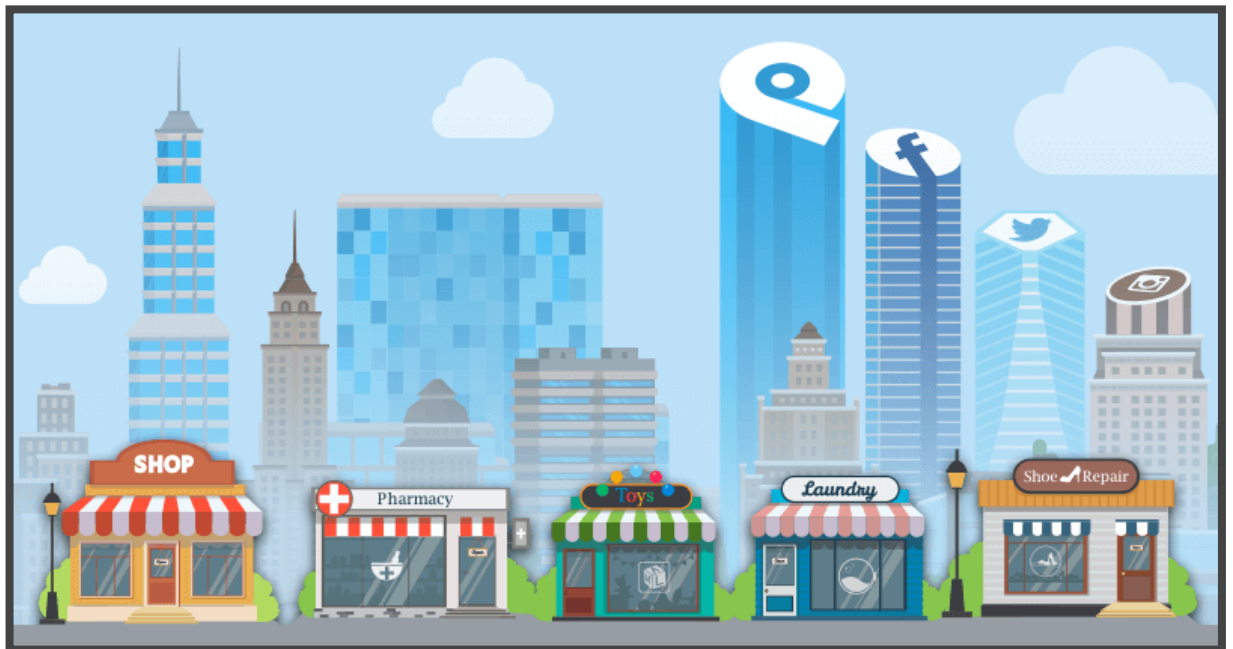


# WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?



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**Abstract**

The purpose of this research is to explore why SME owners use web-based technologies (social media) in their daily work and how this use influences their individual performance in the SME. Drawing on the theoretical insights of cognitive psychology, the process model of absorptive capacity, literature on web-based technologies, literature on business management and strategy, the technology acceptance model (TAM), and the unified theory of acceptance and use of technology (UTAUT), the goals of this research are four-fold. First, establish past experience (PE), past related knowledge (PK), and cognition (COG) as being antecedents of individual absorptive capacity (IAC).

Second, empirically test IAC at the individual level by showing influence on individual performance in the SME (IPSME). Third, introduce the term cognitive-influenced valuation (CV) from cognitive psychology to explain how it is the case that individual SME owners were willing to follow a technologically-enabled trend (WFTET). Empirical results show that CV is a significant motivator of learning in two ways: i) increased self-confidence on the part of the individual SME owners when they have a good grasp of how to serve their clients well through use of social media and, ii) individual SME owners assign a high valuation to those things which motivate them to learn; motives are what drive SME owners' willingness to follow a technologically-enabled trend.

Last, introduce the term adaptive behaviours (AB) from business management and strategy to explain how individual SME owners adapt their use of social media from low or moderate to high centrality in order to use social media as a strategically viable business tool (VBT). Empirical results show that when individual SME owners want to be highly competitive as a business goal, then incorporating social media as a strategic business tool would assist them in achieving long-term enterprise success.

The first innovative contribution of this thesis is the explanation of the construct absorptive capacity as being the development of the ability to absorb and exploit past experience and past related knowledge (behaviour -- up to current) from the environment (Cohen & Levinthal 1990 1989). Secondly, establish the antecedents of absorptive capacity as being past experience, past related knowledge, and cognition (learning – up to the current moment) (Cohen & Levinthal 1990). Thirdly, this thesis

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contributes to existing theory a conceptual framework based on the process perspective of Lane, Koka and Pathak (2006). This research demonstrates the conceptual connection between individual absorptive capacity (IAC) and individual performance in the SME (IPSME), which might in turn be influenced by willingness to follow a technologically-enabled trend (WFTET) and individual predisposition toward accepting social media as a viable business tool (VBT).

A mixed methods convergent exploratory strategy of inquiry is utilized to conduct quantitative and qualitative studies to engage directly with the individual SME owners to better understand why they make the choice to use social media in their everyday work life and to explore how this use influences their individual performance in the SME (IPSME).

The statistical quantitative proxies were selected from the Global Entrepreneurship Monitor (GEM) Adult Population Survey of SME owners' attitudinal and behavioural choices involving their willingness to try new/existing social media to improve their working life (UK only: n = 169,280).

A qualitative study was conducted of SME owners. The data for this study were collected from one-to-one semi-structured interviews using theoretical concepts from TAM (Davis, Bagozzi & Warshaw 1989), TAM2 (Venkatesh & Davis 2000), and UTAUT2 (Venkatesh, Thong & Xu 2012) to guide the interview process. The collected data were analysed through the lens of content analysis. Three case studies explore the reason(s) for five SME owners' use of social media in their everyday work lives.

The first limitation of this study is the small sample size and the locus of this study being County Kent, UK, where a larger sample size and/or a larger collection radius would yield additional comparative data. Future research including these factors would be beneficial. Secondly, a striking feature of this study has been the lack of correlation between the quantitative data and the qualitative data, which could be addressed by the above, as well. Future research with greater correlation between research focus and subject matter would also be beneficial and yield additional areas of theoretical development.

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The outcomes of this research confirm that in the context of SME owners in the UK using social media in their daily work lives, they assign a high value to the *drive* for continuous learning, goal setting, and successful project outcomes. In a much broader more general context, learning for any individual, regardless of the related organizational size, is very important and the drive for it is likely no different from any place else. In each instance of goal setting or project execution individual SME owners will select the most useful tool from their social media tools.

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## Chapter 1: Introduction

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### 1. Chapter Overview

This chapter provides the context of the research and describes why the research is important and relevant in the context of cognitive psychology and the adoption and use of web-based technologies. The chapter concludes with an explanation of the remaining chapters of the Thesis and an assessment of the contribution the research makes to academia and practice.

#### 1.1 Introduction

This study contributes practical implications to Management literature in a number of ways and has implications for both academics and practitioners. From an academic point of view, a first contribution is the explanation of the construct absorptive capacity as a multi-level phenomenon of cognitive learning processes by organizations, teams, actors, and SME owners (Helfat & Peteraf 2014; Gregoire et al. 2010).

From a practitioner point of view, the first contribution is to suggest several perceived beneficial utilities from using social media. Jobwise, the use of social media helps professionals make connections (e.g., Facebook), develop their business (e.g., LinkedIn), get jobs (e.g., gain client accounts, get references from current/former employers), post job adverts/recruitment, direct traffic to revenue generating streams (e.g., sponsor blog links) and so forth.

Another practical contribution of this research is the suggestion that, in general, rather than one singular social media stream (e.g., Twitter, LinkedIn) being preferred across all sectors and in all situations, a professional will tend to use or not use a technology to the

extent she or he believes it will help the individual perform her/his job better. Thus each professional will choose the social media tool with the best fit for the current or immediate goal(s).

## **1.2 Research Context**

In this research, absorptive capacity is examined at the level of the individual and thus responds to a previous call for greater research by Lane, Koka and Pathak (2006) for the examining of individual cognition(s) as this is the basis of a firm's absorptive capacity.

Lane, Koka and Pathak (Ibid.) were exploring a broadening of the work done by Cohen and Levinthal (1990). Additionally, it seems as though individual cognition is a critical internal driver of absorptive capacity, as suggested by Lane, Koka and Pathak (2006) and Cohen and Levinthal (1990).

The research focuses on the 'cognitive basis for an individual's absorptive capacity; in particular, prior experience, prior related knowledge' and cognition (learning – up to the current moment) (Cohen & Levinthal 1990 128). Given the widespread popularity of web-based technologies (such as Facebook, Google+, LinkedIn and Twitter), exploring and understanding the effect of individual absorptive capacity (IAC) as it applies to the individual's use of social media in small and medium enterprises (SMEs) is fundamental in developing future understandings of absorptive capacity at the level of the individual.

One approach to such studies on the effect of social media usage behaviour would be to explore its use by the SME owner as a tool for business growth. Importantly, the exploration could illuminate whether the individual's absorptive capacity using social media has any impact in her or his daily work life.



Increasingly, SME owners use social media as a tool for business growth because that is a demonstrated mechanism to connect with customers, suppliers, prospective employees, and other stakeholders (Raunier, Rawski, Yang & Johnson, 2014). Social media allows breadth of reach into geographically remote areas (Schmidt and Keil, 2013), depth of reach into niche markets (Gates, 1999), and opens new channels of communication in aspects of business such as human resources, IT, management, operations, and R&D (Raunier et al. 2014).

### **1.3 Structure of the Thesis**

This introductory chapter is followed by six further chapters. Chapter 2 discusses the theoretical and historical data underpinning both cognitive psychology and web-based technologies, the latter evolving directly out of the foundational theories of learning initially explored. The chapter finishes by setting a framework for the subsequent research area.

Chapter 3 discusses in detail the conceptual framework. It focuses first on the influence of individual SME owners' past experience, knowledge, and cognition using social media on her/his current social media use in the workplace. Secondly, the discussion focuses on the influence of absorptive capacity at the individual level leading to improved individual performance in the SME. This leads to the research question and hypotheses:

*Research Question 1:*

*What influence, if any, has individual absorptive capacity on willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool leading to improved individual performance in the SME?*

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### *Hypotheses:*

- H1a. Past experience positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*
- H1b. Past knowledge positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*
- H1c. Cognition positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*
- H2. Individual absorptive capacity influences individual performance in the SME but might be positively moderated by willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool.*

Chapter 4 discusses the overall research methodology, model and design, tables and figures, and analysis methods. Chapter 5 is the Global Entrepreneurial Monitor (GEM) data and sample where the quantitative data are explained and the models are diagrammed. Chapter 6 presents the case studies, each with a thematic focus and real-world application. Chapter 7 summarizes the research findings, contributions, limitations, and future research opportunities.

The next chapter, Chapter 2, is the literature review.

## Chapter 2: A Review of Theories of Learning and Adoption of Web-Based Technologies by Organizations, Actors, Teams and SMES

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### 2.1 Overview of the Chapter

This chapter first focuses on theories of learning, such as those pioneered by Thorndike (1913), Piaget (1971), and Bandura (1977) before shifting to examine the adoption and use of web-based technologies. These latter evolve directly out of the foundational theories of learning initially explored. And finally, the chapter completes by setting a framework for the subsequent research area. More specifically, in section 2.2., relevant theories of learning are reviewed and defined, establishing varied frameworks which can influence the behavioural mechanism by which web-based technologies are evaluated and deemed valuable.

In section 2.3., adoption of web-based technologies in the context of organizations, actors, teams, and SMEs is defined. The definition is informed by perspectives including information technology (IT), technological innovation, social and behavioural sciences, strategic and organizational management, and entrepreneurship. These perspectives help construct an interdisciplinary definition of online technologies that connects the benefits of adopting these technologies to the context of organizations, actors, teams, and SMEs. By synthesizing perspectives that focus either on the benefits of adopting web-based technologies or the context of use, the literature of adoption of online technologies is categorized into two areas: conceptual and empirical studies. In section 2.4., consideration is given to the theoretical antecedents of absorptive capacity in order to gain greater understanding of theoretical developments within contemporary research.

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In section 2.5., the benefits of big corporations adopting online technologies are situated in a contemporary context. In this context, the historical evolution of technological breakthroughs that spring from emergent trends, and the benefit to the corporations is delineated. In section 2.6., the benefits of adopting online technologies by actors (e.g., CEOs) and teams are situated in the context of the workplace. Here the catalyst for behavioural change by the CEO and/or amongst the members of teams is described.

In section 2.7., the benefits of SMEs adopting online technologies are situated within the different contexts of their existing business environments. In those contexts, the factors that influence social media usage by SME owners are delineated, as are the connections and relationships between them.

### **2.2 Theories of Learning**

Theories of learning have provided an increasingly accurate understanding of the mechanisms that underlie human learning and performance. For purposes of this research, learning is defined as a “long-term change in mental representations or associations as a result of experience” (Ormrod 2014 24). There are three parts to the definition. First, learning is a long-term change; it is not just a brief, transitory use of information – such as remembering a mobile number only long enough to call someone and then forgetting it – but the learning does not necessarily last forever. Second, learning involves mental representations or association and so presumably has its basis in the brain (cognition) and mental capacity (cognitivism). Learning is said to have occurred when it is seen reflected in a person’s behaviour (Thorndike 1932a, 1913). Third, learning is a change as a “result of experience” (Ormrod 2014 24) and is the means through which people acquire skills, knowledge, values, attitudes, and emotional responses. Learning is a

cognitive process that brings together personal and environmental experiences/influences for acquiring, enriching, or modifying one's knowledge, skills, attitudes, behaviour and world view. Theories of learning develop hypotheses that describe how this process takes place. The scientific study of learning started in earnest at the dawn of the 20th century. Over the decades academics have proposed a number of theories to describe and explain this process. The dominant concepts and theories of learning include behaviourism, social cognitive theory, and cognitivism. Those three theories are explored next.

### **2.2.1 Behaviourism**

The key Behaviourism thinkers including Thorndike (1932a, 1913), Pavlov (1927), and Skinner (1974) have hypothesised that learning is a change in observable behaviour caused by external stimuli in the environment. In Behaviourist theory, change in behaviour demonstrates some learning. However, rather than use the term "learning" (Ormrod 2014 35) Behaviourists' often speak of "conditioning" (Carlton 2016 2) as a universal learning process, dividing it into two types:

- Classic conditioning occurs when a natural reflex responds to a stimulus; and,
- Operant conditioning occurs when a response to a stimulus is reinforced.

The key principle of Behaviourism is the reward or punishment of new behaviour, commonly described as the "carrot and stick" approach to learning (Carlton 2016). The theory states that rewarding someone for particular behaviour encourages him to behave in the same way in a similar situation: the reward reinforces behaviour. Conversely, if behaviour is punished, the subject is less likely to repeat it. In Behaviourism, people can

learn not to do things as well as learn to do things. For practical skills, a Behaviourist approach often utilizes a tell-show-practice-reinforce sequence. This approach describes what will be learnt, demonstrates how it is done, gives the learner an opportunity to practice and uses reinforcement to refine behaviour. Rewards typically take the form of feedback.

A key feature of Behaviourism is the fact that it is based on observable behaviours therefore making it easier to collect and quantify research data. However, there are many criticisms of the theory including assertions it ignores/excludes any purely cognitive input. For that reason Behaviourism is not as useful as Cognitivism for this research. The next theory under consideration is Social Cognitive Theory (SCT).

