Based on prior practitioner research for SM, it was expected that all of the items used would be relevant measures of the expected perceived benefits of using SM. Based on the requirement that factor loadings need to be at least .50 for a sample between 120 and 150, (Hair, et al., 2006), the significant items are highlighted in Table 22. All items had significant factor loadings based on the sample size. The brand loyalty and expenses sub-scales both had satisfactory reliabilities with Cronbach's  $\alpha$  over .6 which are viewed as satisfactory for exploratory research" (Hair, et al., 2006, p. 137). No items had a higher  $\alpha$  than the overall  $\alpha$ .

**Figure 29**

Scree Plot Showing Components of Net Benefits

**Table 22**

Exploratory Factor Analysis Results: Net Benefits (N = 136)

| Item  | Rotated Factor Loadings |                        |
|---|-------------------------|------------------------|
|   | Increase Profit         | Increase Brand Loyalty |
| Increased brand loyalty.  | .182                    | .764                   |
| Greater knowledge of what customers and prospects think of their brand. | .055                    | .822                   |
| Ability to communicate directly with customers.                         | .277                    | .747                   |
| Increased lead generation and sales.                                    | .763                    | .207                   |
| Reducing overall marketing expenses.                                    | .604                    | .133                   |
| New business partnerships.  | .694                    | .180                   |
| Increased website traffic/subscribers/opt-in list                       | .561                    | .073                   |
| <b>Eigenvalues</b>  | 2.09                    | 1.92                   |
| <b>% of variance</b>  | 29.88                   | 27.38                  |
| <b><math>\alpha</math></b>  | .677                    | .710                   |

### 5.2.3. Complexity

Principal component analysis (PCA) was conducted on the four items measuring complexity. As only one component was extracted, rotation was not necessary. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis,  $KMO = .76$ , which is 'good' (Hutcheson & Sofroniou, 1999). Additionally, all four of the communalities were over 0.6. If a factor has four or more loadings greater than 0.6 then it is considered reliable regardless of the sample size (Guadagnoli & Velicer, 1988).

Bartlett's test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The component's eigenvalue was over Kaiser's criterion of 1 and in combination explained a satisfactory 71.07% of the variance. A scree plot was not referred to as there was only one component. As there were fewer than 30 variables (i.e. four) and as all of the communalities after extraction were greater than .6, it was reasonable to assume that one component as per Kaiser's criterion was accurate.

Based on prior research for other types of innovation, it was expected that all of the items used would be relevant measures of complexity. As the requirement is that factor loadings need to be at least .50 for a sample between 120 and 150, (Hair, et al., 2006), all items are significant and are highlighted in Table 23. The Cronbach's  $\alpha$  is .862 which is over .6 and is therefore viewed as satisfactory for exploratory research (Hair, et al., 2006, p. 137). No items had a higher  $\alpha$  than the overall  $\alpha$ .

**Table 23**

Exploratory Factor Analysis: Complexity (N = 136)

| Item   | Complexity Factor Loadings |
|--|----------------------------|
| Our firm's interaction with its social media platforms is clear and understandable.              | .813                       |
| It is easy for firm employees to get the social media platforms to do what they want them to do. | .866                       |
| Learning to use the social media platforms has been easy for employees.                          | .848                       |
| Overall, the social media platforms are easy to use.   | .844                       |
| <b>Eigenvalues</b>   | 2.84                       |
| <b>% of variance</b>   | 71.07                      |
| <b><math>\alpha</math></b>   | .862                       |

#### 5.2.4. Competition

Principal component analysis (PCA) was conducted on the two items measuring competition. As only one component was extracted, rotation was not necessary. Additionally as there were only two items, a number of criteria were not relevant. The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis, KMO = .500, which is 'mediocre' (Hutcheson & Sofroniou, 1999). As there were only two items, their communalities were the same (.783). As they were over 0.6 they were considered 'good' (Table 24). Bartlett's test of sphericity was significant as the value of significance is .00 which is less than .05. This means that the correlations between items were sufficiently large for PCA. The component's eigenvalue was over Kaiser's criterion of 1 and in combination explained a satisfactory 78.33% of the variance. A scree plot was not referred to as there was only one component. Based on prior research for other types of innovation, it was expected that all of the items used would be relevant measures of competition. The Cronbach's  $\alpha$  is .862 which is over .6 and is therefore viewed as satisfactory for exploratory research (Hair, et al., 2006, p. 137). As there were only two items the criteria that an item had a higher  $\alpha$  than the overall  $\alpha$  was not relevant.

**Table 24**

Exploratory Factor Analysis Results: Competition (N = 136)

| Item   | Competition<br>Communalities (Factor<br>loadings not relevant) |
|--|--|
| Our firm experienced competitive pressure to implement social media.                             | .783   |
| Our firm would have experienced a competitive disadvantage if social media had not been adopted. | .783   |
| <b>Eigenvalue</b>  | 1.57   |
| <b>% of variance</b>   | 78.33  |
| <b><math>\alpha</math></b>   | .722   |

**5.2.5. Other measures of Successful Implementation of SM**

The three additional questions used to measure the dependent variable, successful implementation of SM, were all one item and were considered interval scales for the purposes of analysis. These included two measures of use and one of overall management satisfaction (see Table 25).

**Table 25**

Single Item Measures of Successful Implementation of SM

| Question   | Measurement   |
|--|---|
| What percentage of your customer base is currently interacting with your firm via its social media communications?   | 0-25%;<br>26-50%;<br>51-75%;<br>76-100%   |
| How many social media platforms does your business use now?  | 1<br>2<br>3<br>4<br>5 or more   |
| In relation to management, how satisfied are they with the performance of social media in terms of meeting firm-specific objectives measured by indicators such as hits, comments, leads or sales? | Very Dissatisfied<br>Dissatisfied<br>Somewhat Dissatisfied<br>Somewhat Satisfied<br>Satisfied<br>Very Satisfied |

### 5.2.6. Summary of Scale Development

In summary, from the exploratory factor analysis using the principal component analysis (PCA) method, the reliability and validity have been established for seven scales to measure the independent variables and two scales to measure the dependent variables. The scales to measure the independent variables include five organisational characteristics sub-scales (training, management support, culture, strategy, and resources), a measure for complexity and a measure for competition. The scales to measure the dependent variables include two scales of perceived net benefits (profit and brand). There are also four single item interval scale measures for the dependent variables including three for 'use' and one overall management satisfaction measure.

However, according to Field (2009), conclusions using the PCA method are restricted to the sample. Generalisation of the results can only happen if results of analysis using different samples show the same factor structure. The organisational characteristics and net benefits measures were analysed twice using PCA, firstly from the pilot data (N = 53) and then from the main survey data (N = 136). Table 26 provides a comparison of key findings. Two (training and culture) out of the five organisational characteristics sub-scales had the same significant items for the pilot and main surveys. Some items that were significant for the main survey were also significant in the pilot for two of the organisational characteristics sub-scales (strategy and resources), whereas items related to management support loaded onto the training component in the pilot.

Net benefits loaded onto two components in both the pilot and main survey. Table 27 provides a comparison of key findings. However, while five out of the six items had higher loadings on the same components in each survey, the item 'Increased lead generation and sales' swapped components between surveys. The two items that loaded significantly together in both surveys were 'Reducing overall marketing expenses' and 'New business partnerships'. Differences in findings between the two surveys are likely to be partially from having varying sample sizes. For the purposes of this study, the factors provide evidence of unidimensionality as all of the items in the main survey meet the loading of .5 recommended by Hair et al. (2006). However, given the differing results between the pilot and the main survey, further studies will be required to confirm the generalisability of most of the scales. The scales for culture and training are the possible exceptions as the results from the pilot and the main survey supported each other.

**Table 26**

Comparison of Exploratory Factor Analysis Results from the Pilot and Main Surveys:  
Organisational Characteristics

|   | <b>Pilot (N = 53; significant factor loadings = .75)</b>                             | <b>Main (N = 136; significant factor loadings = .5)</b>  |
|---|--|--|
| KMO sampling adequacy                               | .85  | .86  |
| Number of components                                | 4  | 5  |
| Names of components and number of significant items | Culture (5 items)<br>Strategy (4 items)<br>Resources (3 items)<br>Training (4 items) | Culture (5 items)<br>Strategy (6 items)<br>Resources (5 items)<br>Training (4 items)<br>Management Support (4 items) |

**Table 27**

Comparison of Exploratory Factor Analysis Results from the Pilot and Main Surveys:  
Net Benefits

|   | <b>Pilot (N = 53; significant factor loadings = .75)</b>        | <b>Main (N = 136; significant factor loadings = .5)</b>         |
|---|---|---|
| KMO sampling adequacy                               | .72   | .75   |
| Number of components                                | 2   | 2   |
| Names of components and number of significant items | Increased Brand Loyalty (1 item)*<br>Reduced Expenses (2 items) | Increased Brand Loyalty (3 items)<br>Increased Profit (4 items) |

\*A second item was within .029 of reaching the level of significance required to be included.

### **5.3. Hypothesis Testing, Results and Discussion**

While hypotheses were proposed, it is an exploratory study and the testing of these was dependent on developing valid and reliable scales for SM through the pilot and main surveys. The main objective is to identify which independent variables have the ability to predict any of the dependent variables through a regression analysis. Additionally, by examining the regression coefficients for each independent variable, an attempt will be made to develop a reason for the impact of the independent variables. First, the accuracy of the regression models will be assessed in terms of the suitability of the sample size, data diagnostics, and whether other assumptions have been met. Next, the results of a regression analysis for each of the dependent variables will be provided. The dependent variables include brand, profit, overall management satisfaction, customers and platforms. Finally, these results will be discussed in the context of the seven hypotheses proposed in Chapter Three.

#### **5.3.1. Accuracy of Regression Model**

When examining dependence relationships, consideration needs to be given to limiting both measurement and specification errors. “Measurement error refers to the degree to which the variable is an accurate and consistent measure of the concept being studied” (Hair, et al., 2006, p. 193). To minimise measurement error, Hair et al. (2006) recommends using summated scales whenever possible, particularly for the dependent variable. While scales suitable for exploring the dependence relationship between the independent and dependent variables of the ‘Successful SM implementation conceptual model’ were developed, these scales are new in the context of SM and as such have not been tested outside this paper. All of the independent variables and two of the dependent variables use summated scales. “Specification error concerns the inclusion of irrelevant variables or the omission of relevant variables from the set of independent variables” (Hair, et al., 2006, p. 194). According to Hair et al (2006), when in doubt it is better to include potentially irrelevant variables rather than possibly omitting relevant variables. In this instance, two independent variables (Competition and Complexity) were included after analysis of the pilot indicated that they could be predictors of SM implementation success.

The accuracy of the regression model will be impacted by the diagnostics of the data and its generalisability (Field, 2009; Hair, et al., 2006). The diagnostics of the data includes consideration of the impact of outliers, residuals and influential cases. The generalisation of the findings to future research is dependent on the sample size, no perfect multicollinearity, and that a number of other assumptions are met. These assumptions include that all of the predictor variables are quantitative; the predictors do not have non-zero variance; and predictors are uncorrelated with external variables, homoscedasticity, independent errors and linearity. Table 29 summarises the information in relation to the accuracy of the regression models based on these assumptions.

#### **5.3.1.1. Diagnostics**

Upon examining the data, no significant outliers were identified. This conclusion was made after determining that the Cook's distance statistics were less than one. According to Stevens (2002), as long as the Cook's distance is less than one, then any outliers will not have a great effect on the regression analysis.

As already mentioned in relation to the exploratory factor analysis, missing data due to a lack of response to particular items was relatively high. Out of the 165 respondents that met the selection criteria, only 136 completed all of the required questions (18% missed questions). Upon examining the data, the majority of the cases had missing data for the dependent variables. As recommended by Hair et al. (2006, p. 56), these were deleted in order to avoid any artificial increase in the relationships with independent variables.

#### **5.3.1.2. Sample Size**

The size of the sample has two effects on the results. Firstly, to ensure the statistical power of the significance testing the sample needs to contain between 30 and 1,000 observations (Hair, et al., 2006). Secondly, the size of the sample will impact on the generalisability of results. Hair et al. (2006) recommends a rule of thumb of a minimum of 15 to 20 observations for each independent variable. Based on Hair et al.'s (2006) rule of thumb, given there are seven independent variables, between 115 and 140 observations are required. These condition are both satisfied for this study (N=136).

### 5.3.1.3. Other Assumptions

After assessing a number of other assumptions it seems appropriate, based on the regression analysis of this sample, that conclusions about the population can be made. All variable types (both predictor and outcome) are quantitative, are measured at the interval level and are unbounded. The predictors do not have variances of zero and given that all of the models have VIFs of less than 10, they do not have perfect multicollinearity. Additionally, from checking the correlation Table 28, there is no multicollinearity in the data as there are no substantial correlations ( $r > .9$ ) between predictors (Field, 2009). The residuals at each level of the predictors have a similar variance, indicating homoscedasticity. As the Durbin-Watson test statistics were all between one and three, the assumption of independent errors can be considered true. There are normally distributed errors with the residual means all equal to zero. All of the outcome variables are independent and the relationships that are being modelled are of a linear nature. As the sample size is greater than 30, the sampling distribution is considered normal. Given the sample size, a significance test of skew and kurtosis was not relevant because they are likely to be significant even when skew and kurtosis are not very different from normal (Field, 2009).

**Table 28**

Correlations for Predictor Variables

|             | Competition | Resources | Training | Management | Culture | Strategy | Complexity |
|-------------|-------------|-----------|----------|------------|---------|----------|------------|
| Competition | 1.000       |           |          |            |         |          |            |
| Resources   | .183        | 1.000     |          |            |         |          |            |
| Training    | .097        | .553      | 1.000    |            |         |          |            |
| Management  | -.044       | .472      | .580     | 1.000      |         |          |            |
| Culture     | .131        | .084      | .165     | .009       | 1.000   |          |            |
| Strategy    | .190        | .582      | .546     | .628       | .128    | 1.000    |            |
| Complexity  | -.102       | .069      | .094     | .103       | .178    | .133     | 1.000      |

**Table 29****Accuracy of the Regression Models**

|   | <b>Increase Brand</b> | <b>Increase Profit</b> | <b>Customers</b> | <b>Overall Satisfaction</b> | <b>Platforms</b> |
|---|-----------------------|------------------------|------------------|-----------------------------|------------------|
| No significant outliers (Cook's distance is less than 1)                                    | .008                  | .009                   | .008             | .009                        | .007             |
| Multicollinearity of predictor variables (Variance Inflation Factor or VIF is less than 10) | Less than 2           | Less than 2            | Less than 2      | Less than 2                 | 1.000            |
| Independent errors (Durbin-Watson test values should be between 1 and 3)                    | 1.932                 | 2.098                  | 1.936            | 1.888                       | 1.914            |
| Normally distributed errors (Residual mean = 0)   | 0                     | 0                      | 0                | 0                           | 0                |

**5.3.2. Regression Analysis Results for Dependent Variables**

This study uses SPSS to build stepwise regression models to test the relationship of the seven independent variables with each of the five success outcomes. Table 30 provides a summary of the descriptive statistics for these 12 variables. Stepwise regression can be defined as “a method of multiple regression in which variables are entered into the model based on a statistical criterion (the semi-partial correlation with the outcome variable). Once a new variable is entered into the model, all variables in the model are assessed to see whether they should be removed” (Field, 2009, p. 794). A similar approach was used by Bradford and Florin (2003) in their exploratory study of ERP implementation success. Stepwise regression is viewed as a suitable for exploratory model building and an excellent way of identifying predictor variables (Field, 2009; Hair, et al., 2006).

The key values used to provide insights are the R square values, t statistics, p-values, F-statistics and Beta values. The R square values represents the proportion of the total variation around the mean for the data that is explained by the regression with an R square value close to one indicating that the model fits the data very well (Cavana, et al., 2001). The analysis of variance (ANOVA) tests if the model is significantly better at predicting the outcome than using the mean. If the F value is greater than 1 then it is considered better (Field, 2009). If the p-value of the F-statistic is less than 0.05 then the independent variables collectively are considered to do an acceptable job of explaining the variation in the

dependent variable (Cavana, et al., 2001). According to Cavana et al (2001), the t statistics show the relative importance of each independent variable in the model with a t value below -2 or above +2 indicating that the independent variable should be kept. This can also be determined from the p-value which needs to be less than 0.05 for the independent variable to be considered significant. In terms of the model parameters, the Beta values enable the independent variables that contribute most to explaining the variation in the dependent variable to be identified (Cavana, et al., 2001).

**Table 30**

Descriptive Statistics (N=136)

| Variable                        | Mean   | Standard Deviation |
|---------------------------------|--------|--------------------|
| <b>Independent Variables</b>    |        |                    |
| Competition                     | 3.1029 | .74154             |
| Resources                       | 4.6342 | 1.52568            |
| Training                        | 3.5000 | 1.34371            |
| Management                      | 4.2960 | 1.32155            |
| Culture                         | 5.0828 | 1.06985            |
| Strategy                        | 4.4203 | 1.02860            |
| Complexity                      | 4.5165 | .90277             |
| <b>Dependent Variables</b>      |        |                    |
| Brand                           | 4.9730 | .74154             |
| Profit                          | 4.4504 | .99155             |
| Overall Management Satisfaction | 4.46   | 1.067              |
| Customers                       | 1.60   | .937               |
| Platforms                       | 2.78   | 1.423              |

### 5.3.2.1. Increased Brand

#### 5.3.2.1.1. Summary of Model

Two models were found to be successful in predicting an increase in brand loyalty based on its R values (see Tables 31 and 32). The first model determined from its R square value that strategy accounts for 23.6% of the variation in the perceived increase in brand loyalty. Furthermore, as the difference between R square and the adjusted R square is small (0.006), it indicates if the model was derived from the population rather than a sample it would account for only approximately 0.6% less variance in the outcome. As the R squared and adjusted R squared values are similar, it is anticipated that the model is likely to generalise well. The second model found from its R square value that strategy combined with resources accounts for 26% of the variation in the perceived increase in brand loyalty. Here again the difference between the R square and the adjusted R square was small (0.011), indicating that the second model should also generalise well. However, it is worth noting that based on the R square results, resources only contributed an additional and minimal 2.4% to the variation in the perceived increase in brand loyalty.

**Table 31**

Variables Entered/Removed for Dependent Variable: Increase Brand

| Model | Variables Entered | Variables Removed | Method  |
|-------|-------------------|-------------------|---|
| 1     | Strategy          |                   | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 2     | Resources         |                   | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

**Table 32**

Model Summary for Dependent Variable: Increase Brand

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .486 | .236     | .230              | .65050                     |
| 2     | .510 | .260     | .249              | .64275                     |

As the F value is greater than one in the ANOVA analysis (Table 33), the model is considered better than using the mean. In the initial model, the F ratio is 41.432. It is considerably higher than one and it is very unlikely to have happened by chance ( $p < .001$ ). For the second model, the value of F is lower (23.345), but still highly significant ( $p < .001$ ). In both models the improvement owing to fitting the regression model is much greater than the error within the model.

**Table 33**

ANOVA for Dependent Variable: Increase Brand

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 17.532         | 1   | 17.532      | 41.432 | .000 <sup>a</sup> |
|       | Residual   | 56.702         | 134 | .423        |        |                   |
|       | Total      | 74.234         | 135 |             |        |                   |
| 2     | Regression | 19.289         | 2   | 9.645       | 23.345 | .000 <sup>b</sup> |
|       | Residual   | 54.945         | 133 | .413        |        |                   |
|       | Total      | 74.234         | 135 |             |        |                   |

a. Predictors: (Constant), Strategy

b. Predictors: (Constant), Strategy, Resources

#### 5.3.2.1.2. Model Parameters

In terms of the model parameters, as the B values (Table 34) for both strategy and resources are positive, they both contribute positively to an increase in brand loyalty. Additionally, as the significance is less than .05 for both predictors, they are both making a significant contribution to the model. However, as the value of t is larger for strategy, it is making a larger contribution than resources. This conclusion is confirmed by referring to the standardised Beta, which in model two has a higher Beta for strategy than resources.

**Table 34**  
Coefficients for Dependent Variable: Increase Brand

| Model |            | Unstandardised Coefficients |            | Standardised Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 3.424                       | .247       |                           | 13.865 | .000 |
|       | Strategy   | .350                        | .054       | .486                      | 6.437  | .000 |
| 2     | (Constant) | 3.349                       | .247       |                           | 13.574 | .000 |
|       | Strategy   | .271                        | .066       | .376                      | 4.095  | .000 |
|       | Resources  | .092                        | .045       | .189                      | 2.062  | .041 |

### 5.3.2.2. Increased Profit

#### 5.3.2.2.1. Summary of Model

Four models were found to be successful in predicting an increase in profit based on its R values (see Tables 35 and 36). The first model determined from its R square value that strategy accounts for 24.2% of the variation in the perceived increase in profit. Furthermore, as the difference between R square and the adjusted R square is small (0.006), it indicates if the model was derived from the population rather than a sample it would account for only approximately 0.6% less variance in the outcome. As the R squared and adjusted R squared values are similar, it is anticipated that the model is likely to generalise well. The second model found from its R square value that strategy combined with competition accounts for 31.4% of the variation in the perceived increase in profit. Here again the difference between the R square and the adjusted R square was small (0.01), indicating that the second model should also generalise well. However, it is worth noting that based on the R square results, competition contributed an additional 7.2% to the variation in the perceived increase in profit.

The third model found from its R square value that strategy combined with competition and resources accounts for 34.8% of the variation in the perceived increase in profit. Here again, the difference between the R square and the adjusted R square was small (0.015) indicating that the third model should also generalise well. However, it is worth noting that based on the R square results, resources contributed an additional 3.42% from model two to the variation in the perceived increase in profit. The fourth and final model

found from its R square value that strategy combined with competition, resources and complexity accounts for 37% of the variation in the perceived increase in profit. The difference between the R square and the adjusted R square is slightly higher (0.02) but is still low enough to indicate that the fourth model should also generalise well. Based on the R square results, complexity contributed an additional 2.2% from model three to the variation in the perceived increase in profit.

**Table 35**

Variables Entered/Removed for Dependent Variable: Increased Profit

| Model | Variables Entered | Variables Removed | Method  |
|-------|-------------------|-------------------|---|
| 1     | Strategy          | .                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |
| 2     | Competition       | .                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |
| 3     | Resources         | .                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |
| 4     | Complexity        | .                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |

**Table 36**

Model Summary for Dependent Variable: Increased Profit

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .492 | .242     | .236              | .86640                     |
| 2     | .560 | .314     | .304              | .82741                     |
| 3     | .590 | .348     | .333              | .80996                     |
| 4     | .608 | .370     | .350              | .79914                     |

As the F value is greater than one in the ANOVA analysis (Table 37), the model is considered better than using the mean. In the initial model, the F ratio is 42.816. It is considerably higher than one and it is very unlikely to have happened by chance ( $p < .001$ ). For the second model, the value of F is lower 30.437, but still highly significant ( $p < .001$ ).

The third and fourth models have values of F of 23.439 and 19.209 respectively and are highly significant ( $p < .001$ ). Subsequently, in all the models the improvement owing to fitting the regression model is much greater than the error within the model.

**Table 37**

ANOVA for Dependent Variable: Increased Profit

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.  |
|-------|------------|----------------|-----|-------------|--------|-------|
| 1     | Regression | 32.140         | 1   | 32.140      | 42.816 | .000a |
|       | Residual   | 100.587        | 134 | .751        |        |       |
|       | Total      | 132.727        | 135 |             |        |       |
| 2     | Regression | 41.674         | 2   | 20.837      | 30.437 | .000b |
|       | Residual   | 91.053         | 133 | .685        |        |       |
|       | Total      | 132.727        | 135 |             |        |       |
| 3     | Regression | 46.130         | 3   | 15.377      | 23.439 | .000c |
|       | Residual   | 86.597         | 132 | .656        |        |       |
|       | Total      | 132.727        | 135 |             |        |       |
| 4     | Regression | 49.068         | 4   | 12.267      | 19.209 | .000d |
|       | Residual   | 83.659         | 131 | .639        |        |       |
|       | Total      | 132.727        | 135 |             |        |       |

a. Predictors: (Constant), Strategy

b. Predictors: (Constant), Strategy, Competition

c. Predictors: (Constant), Strategy, Competition, Resources

d. Predictors: (Constant), Strategy, Competition, Resources, Complexity

e. Dependent Variable: Increased Profit

#### 5.3.2.2.2. Model Parameters

In terms of the model parameters, the B values (Table 38) indicate the individual contribution of each predictor to the model. As the B values for strategy, competition, resources and complexity are all positive, they all contribute positively to an increase in profit. Additionally, as the significance is less than .05 for all predictors they are all making a significant contribution to the model. However, as the value of t is larger for strategy, it is making a larger contribution than competition, resources and complexity. This conclusion is confirmed by referring to the standardised Beta which in models two, three and four have a higher Beta for strategy than competition, resources and complexity.

**Table 38**  
Coefficients for Dependent Variable: Increased Profit

| Model |              | Unstandardised Coefficients |            | Standardised Coefficients | t     | Sig. |
|-------|--------------|-----------------------------|------------|---------------------------|-------|------|
|       |              | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant)   | 2.354                       | .329       |                           | 7.155 | .000 |
|       | Strategy1    | .474                        | .072       | .492                      | 6.543 | .000 |
| 2     | (Constant)   | 1.978                       | .330       |                           | 5.995 | .000 |
|       | Strategy1    | .424                        | .071       | .440                      | 6.019 | .000 |
|       | Competition1 | .192                        | .052       | .273                      | 3.732 | .000 |
| 3     | (Constant)   | 1.881                       | .325       |                           | 5.787 | .000 |
|       | Strategy1    | .300                        | .084       | .312                      | 3.584 | .000 |
|       | Competition1 | .180                        | .051       | .256                      | 3.561 | .001 |
|       | Resources1   | .147                        | .056       | .226                      | 2.606 | .010 |
| 4     | (Constant)   | 1.189                       | .455       |                           | 2.612 | .010 |
|       | Strategy1    | .277                        | .083       | .288                      | 3.327 | .001 |
|       | Competition1 | .194                        | .050       | .276                      | 3.858 | .000 |
|       | Resources1   | .147                        | .056       | .226                      | 2.639 | .009 |
|       | Complexity1  | .166                        | .078       | .151                      | 2.145 | .034 |

### 5.3.2.3. Overall Management Satisfaction

#### 5.3.2.3.1. Summary of Model

Two models were found to be successful in predicting an increase in overall management satisfaction based on its R values (see Tables 39 and 40). The first model determined from its R square value that complexity accounts for 6.8% of the variation in the perceived increase in overall management satisfaction. The difference between R square and the adjusted R square is small (0.007) indicating if the model was derived from the population rather than a sample it would account for only approximately 0.7% less variance in the outcome. As the R squared and adjusted R squared values are similar, it is anticipated that the model is likely to generalise well. The second model found from its R square value that complexity combined with strategy accounts for 10.2% of the variation in the perceived increase in overall management satisfaction. Here again the difference between the R square and the adjusted R square was small (0.013), indicating that the second model should also

generalise well. However, it is worth noting that based on the R square results, strategy only contributed an additional 3.4% to the variation in the increase in overall management satisfaction.

**Table 39**

Variables Entered/Removed for Dependent Variable: Overall Management Satisfaction

| Model | Variables Entered | Variables Removed | Method  |
|-------|-------------------|-------------------|---|
| 1     | Complexity        | -                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |
| 2     | Strategy          | -                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |

**Table 40**

Model Summary for Dependent Variable: Overall Management Satisfaction

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .261 | .068     | .061              | 1.034                      |
| 2     | .320 | .102     | .089              | 1.019                      |

As the F value is greater than one in the ANOVA analysis (Table 41), the model is considered better than the mean. In the initial model, the F ratio is 9.814. It is higher than one, so based on this the model is better. However, as  $p = .002$  rather than the desired  $p < .001$ , it could have happened by chance. For the second model, the value of F is lower (7.865) and as  $p = .001$ , it may have happened by chance. In both models the improvement owing to fitting the regression model is greater than the error within the model, although given the lower than desired significance, these may have happened by chance.