### **2.2.2 Social Cognitive Theory**

Social Cognitive Theory (SCT) had initially been called “social learning theory” (Bandura 2006, 1986, 1977; Rosenthal & Zimmerman 1978) to reflect the fact that a great deal of human learning involves watching and interacting with other people. SCT focuses on the ways in which people learn from observing one another. This perspective reflects a blending of Behaviourist concepts (e.g., reinforcement and punishment) and cognitive notions (e.g., awareness and expectations regarding response-consequence contingencies and memory codes). The following four principles underlie SCT. First, people can learn by observing both the behaviours of other individuals (modelling) and the outcomes that various behaviours bring about. Athletic skills, aggression, and interpersonal behaviours are three situational examples of this observational learning. Effective models are likely to be competent, prestigious, powerful, and to exhibit behaviours that are perceived to be “gender-appropriate” and relevant to the observer’s own situation. Four conditions

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are necessary for modelling to occur: attention, retention, motor reproduction, and motivation.

Second, learning can occur without a change in behaviour. As mentioned earlier, behaviourists have traditionally defined learning as a change in behaviour, and from such a perspective no learning can occur unless behaviour does change. In contrast, social cognitive theorists argue that because people can learn through observation alone, their learning will not necessarily be reflected in their actions. Something learned at one time might be reflected in behaviour exhibited at the same time, at a later time, or never at all.

Third, SCT proposes that although the environment influences behaviour, over time people begin to regulate their own actions. People do so by developing their own standards for performance, observing and evaluating themselves on the basis of those standards, reinforcing or punishing themselves (even if only mentally and emotionally) for what they have or have not done, and ultimately self-reflecting on their past performance and current goals and beliefs.

Last, individuals with high self-efficacy (those who believe they can perform successfully in particular activities or domains) are more likely to choose challenging activities, exert effort and persist at those activities, and exhibit high levels of achievement over the long run. Self-efficacy can be enhanced through encouraging messages, others' successes, (especially peers') group or team accomplishments, and most importantly, one's own successes. However, because SCT focuses on the ways in which individuals learn from observing one another it is not as useful for this study as cognitivism, which focuses on the individual's prior experience, knowledge, and mental capacity (Boud, Cohen & Walker

1993). At this point, the theoretical emphasis pivots directly toward Cognitivism for the purpose of explaining its suitability to this research under discussion.

To recap the dominant theories of learning: Behaviourists focus largely on the roles of environmental conditions (stimuli) and observable behaviours (responses) in learning; while SCT provides a window into such mental processes as expectations, attention, and self-efficacy. Despite the fact those theories have helped researchers gain insight into the ways in which individuals learn, they are not as useful as Cognitivism for this research. Cognitivism has greater utility for this research because of its emphasis on the importance of experience, knowledge, problem-solving, and diversity of background. What follows next is a discussion focused on the notion of absorptive capacity (IAC), an aspect of experience.

The premise of the notion of absorptive capacity is that both the individual and the organization need prior related knowledge to assimilate and use new knowledge. Studies in the area of cognitive and behavioural sciences both justify and enrich this. However, absorptive capacity at the level of the individual has received less research. To address that, this study looks at the cognitive basis for individual absorptive capacity (IAC) based on past experience, prior related knowledge, and development of insight.

### **2.2.3 Cognitivism**

Cognitivism – also known as cognitive psychology – is the study of a “wide variety of human mental phenomena” using objective scientific methods (Ormrod 2014 26). Since the early 1960s cognitivism has been the predominant perspective within which learning research has been conducted and theories of learning evolved. Research in the area of cognitive and behavioural sciences at the individual level both justify and enrich the



observation that learning comes from memory, motivation, thinking, and reflection. Studies suggest that learning is dependent on the individual's mental capacity. Cognitivists look directly at the cognitive processes in order to consider how people perceive, interpret, remember, and in other ways think about environmental events. Cognitivists believe that learning is an internal process that depends on the individual's mental capacity (Reeve 2012), motivation ( Craik & Lockhart 1972), and determination (Craik & Tulving 1975).

Although cognitivists such as Piaget (1962) and Brunner (1966) have different emphases, both believed that learning is a result of experience and is demonstrated through a change in knowledge and understanding. Reeve (2012) points out that learners receive new information, take it on-board, store it in their memory, relate it to existing ideas and information that they already have, index it (like a filing system), and retrieve it so that they can find it in their memories later when they need it.

In cognitivism, learning is the process of connecting the pieces of knowledge in meaningful and memorable ways and cognitivists are more concerned with the process than the product. Research on memory development suggests that accumulated prior experience and prior knowledge increases both the ability to put new knowledge into memory (what is referred to as acquisition of knowledge or learning) and the ability to recall and use it.

#### **2.2.4 Theoretical Antecedents of Absorptive Capacity**

The following subsections explore individual factors that combine to create both IAC and the circumstances for it to be applied.

#### **2.2.4.1 Prior Experience**

With respect to prior experience, Boud, Cohen and Walker (1993) propose that learning always relates, in one way or another, to what has gone before. There is never a clean slate on which to begin; unless new knowledge and new experience link to prior experience, they exist as abstractions, isolated and without meaning. Bower and Hilgard (1981) suggest that learning is normally experienced as a seamless whole; there is a large degree of continuity across bodies of knowledge that are organized and expressed in similar ways. Ormrod (2014 151) points out that the German word Gestalt, roughly translated, means “structured whole”. Structure is not necessarily inherent in a situation; instead, the individual imposes structure by mentally organizing the whole experience in order to learn. Much writing about learning has treated it as if it existed in different domains which are separated from each other. Boud, Cohen and Walker (1993) point out that a common division is between the cognitive (concerned with thinking), the affective (concerned with values and feelings), and the conative or psychomotor (concerned with action and doing). Although it can at times be useful to think of these different aspects of learning, no one aspect is discrete and independent of the others and no one aspect should generally be privileged over the rest. Boud, Cohen and Walker (Ibid.) assert the impossibility of dissociating the learner from his or her contexts, from the processes in which they have been involved, or from their past experiences. What a person is attracted toward, what a person avoids, and how a person gets tasks done are dependent on how the person responded in his or her past. This learning from experiences which had positive or negative influence stimulates or suppresses new learning. In the first instance, past experiences may encourage risk taking and entering into new territory for exploration. Alternatively, past experiences may inhibit the individual’s range of choices

or ability to respond to opportunities. As a consequence of positive past experience, there may be a transfer of learning across bodies of existing knowledge that are organized and expressed in similar ways. Ellis (1965) points out that past experience or performance on one learning task may influence and improve performance on some subsequent learning task. The effect of prior learning experience on subsequent learning tasks has been observed on a variety of tasks. For instance, Venkatesh, Thong and Xu (2012) found that adult consumers who have prior experience using mobile Internet technology have found it easier to learn how to use more advanced technologies such as Twitter and texting. Adult consumers learned the new innovation much more effectively, in part, because they better appreciated the semantics of various programming concepts.

#### **2.2.4.2 Prior Related Knowledge**

With regard to prior related knowledge, Ormrod (2014) points out that it is in long-term memory where important information is stored for a relatively long period of time. It includes both memory for specific experiences and “general knowledge that has been gleaned from experiences over the years” (Tellvig 1993 1991). Some of the things stored in long-term memory may be easily retrievable, whereas others, even though they may ultimately (subconsciously) influence individual behaviour, may be difficult or even impossible to bring into conscious awareness (Ellis 1994; Gabrieli, Keene, Zarella & Poldrack 1997). The literature on long-term memory theorizes the capacity of long-term memory as unlimited. Ormrod (2014) has suggested that the more knowledge already stored in long-term memory, the easier it is to store more knowledge. Some psychologists suggest that prior knowledge enhances learning because memory – the

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storage of knowledge – is developed by associative learning in which events are recorded in memory by establishing linkages with pre-existing concepts. Related pieces of information tend to be associated together. Ultimately, probably every piece of knowledge is either directly or indirectly connected with every other piece. If the knowledge is processed in some fashion (by being repetitively accessed, for instance) it appears to remain in the individual's memory. Attention involves the selection of certain stimuli in the environment for further processing. Attention is influenced by several stimulus characteristics (e.g., size, intensity, novelty, incongruity, emotion, and personal significance), and to what people pay attention (the effective stimulus) is not always what observers believe catches their attention to (the nominal stimulus). Attentional capacity is limited: individuals usually cannot pay attention to more than one demanding task at any given time. Information that is attended to moves on to working memory (also called short-term memory) where it is actively processed. Information that undergoes further processing (e.g., integration with previously stored knowledge) moves on to long-term memory. Long term-memory appears to have the capacity to hold a great deal of information for a relatively long period of time, without the individual realizing it.

### **2.2.4.3 Meaningful Learning**

Individuals can connect new information to prior knowledge only when they actually have knowledge that relates to the things they are learning. Ausubel, Novak, and Hanesian (1978) point out that one of the most important factors influencing long-term memory is what a person already knows. By relating new information to knowledge already stored in their long-term memory, individuals find meaning in the information. The term for that process is “meaningful learning” (Ormrod 2014 202) and it is what people refer to when

they talk about comprehension or understanding. Meaningful learning appears to facilitate both storage and retrieval; information is stored more quickly (Anderson 2005) and remembered more easily ( Craik 2006; Mayer 1996). Learners who have a large body of information already stored in long-term memory have more ideas to which they can relate their new experiences and new knowledge, and so can more easily engage in such processes as meaningful learning.

#### **2.2.4.4 Cognition**

Cognition is the study of human thought processes. Cognition is learning up to the current time and is influenced by the individual's knowledge of his or her own thinking and learning processes. The term for those processes is "metacognition" (Ormrod 2014 364) which are similar to "intra-subjective cognitions" (Fischer & Reuber 2011 4). As Peterson (1988) and Whittrock (1994) point out, the more metacognitively sophisticated the learner, the higher his or her achievements are likely to be. Social learning theorists and cognitivists alike have portrayed effective learning in a similar manner – as a process of setting goals, choosing learning theories that are likely to help one achieve those goals, and then re-evaluating the results of one's efforts. This learning process is known as "self-regulation" (Ormrod 2014 322) and includes self-efficacy and self-motivation. With the general understanding of theories of learning in hand the next section reviews the general literature of the term 'online technologies'.

### **2.3 A Review of the Term "Online Technologies"**

Diverse disciplines shed light on online technologies, but each one only partially illuminates this phenomenon. Ambiguity that revolves around the concept of online technologies is due to the fact that varied disciplines define the concept at different levels

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of analysis. First, from an IT perspective, online technologies refer to Internet/Web 2.0 technologies which Kaplan and Haenlein (2010 60) suggest is the “platform whereby content and applications are continuously modified by all users in a participatory and collaborative fashion”. Kaplan and Haenlein (Ibid. 61) define online technologies as “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”.

Second, from social psychology, online technologies refer to the term “Web 2.0” which Baxter (2015) points out is the social participation of the web; the term is used to describe how individuals interact in a collective and social capacity through the use of web technologies.

Third, from a strategic and organizational management perspective, online technologies refer to the “tools and connectivity of the digital age” (Gates 2005 6) where the flow of information can be “at the speed of thought” (Gates 1999 5). This concept builds on Gates’ (Ibid.) idea that online technologies provide a way for businesses to easily obtain, share, and act on information in new ways that allow for communication, connection, and collaboration between users when using any Internet-based mobile applications (apps) built on Web 2.0.

Fourth, from media research, online technologies refer to the various forms of media content that are available and created by end users (Cook 2008). Media content ranges from low, which would be simple text-only exchanges such as blogs and wikis, to high, which would try to replicate all dimensions of face-to-face interactions such as Facebook, YouTube, Skype and webcasts. From an entrepreneurial perspective, Lee and Jones

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(2008) suggest online technologies refer to all the innovative ways technology revolutionized the computer industry to give workers greater access to the flow of tangible knowledge.

Fifth, from technological innovation, Kaplan and Haenlein (2010 61) refer to online technologies by the term “social media” because it describes the various forms of media content that are publicly available and created by end-users. Kaplan and Haenlein (Ibid. 62) refer to social media as “platforms to facilitate information and virtual content-sharing between users”. Shau and Gilly (2013) define use of social media as “behaviour by individuals and small/medium/large communities as they share, co-create, discuss and modify user-generated content.” Cook (2008 5) describes social media as an innovative option for individuals to use for “self-presenting and self-disclosing behaviour”. Examples of this are Skype, YouTube, and Webcasts because media content is high and individuals’ social presence is achieved.

Social presence is defined as the “acoustic, visual, and physical contact that can be achieved or allowed to emerge” (Short, Williams & Christie 1976 4) between two communication partners. For instance, a person with a high degree of social presence is generally seen as being sociable, warm, and personable, whereas a person with a low degree of social presence is generally seen as colder, less personable, and unsocial. Social media use is a behaviour influenced not only by relationship factors such as among close friends, group members, work colleagues, or with complete strangers (Shau & Gilly 2013), but also by factors that change over short periods, such as social presence, where the higher the social presence the larger the social influence; and self-disclosure, where

predispositions, thoughts, feelings, likes, and dislikes are disclosed (Venkatesh & Davis 2000).

For the purpose of this study, the terms “online technologies” and “social media” are considered synonymous and used interchangeably in the sections to follow. With the general definition in hand, the next section reviews the general literature about adoption of online technologies by organizations, actors, teams and SMEs.

### **2.3.1 Adoption of Online Technologies by Organizations, Actors, Teams, and SMEs**

First, the general literature on adoption of online technologies by organizations, actors, teams and SMEs is both vast and diverse, having been considered through a variety of different “lenses” – from the study of a single big enterprise to a global study of SMEs, and from the different philosophical and theoretical perspectives embraced by the academic disciplines of economics, finance, geography, management, psychology, and sociology.

Second, the general literature also spans a wide range of countries and therefore reflects the fact that adoption of online technologies is a global phenomenon. Despite the best efforts of these many researchers, however, and arguably because the issue has been considered from so many perspectives, no one model has yet been identified which can successfully establish whether a predisposition exists at the individual level for the use of online technologies as a viable business tool by the individual SME owner—although numerous studies have discovered a variety of variables affecting acceptance of technology, including ease of use, facilitating conditions, motivation, perceived ease of use, results demonstrability, and self-efficacy (Venkatesh, Thong & Xu 2012; Luo, Chea &



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Chen 2011; Venkatesh, Morris, Davis & Davis 2003; Yi, Jackson, Park & Probst, 2006; Venkatesh & Davis 2000; Davis 1989).

Third, the general literature is largely quantitative and draws heavily from the organizational level. It also tends to be limited to a consideration of the organizational benefit of adopting a few online technologies (e.g., Facebook, Twitter, and YouTube) rather than considering the benefits of the adoption of many social media by individual SME owners. Consequently, while there is a great deal of information explaining *how* social media affects the *organization as a whole*, there is limited literature that really seeks to explore what are the benefits of the adoption of online technologies by SMEs. More specifically, what are the benefits of social media use at the individual level when certain choices (e.g., to follow a technologically-enabled trend; as a viable business tool) are made?

These distinctions are also reflected to a large extent in the Strategic Management literature, with studies concentrating on technology and information flow in organizations all around the world. Two broad themes dominate. First, the largest body of work concerns the organizational challenges and opportunities of social media, the knowledge-workers whose value added depends heavily on information, and the revolutionary changes due to technology, such as Internet/Web 2.0 platform and connectivity, and the ways in which these changes influence organizations to revise their approach to strategic management at work.

The second and relatively recent addition to the literature stems from the growing awareness of shifting values and social norms, in general, and the exploration of behavioural options facilitated by technological trends, which may lead to changes in how

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fundamental values are manifested, in particular. The second theme concerns itself with understanding what is unchanged or what continues to be foundational in this period of revolution. The one constant is that the primary driver of economic growth and development continues to be innovation in general and technological innovation in particular.