**Table 41**

ANOVA for Dependent Variable: Overall Management Satisfaction

| Model |            | Sum of Squares | df  | Mean Square | F     | Sig.  |
|-------|------------|----------------|-----|-------------|-------|-------|
| 1     | Regression | 10.491         | 1   | 10.491      | 9.814 | .002a |
|       | Residual   | 143.245        | 134 | 1.069       |       |       |
|       | Total      | 153.735        | 135 |             |       |       |
| 2     | Regression | 15.729         | 2   | 7.865       | 7.579 | .001b |
|       | Residual   | 138.006        | 133 | 1.038       |       |       |
|       | Total      | 153.735        | 135 |             |       |       |

a. Predictors: (Constant), Complexity

b. Predictors: (Constant), Complexity, Strategy

**5.3.2.3.2. Model Parameters**

As the B values (Table 42) for both complexity and strategy are positive, they both contribute positively to an increase in overall management satisfaction. Additionally, as the significance is less than .05 for both predictors, they are both making a significant contribution to the model. However, as the value of t is larger for complexity, it is making a larger contribution than strategy. This conclusion is confirmed by referring to the standardised Beta, which in model two has a higher Beta for complexity than strategy.

**Table 42**

Coefficients for Dependent Variable: Overall Management Satisfaction

| Model |            | Unstandardised Coefficients |            | Standardised Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | 3.061                       | .454       |                           | 6.744 | .000 |
|       | Complexity | .309                        | .099       | .261                      | 3.133 | .002 |
| 2     | (Constant) | 2.340                       | .551       |                           | 4.250 | .000 |
|       | Complexity | .279                        | .098       | .236                      | 2.852 | .005 |
|       | Strategy   | .193                        | .086       | .186                      | 2.247 | .026 |

#### 5.3.2.4. Customers

##### 5.3.2.4.1. Summary of Model

Two models were found to be successful in predicting the percentage of customers engaging with SM based on its R values (see Tables 43 and 44). The first model determined from its R square value that complexity accounts for 10.6% of the variation in the percentage of customers engaging in SM. Furthermore, as the difference between R square and the adjusted R square is small (0.007), it indicates if the model was derived from the population rather than a sample it would account for only approximately 0.7% less variance in the outcome. As the R squared and adjusted R squared values are similar, it is anticipated that the model is likely to generalise well. The second model found from its R square value that complexity combined with resources accounts for 16.6% of the variation in the percentage of customers engaging in SM. Here again, the difference between the R square and the adjusted R square was small (0.013), indicating that the second model should also generalise well. Based on the R square results, resources contributed an additional 6% to the variation in the percentage of customers using SM.

**Table 43**

Variables Entered/Removed for Dependent Variable: Customers

| Model | Variables Entered | Variables Removed | Method  |
|-------|-------------------|-------------------|---|
| 1     | Complexity1       | .                 | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |
| 2     | Resources1        | .                 | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

**Table 44**

Model Summary for Dependent Variable: Customers

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .325 | .106     | .099              | .889                       |
| 2     | .407 | .166     | .153              | .862                       |

As the F value is greater than one in the ANOVA analysis (Table 45), the model is considered better than the mean. In the initial model, the F ratio is 15.849. It is considerably higher than one and it is very unlikely to have happened by chance ( $p < .001$ ). For the second model, the value of F is lower 13.214, but still highly significant ( $p < .001$ ). In both models the improvement owing to fitting the regression model is much greater than the error within the model.

**Table 45**

ANOVA for Dependent Variable: Customers

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 12.539         | 1   | 12.539      | 15.849 | .000 <sup>a</sup> |
|       | Residual   | 106.020        | 134 | .791        |        |                   |
|       | Total      | 118.559        | 135 |             |        |                   |
| 2     | Regression | 19.653         | 2   | 9.826       | 13.214 | .000 <sup>b</sup> |
|       | Residual   | 98.906         | 133 | .744        |        |                   |
|       | Total      | 118.559        | 135 |             |        |                   |

a. Predictors: (Constant), Complexity

b. Predictors: (Constant), Complexity, Resources

**5.3.2.4.2. Model Parameters**

In terms of the model parameters, as the B values (Table 46) for both complexity and resources are positive, they both contribute positively to an increase in brand loyalty. Additionally, as the significance is less than .05 for both predictors they are both making a

significant contribution to the model. However, as the value of t is larger for complexity, it is making a larger contribution than resources. This conclusion is confirmed by referring to the standardised Beta which in model two has a higher Beta for complexity than resources.

**Table 46**  
Coefficients for Dependent Variable: Customers

| Model |            | Unstandardised Coefficients |            | Standardised Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | .078                        | .391       |                           | .200   | .842 |
|       | Complexity | .338                        | .085       | .325                      | 3.981  | .000 |
| 2     | (Constant) | -.541                       | .428       |                           | -1.264 | .209 |
|       | Complexity | .320                        | .082       | .308                      | 3.883  | .000 |
|       | Resources  | .151                        | .049       | .246                      | 3.093  | .002 |

#### 5.3.2.5. Platforms

##### 5.3.2.5.1. Summary of Model

One model was found to be successful in predicting the number of SM platforms based on its R value (Tables 47 and 48). The model determined from its R square value that training accounts for 13.9% of the variation in the number of SM platforms. Furthermore, as the difference between R square and the adjusted R square is small (0.006), it indicates if the model was derived from the population rather than a sample it would account for only approximately 0.6% less variance in the outcome. As the R squared and adjusted R squared values are similar, it is anticipated that the model is likely to generalise well.

**Table 47**

Variables Entered/Removed for Dependent Variable: Platforms

| Model | Variables Entered | Variables Removed | Method  |
|-------|-------------------|-------------------|---|
| 1     | Training          | .                 | Stepwise (Criteria: Probability-of-F-to-enter $\leq$ .050, Probability-of-F-to-remove $\geq$ .100). |

**Table 48**

Model Summary for Dependent Variable: Platforms

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1     | .373 | .139     | .133              | 1.325                      |

As the F value is greater than one in the ANOVA analysis (Table 49), the model is considered better than the mean. In this model, the F ratio is 21.637. It is considerably higher than one and it is very unlikely to have happened by chance ( $p < .001$ ).

**Table 49**

ANOVA for Dependent Variable: Platforms

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.  |
|-------|------------|----------------|-----|-------------|--------|-------|
| 1     | Regression | 38.006         | 1   | 38.006      | 21.637 | .000a |
|       | Residual   | 235.376        | 134 | 1.757       |        |       |
|       | Total      | 273.382        | 135 |             |        |       |

a. Predictors: (Constant), Training

### 5.3.2.5.2. Model Parameters

In terms of the model parameters, as the B value (Table 50) for training is positive, it contributes positively to the number of SM platforms used. Additionally, as the significance is less than .05 it is making a significant contribution to the model.

**Table 50**  
Coefficients for Dependent Variable: Platforms

| Model        | Unstandardised Coefficients |            | Standardised Coefficients | t     | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
|              | B                           | Std. Error | Beta                      |       |      |
| 1 (Constant) | 1.397                       | .318       |                           | 4.393 | .000 |
| Training     | .395                        | .085       | .373                      | 4.652 | .000 |

### 5.3.2.6. Summary of Findings from Dependent Variable Analysis

In summary, all of the models included in Table 51 met the specified criteria for prediction purposes and have therefore been accepted. However, some of these models are considerably stronger than others. As is to be expected, the models which have summated scales to measure their dependent variables are the strongest. These include the two measures of net benefits, brand and profits. The weakest model had overall satisfaction (1 item measure) as its dependent variable. However, as its p-value was less than .05, it was still viewed as satisfactory for prediction purposes. The five measures of the dependent variables had different predictors. In terms of the predictors, three independent variables were selected three times as predictors of successful SM implementation. These included strategy, resources and complexity. Two predictors were selected once. These included competition and training. Two predictors were not selected at all, including management support and culture. The strongest predictor for both of the strongest models (brand and profit) was strategy. These finding will be discussed next in the context of the hypotheses.

**Table 51****Summary of Models**

|  | <b>Increase Brand</b> |                | <b>Increase Profit</b> |                |                |                | <b>Overall Satisfaction</b> |               | <b>Customers</b> |                | <b>Platforms</b> |
|--|-----------------------|----------------|------------------------|----------------|----------------|----------------|-----------------------------|---------------|------------------|----------------|------------------|
| Model  | 1 S                   | 2 S R          | 1S                     | 2S C           | 3S C R         | 4S C R Co      | 1Co                         | 2Co S         | 1Co              | 2Co R          | 1 T              |
| R square (close to 1 = good)                 | .24                   | .26            | .24                    | .31            | .35            | .37            | .07                         | .10           | .12              | .17            | .14              |
| F (greater than 1 and p-value less than .05) | 41.43<br>p .000       | 23.34<br>p.000 | 42.82<br>p.000         | 30.44<br>p.000 | 23.45<br>p.000 | 19.21<br>p.000 | 9.81<br>p.002               | 7.58<br>p.001 | 15.85<br>p.000   | 13.21<br>p.000 | 21.64<br>p.000   |

NB: Predictors: S = Strategy; R = Resources; C=Competition; Co=Complexity; T=Training

**5.3.3. Hypotheses Discussion**

Hypotheses are “a prediction about the state of the world” and null hypotheses are “that the prediction is wrong and the predicted effect does not exist” (Field, 2009, pp. 187, 790). From the above analysis, five out of the seven hypotheses can be accepted (Table 52). The hypotheses were accepted even if the independent variable was found to be a predictor for only one of the five outcome variables. The results of each hypothesis will now be discussed.

**Table 52****Summary of Hypotheses Testing Results**

| <b>Variables</b>   | <b>Hypotheses Accept/Reject</b> | <b>Brand</b> | <b>Profit</b> | <b>Satisfaction</b> | <b>Customers</b> | <b>Platforms</b> |
|--------------------|---------------------------------|--------------|---------------|---------------------|------------------|------------------|
| <b>Complexity</b>  | H1 - Accept                     | No           | Yes           | Yes                 | Yes              | No               |
| <b>Management</b>  | H2 - Reject                     | No           | No            | No                  | No               | No               |
| <b>Culture</b>     | H3 - Reject                     | No           | No            | No                  | No               | No               |
| <b>Strategy</b>    | H4 - Accept                     | Yes          | Yes           | Yes                 | No               | No               |
| <b>Resources</b>   | H5 - Accept                     | Yes          | Yes           | No                  | Yes              | No               |
| <b>Training</b>    | H6 - Accept                     | No           | No            | No                  | No               | Yes              |
| <b>Competition</b> | H7 - Accept                     | No           | Yes           | No                  | No               | No               |

#### **5.3.3.1. Hypothesis One**

Alternative Hypothesis: *The less complex SM is perceived, the more positive its relationship with implementation success.*

Null Hypothesis: *The less complex SM is perceived, the less positive its relationship with implementation success.*

The relationship between complexity and three dimensions (profit, satisfaction, and customers) of successful SM implementation was significant. The alternative hypothesis consequently was accepted. While there was evidence that businesses that perceive SM to be more complex will tend to diffuse more slowly, the results were mixed depending on the dimension used to measure the outcome variable. Complexity was found to be a significant predictor of perceived profit; however, it was the smallest contributor with an R square value of 2.2% and the lowest Beta and t values. Based on the R square value, complexity was the strongest predictor of overall management satisfaction contributing 6.8% and customers contributing 10.6%. These results were confirmed by the Beta and t values. This was in keeping with Bradford and Florin's (2003) findings in relation to ERP implementation which found a significant relationship with overall satisfaction, but not with their organisational performance measure.

#### **5.3.3.2. Hypothesis Two**

Alternative Hypothesis: *Management and leadership support will have a positive relationship with SM implementation success.*

Null Hypothesis: *Management and leadership support will not have a positive relationship with SM implementation success.*

The relationship between management and leadership support and all dimensions of successful SM implementation was not significant. Therefore the alternative hypothesis was rejected. This result is in contrast to a number of other findings on innovation implementation including Bradford and Florin (2003). Additionally, Wong and Aspinwall (2005) had ranked

management and leadership support as the most critical success factor for KM adoption and implementation. One reason that the result is different from expected could be due to the face-validity of some of the items in the construct. From re-examining the items, two out of the five items may be more relevant to adoption than implementation. These include “Leaders act as catalysts for SM” and “Management provides the necessary conditions for SM”. Another reason could be that 35% of the respondents were sole traders reducing the relevance of these items. As the decision maker and implementer is the same person, there is no hierarchy. It is worth noting that 69% of enterprises in New Zealand have no paid employees (SMEs in New Zealand Structure and Dynamics, 2010) highlighting the importance of including sole traders.

#### **5.3.3.3. Hypothesis Three**

*Alternative Hypothesis: A supportive culture will have a positive relationship with SM implementation success.*

*Null Hypothesis: A supportive culture will not have a positive relationship with SM implementation success.*

The relationship between a supportive culture and all dimensions of successful SM implementation was not significant. Therefore the alternative hypothesis was rejected. Wong and Aspinwall (2005) had ranked having a supportive culture as the second most critical success factor for KM adoption and implementation. The culture construct was based the items put forward by Wong and Aspinwall (2004) and indicated that more organic cultures would be more supportive. From other research (Brown & Bostrom, 1994; Grover & Goslar, 1993; Subramanian & Nilakanta, 1996), organic cultures have been found to be more supportive of successful innovation adoption rather than implementation. On the other hand, mechanistic cultures have been found to result in more successful innovation implementation. Generally, the culture of SMEs has been found to be more organic and fluid than that of large organisations (Ghobadian & Galleary, 1997).

Based on insights from other research, it is likely that a supportive culture for successful SM implementation will have some mechanistic traits within an organic framework. The two most widely used measures of an organic/mechanistic culture are

centralisation and formalisation. Findings as to the impact of centralisation (i.e. degree of decision-making concentration) have been mixed. Also centralisation is less likely to be a point of differentiation between New Zealand SMEs as, given the relatively small number of employees, the impact of hierarchies will be diminished. However, there is considerable evidence from prior research that the greater the formalisation (i.e. the degree of reliance an organisation places on formal rules and procedures), the more successful the innovation implementation is likely to be. Given this discussion, it can be concluded that the items used to measure a supportive culture may have been more relevant for adoption than for implementation, impacting on the face validity of this construct.

#### **5.3.3.4. Hypothesis Four**

*Alternative Hypothesis: A clear strategy and purpose will have a positive relationship with SM implementation success.*

*Null Hypothesis: A clear strategy and purpose will not have a positive relationship with SM implementation success.*

The relationship between a clear strategy and purpose and three dimensions (brand, profit, and satisfaction) of successful SM implementation was significant. Consequently, the alternative hypothesis was accepted. While there was considerable evidence that businesses with a clear strategy and purpose will tend to be more successful in implementing SM, the results were still mixed depending on the dimension used to measure the outcome variable. Based on the R square value, a clear strategy was found to be the strongest significant predictor for both perceived increased brand (23.6%) and perceived increased profit (24.2%). A clear strategy also made a small contribution to the prediction of overall management satisfaction (3.4%). These results were supported by the Beta and t values. Minimal research was found as to the impact of strategy on the success of innovation implementation. Bradford and Florin's (2003) study using a related outcome (organisational objectives) had similar findings, concluding that it was a significant predictor of organisational performance. However, it was not a predictor of overall satisfaction.

A clear strategy and purpose was ranked as the third most critical success factor in the implementation and adoption of KM by Wong and Aspinwall (2005). The items of this construct had face validity for implementation as they implied a longer-term focus rather than the need for a yes/no decision seen as more relevant to adoption. Overall, out of the seven independent variables included in the exploratory model, a clear strategy and purpose was the most significant predictor.

#### **5.3.3.5. Hypothesis Five**

*Alternative Hypothesis: Available resources will have a positive relationship with SM implementation success.*

*Null Hypothesis: Available resources will not have a positive relationship with SM implementation success.*

The relationship between available resources and three dimensions (brand, profit, and customers) of successful SM implementation was significant. As a result, the alternative hypothesis was accepted. While there was evidence that businesses that had available resources are likely to be more successful in implementing SM, the results were mixed depending on the dimension used to measure the outcome variable. Based on the R square value, available resources contributed the most as a predictor of the outcome dimension higher SM usage by customers (6%) followed by perceived increased profit (3.4%) and an even smaller amount for perceived increased brand (2.4%). These results were confirmed by referring to the Beta and t values. While there appears to have been little empirical research as to the impact of available resources on successful innovation implementation, Wong and Aspinwall's (2005) study ranked it as the fourth most critical success factor. A related study by Thong et al. (1996) found that using external IS expertise was critical to effective IS implementation in small businesses. Additionally, prior research had concluded that small businesses suffer from resource poverty, indicating that a lack of resources is a likely barrier to successful implementation.

#### **5.3.3.6. Hypothesis Six**

Alternative Hypothesis: *Access to training and education will have a positive relationship with SM implementation success.*

Null Hypothesis: *Access to training and education will not have a positive relationship with SM implementation success.*

The relationship between training and education and one dimension (platforms) of successful SM implementation was significant. Consequently the hypothesis was accepted. Conversely, however, access to training and education did not act as a predictor for the other four dimensions. From the R square value, training accounts for 13.9% of the variation in the number of SM platforms. Bradford and Florin (2003) also had mixed findings as training was found to be a predictor of user satisfaction but not organisational performance. Very little research was identified other than Wong and Aspinwall (2005) who ranked having access to education and training as the sixth critical success factor. The face validity of the KM training items borrowed from Wong and Aspinwall (2005) was reviewed in terms of the relevance of these items to implementation and SM. The modified items used were viewed as valid for SM and implementation. Additionally, there is a logical connection between the amount of training and the outcome variable platforms. It makes sense that in order to use more platforms more training is required.

#### **5.3.3.7. Hypothesis Seven**

Alternative Hypothesis: *Competitive pressure to adopt SM will have a positive relationship with SM implementation success.*

Null Hypothesis: *Competitive pressure to adopt SM will not have a positive relationship with SM implementation success.*

The relationship between competitive pressure and one dimension (profit) of successful SM implementation was significant. As a result the hypothesis was accepted. Overall the findings were mixed, as competitive pressure was not found to be a predictor of

the other outcome variables (brand, overall satisfaction, customers and platforms). Based on the R square value, competition contributed an additional 7.2% to the variation in the perceived increase in profit. In terms of the Beta and t values, overall competition has a similar value to strategy (the strongest predictor) and can therefore be viewed as being a significant contributor to predicting perceived increased profit. Competition has been included in numerous studies as a possible determinant of innovation implementation success. However, findings from different studies have been mixed. Within a small business context, Thong (1999) found that in an environment that is more competitive a business would be more likely to use IS. In terms of this study, retailers accounted for the largest percentage of respondents (29%). Due to the current economic climate, the retail environment is highly competitive and this may have been a factor as to why competition has emerged as a predictor.

## **5.4. Conclusion**

This chapter developed reliable and valid summated scales which were then used to measure the dependence relationships between the independent and outcome variables. Summated scales were validated as acceptable measures for all seven (complexity, culture, strategy, resources, management support and training) of the independent variables and two (increased brand loyalty and increased profit) out of the five outcome variables. The two scales which performed most similarly between the pilot and main survey (and therefore are the most generalisable) were for a supportive culture and access to training. However, upon reflection and taking into consideration the results from the hypothesis testing, the items included in a supportive culture construct may lack face validity for implementation research. The construct measures an organic culture which other research has found to be supportive for adoption but not implementation. A supportive culture for implementation is more likely to include mechanistic aspects within an organic framework, given research has found that small businesses are usually more organic. For small New Zealand businesses it is likely that centralisation will be less relevant, given the lack of hierarchies. However, formalisation is likely to be relevant.

As recommended in the literature (Delone & McLean, 2003; Petter, et al., 2008), a range of outcome variables were used to measure successful SM implementation. The dimensions measured included use, overall management satisfaction and perceived net benefits. The two

measures of use (percentage of customers using SM and number of SM platforms) were single item interval scales. Overall management satisfaction was also measured using a single item interval scale. The perceived net benefits (increased profit and increased brand loyalty) were both measured using newly developed three to four item summated scales. Not surprisingly, based on the R square and F values, the strongest models were those with either profit or brand as the outcome variable (summated scales). However, all outcome variables did form part of a significant model with at least one predictor variable identified. The least significant model had overall management satisfaction as its outcome variable.

Five out of the seven independent variables were found to be significant predictors of SM implementation success, leading to five hypotheses being accepted. The most significant predictor was strategy, featuring with three outcome variables: brand, profit and overall satisfaction. Resources and complexity were the next most significant predictors. Resources also featured with three outcome variables: brand, profit and customers. So did complexity: customers, overall satisfaction and profit. Competition and training were selected as predictors of one outcome variable each. Competition acted as a predictor for profit and training acted as a predictor of platforms. Culture and management support were not selected as predictors and subsequently their hypotheses were rejected. As already mentioned, upon reflection, one reason that culture was not found to be a predictor was due to the face validity of the construct. It measured how organic a culture was, whereas measuring how mechanistic it was may be more relevant. A contributing factor as to why management support was not selected as a predictor is likely to have been the small size of New Zealand businesses, with about 35% of respondents indicating that they were sole traders. This meant that management and implementers are likely to be the same person, making these questions less relevant. These findings provide a number of themes that will be interesting to investigate further in the qualitative part of the research.

## **6. Phase Two Qualitative Research**

### **6.1. Introduction**

A second qualitative phase of research was carried out to enhance and enlighten the findings of the quantitative phase by studying the experiences of a small number of businesses that had been early adopters of SM. The qualitative phase provided the opportunity to probe and use open-ended questions to discover more about why the quantitative research had the findings that it did (Tashakkori & Teddie, 2003). The data collection was comprised of one hour semi-structured interviews of three respondents from separate businesses. The person selected as the interviewee was the person responsible for implementing SM. The core themes for discussion included evaluating from a firm level perspective the factors identified from literature for other innovation and small business contexts that might have impacted on the successful implementation of SM. Additionally, insights as to how businesses were measuring the success of SM were sought.

Usually interviews are recorded and transcribed later. However, in some situations written notes are preferable (Britten, 1995). The interviews were documented when they took place. The location (in the shop with a background of customers) or the channel (phone) of the interviews precluded recordings being made. Given that the interviews were not recorded, the quotes are to be viewed as approximate quotes only. Throughout the interviews it was important that my experience was set aside to ensure that I was receptive to new ideas (Cannon, 1989). Analysis was based on intuitive linkages between the interviews and tied back to the literature. Because of the small number of interviews, the data was analysed manually. The interviews are not meant to stand alone, but rather to provide insights for the prior quantitative section of the research.

The outline for this chapter is, firstly, to provide an overview of the participants and interviews; secondly, it will present and analyse the results, followed by a conclusion relating findings to the previous quantitative section of the research.

## **6.2. Participants and Interview Overview**

### **6.2.1. Sampling Frame**

The sampling plan required businesses that were SMEs (defined in New Zealand as having fewer than 20 employees) and were also pioneer adopters of SM. Based on Beaty et al.'s (2001) website adoption categories, pioneer adopters were viewed as businesses that had been using SM for three years or more. As the objective of this study was to understand successful implementation of SM, it was expected that those businesses that had been using it the longest would provide more valuable insights into how successful it had been. Given that retailers were the largest vertical industry to be using SM (29% of respondents from the main survey), they were viewed as a suitable group to gain more detailed information from. Top Shop finalists from the Wellington region (accessible to interviewer) were selected as the group from which interviewees would be identified from. This group was chosen in the assumption that early adopters of SM would have a more competitive outlook and be classified as prospectors (Ko, et al., 2008). Forty-one Wellington Top Shop (2010) finalists were also SMEs.

### **6.2.2. Participant and Interview Overview**

Retailers using SM were identified by searching the internet. From the 41 retailers that were SMEs, all but two had websites and 11 were using SM. These retailers were then screened to identify the pioneer users. It was felt that they would be able to provide more insights into the themes around implementation (as opposed to assuming that they would be more successful just because they had been using SM longer). The retailers using SM were contacted by phone to determine the length of time that they had been using SM. One of the retailers who had just set up a blog said, "I can't get my head around how to use it ... how much time that needs to be put into it puts people off". Of the retailers contacted, three had been using it for six months, five for less than 12 months, two for 1-2 years and one for 2-3 years. These are summarised in Table 55. Given that no retailers in the sample had been using SM for three years, the time frame for pioneer users of SM was expanded to include those businesses that had been using it for more than one year. Only three retailers were identified as using SM for more than one year and therefore only three retailers were interviewed. Each of the retailers is outlined below and summarised in Table 56.

**Table 55**

Summary of Retailers from Selected Sample that are using SM

| <b>Number of retailers ( SMEs only) using SM identified from the 41 finalists for the Wellington 2010 Top Shop competition</b> |                 |
|--|-----------------|
| Retailers using SM for less than 6 months  | 3 (7%)          |
| Retailers using SM for 6-12 months   | 5 (12%)         |
| Retailers using SM for 1-2 years   | 2 (5%)          |
| Retailers using SM for 2-3 years   | 1 (3%)          |
| <b>Total Retailers using SM (out of 41)</b>  | <b>11 (27%)</b> |

#### **6.2.3. Case A**

The first interviewee is the store manager in a small, specialist football gear shop. The shop employs five staff. He has been employed as the store manager for five to six years. His role in implementing SM is more one of leading collaboration around content. He “pokes about with it” and “they all come up with ideas”. Another staff member loads up the content and looks after it.

#### **6.2.4. Case B**

The Case B interviewee is one of the directors/owners of the business. It is a New Zealand-focused designer gifts and art shop which was set up four years ago by the interviewee and her sister. There are four staff (including the two owners and the two part-time employees) and the interviewee’s husband is also largely involved in the accounts. To her, Facebook is “my baby”. Twitter is her sister’s “baby”.

### 6.2.5. Case C

The interviewee from Case C is the owner of a specialist skateboard and clothing shop with five staff. He has been an owner for about five years. His role in SM is to manage Facebook which he feels “takes a lot of time”.

**Table 56**

Summary of Businesses Represented in the Interviews

| <b>Case</b>                                   | <b>A</b>  | <b>B</b>                                 | <b>C</b>                                  |
|---|---|--|---|
| <b>Number of staff (including owners)</b>     | 5   | 4  | 5   |
| <b>Type of retailer</b>                       | Football gear   | NZ-focused designer gifts and art        | Skateboards and clothing                  |
| <b>Respondent's position</b>                  | Store Manager   | Owner                                    | Owner                                     |
| <b>Respondent's role in SM implementation</b> | Leads collaboration over content – does not load content. | Her “baby”. Initiates and loads content. | Initiates and loads content.              |
| <b>Length of time and type of SM</b>          | 1½ years Facebook   | 1½ years Facebook and 6 months Twitter   | 2½ years Facebook and 6 months on Twitter |

## 6.3. Results and Analysis

The significance of the independent and outcome variables were explored further in the interviews. Additionally, insights into the businesses objectives for using SM were also sought. While a similar outline was used for each of the interviews, the topics varied marginally depending on the interviewee's position in the business and their role in implementing SM. The flow of discussion also impacted on the coverage of the topics.

### **6.3.1. SM Characteristics**

#### **6.3.1.1. Compatibility**

To determine the compatibility of SM with company values and past experiences, each interview included ascertaining other types of technology the business was using. All the businesses had websites that they had either set up or revamped in the last three years. The oldest version of Microsoft was 2003. Two of the businesses were actively initiating other marketing innovations including newsletters, competitions and events simultaneously with implementing SM.

#### **6.3.1.2. Complexity**

Responses varied regarding the complexity of implementing SM. One respondent stated that he finds Facebook takes a lot of time and said, “Twitter – rarely use it”. This respondent implemented the social media on his own. Another respondent said that while they had set up SM 18 months ago, they had only become very active in the last six months. The reason for the increase in activity was that employing a new staff member gave them more time to dedicate to it and the owner got his brother to help with any IT issues. The respondent who seemed to be the most prolific user of SM set it up after the suggestion and with the guidance of a part-time employee. None of them paid an agency or contractor to provide any assistance in the set up or implementation of SM.