These studies largely relate to organizational analysis in three areas: i) changes brought about because of technology, ii) questioning whether past experience and knowledge and past assumptions about organizational strategies apply in the present, and iii) the shifting of the world's demographic population as "Generations Y and Z" were the first generations to be raised in the era of digital immersion/Web 3.0, "Millennials" (the generation that has grown up with social networks and YouTube, the "Net Generation") the generation that has grown up with the Internet/Web 2.0 and is entering the workplace while the "Baby Boomers" (the generation that has grown up with the Internet/Web 1.0) are entering retirement age (Mason 2014).

Interestingly, in their conceptual research on strategic and organizational management, Helfat and Peteraf (2009) proposed that the world's economy evolved and shifted away from traditional forms of tangible economic drivers such as plants, machinery and real estate to a modern economy driven by the use of intangible resources such as past experience (Ellis 1965; Estes 1970), innovation, and past related knowledge (Bower & Hilgard 1981). Likewise, Schmidt and Keil (2013) conclude that experience, innovation, and knowledge are vital to the internal function of the organization, yet the value of these resources is unmeasured at the individual level. When these latter resources are utilized by SME owners within the workplace the effect can be powerfully enabling to the owner.

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The resources can allow the individual to perceive opportunities and respond to environmental trends, sense competitor challenges, listen to consumers, and act with insight (Gates 1999).

Despite this proposition, academics following Helfat and Peteraf's (2009) perspective have typically not investigated the benefits of SMEs adopting online technologies as a strategic business tool, and have instead focused on the organization-wide resources to grow the enterprise (Henry 2013; Adams 2011; Ambrosini & Bowman 2009; Easterby-Smith, Lyles & Peteraf 2009). Although these organization-wide resources contribute important outcomes which drive organizational growth and competitiveness in the marketplace (Barrales, Molina, Bustinza, Guiterrez & Guiterrez 2013), only a minority of research has sought to examine the benefits of individual experience, innovation and knowledge on individual performance within the SME.

The lack of connection between an acknowledgement of the value found in the individual perspective and focused research to operationalize this value leads to the intent to explore different enterprises in industry for the purpose of measuring these individual resources (Schmidt & Keil 2013; Grégoire, Barr & Shepherd 2010; King & Zeithaml 2003).

This research explores the use of online technologies by SME owners within diverse industries for the purpose of considering why the relationship between individual absorptive capacity and individual performance in the SME is and how this is the case. To further the exploration, the next section provides useful typologies of online technologies.

### 2.3.2 Types of Online Technologies

Historically, online technologies include Usenet (Truscott & Ellis 1979) and Open Diary (Abelson 1997). Usenet is a worldwide discussion system that allowed Internet users to control the messages they posted to the public. Open Diary was an early social networking site that gathered online diary writers into one community. Usenet and Open Diary are examples of the early conceptual evolution of the World Wide Web referred to as “Web 1.0” (Baxter 2015 1), “traditional media” (Merrill, Latham, Santalessa & Navetta 2011 1), and “static web” (Kaplan & Haenlein 2010 63), and relate to the web of the late 1970s, which offered a one-way experience in which media outlets broadcast information for public consumption.

Baxter (2015 1) suggests it was the advent of Flash technology and how it was applied on the web that created the new concept referred to as “Web 2.0” and signified the beginnings of the “social web.” In contrast, O’Reilly (2007 24) suggests that a technology called Really Simple Syndication (RSS) is the reason for the term “Web 2.0” and refers to it as the “live web.” O’Reilly (Ibid.) asserts that RSS allows web users to add new content and new sites. As users do this their content is bound into the structure of the web by other users discovering it and linking to it. Much as synapses form in the brain, with associations becoming stronger through repetition or intensity, the web of connections grows organically as an output of the collective activity of all web users. Kaplan and Haenlein (2010 61) point out that both Adobe Flash and RSS are necessary for the functioning of Web 2.0.

The beginnings of Web 2.0 coincided with the use of the terms “social software” (Shirky 2003 1) and “social media” (O’Reilly 2004 3). Social software is software that supports

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group “communication, cooperation, collaboration, and connection” (Cook 2008 37).

Social media is a set of software tools that are designed to support online social networking and knowledge sharing (Baxter 2015; Kaplan & Haenlein 2010). Unlike traditional media, social media offers a two-way interactive experience. Consumers of social media, unlike consumers of traditional media, can interact instantly and directly with the originators, originating organizations, or authors of the proffered information. The gradual application of social media use in organizations has been associated with what is known as Enterprise 2.0 (McAfee 2006). The term refers to the use of social media tools inside an organization or between organizations, their stakeholders, and their customers. Conceptually, Enterprise 2.0 is associated with how social media tools inside organizations can support social and organizational changes within the organization (Baxter 2015). As Cook (2008) points out, Enterprise 2.0 organizations are companies that have modified their working practices and routines to accommodate the use of Web 2.0 technologies in the workplace. Learning is being enhanced and is supporting a shift away from individual learning to social learning in terms of how employees share knowledge, collaborate, and communicate at work (Baxter 2015).

Organizations that choose to adopt an Enterprise 2.0 strategy need to ensure that the social media tools they use are those that coincide with their business goals. Three of the most established types of social media tools that have the potential to assist organizations through supporting communications and knowledge sharing are wikis, online discussion forums, and blogs. Wikis are collaborative websites that allow users to add, remove, and change text-based content. Some wiki examples are the online encyclopaedia Wikipedia (from which the name originates as a shortened, colloquial

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name), company intranets, community sites, and the social bookmarking web service Delicious (Kaplan and Haenlein 2010).

Forums (i.e., online “bulletin boards”) are used for information sharing and collaboration. Online forums allow a user to post a message for others to read and to which others can respond. The topics posted on online forums are known as threads, and the replies are known as posts. Online forums, in contrast to wikis, do not normally allow posts or threads to be modified once added. The exception might be in the case of a moderator whose job, whether as paid or volunteer staff, is to oversee the use of the forum. The structure of an online forum also differs from that of a wiki; threads in online forums are typically arranged in descending chronological order from the most recently posted message.

Blogs (or “web log” journals, shortened to “blog” by emphasizing certain letters – **web log**) represent the earliest form of social media and are special types of websites that usually display date-stamped entries in reverse chronological order (Cook 2008). The traditional blog features posts by its owner/author that are typically “between 400 and 1000 words long, while the typical microblog entry or posting is much shorter – often less than 20 words” (Merrill, Latham, Santalesa & Navetta 2011 10). Blogs are the social media equivalent of personal web site or pages describing the “moment-by-moment picture of the author’s thoughts and feelings about what’s happening right now,” turning the Web from a collection of static documents into a running conversation between people, either one-to-one or one-to-many (Tapscott & Williams 2010 12). The most frequented microblog platforms are Facebook’s status updates feature and Twitter, but there are more than 111 such sites worldwide (Baxter 2015).

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Popularity of the log concept – combined with the growing availability of high-speed Internet access – has led to the creation of content communities and social networking sites. The main objective of content communities is the sharing of media content between users. For instance, the microblogging platform Twitter (founded in 2006) allows individuals to send messages known as “tweets” about the things that interest them, as well as “retweet” the tweets of others, sharing them widely to amplify the reach and messaging (Baxter 2015 3). Other content communities include BookCrossing and Goodreads for people to share books, Flickr for photos, SlideShare for PowerPoint presentations, and YouTube for videos.

Social networking sites include LinkedIn (2003), MySpace (2003), Facebook (2004), Google + (2011), and Nextdoor (2001). For instance, Facebook was initially founded by Mark Zuckerberg to stay in touch with his fellow students from Harvard University (Baxter 2015). MySpace is where the German sports apparel manufacturer Adidas allows visitors to access product reviews, order elite customized soccer cleats and shoes, and find information on professional soccer players who play using “their” shoes (i.e., soccer shoes ordered/used by customers) (Kaplan & Haenlein 2010 64).

### **2.3.3 Theoretical Antecedents of Online Technologies**

Before considering adoption of online technologies it is helpful to gain an understanding of the theoretical antecedents of social media. Beginning with Theory of Reasoned Action (TRA) (Fishbein & Ajzen 1975), research in social psychology has shown that behaviour is best predicted by an individual’s attitude toward the behaviour (such as using social media), rather than his or her attitude toward the objects involved in the behaviour (such as the social media itself). Fishbein and Ajzen’s (1975) theory has shown that a positive

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evaluation of a new technology may be a necessary, but not always sufficient, condition for system acceptance. Recognition of the importance of their findings (Ibid.) has been evident in the quantity of research focused on examination of the determinants of information technology acceptance.

First, Rogers' (1983) theory of Diffusion of Innovations includes a meta-analysis of a variety of innovations studied in diverse contexts, such as the adoption of family planning and new agricultural techniques. Rogers' work (Ibid.) can be characterized as an information-centric view of diffusion of innovation. According to Rogers (1995), information about the existence of innovations flows through social systems where potential adopters are situated. This information is processed by adopters to form perceptions about the characteristics of the innovation; such perceptions, amongst other contextual factors, then serve as the drivers for innovation adoption decisions.

Second, Moore and Benbasat's (1991) theory of Perceived Characteristics of Innovation (PCI) extended the set of perceptions proposed by Rogers (1983) to include seven perceived characteristics of an innovation (relative advantage, compatibility, complexity, observability, trialability, image, and voluntariness of use) as predictors of information technology (IT) adoption behaviour.

Third, although Rogers' model (1983) has been utilized to predict and explain technology diffusion in the contexts of information systems (IS) innovations, in the domain of information technology (IT) specifically, Davis (1989) and Venkatesh and Davis's (2000) Technology Acceptance Models (TAM and TAM2 respectively) (Appendix p.167) have garnered significant empirical support over the decades to become well-established models for predicting user acceptance in the workplace.



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The Technology Acceptance Model (TAM) (Davis 1989) derives its theoretical roots from social psychology where it compares favourably with the above-mentioned alternative models of Theory of Reasoned Action (TRA) (Fishbein & Ajzen 1975) and the theory of Planned Behaviour (TPB) (Ajzen & Fishbein 1991). Per TAM (Davis 1989; Davis, Bagozzi & Warshaw 1989), the effects of external variables (e.g., system characteristics, development process, training) on intention to use are mediated by perceived usefulness and perceived ease of use.

According to TAM (Davis 1989), perceived usefulness is also influenced by perceived ease of use because, other things being equal, the easier the system is to use the more it will be used. In TAM (Davis 1989; Davis, Bagozzi & Warshaw 1989), attitude serves as a key mediating construct between beliefs and usage intentions, although perceived usefulness is also hypothesized as exhibiting a direct effect on intentions in addition to its indirect effect through attitude.

Fourth, Agarwal and Prasad's (1998) conceptual paper has proposed the construct Personal Innovativeness in the domain of Information Technology (PIIT) theory to further illuminate the relationships explicit in TAM (Davis 1989; Davis, Bagozzi & Warshaw 1989). This theory has been defined as "the willingness of an individual to try out any new information technology" (Agarwal & Prasad 1998). Specifically, PIIT has been hypothesized to exhibit moderating effects on the antecedents as well as the consequences of individual perceptions about a new information technology.

Fifth, TAM2 (Venkatesh & Davis 2000) extends TAM (Davis 1989; Davis, Bagozzi & Warshaw 1989) to include additional key determinants of TAM's (Davis 1989; Davis, Bagozzi & Warshaw 1989) perceived usefulness and usage intention constructs, and to

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understand how the effects of these determinants change with the target system.

Venkatesh and Davis (2000) tested the basic TAM relationship (Davis 1989; Davis, Bagozzi & Warshaw 1989) with tests for mediation and moderation using longitudinal data collected from four different systems at four different locations two involving voluntary usage and two involving mandatory usage. Results strongly indicate that all hypotheses were supported by all studies at all points of measure. For instance, social influence processes (subjective norm, voluntariness, and image) and cognitive mental processes (job relevance, output quality, result demonstrability, and perceived ease of use) significantly mediated user acceptance. Additionally, internalization (subjective norm) was moderated by experience whereas the image – usefulness relationship (identification) was not.

Sixth, social cognitive theory (SCT) (Bandura 1986) has become one of the most powerful theories of human behaviour. Compeau and Higgins (1995a) employed SCT to study performance; while Compeau and Higgins (1995b) applied and extended SCT to the context of computer utilization. The nature of the model and the underlying theory has allowed it to be extended to acceptance and use of information technology in general. The original model of Compeau and Higgins (Ibid.) has used usage as a dependent variable, but Venkatesh, Moore, Davis and Davis (2003) have examined the predictive validity of the SCT model in the context of intention and usage. Results show self-efficacy and anxiety to be conceptually and empirically distinct from effort expectancy (perceived ease of use). Self-efficacy and anxiety have been modelled as indirect determinants of intention fully mediated by perceived ease of use.

Seventh, results from Venkatesh, Thong and Xu's (2012) study on acceptance and use of technology (UTAUT2) in a consumer context found that experience using mobile internet acted as a moderator on pleasurable usage, price value, and habit. The findings (Ibid.) extended the unified theory of acceptance and use of technology (UTAUT) to include use of social media by the consumer as end user.

#### **2.4 A Review of Theoretical Antecedents of Absorptive Capacity (AC)**

Under the umbrella of business and organizations, the field of strategic management is firmly established as an academic area of study. Owing to its roots as a more applied area, strategic management has traditionally focused on business concepts that affect organizational performance. The field of strategic management is eclectic in nature, with emphasis on prominent theories developed and the corresponding methodologies employed in past and current strategic management research. As mentioned above, the early emphasis on an organization's internal competitive resources can be traced to Barnard (1938), Selznick (1957), and Penrose (1959). Barnard's (1938) detailed exposition of the cooperation and organization in business firms, as well as the individual managerial functions and processes therein, provided a solid foundation upon which subsequent works in strategic management were built.

The importance of "distinctive competence" and leadership emphasized in Selznick's (1957) study of administrative organizations coincided well with early strategy scholars' focus on firms' internal strengths and individual managerial capabilities (Hoskisson 1999). Penrose (1959) related firm growth and diversification to the inherited resources a firm possesses-especially individual managerial capacities. In contrast, early strategy researchers such as Ansoff (1965) and Learned, Christensen, Andrews and Guth (1969,

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1965) were predominantly concerned with identifying the “best practices” that contributed to the success of the firm (Hoskisson 1999).

Between the early development of the field in the 1960s and the rise of the resource-based-view (RBV) in the 1980s, developments in the field of industrial organization (IO) economics began in the 1970s. Industrial organization roots based on Bain (1956, 1968) and Mason (1939) were developed more fully in Porter’s (1973, 1980, 1985) work. For example, Porter’s (1973) industrial organization economics led to the development of research on strategic groups where firms are classified into categories of strategic similarity within and differences across groups. Porter’s (1980) Five Forces Model specifies the various aspects of an industry structure, provides a useful analytic tool to assess an industry’s attractiveness, and facilitates competitor analysis.

The ability for a firm to gain competitive advantage, according to Porter (1980, 1985, 1996), rests mainly on how well it positions and differentiates itself in an industry. The collective effects of the five forces determine the ability of firms in an industry to make profits. To Porter (1980, 1985), the five forces embody the rules of competition that determine industry attractiveness and help determine a competitive strategy to “cope with and ideally, to change those rules in the firm’s favour” (Porter 1985 4).