### **6.3.2. Organisational Characteristics**

#### **6.3.2.1. Culture**

The respondents displayed a mixture of both mechanistic and organic tendencies in their businesses. All the respondents had a more mechanistic approach to how tasks and jobs were to be performed. For example, one respondent stated that, “Bible – every task is spelled out”. Two of the respondents viewed lines of authority and goals as being precisely defined, indicating a more mechanistic culture. The third respondent viewed lines of authority and goals as loose, indicating a more organic culture. Interestingly, this respondent seems to be

finding the implementation of SM more complex, with minimal goals for using it and reports on metrics kept only between the business partners. The other two respondents had more objectives for using SM and metrics reports were provided regularly to all staff.

#### **6.3.2.2. Management Support and Strategy**

Insights into management support and strategy are influenced by the person who actually updates the day-to-day content of SM. Two of the respondents are owners of the business and the key person updating content so they determine the level of management support and are fully aware of their businesses strategy. Additionally, all the respondents either set up the site or initiated the project, indicating a high level of management support and strategic understanding. Two of the respondents indicated that all staff visit their SM sites and receive regular updates of metrics, whereas the third respondent indicated that only the two partners visit their sites and receive updates (as mentioned before, this respondent seemed to be finding the implementation of SM more complex than the other two respondents). As mentioned already in relation to culture, only two of the respondents had clear objectives for using SM, indicating that only two of the respondents viewed SM as a vital business activity. Objectives for using SM included: 1) retention – “Cultivate relationship with customers so they want to come back”, 2) viral – “Everybody here on Facebook all with 500+ friends so we can connect with all of these”, 3) promotion, and 4) click through to website.

#### **6.3.2.3. Training**

In relation to training, none of the businesses had attended training courses specifically on SM. However, two of the respondents indicated that they had been given pointers on using SM by somebody else. Both of these respondents indicated a positive attitude to training in SM, however, they had not identified a suitable course. The third respondent had not thought about attending training. However, when prompted he said that he thought training could be helpful. The third respondent seems to be finding implementing SM more complex than the other two respondents.

#### **6.3.2.4. Resources**

The main resource identified by respondents as being required for implementing SM was time. Two of the respondents indicated that they spent at least two hours a week on SM, whilst the third respondent did not know as another employee performed the day-to-day SM administration. None of the respondents allocated any budget to implement SM. One of the respondents gave his brother a free pair of soccer boots as a way of recompensing him for the time he had spent helping with SM.

#### **6.3.3. Success of using SM**

None of the respondents could quantify the success of SM in terms of its impact on the financial situation of the business. The reasons provided were: “Hard to quantify” and “Too soon”. However, metrics from the sites indicated that there was growth in the usage of the site. Measurement of SM had not been linked back specifically to the respondents’ objectives i.e. 1) retention, 2) viral, 3) promotion, and 4) click through to website.

### **6.4. Conclusion**

In conclusion, the three interviews added depth and clarity to the findings from the quantitative stage. The key insights from the qualitative stage were: 1) the use of outside expertise (unpaid family or friends) instead of formal training, 2) the scarcity of SM training courses identified, 3) the importance of formalised processes, 4) time is the most important resource, and 5) having a clear strategy, sufficient time, access to expertise and formalised processes reduces the perception of SM complexity. The extra information was particularly useful given the sparse literature available on SM implementation. Whilst the information provided valid insights for New Zealand SMEs, it is also likely to be relevant internationally for micro-organisations.

## **7. Discussion (Combined Quantitative and Qualitative Results)**

The three interviews provided interesting information that added clarity to the quantitative stage findings. The main limitations of the insights are the small sample size and that all the businesses interviewed were around the same size, with four to five staff. Keeping the limitations in mind, insights from the qualitative stage were linked with quantitative findings. Firstly, qualities of SM were considered. Next, organisational characteristics were discussed. Following this, how successful their SM programmes had been was considered. Finally, based on the results of both parts of the research, a modified conceptual model was proposed.

In terms of the compatibility of SM with the businesses' values and past experiences, both the quantitative and qualitative stage found that respondents had a similar degree of up-to-date technology. For example, all interviewees had websites and of the main survey respondents 90% had websites and 95% had company email addresses. In light of this, it is more likely that businesses using SM will have compatible technology. Therefore it is unlikely that compatibility will be a differentiating point between those businesses that are successfully implementing SM and those that are not so successful.

Complexity (i.e. the required knowledge to implement SM) emerged as a theme from both stages of the research. It was evident from the interviews that the respondents who viewed SM as less complex also had more expertise (often sought externally) available to guide the early phase of implementation. They also had a clear SM strategy and had more formal processes, indicating a more mechanistic culture. From the survey results, respondents who felt SM was less complex also perceived that SM would contribute to increased profit, were more satisfied with the performance of SM and had a higher percentage of customers using SM. Based on findings from previous research (Beatty, et al., 2000), it is likely that as the businesses in this study were early adopters of SM, this impacted on the significance of complexity as a predictor. It can be assumed that those businesses that enter later in the adoption cycle will find implementing SM less complex. Also, if the research had been carried out after the businesses had been using SM for a longer period of time, complexity would also be less important.

In the qualitative stage, management support and strategy findings were influenced by the role of the respondent. If the person in the organisation most responsible for the ongoing implementation of SM is an owner/manager, then strategic decisions and the administering of

SM were at the same hierarchical level. The implication is that management support and understanding strategy is critical for the successful implementation of SM. The main points of difference between the interviewees were in terms of strategy – both in setting objectives for SM and keeping all staff informed of SM metrics. Those interviewees with a more transparent strategy for SM – demonstrated by clear objectives and inclusive reporting of metrics – appeared to find the implementation of SM less complex. In the qualitative stage, management support was not found to be a predictor of successful SM implementation. As surmised, a key reason for this is likely to be that the manager and implementer of SM is the same person, reducing the relevance of these questions. However, it was evident from the interviews that even in small businesses with five staff or fewer, a clear strategy was linked to more effective SM implementation. This assertion was supported by the survey results, which found strategy to be the most significant predictor of successful SM implementation – including three dimensions, brand, profit and overall management satisfaction.

The interviewees expressed a desire for formal training in SM. However, as no relevant courses were identified, formal training had not occurred. However, the point of difference is that those interviewees who at least obtained tips from others seemed to be finding SM less complex to implement. This provides some insight into why training only appeared as a predictor for the number of platforms used in the final survey. Potential SM courses were not available and therefore it was viewed as less important. In the absence of formal training, the availability of outside expertise (often unpaid from family and friends) in the early stages of implementation of SM could have a positive impact. The literature recognised the importance of informal training and access to outside expertise and this was supported by the interviews.

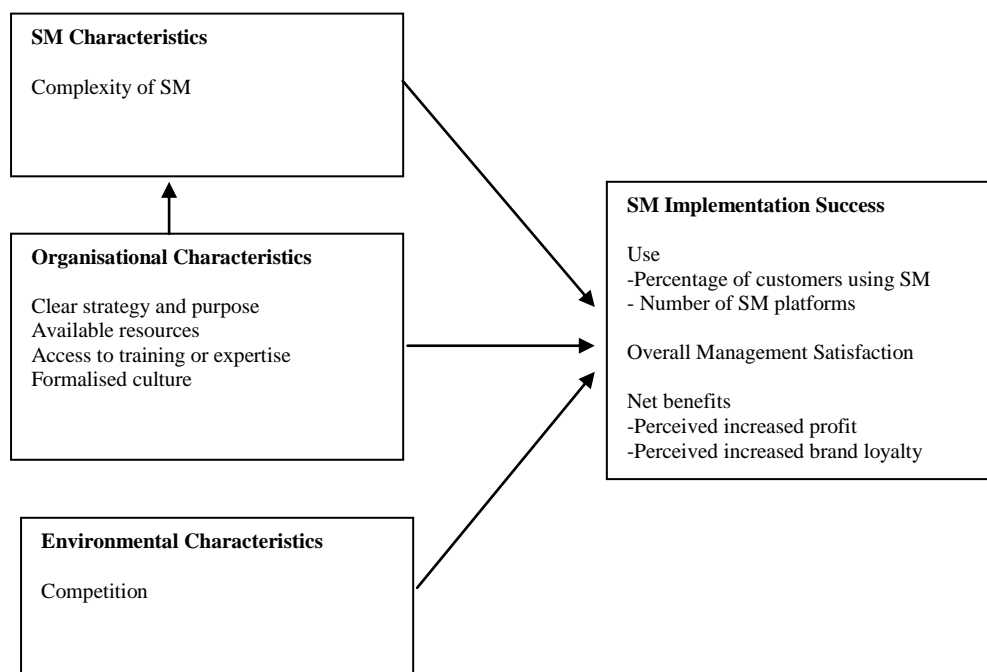
The key resource identified by interviewees for implementing SM was time, not money. The resources construct of the survey included an item on the availability of time, which was particularly relevant given the qualitative finding. Resources were also identified as a predictor of three dimensions of successful SM implementation: increased brand, increased profit and percentage of customers. Competitive pressure was not mentioned by the interviewees as a reason they were using SM. However, it was referred to in the “other” open question of the pilot survey and was subsequently included as an independent variable of the final survey. It was found to be a predictor of one dimension of SM implementation success, increased profit. As with complexity, the fact that the respondents were early adopters of SM is likely to have impacted on the significance of competitive pressure. Those businesses adopting SM later are more likely to have been influenced by competitive pressure.

In terms of the success of the interviewees' SM programmes, all said that it is too early to identify actual financial implications and little attention had been given to linking SM metrics back to organisational objectives. Use-type metrics related to the specific SM tool were being employed as the preferred measure of SM success. Given these findings, the choice to use perceived measures of net benefits for the main survey seems to be justifiable, particularly as use and an overall measure of management satisfaction were also applied.

From the combined quantitative and qualitative results and discussion, the conceptual model proposed in Chapter Three has been modified (see Figure 30). Management support has been removed. A supportive culture has been replaced by 'a formalised culture'. Access to training and education has been changed to 'access to training or expertise'. The final change has been the addition of an arrow between organisational characteristics and complexity as from the qualitative research the presence of these reduced the degree of complexity. Additionally, the actual measures of successful SM implementation have been included.

**Figure 30**

Conceptual Model – Factors Influencing SM Implementation Success in New Zealand SMEs



## **8. Conclusion**

### **8.1. Summary**

The objective of this research was to identify which characteristics are most significant in influencing the successful implementation of social media (SM) by New Zealand SMEs. As SM is a newly available marketing and communications option for businesses, it was considered likely to have been a frequently adopted innovation over the last three years. Subsequently, SM provided an opportunity to explore successful innovation implementation from an organisational perspective. SM is increasing in importance to marketers as usage rises because of its unique attributes. However, there is negligible research from a marketing perspective to help understand how to implement SM successfully. Therefore research was grounded in innovation and implementation theory with the Organisational Innovativeness theory and the Variance theory (particularly the TOE framework) found to be of particular relevance. Given the sparse amount of literature on SM in this area, literature for innovations of a communications and technology nature were referred to.

A range of predictors were identified from the literature which could influence the successful implementation of SM. The predictors were selected based on existing empirical findings for other types of innovations and their relevance to the context of small businesses. The predictors included characteristics of the innovation, the organisation and the environment. A range of dimensions were also selected to measure the outcome variables for successful SM implementation. These included use, overall management satisfaction and perceived net benefits. The research included two phases. The first phase quantitatively analysed data from a survey of SMEs identified as using SM on Facebook. The second phase involved qualitative analysis of interviews with a small number of SMEs to add depth to the quantitative findings.

As there were no scales available to measure the SM variables, constructs and questions were developed from ERP, KM, and practitioner research of SM. Through a process of pre-testing and exploratory factor analysis, nine summated scales for SM were developed. Seven of these were for the independent variables: complexity; management and leadership support; supportive culture; clear strategy and purpose; available resources; access to training and education, and competition. Two of these were for the outcome variables measuring net benefits; increased brand loyalty and increased profit. While these scales were found to meet the tests of reliability and validity necessary for this sample, as principal component analysis

was used, these scales are not considered generalisable until similar results are found with other samples. This condition was best met with the management and leadership support and the supportive culture constructs as results were similar for both the pilot and the main survey. However, it was evident from the hypotheses testing that the culture construct may lack face validity as it measured an organic culture whereas a more mechanistic culture, specifically more formalisation, may be more relevant as a supportive culture of implementation.

The quantitative analysis showed that there were dependence relationships between five out of the seven independent variables and at least one of the outcome variables. The significant predictors included complexity, a clear strategy and purpose, available resources, access to training and education, and competition. Complexity, strategy, resources and competition were all found to be predictors of increased profit. Strategy and resources were found to be predictors of increased brand loyalty. Complexity and strategy were found to be predictors of overall management satisfaction. Complexity and resources were found to be predictors of the percentage of customers using SM and finally, training was found to be a predictor of the number of platforms used. Different predictors were evident for the varying dimensions of SM success. However, strategy, resources and complexity emerged as the most frequent predictors.

The combined results from the two stages of research added further insights to the findings. These findings led to modifications to the model of successful SM implementation for SMEs proposed from the literature. The changes included the modification of two of the predictors. Expertise was inserted instead of education for the training construct and a formalised culture replaced a supportive culture. The supportive management and leadership construct was removed. Finally, an arrow was added from organisational characteristics to complexity, as it was evident from the interviews that the extent to which an organisation displayed these characteristics impacted on the degree to which they perceived SM to be complex.

The outcomes of the research met the objectives outlined in the introductory chapter as detailed below:

- *To investigate which characteristics best explain an SME's successful implementation of social media.* The quantitative part of the study firstly explored the items and constructs identified from the literature review for other types of innovations to provide summated scales. These summated scales, along with three single item measures, were used to

determine significant predictors of successful SM implementation. Significant predictors included complexity, a clear strategy and purpose, available resources, access to training and competition. All five of the outcome variables had a significant predictor with the newly-developed summated scales for perceived net benefits providing the strongest models.