The field of strategic and organizational management is largely concerned with how firms generate and sustain competitive advantage while facilitating strategic change. Economic theory holds that in the normal course (and in the absence of market imperfections) abnormal economic rents (monopoly) will get competed away by rivals or new entrants to an industry. One view concerning the importance of resources for competitiveness is embodied in the resource-based view (RBV) of the firm (Barney 1991).

#### **2.4.1 The Resource-Based View (RBV) Theory**

Based on the RBV, a firm's stock of valuable, rare, inimitable and organizational (VRIO) resources are a significant source of competitive advantage (Barney 1997). The RBV theory suggests that there can be heterogeneity among firms that allow some of them to sustain competitive advantage. Therefore, the RBV emphasizes strategic choice, and charging the firm's management with the important tasks of identifying, developing and deploying key resources to maximize returns.

Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter (2007) point out that VRIO resources include a wide range of material, human, and functional capabilities through which the firm can generate revenue. In addition, Lichtenstein and Brush (2001 38) identify what they describe as "salient resources" for firms, which include: capital, organizational systems/structures, management know-how, technology, physical resources, leadership, culture and "informal systems." In their conceptual paper, Colombo and Piva (2008) argue that VRIO resources are sometimes more specifically categorized as financial, physical, human, and organizational resources.

Human capital delivers functional capabilities (such as accounting, production, R&D) as well as the capability to innovate (e.g., original and creative thinking) and the capability to solve organizational problems (e.g., insight, analysis and critical thinking skills) (Colombo & Piva 2008). However, Lichtenstein and Brush (2001) and others (Lockett, Cave, Kerr & Robinson 2009) contend that while resources are necessary to deliver capability, the RBV of competitive advantage is considered too static to explain how firms create new capabilities to exploit opportunities within dynamic market environments. Pfeffer and

Salancik (1978) posit that resources are assets to be deployed creatively in order to (re)configure opportunities.

Organizations confronted with changing markets or changing technologies must develop new capabilities to avoid the problem of “core rigidities” (Leonard-Barton 1994 118), which are the opposite of core capabilities. “Dynamic capabilities” thus refers to the endogenous ability to create innovative responses to an exogenous changing business environment, which can initially seem untenable (Helfat & Peteraf 2003 1001). A key to navigating this duality lies in considering the third area to emerge from the strategic and organizational management field: dynamic capability.

#### **2.4.2 Dynamic Capabilities Theory**

Zahra and George (2002 918) define dynamic capabilities as “the abilities to reconfigure a firm’s resources and routines in the manner envisioned and deemed appropriate by its principle decision maker(s).” Helfat et al (2007) point out that the element of dynamic capabilities that involves shaping the market environment is entrepreneurial in nature. The entrepreneurial capabilities can be harnessed to continuously create, extend, upgrade, protect, and keep relevant the enterprise’s unique asset base. Teece (2007 1346) points out that dynamic capabilities reside in large measure with the top management team, but such action is not confined to large enterprises; it resides in “start-ups” and at the individual level in “individual-owned” enterprises (i.e., SMEs). Todorova and Durisin’s (2007; Appendix p. 164) conceptual framework advances the idea that dynamic capability is the antecedent to the concept of absorptive capacity and absorptive capacity is the antecedent to the concept of individual absorptive capacity, and this articulation drives much of the focus found in this research.

### **2.4.3. Absorptive Capacity Theory**

Teece's (2007 1323) theoretical paper defines absorptive capacity as individual or enterprise "intangible resources of past experience, knowledge (behaviour), and cognition (learning up to the current moment) to recognize the value of new information, assimilate it, and commercially utilize it to benefit the individual and/or enterprise."

Absorptive capacity theory provides a conceptual framework for hypothesizing the mediating and/or moderating role of managerial cognitive capacity in the relationships between dynamic capabilities of owner/managers and organizational performance (Helfat & Peteraf 2014; Teece 2007). Cohen and Levinthal (1990), in seeking to explain individual absorptive capacity, referenced and used tools from the cognitive psychology literature. Cohen and Levinthal (Ibid. 128) were the first to use the term "individual absorptive capacity" to refer to the individual's cognitive basis for utilizing his or her prior experience and prior related knowledge to recognize new opportunities for new information (at least information that is new to him or her), understand it, and benefit from it in some way.

This suggests that individual absorptive capacity plays a significant role in the development of absorptive capacity theory and understanding of dynamic capabilities. Helfat and Peteraf's (2014) conceptual treatment of the role of owner/managers has argued that individual cognition is vital to the advancement of dynamic capabilities. Despite this, with the exception of Park, Suh and Yang (2007) and Ko, Kirsch and King (2005), few studies have paid attention to the effects of individual absorptive capacity on individual performance in the SME. Park, Suh and Yang (2007) have demonstrated that individual users' absorptive capacity has played a significant role in influencing her/his performance when using enterprise resource planning (ERP) within the workplace. The

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authors (Ibid.) have described an individual user's absorptive capacity as three components: understanding, assimilating, and applying the knowledge in the ERP system. Additionally, Park et al (2007) have suggested that organizational support can moderate the relationship between the user and her or his ERP usage.

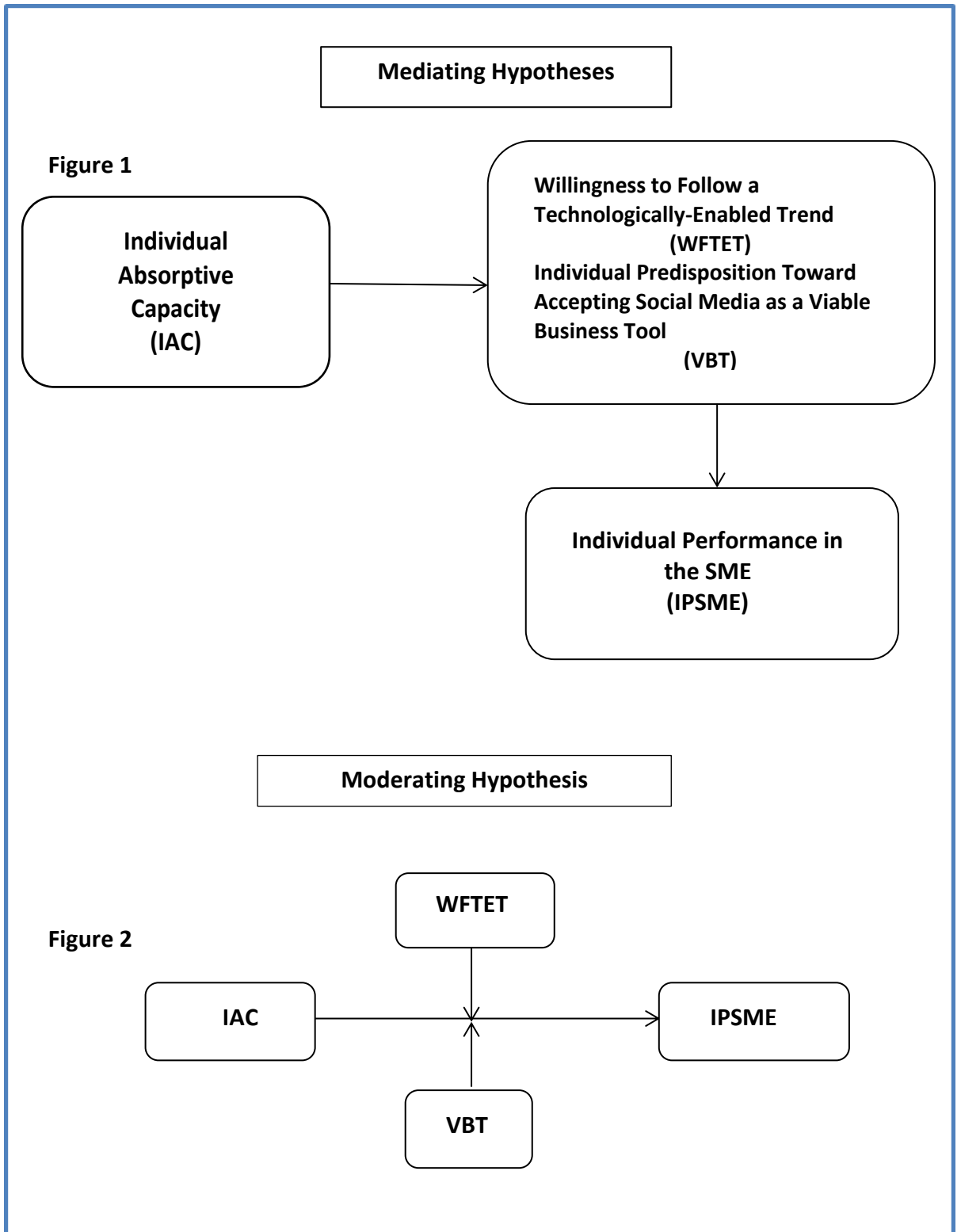
Other studies have examined the effect of an organization's absorptive capacity on organization performance, including the adoption of a new technology (Venkatesh 2014; Venkatesh & Davis 2000), the transfer of technological knowledge (Reagans & McEvily 2003), the development of new products (Stock, Greis & Fischer 2001), and organizational learning (Lane, Salk & Lyles 2001; Lane & Lubatkin 1998).

Boynton, Zmud and Jacobs (1994) have asserted that a firm's absorptive capacity provides the theoretical basis for comprehensive understanding of its usage of Information Systems (IS). Zahra and George (2002) have offered the following two suggestions: firstly, absorptive capacity is an important factor for an organization to implement new IS successfully, and secondly, both organization-level prior knowledge and management support are critical.

Individual absorptive capacity, however, does play a significant role in the recognition and acquisition of new knowledge process. Using the perspective of absorptive capacity theory, this paper develops a conceptual framework (Figure 1, following page) to explore the benefits of the SME owner's use of online technologies. For instance, this study considers what causes or originates the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME) and how this is the case.



2.4.4 A Conceptual Framework: Individual Performance in the SME (IPSME)



From where does absorptive capacity come? A number of scenarios can contribute to existing knowledge gained over time, such as business relationships (Lichtenstein 2001); prior employment environments and situations (Baker 2003); education, training, volunteerism and/or life experience (Leonard-Barton 1994); social networks (friends, family, neighbours, colleagues and so on) (Jenssen & Koenig 2002); and customer and supplier networks (Boussouara 2002).

What areas does existing theory span? Absorptive capacity spans theories of learning, innovation, managerial cognition, the knowledge-based view of the firm, dynamic capabilities, and coevolutionary theories (Volberda, Foss & Lyles 2010). One view of absorptive capacity is embodied in cognitive and behavioural studies about “learning at the individual level” (Cohen & Levinthal 1990 131). Why the view at the individual level? Cohen & Levinthal (1990) point out that absorptive capacity is a multidimensional, multilevel construct and should be studied at the individual, firm, and interfirm levels of analysis; outside sources of knowledge are often critical to the innovation process, whatever the level at which the innovating unit is defined.

Of the levels of analysis, the majority of empirical studies on absorptive capacity address either the firm level (Cohen & Levinthal 1990; Volberda 2010) or team level (Huber 1991; Tsai 2001). While yielding a great deal of applicable data, there is less effort made to focus on an analysis by addressing absorptive capacity at the individual level. This study considers whether cognitive theory of learning influences individual absorptive capacity and how this is the case.

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Why the focus on whether cognitive theory of learning influences individual-level absorptive capacity? First, the premise of the concept of absorptive capacity is that the organization needs prior related knowledge and experience to assimilate and use new knowledge. Studies in the area of cognitive and behavioural sciences at the individual level both justify and enrich this observation. The academic literature on memory development suggests that accumulated prior related knowledge increases both the ability to put new knowledge into memory – what would be referred to as the acquisition of knowledge – and the ability to recall and use it. Second, with respect to acquisition of knowledge, Bower and Hilgard (1981) have suggested that memory development is self-reinforcing in that the more objects, patterns, and concepts that are stored in memory, the more readily is new information about these constructs acquired and the more facile is the individual in using them in new settings.

Some psychologists have suggested that prior knowledge enhances learning because memory (the storage of knowledge) is developed by associative learning in which events are recorded into memory by establishing linkages with pre-existing concepts. Thus, Bower and Hilgard (1981) have suggested that the breadth of categories into which prior related knowledge is organized, the differentiation of those categories, and the linkages across them permit individuals to make sense of and subsequently acquire new knowledge.

Third, in the context of learning to use social media in the workplace, Anderson and Schwager (2004) suggested the problem in learning the process is not a result of lack of exposure to it but that to understand, for example, which buttons on the computer will give the outcome you have in mind (e.g., send a text to a supplier, view a training video

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on YouTube), much more information is needed than just exposure to the process: a sufficient amount of knowledge must first be accumulated. The same logic applies to the use of mobile devices.

Indeed, the buttons on a mobile device represent words of vocabulary – a set of structures within the memory system – so the structures (knowledge) must exist before the buttons can be considered understood. Anderson and Schwager (2004) have further suggested that knowledge may be nominally acquired but not well utilized subsequently because the individual did not already possess the appropriate contextual knowledge necessary to make the new knowledge fully intelligible.

Fourth, in their study of opportunity recognition, Baron and Ensley (2006) show that experienced SME owners' opportunity recognition, assimilation, and commercial utilization is richer than novice SME owners. This raises an interesting question: How does opportunity recognition at the individual level of SME owner occur? One view about this occurrence is found in the importance of discernment and is embodied in the "cognitive process of individual actors" (Grégoire, Barr & Shepherd 2010 415).

Grégoire, Barr & Shepherd (2010) explain that when an individual encounters a new object, generally her or his first instinct is to discern whether anything in this new object resembles anything s/he has seen before (e.g., is the new information about new conditions in industry? Is it a new technology? Could its use lead to increased individual performance? Could it lead to other forms of individual gain?). The individual then mentally builds on the similarities s/he observes to better understand the new object, utilizes the knowledge, identifies a course of action, and either applies the knowledge

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toward a beneficial purpose or declines to apply the knowledge and lets the opportunity pass. Therefore, opportunity recognition can be considered part of the cognition process. Easterby-Smith and Prieto (2008) assert that learning (i.e., cognition) processes have an integrative influence that can lead the SME owner to innovative use of resources in dynamic environments. Zahra, Sapienza and Davidsson (2006) suggest that individual cognitive processes are central to the development and application of dynamic capabilities, while Ambrosini and Bowman (2009) propose individual cognition as a dynamic capability. Helfat and Peteraf's (2014 5) conceptual paper draws from organizational management, psychology, and strategic management to introduce the term "managerial cognitive capability" to mean "the capacity of the individual owner/manager to obtain knowledge through thought, experience, and the senses for the purpose of performing mental activities for the long-run." Therefore, although different descriptions are used, the definition put forth by Grégoire, Barr & Shepherd (2010) is similar in concept to Helfat and Peteraf's (2014) definition. Both opportunity recognition and performing mental activities can be considered part of the SME owner's cognition process.

Another view about the importance of discernment is embodied in the term "intangible resources" which Walton and Dawson (2001 4) defined as "emergent, untouchable, invisible yet capable of becoming visible". Two examples of intangible resources are influence and reputation. Intangible resources allow the individual to contribute vital resources to the SME. Walton's (Ibid.) definition of intangible resources is similar in concept when compared to Helfat and Peteraf's (2014) definition: i) individual experience (past and present), ii) innovation (such as a new idea, method or use) and iii) past

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knowledge (such as awareness, information or skills). To Helfat and Peteraf (2009) all three constructs are vital to the internal workings of most SMEs.

Schmidt & Keil (2013) explain that individual absorptive capacity can be understood to be both internal within the individual and external in the fact that an SME owner will have had relatively similar experiences, an awareness of innovation, and familiar knowledge suitable to the enterprise, yet the individual will access information on a situation-by-situation basis in order to assess the market position relative to the factors within the SME and/or the customers' demand for resource output (Hamaker 2007). Teece (2007 1343) claims that individual absorptive capacity can originate from the cognitive and creative ("right brain") capacities of individuals.

Studies find support for SME owners' ability to integrate disparate bits of information (endogenous), objectively assess the business climate (exogenous), and use social media – the Internet-based and/or mobile technologies (Kaplan & Haenlein 2010) – to send the bits of (often vital) content in real-time to networked individuals within the SME and /or the customers (Kraaijenbrink 2010; Priem & Cychota 2001).

The empirical study by Lane and Lubatkin (1998) of prior-related knowledge at the individual level finds support for individual absorptive capacity as a construct. Further, Reagans and McEvily (2003) provide evidence that the individual absorbs knowledge more easily when s/he already has some common knowledge of a field or industry in terms of past experience, training, or background characteristics.

Grégoire, Barr & Shepherd (2010) draw from strategic and organizational management research to propose that the discernment of opportunity-relevant patterns involves the process of obtaining knowledge through thought, experience, and the senses in effort to

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consider the resemblance between the information that is new *to* the individual compared to what is already known *by* the individual.

As a tentative answer to the question, “What is individual absorptive capacity?” Cohen and Levinthal (1990 131) offer the following definition:

The ability of the individual to apply prior experience, knowledge (behaviour), and/or cognition (learning) in order to pursue a new opportunity, and make sense of signals of change (e.g., new information about new conditions) to form beliefs regarding whether or not enacting a course of action to address this change could lead to net benefits (for instance, in terms of increased individual performance, profits, growth, competitive jockeying, and/or other forms of individual or enterprise gains).

### **2.5 A Review of the Term Entrepreneur/Entrepreneurship**

What does the term “entrepreneurship” mean? Historically, entrepreneurship has at least two meanings. First, entrepreneurship refers to owning and managing a business, which Sternberg and Wennekers (2005) suggest is the occupational notion of entrepreneurship. Second, entrepreneurship refers to entrepreneurial behaviour in the sense of seizing an economic opportunity; this is the behavioural notion of entrepreneurship (Acs 2006). The entrepreneur, therefore, is “someone who specializes in making judgmental decisions about the coordination of scarce resources” (Casson 2003 226). The term “someone” emphasizes that the entrepreneur is an individual; the term “judgmental” implies that the decision is likely not simply a routine application of a standard rule (Ibid.).

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The idea that the perception of opportunities is subjective, but opportunities are objective, has a long history going back to von Mises (1920) and Knight (1921) in the theory of entrepreneurship. Interestingly, Knight (Ibid.) argues that the entrepreneur is the prime mover in the economic development of a country and her/his function is to innovate. In Schumpeter's (1934), view technical skills and expertise are important and the exercise of intuition and strategy are particularly important. Hayek (1937) made the distinction between risk, which is objective, and uncertainty, which is subjective, and identified uncertainty-bearing as the economic function of the entrepreneur. Kirzner (1973) stressed how the entrepreneur recognizes disequilibrium and takes advantage of it, and in doing so puts into place the mechanism by which the economy moves back toward equilibrium. Shackle (1972) points out that the entrepreneur is a maker of history, and is guided in making it by her or his judgment of possibilities within the environment and not by a calculation of certainties.

In Casson's (2003) view, entrepreneurship is what occurs at the intersection of history and technology. This leads to two further concepts of entrepreneurship: First is the stock of technical knowledge; i.e., codified language and knowledge (Schumpeter 1934). Second is the technology opportunity set (Casson 2003), which consists of all remaining unexploited opportunities. Entrepreneurial investment in new knowledge can increase the technology opportunity set and sharpen the entrepreneur's exercise of intuition, strategy and judgment.

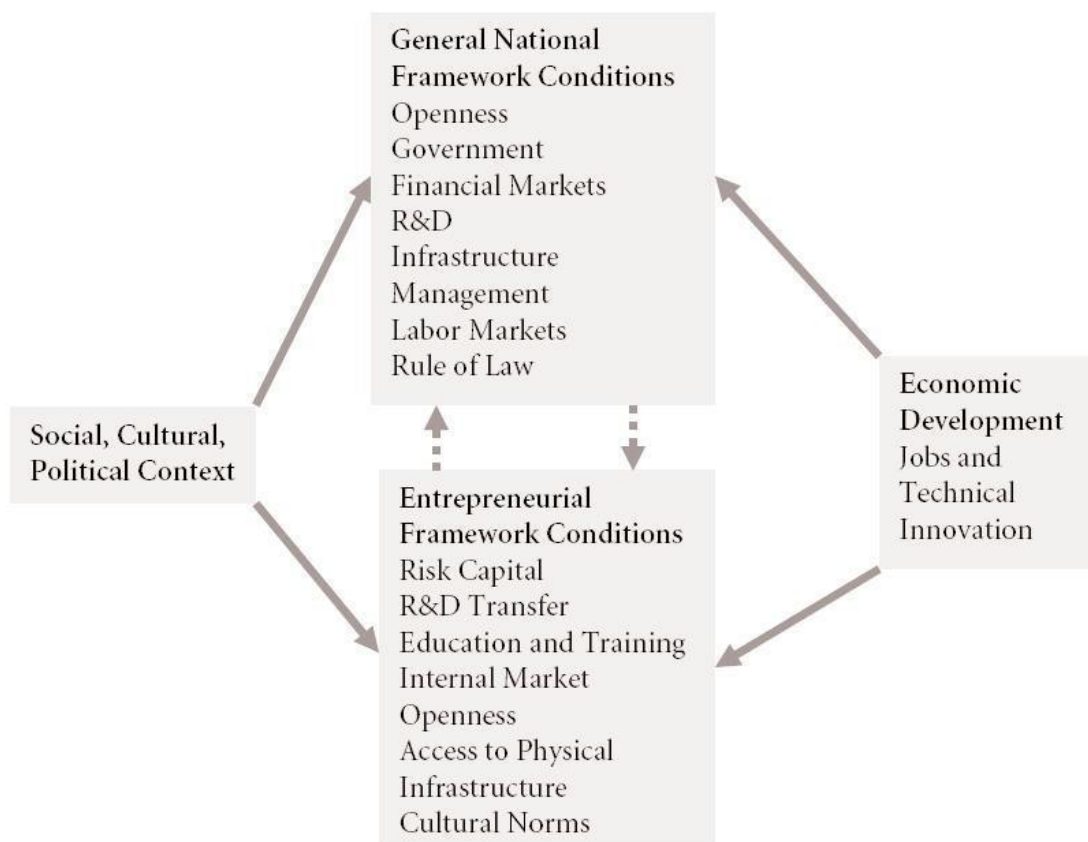
In answering the question, "What does entrepreneurship mean?" entrepreneurship can mean the "activity that involves the discovery, evaluation and exploitation of opportunities by an individual within the existing economic, political, and social



environments of a country” (Ac 2006 13). For potential entrepreneurs, the decision whether to start a business is also influenced by additional characteristics within the existing business environment. Levie, Hart & Bonner (2014 103) refer to the conditions as seen in the “Entrepreneurial Framework Conditions”, in the Global Entrepreneurship Monitor Conceptual Model (GEM, 2006) (Figure 1).

### 2.5.1 Global Entrepreneurship Monitor (GEM) Conceptual Model

**Figure 1**



Source: Global Entrepreneurship Monitor (GEM) (2006)

The next consideration is to see what other positive benefits individually owned SMEs contribute to the UK economy, and in what way(s) these benefits are contributed.

## 2.6 A Review of SMEs Beneficial Contributions to the UK Economy

What are some beneficial contributions made by SMEs to the UK economy? What other positive effects do individually owned small enterprises contribute in the UK? One perspective in entrepreneurial research by Venkataraman (1997) and Hayek (1945 121) personifies the effects associated with “opportunities and enterprising individuals”. Hayek (1945) specifically referred to day-to-day knowledge (and not necessarily to scientific knowledge), such as that associated with particular occupations; i.e., resources that are lying fallow, a better way of doing a particular job, the learning of a new technology, the discovery of a breakthrough in the laboratory that leads to a new technique, and the existence of a need in a particular segment of society. The key is that this knowledge is dispersed in the economy and is not a “given” (Venkataraman 1997 122), nor is it at everyone’s disposal. Only a few people know about a particular scarcity, or a new innovation, or a particular resource not being put to best use. The critical factor here is that some individuals discover some opportunities and others do not.

Why do some individuals recognize opportunities and not others? One answer from Venkataraman (1997) is that individuals recognize those opportunities related to information they already possess. In Shane’s (2000) perspective, this knowledge is typically idiosyncratic because it is acquired through each individual’s own circumstances, including occupation, on-the-job routines, social relationships, and daily life. Nelson and Winter (1982) suggest that because information is often distributed through an unpredictable, random process, some individuals may possess information through blind luck that others do not have. As a result, at any given time only some individuals, and not others, will know about particular customer problems, market characteristics, innovative

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uses for technology, or the ways to create particular products or services. It is this particular knowledge Kirzner (1985) points out, obtained in what Narayanan (2001 121) refers to as a particular “knowledge corridor” which can lead to opportunities for the individual SME owner to consider how it might be applied within her or his firm.

Roberts (1991) holds the view that prior information (whether developed from work experience, education, or other means) influences the individual’s ability to comprehend, extrapolate, interpret, and apply new information in ways that those individuals lacking that prior information cannot replicate. The perspective held by Grégoire, Barr and Shepherd (2010) is that it is the SME owner’s prior experience, knowledge, and cognition that may allow – or hinder – her/his capacity to recognize opportunities. These capacities to recognize, build upon, and integrate opportunities and subsequently reconfigure and competitively reposition individual or organizational resources and capabilities are defined by Helfat and Peteraf (2014 2) as “managerial cognitive capacity.” Additionally, Helfat and Peteraf (Ibid.) expand on what Teece (2007 1322) refers to as “sensing-seizing-reconfiguring” activities with regard to whether or not the enterprise owner perceives the particular day-to-day knowledge acquired through the aforementioned knowledge corridor could lead to potential benefits (e.g., in terms of increased individual performance, competitive jockeying, and/or other forms of individual gain).

### **2.7 Benefits of Adoption of Online Technologies by Large Corporations**

The use of online technologies is having a profound benefit on how corporations formulate their business strategies and business aims. For instance, the global company Siemens AG wanted to encourage world-wide discussion and knowledge transfer of its business objectives. Initially, microblogging was implemented within one particular

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division of Siemens' global sales force in order to facilitate learning. The implementation was successful. This paved the way for the members of Siemens' global community to positively support one another whilst facilitating the business objectives in a highly competitive environment (Müller & Stocker 2011). In short, one division of the sales force did it first, to facilitate learning. And then the Siemens' global community adopted the practice, because it worked so well.

Adoption of online technologies by large organizations has increased steadily over the past few years, with approximately 87% of Fortune 100 companies employing at least one major social platform to communicate with stakeholders (Burson-Marsteller 2012). For instance, Guinan, Parise and Rollag (2014) point out that Telepresence technology is used by the high-tech firm Cisco to stream the live company presentations and discussions directly to desktops, as well as record them for later access via video on demand. Cisco was able to quickly gain acceptance and use of the online technologies, and rapidly integrated them into its work processes.

Bughin, Chui and James (2012) suggest that social media use can improve productivity and customer engagement. Hanna, Rohm, and Crittenden (2011) assert that by linking the use of social media to the corporate goals, an organization can generate significant adoption and use, and become more innovative and productive, within a reasonable timeframe. Fenwick, Leaver, Paderni and Blackburn (2011) claim that social platforms such as Jive, Facebook, and Twitter and social tools such as blogs, wikis and bookmarking/tagging radically change the ways in which organizations successfully collaborate with employees. Guinan, Parise and Rollag's (2014) research has shown that online technologies can transform the way organizations work because the technology is

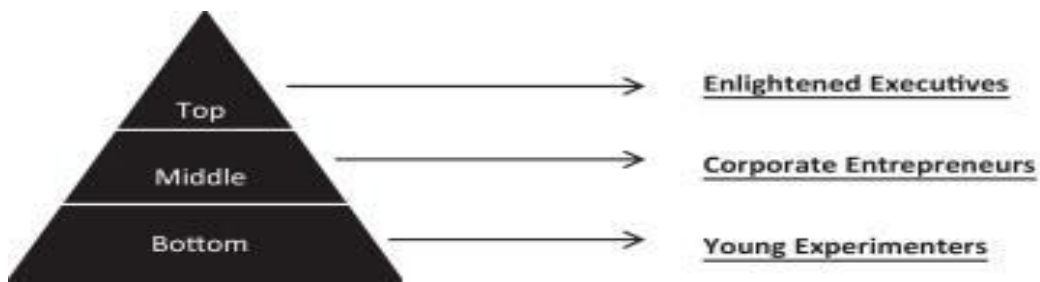
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built around improving relationships as well as heightening efficiencies. For instance, the global automobile company Toyota created a vision for adoption of online technologies that put collaborative efforts at the centre of their go-to-market strategies. When Toyota built extensive usage of social media technologies throughout the organization as part of its business strategy, it benefited by being more responsive to employees and consumers, and more innovative and competitive (Guinan, Parise & Rollag 2014).

Kaplan & Haenlein (2010) point out that collaborative projects are trending toward becoming the main source of information and providing unique opportunities for employees. For instance, Finnish handset manufacturer Nokia uses internal wikis to update employees on project status and to trade ideas; wikis are actively used by about 20% of its 68,000 staff members (Ibid.). Likewise, American computer software company Adobe Systems maintains a list of bookmarks to company-related websites and conversations on Delicious. Automotive giant General Motors maintains a company blog to update employees, customers, and shareholders on developments the corporation considers to be important. Discount Car Rental has greatly expanded its presence on Twitter to directly address customer complaints (Grégoire, Salle & Tripp 2015).

How do other organizations begin adopting online technologies? First, Guinan, Parise, and Rollag (2014) found that many successful companies use one of three strategies to facilitate the adopting online technologies. (Figure 2, below).

**Figure 2. Adoption of Online Technologies by Large Organizations**



(Source: Adapted from Guinan, Parise & Rollag 2014 339)

As illustrated in Figure 2, some organizations start from the bottom, relying on finding and enabling young experimenters to use social technologies to enhance their individual productivity. Other companies start with a middle-out approach, finding and helping corporate entrepreneurs to use social media to improve collaboration and cooperation on teams and projects. Finally, other companies find enlightened executives who are open to new technology and the potential of social technologies to strengthen their organizational culture.

## **2.8 Benefits of adoption of online technologies by employees**

Enlightened executives are able to see the potential of social media use to help reinforce business strategy. Most managers recognize that in today's competitive, global economy, companies that survive will be the ones that can find the most effective ways for employees, customers, suppliers, and other key stakeholders to engage and collaborate with each other for mutual success. Given that most of these groups are increasingly scattered across continents and time zones, and most are connected through electronic communication, online technologies might inevitably become a critical part of how executives and managers can stay competitive and remain successful in an increasingly technological world.

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What are other benefits of adoption of online technologies by employees? In answering this question and referring to Figure 2 (above), there are at least three perspectives to consider, depending on the company's mission, work process, culture, and industry. First, 'young experimenter' refers to the newer, younger members of the organization, with less than 7 years' work experience, typically found in lower levels of the company in either individual contributor or first-level manager roles (Guinan, Parise & Rollag 2014 339). Most young experimenters already use similar social technologies in their personal lives, so adoption of them in their professional lives at their workplace is natural and the ease of use is strong (Venkatesh, Thong & Xu 2012).