- *To propose an exploratory model of successful SM implementation for small businesses.* From the combined results, insights as to why some of the variables included in the initial model may not have been predictors were gained and changes to other predictors were proposed. These included that a formalised culture and outside expertise may be significant for the implementation of SM in small businesses and should be included in the model. The reason that management and leadership support was not found to be predictor was most likely due to the small size of the businesses in the sample. Subsequently this variable was deleted. A revised conceptual model was proposed.
- *To contribute to the current marketing literature on innovation implementation, specifically within the area of computer-mediated communication technologies.* This is one of a small number of studies that uses SM as its focal innovation, organisations as its unit of analysis and implementation success as its outcome variable. SM is an important innovation for marketers for communication and promotion reasons and it is therefore relevant that insights into successful implementation are gained. Given the varying definitions of SMEs internationally, these findings may be more relevant for micro-organisations in some countries.
- *To inform practice (in particular SMEs), of leading research in the area of SM implementation.* The study is of interest to SMEs as evidenced by the quantity of responses and positive comments received via Facebook. The timing of the study in terms of the newness of SM makes it relevant to a wide range of SMEs, including those that have recently started to use SM and those that are planning to. The findings will also be of interest to business associations such as the New Zealand Retailers Association when providing information to their members. Internationally, the research findings are likely to be of interest to businesses of a similar size (either SMEs or micro-organisations).

## **8.2. Research Implications and Contributions**

The research findings have implications from both academic and practitioner perspectives. These contributions are summarised below in terms of their theoretical, methodological, and managerial implications.

### **8.2.1. Theoretical**

Considerable research has been carried out by marketing academics on the adoption of innovations from a consumer perspective, particularly in terms of new products. However, little research has been carried out on the implementation of innovations from an organisational perspective. Research for this unit of analysis and stage of adoption has tended to originate from the management and information systems disciplines. As the communication and promotion tools available to marketers continue to evolve from traditional to digital, marketers' message control will continue to reduce. Given the lack of message control and the necessary alignment with IT to implement computer-mediated communication technologies, innovations such as SM are likely to require strategic support and as such it is unlikely that implementation will be able to be carried out in isolation by the marketing team. Furthermore, small businesses are unlikely to employ staff as marketing specialists but still need to carry out the marketing function. Therefore, research areas that have been traditionally viewed as management and IT disciplines should now also be viewed as relevant to marketing.

With this background in mind, this research was guided by theory and findings from the management and IS disciplines. However, a marketing perspective was added in terms of items included to measure the outcome variables. For example, brand loyalty, ability to communicate directly with customers and reducing overall marketing expenses were some of the items measured. A key contribution of the research is the development and empirical testing of a model for successful SM implementation that brought concepts together from a range of other disciplines. In particular, the model contributes to theory building in the area of successful implementation of computer-mediated communication technologies in a B2C setting.

A number of specific findings also add to theory-building. These include that dependence relationships were found between five out of the seven independent and outcome variables. The predictor variables included complexity, a clear strategy, available resources, access to training and education, and competition. The finding that a supportive culture was not a predictor also added to theory building as in future it is likely that a supportive culture will be viewed as more mechanistic and less organic. That the small size of the businesses in the sample is likely to have impacted on the result that management and leadership support is not a predictor, is also of interest. Finally, using three dimensions to measure implementation success provided more predictors and arguably, therefore, more meaningful results.

### **8.2.2. Methodological**

The research makes a number of methodological contributions. Firstly, in terms of the many new measures developed and refined. All measures were pre-tested in a multi-stage process. Nine summated scales were found to be reliable and valid in an SM and SME context. The two perceived net benefits scales, increased brand loyalty and increased profit, are new as they have not been used to measure related constructs in prior research. Additionally, two of the organisational characteristics construct measures, supportive culture and management and leadership support loaded very similarly between the pilot and main survey. As principal component analysis requires similar findings across samples for purposes of generalisability, this condition was met.

A second methodological contribution was also made in the way that the data was collected. Facebook was used to distribute the survey link. While the businesses using Facebook responded and provided numerous positive comments indicating that they found the survey relevant, the repetitive placement of any message in a short space of time may be in conflict with the rules of the company that owns the SM site. For this reason, using SM to distribute survey links needs to be carried out with caution and the content must be highly relevant to ensure it is not reported as spam. Another point to note is that due to the viral nature of Facebook, response rates cannot be provided.

Finally, a methodological contribution was considered to be made due to the timing of the research. As the majority of businesses that responded had been using SM for less than three years (about 94%), the research captured information from relatively recent adopters

indicating that their answers would be less likely to be distorted by the influence of passing time on their memories.

### **8.2.3. Managerial**

Many of the research findings will be of interest to managers. Many businesses are thinking about, have recently started, or have been using SM for a while, with few results. From the research, it was evident that many managers are unsure how to incorporate it successfully into their marketing and communications mix. While having a clear strategy, making resources available (particularly time) and providing training or outside expertise will not guarantee successful implementation of SM, these factors will increase the likelihood of success. The findings will also be of interest to business associations such as the New Zealand Retailers Association when providing information to their members. The results may also be transferable to other strategic computer-mediated communication innovations.

## **8.3. Limitations**

Several limitations of the study need to be considered. One of these limitations is the use of perceived items to measure the net benefits constructs. However, it was evident from the literature that this is considered an acceptable approach in the absence of more tangible measures (Pelham, 1999; Thong, et al., 1996; Zhu & Kraemer, 2005). Given the relatively short time frame that businesses had been using SM, it was considered unlikely that real measures such as dollar values of increased sales would be available. Some limitations also presented themselves as a result of using Facebook to distribute the survey link. Given its viral nature, response rates could not be calculated and subsequently non-response bias could not be identified. Additionally, there was no way of knowing which businesses had been forwarded the link from other businesses. Therefore the interviewees in the qualitative part of the study may or may not have participated in the quantitative part of the study. Lastly, as this was an exploratory study the convergent, discriminate and nomological validity was not carried out. This would need to be done through confirmatory analysis using structural equation modelling and given that measures needed to be developed, fell outside the scope of this study. Further empirical validation for modified new concepts will be required.

## **8.4. Future Research**

As there have been few empirical studies that have examined the implementation of SM, there are a number of directions for future research and extensions of this study. This includes obtaining a customer perspective in terms of service quality as another dimension of implementation success. Also in terms of implementation success, further research could be carried out as to the interrelationships between the success dimensions. Another area identified for future research is to carry out the same study on a different unit of analysis. For example, it would be interesting to determine which characteristics influence the successful implementation of sole traders (rather than these businesses having been grouped with SMEs). Also it would be interesting to exclude businesses that had been using SM for less than six months as this may influence the significance of complexity as a predictor.

In time, once businesses have had a chance to become more experienced in using SM, it would be insightful to research how SM was being used as part of the marketing mix. Areas for future research identified from the limitations of this paper include using a more formalised culture construct, using actual measures of net benefits, and carrying out a confirmatory analysis with a larger sample size. A concept identified for future exploration was the relationship between organisational characteristics and complexity and their impact on successful implementation.

## **8.5. Final Reflections**

This study set out to investigate which characteristics influence successful implementation of SM. The study was timely, given the recent emergence and proliferation of SM use. An opportunity was presented to gain insight into the successful implementation of an innovation that was likely to have been recently and frequently adopted. While organisational level implementation research has been historically the domain of management and IT academics, given the strategic significance of SM it is timely for marketers to become more familiar with the implementation of computer-mediated technologies. This study contributes to the research on innovation implementation, particularly in the area of Type III strategic and technological innovations.

## 9. Appendices

### 9.1. Appendix 1: Terminology and Abbreviations

- *Enterprise Resource Planning (ERP)* – has revolutionised organisational computing by facilitating integrated and real-time planning, production, and customer response (Bradford & Florin, 2003, p. 205).
- *Implementation* – the process of gaining targeted organisational members' appropriate and committed use of an innovation (Klein & Sorra, 1996, p. 1055)
- *Innovation* – the successful implementation of creative ideas within an organisation (Amabile, et al., 1996)
- *Knowledge Management (KM)* – an emerging set of organisational design and operational principles, processes, organisational structure, applications and technologies that helps knowledge workers dramatically leverage their creativity and ability to deliver business value as defined by Gurteen (1998) and cited in Wong and Aspinwall (2005, p. 65).
- *Organisational Innovativeness theory (OI)* – arose out of the limitations of the Diffusion of Innovation theory. It is concerned with what determines organisational innovativeness. The independent variables include organisational, innovation, managerial and environmental characteristics and the dependent variable is innovativeness or the recommendation for future research is implementation (Wolf, 1994).
- *SME* – small and medium-sized enterprises with less than 20 employees (SMEs in New Zealand Structure and Dynamics, 2010).
- *Social Media (SM)* – online tools and platforms that allow internet users to collaborate on content, share insights and experiences, and connect for business or pleasure (Strauss & Frost, 2009, p. 326).
- *TOE framework* – considers the technological, organisational and environmental contexts of firms that can influence the process by which they adopt, implement and use technological innovations (Tornatzky & Fleischer, 1990).
- *Type III innovations* – integrate information systems with the core business and frequently have strategic relevance (Swanson, 1994).
- *Variance theories of implementation* – regard implementation as an outcome that varies in terms of degree and success and attempt to identify the variables that influence this outcome (Real & Poole, 2005).

## 9.2. Appendix 2: Innovation Characteristics

### Meta-analysis of Findings of Innovation Characteristics and Adoption Implementation

| Innovation characteristic | Definition/Measurement/Findings   | Source                             |
|---------------------------|---|------------------------------------|
| Compatibility             | <p>“The degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of the receivers.”</p> <p>Compatibility may be with values or practices of the adopters. Researchers frequently measured compatibility by inference. For example, Bradner (1959) inferred that the farming innovation hybrid sorghum was most compatible to those famers who had previously adopted hybrid corn.</p> <p>Overall conclusion of research reviewed was that the compatibility of an innovation is positively related to its adoption (with some limitations due to differences in measurement).</p> | Rogers and Shoemaker (1971)        |
| Relative Advantage        | <p>“The degree to which an innovation is perceived as being better than the idea it supersedes.”</p> <p>Tornatzky and Klein (1982) view it as difficult to measure and therefore lacking in conceptual strength, reliability, and prescriptive power.</p> <p>Five studies found relative advantage to be positively related to adoption.</p>  | Rogers and Shoemaker (1971)        |
| Complexity                | <p>“The degree to which an innovation is perceived as relatively difficult to understand and use.”</p> <p>Complexity is assumed to be negatively related to innovation adoption and implementation.</p> <p>Majority of studies found a negative relationship between the complexity of an innovation and its adoption.</p>  | Rogers and Shoemaker (1971)        |
| Cost                      | <p>The cost of an innovation is assumed to be negatively related to the adoption and implementation of the innovation; the less expensive the innovation, the more likely it will be quickly adopted and implemented.</p> <p>The findings for cost were non-significant.</p>  |                                    |
| Communicability           | <p>“The degree to which aspects of an innovation may be conveyed to others.”</p> <p>The communicability of an innovation is presumed to be positively related to the adoption and implementation of the innovation and is related to observability. In general communicability studies were not methodologically rigorous using inference rather than any rating scales. None of the studies permitted direct statistical examination of this relationship.</p>   | Rothman (1974)                     |
| Divisibility              | <p>“The extent to which an innovation can be tried on a small scale prior to adoption.”</p> <p>The divisibility of an innovation is closely related to its trialability.</p> <p>While the divisibility studies were relatively statistically rigorous, no conclusion can be made on the basis of the five findings as three found divisibility to be positively related to adoption while the other two showed a negative relationship.</p>   | Fliegel, Kivlin, and Sekhon (1968) |
| Profitability             | <p>The profitability of an innovation is the level of profit to be gained from adoption of the innovation.</p> <p>While most of the studies included statistical tests overall the finding is non-significant.</p>  |                                    |
| Social Approval           | <p>Social approval refers to status gained in one’s reference group, “a non-financial aspect of reward”, as a function of adopting a particular innovation.</p> <p>No statistical conclusions possible.</p>   | Fliegel, Kivlin, and Sekhon (1968) |
| Trialability              | <p>“The degree to which an innovation may be experimented with on a limited basis.”</p> <p>While most of the studies provided statistical results, they cannot be summarised to infer directionality of the relationship.</p>   | Rogers and Shoemaker (1971)        |
| Observability             | <p>“The degree to which the results of an innovation are visible to others.”</p> <p>The more visible the results of an innovation, the more likely the innovation will be quickly adopted and implemented.</p> <p>Only two of the studies provided any direct correlational measure of the observability-adoption relationship</p>  | Rogers and Shoemaker (1971)        |