Palfrey and Gasser (2008) assert that young experimenters have experienced the benefits of social technologies in keeping themselves connected with family and friends and are resultantly more confident and less sceptical about their potential value in the workplace. Further, young experimenters typically require less training: having used social media at home and school, they are familiar with the basics of establishing online profiles, inviting and accepting individuals into their network, posting information, and 'following' others (Guinan, Parise & Rollag 2014 339). Young experimenters have experience and knowledge from participating in online interest groups, forums, and discussion boards outside of work; and they know how to find and comment on information in blogs, wikis, and other social spaces. Finally, given that young experimenters often already possess social media expertise, they have an incentive to leverage such skills toward demonstrating their value to the organization and increasing their visibility (Palfrey & Gasser 2008).

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Second, 'corporate entrepreneur' refers to tech-savvy middle managers who not only recognize the potential benefit of the technologies, but also possess the expertise, connections, and credibility to implement the tools in the groups and projects they manage (Guinan, Parise & Rollag 2014 341). Corporate entrepreneurs typically have 5 to 15 years' work experience, are willing and able to learn new technologies, are well positioned to embed new social media tools in important and visible areas, and can influence colleagues both higher and lower in the organization to adopt the new tools. For instance, Alsbridge (2011) points out that a small team of corporate entrepreneurs in a large US technology company began sharing their expertise by blogging on the company's website. The company was deeply entrenched in its established way of doing things (i.e., path dependent) but the corporate entrepreneurs' blogging was deemed the most appropriate and least invasive approach to demonstrate the benefits of social technologies. It gave everyone in the organization access to the expertise that typically would have been limited to the experts' work groups. Most corporate entrepreneurs recognize the personal benefit of collaboration through online technologies, especially in terms of influence and visibility. Guinan, Parise & Rollag (2014 342) share the example of one corporate employee, also an entrepreneurial blogger, who received a surprise interaction with one of his company's board members: "There were probably eight layers of hierarchy between me and the senior board member. The guy pulled me aside and said, 'I've read your blog. I love it. How can we do more?'"

Third, 'enlightened executives' refers to senior managers who are able to recognize the potential benefit of social technologies for a collaborative, creative culture linked to overall business strategy (Kotter 2007 4). Enlightened executives can connect with employees, customers and consumers; create or endorse a vision of improved corporate



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collaboration through adoption of online technologies; provide the resources and training to start usage; model effective usage of social media; and reward other employees who successfully exploit their possibilities. For instance, in one global PR firm, a CEO began writing monthly blogs, and participating in wiki discussions with employees, and revised the performance management and compensation systems to promote use of the online technologies. As with corporate entrepreneurs, the CEO personally benefitted in terms of influence and visibility. Additionally, the company quickly gained employee acceptance and use of the technologies, and rapidly integrated them into its corporate work processes.

### **2.9 Benefits of Adoption of Online Technologies by Teams**

In the domain of Human Resources Management (HRM) teams, the adoption of online technologies benefits the selection and hiring process by US employers (Shea & Wesley 2006). One reason for this is that employers usually want to verify information provided by applicants. For instance, ADP Screening and Selections Services found adoption of online technologies revealed that applicants falsified information on applications, such as their employment record, education, and credentials or licenses (Levashina 2009). Other practical benefits of adoption of online technologies by HR teams include the ability to interview candidates located around the world by using Skype without incurring substantial cost (Jacobs 2009), use of discussion forums to engage with potential candidates, and use of the versatility of Facebook as a beneficial vehicle for branding and recruitment (Shea & Wesley 2006).

In the domain of online customer service teams, Grégoire, Barr & Shepherd (2014) assert the excellence provided by the 11 full-time JetBlue customer service employees.

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Specifically, this team is familiar with both the JetBlue social media culture and the communication norms of social media, which relies on the informality, humour, sense of irony, derision, and a specific vocabulary in response to customers' comments (good or bad) and the publicity resulting from such comments.

Gallagher and Ransbotham (2010) use Starbucks as an example to point out the value derived by the Vice President of Brand Content and Online and the cross-functional team members when they use social media to develop deeper relationships with customers.

Jonathan Schwartz, former CEO of Sun Micro-systems, with his team of corporate executives maintained personal blogs to collaborate on projects and to improve their transparency with company employees (Kaplan & Haenlein 2010 63).

The marketing team in Proctor & Gamble gained visibility when they organized a contest for the over-the-counter drug Pepto-Bismol, whereby users were encouraged to upload to YouTube 1-minute videos of themselves singing about the ailments Pepto-Bismol counteracts. As a result of the successful YouTube contest, Proctor & Gamble's corporate profits increased - as did their competitive advantage (Deans 2011). In a similar spirit, the advertising team at the kitchen appliances manufacturer Blendtec became popular for their creative bevy of inexpensive "Will it blend?" videos, which have been watched by millions of people (Kaplan & Haenlein 2010 63).

Additional useful insight could be gained by looking at social media usage by individual SME owners to explore whether beneficial gain comes to her/him from using social media in her/his workplace. Also, understanding may be gained with regard to whether the SME owner's absorptive capacity influences individual social media use leading to improved

individual performance in the SME. The following section explores benefits of adoption of online technologies by SME owners.

### **2.10 Benefits of adoption of online technologies by SME owners**

Benefits of adoption of online technologies by SME owners increasingly include a better, more effective connection with customers, suppliers, prospective employees, and other stakeholders (Raunier 2014). For example, Google Alerts allows SME owners to know when their firms are mentioned on a social medium. TweetDeck is another useful tool: it tracks the trending hashtags (#), interactions, and mentions on Twitter. Grégoire, Barr & Shepherd (2010) point out that SME owners can monitor mentions that are broadcast on blogs by using tools such as Social Mention and Mention which can classify the posts based on the valence of the comments into negative, positive, or neutral categories.

The literature review leads to the conceptual framework (Figure 1 and Figure 2, p. 38) in four ways. First, the construct absorptive capacity is explained as a multi-level phenomenon of cognitive learning processes by organizations, groups, teams, and individuals (Helfat & Peteraf, 2014; Gregoire et al 2010; Lane et al 2006; Cohen & Levinthal 1990). In this study, absorptive capacity is examined at the level of the individual and thus responds to previous research's call for examining the individual's past experience, past related knowledge, and cognitions (learning-up to current) as those are proposed as the basis of a firm's absorptive capacity (Lane, Koka, & Pathak 2006; Cohen & Levinthal 1990).

Secondly, this research proposes the construct individual absorptive capacity (IAC) as being composed of the following three antecedents: past experience (PE) (Ellis 1965; Estes 1970), past related knowledge (PK) (Bower & Hilgard 1981), and cognition (learning

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up to the current moment) (COG) (Cohen & Levinthal 1990; Helfat & Peteraf 2014). By establishing those three antecedents of IAC, this research tests Volberda et al (2010) and Cohen and Levinthal's (1990) conceptualization of absorptive capacity at the individual level. Thus this study responds to previous research's call to examine individual cognition as a critical driver of a firm's absorptive capacity in future research (Cohen & Levinthal 1990). In this study the firm size is small and medium enterprises (SMEs).

Thirdly, this research proposes the construct individual performance in the SME (IPSME). Well established empirical studies on the personal attributes generally associated with entrepreneurs have strongly suggested a positive link between IAC and IPSME (Barrick & Mount 1991; Costa & McCrae 1992; Dutot & Bergeron 2017; Sexton & Bowman 1995). By investigating personal attributes of entrepreneurs this research articulates why IAC links with IPSME. Additionally, this research tests the strength and direction of the relationship between.

Fourthly, this research proposes the constructs "WFTET" and "VBT". The proposition is that an individual's willingness to follow a technologically-enabled trend (Kaplan & Haenlein 2010; Venkatesh & Davis 2000) and predisposition toward accepting social media as a viable business tool (Venkatesh & Davis 2000; Gates 1999) might positively moderate the relationship between IAC and IPSME.

This chapter has reviewed the literature with regard to relevant theories of learning with respect to their influence on behaviour in general and adoption and use of web-based technologies in particular with the aim of generating some understanding into the factors which might explain SME owners' use of social media in their work life. The preceding sections have demonstrated how complex an issue this is. Numerous information

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technologies, socio-economic, technological innovations, situational and cognitive psychological variables can all have an impact on an individual's decision-making – both as they effect motivation and how those motivations are then prioritized. At this point, and having drawn the preceding variables from literature, attention is directed to the next chapter which contains the conceptual framework.

## Chapter 3: A Conceptual Framework: Individual Performance in SME (IPSME)

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### 3.1 Overview of the Chapter

The literary summary in the previous chapter demonstrates that although authors have spent time defining web-based technologies and the types (Baxter 2015; Kaplan & Haenlien 2010; Gates 1999) and defining absorptive capacity in diverse contexts (Helfat & Peteraf 2014; Grégoire, Barr & Shepherd 2010; Cohen & Levinthal 1989), there is less investigation of absorptive capacity at the individual level. There is also less research exploring whether individual absorptive capacity leads to improved individual performance in the SME. This presents two aspects of research which are important. Firstly, the awareness of absorptive capacity at the individual level is somewhat unknown. It would be advantageous to study the influence of individual SME owners' past experience, knowledge, and cognition using social media on her/his current social media use in the workplace and to understand how this can best be undertaken. Secondly, the influence of absorptive capacity at the individual level leading to improved individual performance in the SME is not something which has been studied. This leads to the first research question which examines whether individual absorptive capacity has any effect on individual willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool. To provide some answers to this question, Chapter 3 demonstrates how this research treats individual willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool as mediating variables. More specifically, this research explores how the antecedents of individual absorptive capacity effect willingness to follow a technologically-enabled trend and

individual predisposition toward accepting social media as a viable business tool. As an alternative explanation this research has willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool as mediating variables leading toward improved individual performance in the SME. Secondly, it is worthwhile to explore their potential influence as moderating variables. This research explores why the relationship between individual absorptive capacity and individual performance in the SME is and how this is the case and this is what drives the next section.

**3. 1. 1            The Mediating Effect of Willingness to Follow a Technologically Enabled Trend and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool leading toward improved Individual Performance in the SME.**

*Research Question 1: What influence, if any, has individual absorptive capacity on willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool leading to improved individual performance in the SME?*

Grégoire, Barr & Shepherd (2010) point out that when a person encounters a new technology, her/his first instinct is to ask whether anything in this new object resembles anything s/he has seen before. In turn, the individual builds on the similarities s/he has observed to better understand the new object. This suggests a relationship between past experience and the individual's willingness to follow a technologically enabled trend and predisposition toward accepting social media as a viable business tool. This leads to consideration of mediating and moderating hypotheses because the method focuses on the process by which variables are related to one another. Mediators explain how

external physical events take on psychological significance and may account for differences in people's behaviour. Mediators address the mechanisms by which an effect occurs and speak to how or why such an effect occurs. Moderators provide information on the circumstances under which effects are present. Moderators specify when certain effects will hold. The next section addresses mediating hypotheses to explore the process by which antecedents of individual absorptive capacity effect willingness to follow a technologically-enabled trend and predisposition toward accepting social media as a viable business tool.

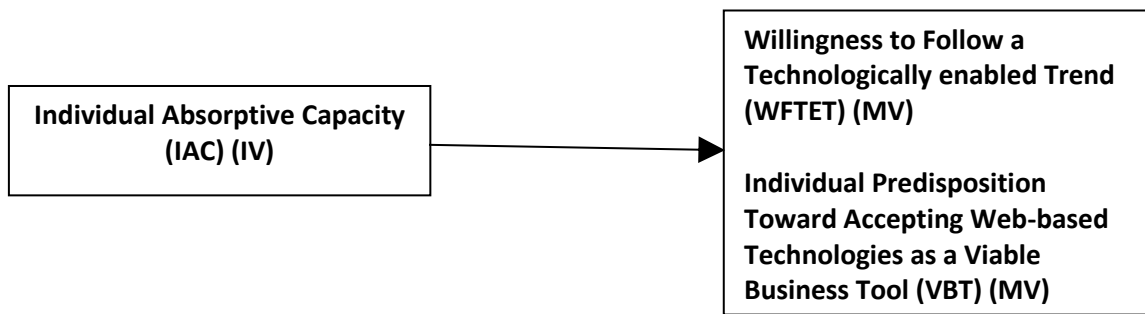
### **3. 1. 1. 1 Mediating Hypotheses**

Figure 1 illustrates the mediation model using a path diagram where independent variable is individual absorptive capacity and mediators are willingness to follow a technologically enabled trend and individual predisposition to accept social media as a viable business tool. Figure 2 illustrates the mediation model using a path diagram where mediators are willingness to follow a technologically-enabled trend and predisposition to accept social media as a viable business tool and outcome variable is improved individual performance in the SME. The following sub-sections address mediating variables to explore the process by which antecedents of individual absorptive capacity effect willingness to follow a technologically enabled trend and predisposition to accept social media as a viable business tool.

**3. 1. 1. 1. 1 Individual absorptive capacity influences willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.**



**Figure 1.**



The antecedents of individual absorptive capacity being past experience, past knowledge, and cognition (learning) inform Grégoire, Barr & Shepherd (2010) to suggest that the individual's prior experience shapes her/his perceptions of new experiences. This opens up the possibility for exploring past social media usage to see whether the individual's past experience using social media is linked to willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool. In the case of SME owners, for instance, it may be that the individual's past experience using social media is perceived as positive, pleasant and easy. If the past experience was positive, then positivity may influence the individual's willingness to follow a technologically-enabled trend; conversely, if the past experience was difficult, unpleasant, or negative then negativity may influence unwillingness to follow a technologically-enabled trend. As meanings emerge from the past experience (Weik 1979), it would make sense that the individual SME owner would utilize the meanings to then consider whether the feedback from previous experiences will influence various beliefs and, consequently, future behavioural performance (Venkatesh, Thong & Xu 2012). Given that past experience shapes the individual's perceptions of new opportunities it would make sense that perceptions formed about new opportunities

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would impact on both willingness to follow a new technologically enabled trend and predisposition toward accepting social media as a viable business tool.

It is hypothesized that:

*H1a. Past experience positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*

Given that existing research shows that because distribution of knowledge in society is not uniform, prior knowledge helps explain why some individuals are able to recognize particular opportunities that others simply do not see (Dimov 2008; Corbet 2005). The studies done by Dimov (Ibid.) and Corbet (Ibid.) infer that prior knowledge provides a basis from which to interpret – and use – new information. Grégoire, Barr & Shepherd (2010) point out that an individual's prior knowledge about social media usage usually influences her/his willingness to follow a technologically enabled trend and her/his predisposition toward accepting social media as a viable business tool.

It is hypothesized that:

*H1b. Past knowledge positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*

The term 'cognition' refers to the mental processes of learning, knowing, remembering and reasoning (Ormrod 2014). According to Helfat and Peteraf (2014) cognition also refers to the contents of the processes (such as concepts or memories). Grégoire, Barr & Shepherd (2010) refer to cognition as the process of obtaining knowledge through

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learning, experience, thought, and the senses. Given that cognitive capabilities can improve through practice, it would make sense that practice can improve the speed and smoothness of the individual's mental processes which, in turn, can raise the internal phenomenological awareness of the individual and, in turn, influence her/his willingness to follow a technologically enabled trend and predisposition toward accepting social media as a viable business tool.