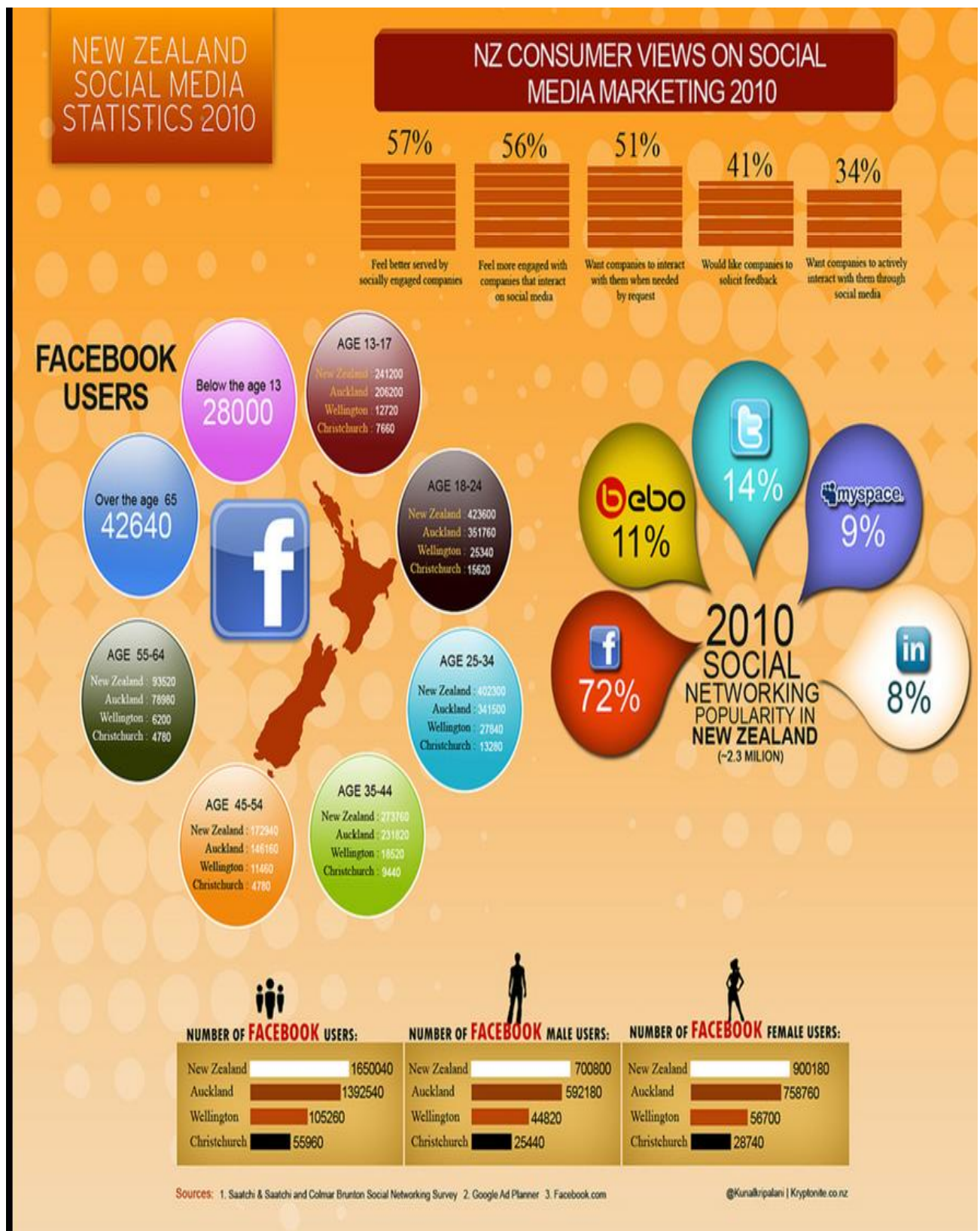
Source: Tornatzky and Klein’s (1982)

### 9.3. Appendix 3: Social Media Sites

| Type of social media site             | Name of social media site   |
|---------------------------------------|---|
| Social media/social bookmarking sites | Reddit; Digg; Del.icious; StumbleUpon; Technorati; Ning; Squidoo; Furl; Tubearoo; WikiHow; YouTube; Magnolia  |
| Professional networking sites         | LinkedIn; Ecademy; Ryze; YorZ; XING; Facebook; Care2; Gather; MEETin.org; Tribe; Ziggs; Plaxo; NetParty; Networking For Professionals   |
| Niche social media sites              | Pixel Groovey; Mixx; Tweako; Small Business Brief; Sphinn; BuzzFlash.net; HubSpot; SEO TAGG   |
| General social media sites            | Wikipedia; Newsvine; 43 Things; Wetpaint; Frappr; Yahoo!; Answers   |
| Job sites                             | CareerBuilder.com; The Wall Street Journal's CareerJournal; CollegeRecruiter.com; Monster; Sologig; AllFreelance.com; Freelance Switch Job Listings; GoFreelance; Yahoo! Hot Jobs; Guru.com |

*Source:* "50 Social Sites That Every Business Needs a Presence on." *Inside CRM*. Written by the site editors on January 28, 2008. Accessed at [www.insidecrm.com](http://www.insidecrm.com) on February 15, 2008.

## 9.4. Appendix 4: New Zealand Social Media User Statistics (July 2010)



## 9.5. Appendix 5: Characteristics of Media

Objective Characteristics of Media (Hoffman & Novak, 1996)

| Objective Characteristics of Media     |                          |                           |                                |                        |                       |
|--|--------------------------|---------------------------|--------------------------------|------------------------|-----------------------|
|  | Person-<br>interactivity | Machine-<br>interactivity | Number<br>of linked<br>sources | Communication<br>model | Contents <sup>a</sup> |
| <b>Mass Media</b>                      |                          |                           |                                |                        |                       |
| Billboards                             | no                       | no                        | one                            | one-to-many            | T, I                  |
| Newspapers                             | no                       | no                        | one                            | one-to-many            | T, I                  |
| Magazines                              | no                       | no                        | one                            | one-to-many            | T, I                  |
| Direct mail                            | no                       | no                        | one                            | one-to-many            | T, I                  |
| Radio                                  | no                       | no                        | few                            | one-to-many            | A, V, (T)             |
| Broadcast television                   | no                       | no                        | few                            | one-to-many            | A, V, (T)             |
| Cable television                       | no                       | no                        | few                            | one-to-many            | A, V, (T)             |
| Satellite television                   | no                       | no                        | many                           | one-to-many            | A, V, (T)             |
| 500 channel cable television           | no                       | no                        | many                           | one-to-many            | A, V, (T)             |
| <b>Interactive Media</b>               |                          |                           |                                |                        |                       |
| Local hypertext                        | no                       | yes                       | one                            | one-to-many            | T                     |
| Local hypermedia                       | no                       | yes                       | one                            | one-to-many            | T, I, A, V            |
| Dial-up bulletin board service         | no                       | yes                       | one                            | one-to-many            | T                     |
| (information only)                     | no                       | yes                       | one                            | one-to-many            | T, I, A, V            |
| CD-Interactive                         | no                       | yes                       | one                            | one-to-many            | T                     |
| Videotex                               | no                       | yes                       | few                            | one-to-many            | T, I                  |
| Pre-Web On-line Services               | no                       | yes                       | few                            | one-to-many            | T, I, A, V            |
| Interactive television                 | no                       | yes                       | few                            | one-to-many            | T, I, A, V            |
| World Wide Web                         | no                       | yes                       | many                           | many-to-many           | T, I, A, V            |
| <b>Interpersonal Communication</b>     |                          |                           |                                |                        |                       |
| Mail                                   | yes                      | no                        | one                            | one-to-one             | T                     |
| Fax                                    | yes                      | no                        | one                            | one-to-one             | T                     |
| Telephone                              | yes                      | no                        | one                            | one-to-one             | A                     |
| Videophone                             | yes                      | no                        | one                            | one-to-one             | A, V                  |
| Face-to-face                           | yes                      | no                        | one                            | one-to-one             | A, V, E               |
| Face-to-face (group)                   | yes                      | no                        | few                            | few-to-few             | A, V, E               |
| Town meeting                           | yes                      | no                        | many                           | many-to-many           | A, V, E               |
| <b>Computer-Mediated Communication</b> |                          |                           |                                |                        |                       |
| Email                                  | yes                      | yes                       | one                            | one-to-one             | T                     |
| Voice mail                             | yes                      | yes                       | one                            | one-to-one             | A                     |
| Talk program                           | yes                      | yes                       | one                            | one-to-one             | T                     |
| Email (carbon copy: list)              | yes                      | yes                       | one                            | one-to-one             | T                     |
| Multiparty chat                        | yes                      | yes                       | few                            | few-to-few             | T                     |
| MUDs                                   | yes                      | yes                       | few                            | few-to-few             | T                     |
| See you see me                         | yes                      | yes                       | few                            | few-to-few             | A, V                  |
| Mailing lists                          | yes                      | yes                       | many                           | many-to-many           | T                     |
| Usenet newsgroups                      | yes                      | yes                       | many                           | many-to-many           | T                     |
| Web (forms/annotation)                 | yes                      | yes                       | many                           | many-to-many           | T, I                  |
| Internet Relay Chat                    | yes                      | yes                       | many                           | many-to-many           | T                     |

<sup>a</sup>T = text; I = image; A = audio; V = video; E = experiential. (T) = there is a minor amount of text content.

## 9.6. Appendix 6: Pilot Qualtrics Survey

### Introduction

#### How retailers are using social media (2011)

This study is being undertaken as part of the assessment towards the MCA degree in Marketing at Victoria University of Wellington. Ethics approval has been obtained for this research from the Pipitea Human Ethics Committee.

The responses to this survey will be valuable for fulfilling the requirements of the Masters degree. Results will be compiled into a written report. Summary results from this survey may appear in academic or professional journals and be presented at academic or professional conferences.

The following questionnaire is completely voluntary. It is not possible for any respondent to be identified personally in conjunction with this survey. To participate in this research you must be aged 18 or over. By continuing with this survey you attest to being over 18 years of age.

The questionnaire will take around 15 minutes to complete. If you choose to complete the survey there are instructions on how to answer on the following page. In recognition of the time you have taken to complete the survey, if you choose to you can go into the draw to win case of fine wine, Oyster Bay Sauvignon Blanc 2007, by entering your contact details at the conclusion of the survey.

This is a secure website and all responses collected will remain anonymous. All of the material related to this survey will only be viewed by the research team listed below. All printed information will be kept in a locked file with access restricted to the research team. All electronic data will be kept in a password protected file only accessible to the research team. Data collected in this survey will be destroyed after 2 years.

If you have any concerns, questions or require any further information feel free to contact:

Veronica Garrett  
Masters Student  
garretvero@myvuw.ac.nz

Dr Jayne Krisjanous  
Supervisor  
jayne.krisjanous@vuw.ac.nz

#### Questionnaire Instructions

- 1) The effective implementation of social media by small to medium sized New Zealand retailers is the subject of this questionnaire.
- 2) This questionnaire is to be answered by the person in your organisation who is currently most involved in implementing your social media communications or who is the person most likely to make the decision to adopt social media in the future. Input from other employees can be sought where relevant.
- 3) This questionnaire is all about what you think, so there can be no right or wrong answers. It is important that you answer all questions as accurately as you can.
- 4) An answer is required for most questions so if you cannot find the answer that best describes your thoughts, please select the answer closest to it.
- 5) The questionnaire will request the following information. Firstly, there will be a few questions to make sure you meet the sample selection criteria. If you do, then information will be collected on your organisation and social media usage.
- 6) A summary of the research findings once the study is completed will be made available to the New Zealand Retailers Association for distribution to its members.

This survey will close on the 11 May 2011. Should you have any further inquiries or if you have any questions

related to this survey, please contact:

Veronica Garrett  
Masters Student  
garretvero@myvuw.ac.nz

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### Screening

First, I have a couple of questions to ask to make sure I am talking to the right retailers.

Is your business currently using social media? Some examples of business social media platforms include blog, Facebook, Twitter, YouTube, and LinkedIn.

Yes

☐

No

☐

How many employees does your business have?

- ☐ Sole trader (0 employees)
- ☐ 1 to 5 employees
- ☐ 6 to 19 employees
- ☐ 20 to 49 employees
- ☐ 50 to 99 employees
- ☐ More than 99 employees

What percent are full-time employees (ie are employed for at least 30 hours per week)?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

### no block

When was your business established?

- ☐ Within the last 2 years
- ☐ Between 2 to 5 years ago

- ☐ Between 5 to 10 years ago
- ☐ More than 10 years ago

When does your business intend to start using social media?

---

- ☐ In the next 3 months
- ☐ In the next 6 months
- ☐ In more than 12 months
- ☐ No plans to use social media at this stage

What are the reasons that your business is not currently active in social media? (Click on as many as apply)

---

- ☐ Unsure of its potential benefits
- ☐ Have never heard of it
- ☐ Lack of human resources
- ☐ Lack of time
- ☐ Do not understand it
- ☐ Lack of financial resources
- ☐ Not interested/not needed
- ☐ Top management does not support it
- ☐ Other (Please specify) \_\_\_\_\_

Does your business have a website?

---

- ☐ Yes
- ☐ No

How long has your business had its website?

---

- ☐ Less than 6 months
- ☐ 6 months to 3 years
- ☐ 3 to 5 years
- ☐ 5 to 10 years
- ☐ More than 10 years

In what retail category does your organisation best fit?

---

- ☐ Supermarket and grocery stores
- ☐ Liquor retailing

- ☐ Food retailing
- ☐ Furniture, floor coverings, houseware and textile goods retailing
- ☐ Electrical and electronic goods retailing
- ☐ Hardware, building and garden supplies retailing
- ☐ Household goods retailing
- ☐ Clothing retailing
- ☐ Footwear and other personal accessory retailing
- ☐ Newspaper and book retailing
- ☐ Other recreational goods retailing
- ☐ Pharmaceutical, cosmetic and toiletry good retailing
- ☐ Other retailing (Please specify)  
\_\_\_\_\_

Which of the following statements best applies to you?

---

- ☐ I am an owner/operator of the business
- ☐ I am a manager at this business
- ☐ I am an employee at this business but do not hold a management role.
- ☐ I am not employed by the business

Do you have an IT/Marketing background?

---

- ☐ Yes Marketing
- ☐ Yes IT
- ☐ Yes Marketing and IT
- ☐ No

What is the annual revenue for your organisation?

---

- ☐ Less than \$500,000
- ☐ \$500,000 to \$999,999
- ☐ \$1 million to \$5 million
- ☐ \$5 millionn to \$10 million
- ☐ \$10 million to \$50 million
- ☐ \$50 million +
- ☐ I do not know/prefer not to answer

In relation to organisational culture, what level of importance does your organisation place on the following statements where 1 = Not important at all and 6 = Extremely important?

---

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| High level of trust among employees                   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sharing of mistakes openly without fear of punishment | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent of collaboration among employees               | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Empowerment of employees to explore new possibilities | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent to which individuals are encouraged to ask     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

What is your gender?

- ☐ Male
- ☐ Female

What region is the Head Office of your business located in?

**Thank you**

That's the end of the questionnaire! Once again, thank you for taking the time to answer these questions. I value your time and want to assure you that the feedback you have given will remain individually anonymous and will help inform my Masters thesis and a white paper for the New Zealand Retailers Association.

**General**

Great! You meet the criteria of those I wish to speak to.

When was your business established?

- ☐ Within the last 2 years
- ☐ Between 2 to 5 years ago
- ☐ Between 5 to 10 years ago
- ☐ More than 10 years ago

☐ Other (Please specify) \_\_\_\_\_

What social media platforms does your organisation use now? (Tick as many options as required)

- ☐ Blog
- ☐ Facebook
- ☐ Twitter
- ☐ You Tube
- ☐ LinkedIn
- ☐ Other (Please specify) \_\_\_\_\_

How long has your organisation been actively using social media?