It is hypothesized that:

*H1c. Cognition positively impacts willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.*

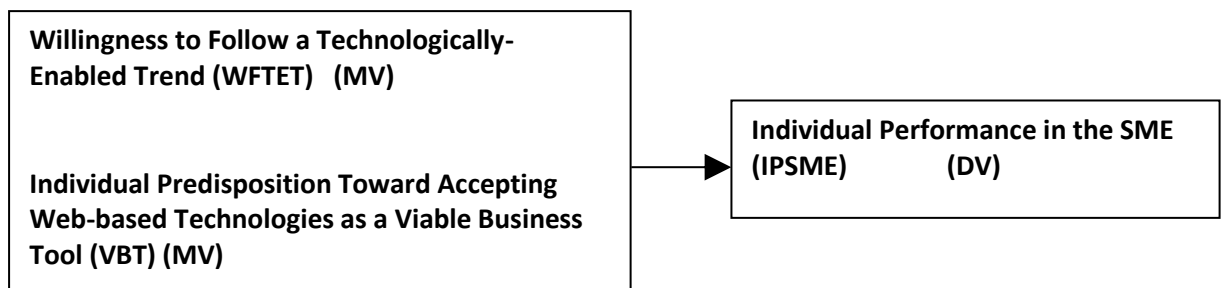
The components of individual absorptive capacity having been established are next examined for hypothesized effect on willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool.

Established examples of behaviour include: pursuit of a new opportunity (Grégoire, Corbett & McMullen 2011), make sense of signals of change (Helfat & Peteraf 2014), communicate, cooperate, collaborate, and connect with others (Cook 2008), hedonic motivation (Venkatesh & Davis 2000), recognizing the value (Ibid.), personal curiosity and personal motivation (Colquitt & Simmering 1998), perceived ease of use (Davis 1989), and voluntariness of use (Venkatesh & Davis 2000). Further, the resources of past experience, knowledge, and cognition are vital to the workings of most SMEs. Gates (1999) posited that the aforementioned resources are powerful enablers that allow the individual to perceive and respond to her/his environment, to sense competitor challenges, to anticipate customer needs and act with insight. Given that individual absorptive capacity is hypothesized to effect individual willingness to follow a technologically enabled trend

and predisposition toward accepting social media as a viable business tool influence it would make sense that these two effect individual performance in the SME.

**3. 1. 1. 1. 2 Willingness to follow a technologically enabled trend and individual predisposition toward accepting social media as a viable business tool positively impacts individual performance in the SME (IPSME).**

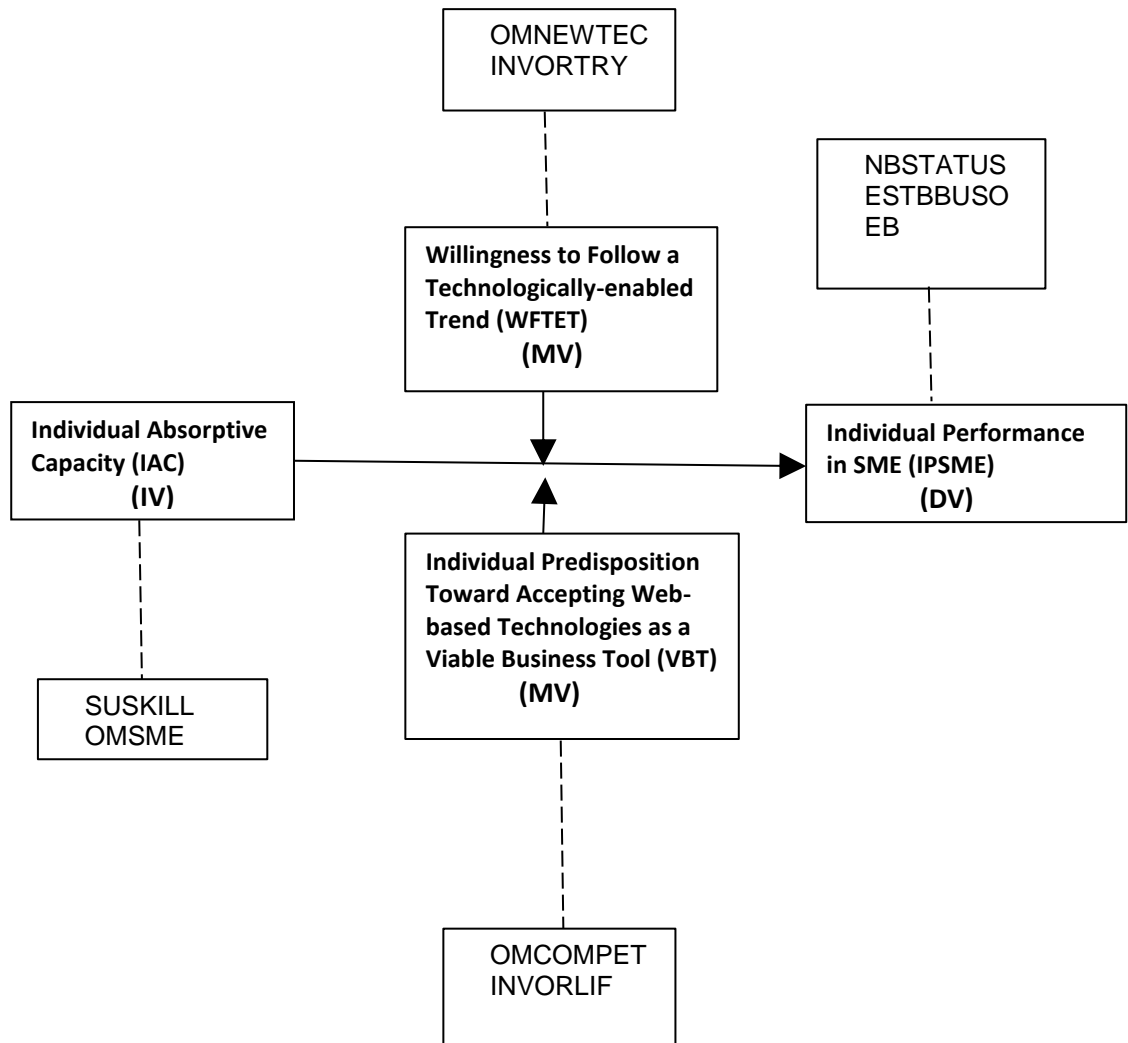
**Figure 2.**



The following subsection addresses moderating variables to explore the process by which individual absorptive capacity effects individual performance in the SME but might be moderated by willingness to follow a technologically-enabled trend and predisposition toward accepting social media as a viable business tool.

3. 1. 1. 2 Moderating Hypothesis

Figure 3.



In studying the process by which individual absorptive capacity influences individual performance in the SME, previous research on characteristics of entrepreneurs is followed because personal attributes are generally associated with entrepreneurial outcomes in SMEs (Ahlin, Drnovšek & Hisrich 2014; Baron & Tang 2011; Hornaday & About 1971). Firstly, the descriptions of entrepreneurs as creative clever innovative

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individuals who see opportunities and/or problems which others do not see (Ahlin, Drnovšek & Hisrich 2014).

They often have plenty of ideas for improvements of processes and/or problem solving that are quite original (Baron & Tang 2011). Crossan, Lane & White (1999: 526) point out that “entrepreneurs are able to make novel connections, perceive new or emergent relationships, and discern possibilities that have not been previously identified.” Similarly, Baron (2004) points out that many entrepreneurs seem to excel at opportunity recognition and then act with insight to achieve better personal outcomes in their SME. The opportunity recognition means they seem able to recognize patterns (trends) among events, data and experiences (Dane & Pratt 2007; Covin 2002). Further, they allow freedom or autonomy in the conduct of work and provide challenging interesting work for their employees while at the same time providing specific clear overall strategic goals and formation of work teams by drawing together individuals with diverse skills and perspectives (Amabile, Conti, Coon, Lazenby & Herron 1996).

Secondly, the description of entrepreneurs as ambitious (i.e., showing initiative, surgency, ambition, and persistence) and sociable (expressive and active) (Barrick & Mount 1991; Hogan 1986). In general small enterprises are short of resources, capital and expertise which the ambitious entrepreneur can recognize as opportunities for behavioural persistence in working toward achieving her/his desired outcomes. Established entrepreneurs are known to demonstrate behavioural persistence and high commitment toward the ongoing success of their enterprise during times of economic turbulence, industry unpredictability, or market disequilibria (Davidsson & Gordon 2015; Hoang & Gimeno 2010). This means for instance that in spite of setbacks and difficulties the

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entrepreneur will continue to believe in her/his ability to access additional funding (tangible resource) or to increase her/his visibility through reputation building marketing endeavours (intangible resource) (Caminiti & Reese 1992; Dutot & Bergeron 2017; Nakra 2000) with consumers within the community, and so forth.

Thirdly, the description perceives entrepreneurs as conscientious (i.e., conscience) (Barrick & Mount 1991) and possessing a will to achieve (Digman 1990) or work (Peabody & Goldberg 1989). Conscientiousness reflects dependability; that is, being careful, thorough, responsible, organized, and strategic in planning (Baron & Tang 2011; Barrick & Mount 1991). Because of the association with volition, conscientious entrepreneurs are considered hardworking, achievement oriented and persevering (Botwin & Buss 1989). Conscientiousness links to job performance because of characteristics of persistence, carefulness, being responsible, hardworking, and planning (Ahlin, Drnovšek & Hisrich 2014), which are important attributes for accomplishing work tasks in all jobs. More specifically, entrepreneurs with a strong sense of purpose, obligation and persistence generally experience better personal outcomes in their SMEs than those who do not (Bullough, Renko, & Myatt 2014; Hoang & Gimeno 2010; Barrick & Mount 1991).

Fourthly, the description of entrepreneurs perceives them as open to experience or culture (Davidsson & Gordon 2015; Barrick & Mount 1991; Digman 1990). More specifically, entrepreneurs are described as being imaginative, cultured, curious, original, broad-minded, intelligent, and artistically sensitive, which are attributes associated with positive attitudes toward learning experiences (Kaplan & Haenlein 2010; Gray 2006; Barrick & Mount 1991).

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Fifthly, entrepreneurs are described as high in self-efficacy because of its close links to important entrepreneurial outcomes (Ahlin, Drnovšek & Hisrich 2014; Hmieleski & Corbett 2008) such as motivation, personal independence (DeCarlo & Lyons 1979), and being successful. Entrepreneurial self-efficacy refers to the strength of a person's beliefs that s/he is capable of successfully performing the various roles and tasks of entrepreneurship (Ahlin, Drnovšek & Hisrich 2014; Chen, Greene & Crick 1998). That is, the person knows s/he has what it takes to be a successful entrepreneur and is willing to accept the moderate calculated risks intrinsic to self-employment (Segal, Borgia & Schoenfeld 2005). Individuals with strong entrepreneurial self-efficacy beliefs are likely to associate challenging situations with intangible future outcomes such as name recognition and community recognition (Hisrich & Brush 1984), independence and effective leadership (DeCarlo & Lyons 1979), reputation building and social influence (Sarasvanthy & Dew 2008), increased personal motivation (Colquitt & Simmering 1998), and the goal of personal success. Why? Because entrepreneurial self-efficacy is concerned with learning from past experiences and relating new information to what is already known, as well as with the judgements regarding what could be done in the future (Ormrod 2014; Yang & Cheng 2009). And also because empowered entrepreneurs feel self-efficacious, they are more likely to be innovative in their work and expect success to be their personal outcome.

Why do the personal attributes of entrepreneurs matter? What do the attributes allow the entrepreneur to do in the SME? The personal attributes are the "means" (Fischer & Reuber 2011: 4) the entrepreneur believes s/he has available and the effects that might be achieved with those means. The personal attributes are referred to as "intra-subjective cognitions" by Fischer and Reuber (2011: 4) in the sense that they are important



awareness's (insights) the entrepreneur has about her/himself. Those insights – the entrepreneur believes – are relevant in achieving her/his goal. The insights might not be known to other people or agreed with by other people (Ibid.) but can be sources of acumen or understanding that are of central interest to the entrepreneur, nonetheless, because of their influence on her/his individual personal goals and objectives (Sarasvanthy & Dew, 2008). In short, the entrepreneurial personal attributes are the link between individual absorptive capacity and individual performance in the SME.

The next sub-section draws from previous literature in order to consider the moderating effects of willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool on the link between individual absorptive capacity and individual performance in the SME.

*Moderating Variable: Willingness to Follow a Technologically-Enabled Trend (WFTET)*

The result of Fischer and Reuber's (2011) qualitative study shows that the use of social media (Twitter) has had a positive moderating effect on the linkage between reputation and influence in at least two ways. First, entrepreneurs willing to use Twitter for social interaction were more likely to be "open to expanding their social network and engaging with members of the expanded network" than entrepreneurs not using Twitter for social interaction (Ibid. 3). The term for this type of openness is 'community orientation' (Fischer & Reuber 2011 3). Second, the extent to which an entrepreneur adheres to the norms that have evolved in using Twitter the more likely s/he is to increase her/his influence and grow her/his business reputation. The term for this is 'community norm adherence' (Ibid.).

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The results of Gray's (2006) quantitative study showed that education and training have a positive moderating effect on the connection between use of innovative technology and SME growth. Specifically, entrepreneurs with higher academic, professional and technical education and training continue to attend, and provide their staff with a wider range of business development courses, opportunities and activities (Ibid.).

The results of Ndubisi, Jantan and Richardson's (2001) quantitative study showed that perceived usefulness has a positive moderating effect on the relationship between perceived usage of information technology and actual usage by the entrepreneur. Specifically, entrepreneurs actually using social media in their enterprise continue to perceive it as useful (Ibid.).

The results of Venkatesh, Thong and Xu's (2012) quantitative study showed that previous experience positively moderates the relationship between facilitating conditions (i.e., organizational support/training) and behavioural intention. Specifically, greater experience can lead to greater familiarity with the technology and better knowledge structures to facilitate user learning, thus reducing user dependence on external support (Ibid.).

The results of Li's (2013) qualitative study show that cognitive response (perceived usefulness and perceived ease of use) positively moderates the relationship between attitude and behaviour intention to use a particular information technology. The results indicate that when an individual spends more time using the technology and experiences the benefits of the technology, the individual will have more opportunity to feel that the technology is interesting and controllable (Ibid.).

*Moderating Variable: Individual Predisposition Toward Accepting Social Media as a Viable Business Tool (VBT)*

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The results of Yi, Jackson and Park's (2006) quantitative study show that personal intention to use information technologies positively moderates the relationship between perceived ease of use and perceived usefulness. Specifically, when an innovation generates job relevant results that are readily discernible and easily accessible then the user is inclined toward accept the innovation as a strategic business tool (Ibid.).

The results of Lichtenthaler's (2009) study show that technological and market turbulence positively moderate the effect of absorptive capacity on innovation and performance. The result indicates that in turbulent environments, firms tend to strongly rely on external knowledge as a source of learning. External knowledge can be accessed through social interactions with others via social networking sites like Facebook, LinkedIn, or Twitter (Ibid.).

The results from the above mentioned studies provide evidence supporting the moderating effects of individual variables on performance outcomes and therefore the following is proposed.

It is hypothesized that:

*H2. Individual absorptive capacity influences individual performance in the SME but might be positively moderated by willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool.*

One objective of this chapter was to further develop the construct called individual absorptive capacity (IAC) and articulate why it is linked with individual performance in the SME. Further, this chapter articulated that personal attributes matter to entrepreneurs because the attributes are the means by which personal goals and objectives become outcomes. The link between individual absorptive capacity and individual performance in

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the SME have been hypothesized to be positively influenced by willingness to follow a technologically-enabled trend and individual predisposition to accept social media as a viable business tool. The next chapter will discuss the methodological approach taken in this research.