- ☐ Less than 1 month
- ☐ 1 to 3 months
- ☐ 4 to 6 months
- ☐ 7 to 12 months
- ☐ 13 to 18 months
- ☐ 19 months to 2 years
- ☐ 2 to 3 years
- ☐ More than 3 years
- ☐ I don't know

How frequently are your social media platforms updated?

- Daily
- Weekly
- Fortnightly
- Monthly
- Other (Please specify) \_\_\_\_\_

What percentage of staff are engaged in implementing your organisation's social media communications?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

What percentage of your customer base is currently interacting with your organisation via its social media communications?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

Why is your organisation using social media? What level of importance does your organisation place on the following statements where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Increased brand loyalty  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Greater knowledge of what customers and prospects think of their brand | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Ability to communicate directly with customers                         | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Increased lead generation and sales                                    | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Reducing overall marketing expenses                                    | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| New business partnerships  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Increased web-site traffic/subscribers/opt-in list                     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Other (Please specify) _____   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

## Resources

In relation to resources, what level of importance does your organisation place on the following statements where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Consideration of resources availability when investing social media.     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Proper budgeting and allocation of resources for social media.           | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sufficient financial resources for supporting the social media strategy. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sufficient human resources to support a social media initiative.         | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Providing time to employees  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

to perform social media related activities.

☐ ☐ ☐ ☐ ☐ ☐

Who provides the technical support for your social media?

- ☐ Employee
- ☐ Another person who is NOT employed within the company

### Training and education

Where does your social media technical support come from?

- ☐ Agency
- ☐ Contractor
- ☐ Friend (unpaid)
- ☐ Friend (paid)
- ☐ Other (Please specify) \_\_\_\_\_

In relation to training and education, what level of importance does your organisation place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Training on the concepts of social media.                            | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Building awareness of social media among employees through training. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Training on using the social media system and tools.                 | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Training for individuals to take up social media related roles.      | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

### Management support

In relation to management leadership and support, what level of importance does your organisation place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Leaders act as catalysts for social media. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

Management establishes the necessary conditions for social media.

☐ ☐ ☐ ☐ ☐ ☐

Management demonstrates commitment to social media.

☐ ☐ ☐ ☐ ☐ ☐

Management demonstrates support for social media.

☐ ☐ ☐ ☐ ☐ ☐

## Culture

In relation to culture, what level of importance does your organisation place on the following statements where 1 = Not important at all and 6 = Extremely important?

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| High level of trust among employees                   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sharing of mistakes openly without fear of punishment | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent of collaboration among employees               | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Empowerment of employees to explore new possibilities | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent to which individuals are encouraged to ask     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

## Strategy

In relation to strategy, what level of importance does your organisation place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| A common vision that people support   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Development of social media strategy  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Clear objectives and goals for social media.                                    | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Alignment of the social media strategy with business strategy.                  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent to which the social media strategy is supporting a vital business issue. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Identification of the potential value to be achieved.                           | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

Of your organisations's total marketingand communications budget, roughly what percentage is allocated to.. (if you do not know, please leave as '0').

|                      |   |
|----------------------|---|
| % Social Media       | 0 |
| % Other online media | 0 |
| % Traditional media  | 0 |

### Demographics

Which of the following statements best applies to you?

- ☐ I am an owner/operator of the business
- ☐ I am a manager at this business
- ☐ I am an employee at this business but do not hold a management role.
- ☐ I am not employed by the business

Do you have an IT/Marketing background?

- ☐ Yes Marketing
- ☐ Yes IT
- ☐ Yes Marketing and IT
- ☐ No

What is your gender?

- ☐ Male
- ☐ Female

What is the annual revenue for your organisation?

- ☐ Less than \$500,000
- ☐ \$500,000 to \$999,999
- ☐ \$1 million to \$5 million
- ☐ \$5 millionn to \$10 million
- ☐ \$10 million to \$50 million
- ☐ \$50 million +
- ☐ I do not know/prefer not to answer

What region is the Head Office of your business located in?

## 9.7. Appendix 7: Main Qualtrics Survey

### Introduction

#### **NZ Small and Medium sized Enterprises (SMEs) social media use 2011**

Thank you for taking the time to complete this survey. This survey will take around 15 minutes. The data will provide insight into the level of social media usage and why some businesses are more successful at implementing social media than others.

This study is being undertaken as part of the assessment towards the Masters degree in Marketing at Victoria University of Wellington. Results will be compiled into a written report. Summary results from this survey may appear in academic or professional journals and be presented at academic or professional conferences.

The following questionnaire is completely voluntary and anonymous. It is not possible for any respondent to be identified personally in conjunction with this survey. If you are able to complete the survey there are instructions on how to answer on the following page.

All of the material related to this survey will only be viewed by the research team listed below. Thanks again for your assistance. I very much appreciate your time.

If you have any concerns, questions or require any further information feel free to contact:

Veronica Garrett  
Masters Student  
garretvero@myvuw.ac.nz

Dr Jayne Krisjanous  
Supervisor  
jayne.krisjanous@vuw.ac.nz

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#### **Questionnaire Instructions**

- 1) The effective implementation of social media by small to medium sized New Zealand firms is the subject of this questionnaire.
- 2) This questionnaire is to be answered by the person in your organisation who is currently most involved in implementing your social media communications. Input from other employees can be sought where relevant.
- 3) This questionnaire is all about what you think, so there can be no right or wrong answers. It is important that you answer all questions as accurately as you can.
- 4) An answer is required for most questions so if you cannot find the answer that best describes your thoughts, please select the answer closest to it.
- 5) The questionnaire will request the following information. Firstly, there will be a few questions to make sure you meet the sample selection criteria. If you do, then information will be collected on your firm and its social media usage.
- 6) A summary of the research findings once the study is completed will be made available to the distributor of this survey.

This survey will close on the 11 July 2011. Should you have any further inquiries or if you have any questions related to this survey, please contact:

Veronica Garrett  
Masters Student  
garretvero@myvuw.ac.nz

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## **Screening**

---

First, I have a couple of questions to ask to make sure I am talking to the right businesses.

---

Is your business based in New Zealand and currently using social media? Some examples of business social media platforms include blog, Facebook, Twitter, YouTube, and LinkedIn.

---

Yes

☐

No

☐

How many employees does your business have?

---

- ☐ Sole trader (0 employees)
- ☐ 1 to 5 employees
- ☐ 6 to 19 employees
- ☐ 20 to 49 employees
- ☐ 50 to 99 employees
- ☐ More than 99 employees

## **no block**

---

When was your business established?

---

- ☐ Within the last 2 years
- ☐ Between 2 to 5 years ago
- ☐ Between 5 to 10 years ago
- ☐ More than 10 years ago

Does your business have a website?

---

- ☐ Yes
- ☐ No

Does your business have a company email address?

---

- ☐ Yes
- ☐ No

## Thank you

That's the end of the questionnaire! Once again, thank you for taking the time to answer these questions. I value your time and want to assure you that the feedback you have given will remain individually anonymous and will help inform my Masters thesis.

## General

Great! You meet the criteria of those I wish to speak to.

In what category does business best fit?

- ☐ Agriculture, Forestry and Fishing
- ☐ Mining
- ☐ Manufacturing
- ☐ Electricity, Gas, Water and Waste Services
- ☐ Construction
- ☐ Wholesale Trade
- ☐ Retail Trade
- ☐ Accommodation and Food Services
- ☐ Transport, Postal and Warehousing
- ☐ Information Media and Telecommunications
- ☐ Financial and Insurance Services
- ☐ Rental, Hiring and Real Estate Services
- ☐ Professional, Scientific and Technical Services
- ☐ Administrative and Support Service
- ☐ Public Administration and Safety
- ☐ Education and Training
- ☐ Health Care and Social Assistance
- ☐ Arts and Recreation Services
- ☐ Other Services

When was your business established?

- ☐ Within the last 2 years
- ☐ Between 2 to 5 years ago
- ☐ Between 5 to 10 years ago

☐ More than 10 years ago

Does your business have a website?

☐ Yes

☐ No

How long has your business had its website?

☐ Less than 6 months

☐ 6 months to 3 years

☐ 3 to 5 years

☐ 5 to 10 years

☐ More than 10 years

Does your business have a company email address?

☐ Yes

☐ No

### **Social media**

What was the first social media platform your business used? (Tick as many options as required)

☐ Blog

☐ Facebook

☐ Twitter

☐ You Tube

☐ LinkedIn

☐ Other (Please specify)

How many social media platforms did your business start off with?

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5 or more

How many social media platforms does your business use now?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more

What social media platforms does your business use now? (Tick as many options as required)

- ☐ Blog
- ☐ Facebook
- ☐ Twitter
- ☐ You Tube
- ☐ LinkedIn
- ☐ Other (Please specify) \_\_\_\_\_

How long has your business been actively using social media?

- ☐ Less than 6 months
- ☐ 6 months to 1 year
- ☐ 1 to 2 years
- ☐ 2 to 3 years
- ☐ 3 to 4 years
- ☐ 4 to 5 years
- ☐ More than 5 years

What is your firm's weekly time commitment for social media marketing?

- ☐ 0 hours a week
- ☐ 1 to 5 hours a week
- ☐ 6 to 10 hours a week
- ☐ 11 to 15 hours a week
- ☐ 16 to 20 hours a week
- ☐ 21 to 25 hours a week
- ☐ 26 to 30 hours a week
- ☐ 31 to 35 hours a week
- ☐ 36 to 40 hours a week
- ☐ More than 40 hours a week

If your firm's weekly time commitment for social media marketing is less than 0 hours a week, then how much time do you spend on it in a fortnight or a month?

fortnightly

monthly

In relation to management, how satisfied are they with the performance of social media in terms of meeting firm specific objectives measured by indicators such as hits, comments, leads or sales?

- ☐ Very Dissatisfied
- ☐ Dissatisfied
- ☐ Somewhat Dissatisfied
- ☐ Somewhat Satisfied
- ☐ Satisfied
- ☐ Very Satisfied

What percentage of staff are engaged in implementing your firm's social media communications?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

What percentage of your customer base is currently interacting with your firm via its social media communications?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

In relation to the perceived complexity of implementing social media, do you agree or disagree with the following statements?

|   | Strongly Disagree     | Disagree              | Somewhat Disagree     | Somewhat Agree        | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Our firm's interaction with its social media platforms is clear and understandable. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| It is easy for firm employees to get the social media platforms to do what they     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

want them to do.

Learning to use the social media platforms has been easy for employees.

Overall, the social media platforms are easy to use.

|                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Why is your firm using social media? What level of importance does your firm place on the following statements where 1 = Not important at all and 6 = Extremely important?

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Increased brand loyalty   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Greater knowledge of what customers and prospects think of their brand                          | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Ability to communicate directly with customers  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Increased lead generation and sales   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Reducing overall marketing expenses   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| New business partnerships   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Increased web-site traffic/subscribers/opt-in list  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Speed of message delivery   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Suits customer demographic  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Our firm experienced competitive pressure to implement social media                             | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Our firm would have experienced a competitive disadvantage if social media had not been adopted | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

## Resources

In relation to resources, what level of importance does your firm place on the following statements where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Consideration of resources availability when investing social media.     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Proper budgeting and allocation of resources for social media.           | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sufficient financial resources for supporting the social media strategy. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

Sufficient human resources to support a social media initiative.

☐ ☐ ☐ ☐ ☐ ☐

Providing time to employees to perform social media related activities.

☐ ☐ ☐ ☐ ☐ ☐

Who provides the technical support for your social media (You can select more than one answer)?

- ☐ Employee(s)
- ☐ Another person/people who are NOT employed within the company

If the people/person that provides the technical support for implementing your social media strategies are not employees then where does the support come from?

- ☐ Agency
- ☐ Contractor
- ☐ Friend/family (unpaid or in return for token monetary payment)
- ☐ No support

Of your firm's total marketing and communications budget, roughly what percentage is allocated to social media?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

### Training and education

In relation to training and education, what level of importance does your firm place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|  | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Training on the concepts of social media.                            | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Building awareness of social media among employees through training. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Training on using the social media system and tools.                 | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Training for individuals to take up social media related roles.      | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

### Management support

In relation to management leadership and support, what level of importance does your organisation place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| Leaders act as catalysts for social media.                        | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Management establishes the necessary conditions for social media. | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Management demonstrates commitment to social media.               | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Management demonstrates support for social media.                 | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

### Culture

In relation to culture, what level of importance does your firm place on the following statements where 1 = Not important at all and 6 = Extremely important?

|   | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|---|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| High level of trust among employees                   | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Sharing of mistakes openly without fear of punishment | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent of collaboration among employees               | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Empowerment of employees to explore new possibilities | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Extent to which individuals are encouraged to ask     | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

### Strategy

In relation to strategy, what level of importance does your firm place on the following statements items where 1 = Not important at all and 6 = Extremely important?

|                                      | 1<br>Not<br>important at<br>all | 2<br>Slightly<br>important | 3<br>Moderately<br>important | 4<br>Important        | 5<br>Very<br>important | 6<br>Extremely<br>important |
|--------------------------------------|---------------------------------|----------------------------|------------------------------|-----------------------|------------------------|-----------------------------|
| A common vision that people support  | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |
| Development of social media strategy | <input type="radio"/>           | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>       |

Clear objectives and goals for social media.

Alignment of the social media strategy with business strategy.

Extent to which the social media strategy is supporting a vital business issue.

Identification of the potential value to be achieved.

|                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## Demographics

Which of the following statements best applies to you?

- ☐ I am an owner/operator of the business
- ☐ I am a manager at this business
- ☐ I am an employee at this business but do not hold a management role.
- ☐ I am not employed by the business

Do you have an IT/Marketing background?

- ☐ Yes Marketing
- ☐ Yes IT
- ☐ Yes Marketing and IT
- ☐ No

What is your gender?

- ☐ Male
- ☐ Female

What is the annual revenue for your organisation?

- ☐ Less than \$500,000
- ☐ \$500,000 to \$999,999
- ☐ \$1 million to \$5 million
- ☐ \$5 million to \$10 million
- ☐ \$10 million to \$50 million
- ☐ \$50 million +
- ☐ I do not know/prefer not to answer

What region is the Head Office of your business located in?

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