## Chapter 4: Methodology

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### 4. 1 Overview of the Chapter

The chapter proceeds as follows. In section 4.2 the fundamental assumptions for the study of individual use of web-based technologies are explained. In section 4.3 mixed methods sequential study is explained. In section 4.4 the differences between qualitative and quantitative methods are explained. In section 4.5 the natural settings or process are introduced and identified as being the most appropriate approach for conducting in-depth semi-structured interviews. In section 4.6 the objectives of the semi-structured interviews are introduced and analysed. In section 4.7 the significance of the sample to the overall research design is explained. In section 4.8 the meaning and brief description of case studies are given. In section 4.9 the analytic tools of microanalysis are explained. In section 4.10 the codes and types of coding are explained.

### 4. 2 Fundamental Assumptions in the Study of Individual Use of Web-based Technologies

The fundamental assumptions in the study of individual use of web-based technologies require an exploration of the individual enterprise owner's use of web-based technologies. This exploration also requires an understanding of how individual cognitive structures and problem solving influence particular activities. It also involves the recognition of opportunities to take in order to remain relevant and stay competitive. This involves exploring the constructs underlying individual learning (Cohen & Levinthal 1990).

Thus, in keeping with a pragmatist perspective (Creswell 1994), a mixed methods sequential exploratory approach is appropriate for exploring a phenomenon (Doyle, Brady & Byrne 2009). The phenomenon to be explored is the 'individual absorptive capacity'

(Lane, Koka & Pathak 2006 838) of the SME owner. This current research establishes that the construct individual absorptive capacity is comprised of three antecedents: past experience (Gregoire, Barr & Shepherd 2010), past related knowledge (Bower & Hilgard 1981; Ellis 1965), and cognition (learning – up to current) (Helfat & Peteraf 2014).

#### **4.3 Mixed Method Sequential Exploratory Approach**

The mixed methods sequential exploratory approach fits with an approach advocated by Tashakkori and Teddlie (2006 380): in an exploratory design, the researcher ‘builds from qualitative findings to collecting and analysing quantitative data’ in order to quantitatively measure the initial findings. Therefore, in true mixed methods, data integration starts at the research question(s) and continues throughout until inferences are made based on the qualitative and quantitative data analysis and results.

#### **4.4 Differences Between Qualitative and Quantitative Methods**

The main differences between qualitative and quantitative methods are three-fold. First, qualitative methods consist of the collection, analysis and interpretation of narrative or pictorial forms of data. Examples of those include interviews, journals, and videos (Strauss & Corbin 1998). Second, qualitative methods produce findings arrived at by “a nonmathematical process of interpretation, carried out for the purpose of discovering concepts and relationships in raw data and then organizing these into a theoretical explanatory scheme” (Strauss & Corbin 1998 11). Third, in contrast, quantitative methods consist of the collection, analysis and interpretation of statistical and other numerical data (Polit, 2010). Common examples of those include Cohen’s *d*, Pearson’s correlation coefficient, and regression (Fields 2013; Venkatesh & Davis 2000). The research under discussion uses Pearson’s correlation coefficient and regression among other tests in

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order to examine the strength and direction of the relationships between numerical data (i.e., variables) (Fields 2013). This strength and direction can also be referred to as mediation and/or moderation. The Global Entrepreneurial Monitor (GEM) website is the primary source of those variables which are used as proxies and then tested for mediation/moderation. The GEM data is the lens through which the conceptual framework is examined. The following chapter introduces the data and sample from GEM.

In regard to collecting, analysing, and interpreting the narrative data two complementary qualitative approaches have been used. First, content analysis, Strauss and Corbin's (1998) analytic technique of asking questioning, coding, making comparisons, and theoretical sampling. Second, is Miles & Huberman (1994 2, 3) who have drawn on the use of matrices in order to establish "credible, dependable, and replicable" methods" of "doing analysis" of qualitative data. The research under discussion uses semi-structured interviews of individual SME owners in order to gather data (Lindgren & Packendorff 2009). This data reflects examples of similar phenomenon in different places and is used for comparing incident to incident for similarities/differences (Strauss & Corbin 1998; Miles & Huberman 1994). These similarities/differences can also be referred to as properties or dimensions. The Technology Acceptance Model (TAM) (Venkatesh & Davis 2000; Davis, Bagozzi & Warshaw 1998) is a primary source of those properties and dimensions and is used for comparative purposes against the interview data. Secondary sources include UTAUT (Venkatesh, Morris, Davis & Davis 2003) and UTAUT2 (Venkatesh, Thong & Xu 2012).

Interview data for this research have been derived from a study that involved field research in 40 UK firms over a period of one year. Within each firm one semi-structured

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interview has been conducted with the owner; these interviews were recorded, transcribed, and verified (see Chapter 5, Section 2 for additional information on how and why specific data was selected).

Following preliminary coding, the researcher began examining SMEs for data verified as involving 'individual absorptive capacity'. The conceptual definition of individual absorptive capacity (past experience, past related knowledge, and learning – up to current) concerned a response to a phenomenon (resulting in personal efficiencies increasing, influencing/managing effectively their credibility and, reputation). Exploring the interview transcripts for the terms past experience, past related knowledge, cognition or learning, social media trends, social media as a viable business tool, and reflection or insight, the researcher re-evaluated whether the original coding remained salient for the purpose of exploring why SME owners use social media in their workplaces.

To ensure alignment between the sample and the research question, five cases were selected on the following two basis. First, that the researcher was satisfied that there were sufficient data to establish the use of social media by the business owner in the enterprise.

Second, the narrative account by the enterprise owner for each case refers to Phenomenology (i.e., the acceptance of first-hand experience as it is found in the human conscious), the resulting behaviour (i.e., the business owner's use of social media in the workplace), and thus the potential to contribute to learning theory (Hilgard 1974). In the next section the introduction is provided of the natural settings. Additionally, the processes of the semi-structured interviews is given. Chapter 5 introduces the SME case studies and data.



#### **4.5 Introduction of the Natural Settings and Processes of the Semi-Structured Interviews**

Natural settings and processes of the semi-structured interviews is an appropriate way to get out into the field to find out what people are doing and what they are thinking. Morse and Richards (2002) assert that the in-depth semi-structured interview approach is appropriate if the purpose is to learn from the participant - in a setting or process - the way the individual experiences the phenomenon, the meaning put on it, and how the individual interprets what is experienced.

For this research, the settings were the five firms operating in the Southeast area of the United Kingdom (Appendix p. 163). Of the five firms, two meet classifications required under the term 'new business status' (NBSTATUS is proxy for IPSME in this research) because they have been established 42 months or less; three firms meet classification requirements under the term 'established businesses' (ESTBBUSO proxy for IPSME) because they have been established for more than 42 months (GEM Adult Population Survey, 2011: Qi7, Q209). Within each firm, 1 in-depth interview was conducted with the owner and took approximately 1.5 hours. Interviews were recorded, transcribed and verified.

#### **4.6 Objectives of the Semi-Structured Interviews**

The objectives of the interviews are four-fold. First, gather data on the same phenomenon from multiple viewpoints. Second, obtain various meanings and interpretations of events, inter/actions, and objects in order to build these variations into theory. Third, compare these various interpretations against alternative explanations. Fourth, discover properties and dimensional ranges of relevant concepts.

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The four objectives are to be accomplished in the following four ways. First, by investigating the individual SME owner's use of social media in her or his work place. Second, by exploring whether individual absorptive capacity (IAC) influences willingness to follow a technologically –enabled trend and individual predisposition toward accepting social media as a viable business tool. Third, exploring whether willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool influences individual performance in the SME. Last, by examining whether individual absorptive capacity effects individual performance in the SME but might be positively moderated by willingness to follow a technologically-enabled trend and predisposition toward accepting social media as a viable business tool.

### **4.7 Significance of the Sample to the Design**

The significance of the sample to the design is five-fold. First, the qualitative sample consists of five individual SME owners nested in the context of their workplaces and studied in depth about their use of social media (Table 4.1). The choosing of the SME owners has been according to cognitive theory of learning (Burns 1995) and iterations of TAM (Venkatesh & Davis 2000; Davis, Bagozzi & Warshaw 1998).

Burns' (1995) theory emphasizes the importance of individual experience, meaning, problem-solving and development of insights. It also developed the concept that individuals have different needs and concerns at different times as well as subjective interpretations in different contexts (Burns 1995). Hence, as part of the analytic process within each SME, non-statistical sampling has been conducted for properties and dimensions of certain learning processes at the level of the individual and across cases for generalizability (Firestone 1993).

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TAM (Davis 1989; Davis, Bagozzi & Warshaw 1998) and TAM2 (Venkatesh & Davis 2000) theorize perceived ease of use and perceived usefulness as being the beliefs by which an individual's behavioral intentions to use an Information Technology (IT) system are determined.

Perceived ease of use is "the extent to which a person believes that using a system will be free of effort" (Venkatesh & Davis 2000 187). Perceived usefulness is "the extent to which a person believes that using the system will improve his or her job performance" (Ibid.). These mean that the sample is theoretically-driven, purposive (Miles & Huberman 1994; Kuzel 1992), heterogeneous, and representative to guarantee the external validity, so the results could be generalized (Ali et al 2013).

Second, the initial choice of informants has led the researcher to similar and different informants (Table 4.1: Descriptive Results ) (Yin 1991; Goetz & Lecompte 1984, cited in Merriam 1988).

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**Table 4.1 Descriptive Results**

Construct	GEM Proxy	SME Name <sup>a</sup>	Mean	SD	Number
IAC (Individual Absorptive Capacity)	SUSKILL	EventCo, GraphicCo	.85	.356	169
		CompuCo, PRCo, SalonCo	.83	.373	169
IPSME (Individual Performance in the SME)	NBSTATUS	EventCo, GraphicCo	.72	.448	169
	ESTBBUSO	CompuCo, PRCo, SalonCo	.78	.419	169
	EB	EventCo, GraphicCo, CompuCo, PRCo, SalonCo	.48	.501	169
WFTET (Willingness Toward Following a Technologically-enabled Trend)	OMNEWTEC	EventCo, GraphicCo, CompuCo, PRCo, SalonCo	2.88	.365	169
	INVORTRY	EventCo, GraphicCo, CompuCo, PRCo, SalonCo	2.99	1.303	169
VBT (Individual Predisposition Toward Accepting Social Media as a Viable Business Tool)	OMCOMPET	EventCo, GraphicCo, CompuCo, PRCo, SalonCo	1.49	.596	169
	INVORLIF	EventCo, GraphicCo, CompuCo, PRCo, SalonCo	3.04	1.295	169

Source: (Author's own, 2016)

<sup>a</sup> Company pseudonym in columns.

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Interviewing and observing one enterprise owner with another – Wherein each individual uses social media in her or his enterprise - invites a priori theoretical comparisons and constant comparisons. These comparisons are important for discerning differences in the properties, categories, and patterns found in the data (Strauss & Corbin 1998; Miles & Huberman 1994).

Fourth, the companies were given pseudonymous names to represent the industry in which they are located. The benefit to doing this is to demonstrate the diversity of theoretical application (Table 4.1; \*\*Note: approximate annual revenue column does not reflect owners' salaries as none have been drawn; funds were reinvested back into the enterprises).

Third, this approach is valuable for enriching and explaining why the relationship between individual absorptive capacity and individual performance in the SME is and how this is the case (Appendix p. 149).

Fifth, divergent companies were selected across business disciplines and are indicative of greater representation within the industries. These cases embody a specific point but are also evidence of points across a greater body of business disciplines and are not niched into just one industry.

### **4.8 Meaning and Brief Description of Case Studies**

The meaning of case studies is two-fold. First, a case is defined as a phenomenon of some sort occurring in a bounded context (Miles & Huberman 1994). The case is, in effect, the researcher's unit of analysis. Second, case study is a form of qualitative research that consists of the collection, analysis and interpretation of narrative forms of data about the case (Polit 2010).

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Case study is described as an opportunity for the researcher to explore or describe one or more cases in context and define the boundary of the territory (Bryman 2014). The cases are explored not through one lens but rather through a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood. The researcher explores individuals or organizations, simple through complex interventions, relationships, communities, or programs (Yin 2013) and supports the deconstruction and subsequent reconstruction of various phenomena (Bryman 2014).

Hence, for this study under discussion, multiple case studies complement the overall picture in answering the core objectives of the overall question by enriching and explaining why the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME) is and how that is the case. This research examines multiple cases of the phenomenon of individual SME owners' use of social media. Industries have sectors; sectors have businesses; businesses have owners; owners are individuals, and individuals use social media.

### **4.9 The Analytic Tools of Microanalysis**

The analytic tools of microanalysis are the following seven factors. The first three are foremost: first, the data, be they respondents' accounts of, texts, observations, videos, or similar gathered by the researcher; second, the actors'/observers' interpretations of those actions, events, and occurrences; and third, the exchange which takes place between the researcher and the data in both gathering and analysing data.

The fourth and fifth analytic tools go hand-in-hand: asking questions and making comparisons. For the development of theory, those two operations are essential. Sixth, theoretical sampling which is "sampling on the basis of emerging concepts, with the aim

being to explore the dimensional range or varied conditions along which the properties of concepts vary” (Strauss & Corbin 1998 73).

Seventh, open and axial coding: open coding is “the analytic process through which concepts are identified and their properties and dimensions are discovered in the data” (Strauss & Corbin 1998 101), and axial coding, termed “axial” because “coding occurs around the axis of a category, linking categories at the level of properties and dimensions” (Strauss & Corbin 1998 123).

The eighth analytic tool is its free flowing non-static creative process. These allow the analyst to “move quickly back and forth between types of coding, using techniques and procedures freely and in response to the analytic task before the analyst” (Strauss & Corbin 1998 58).

#### **4.10 Codes and Types of Coding**

The list of codes includes the GEM proxies (Table 4.3) and reflects the analysis given to differentiate and combine the transcribed content from interviews with the five SME owners at their workplaces and reflections made about that information. The codes have been used for assigning units of meaning to the words, phrases, sentences, and paragraphs in the written up field notes (Strauss & Corbin 1998; Miles & Huberman 1994). The codes take the form of straightforward category labels (i.e., descriptive; e.g., External Context: EC), inferential and explanatory labels (i.e., interpretive; e.g., GV-MOT/PRIV), and more complex labels (i.e., metaphor; e.g., EP-EXP/MET).

For purposes of this study, “it is not the words themselves but the meaning that matters” (Manning 1987 35). Bliss, Monk, and Ogburn (1983) point out that a word, phrase,

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sentence, or paragraph does not “contain” its meaning as a bucket “contains” water, but has the meaning it does by being a choice made about its significance in a given context. That choice excludes other choices that could have been made to “stand for” that word or phrase, and that choice is embedded in a particular logic or a conceptual lens. Hence, for this study, the choice is embedded in the logic of cognitive psychology to enrich and explain what creates or originates (why) the relationship between individual absorptive capacity and individual performance in the SME is and why this is the case.

In this study, questions have been asked about the SME owners’ motives for using social media and more specific questions about whether these motives were performance centered (e.g., whether individual SME owners thought they could increase their job - related performance and productivity) (Venkatesh, Thong & Xu 2012; Venkatesh & Davis 2000; Davis 1989; Davis, Bagozzi & Warshaw 1989). The previous sentence articulates an a priori idea of a possible relationship embedded within cognitivism which is discussed later in the chapter.

During data collection some inkling has been seen of a relationship between the motives questions and two others: an attitude question (whether the SME owner has had a willingness to follow a technologically – enabled trend) and a centrality question (whether predisposition toward accepting social media as a viable business tool loomed larger than other tasks in the daily life of the SME owner) (Appendix 4.4 p. 154). The questions about attitude and centrality will be discussed more fully in Chapter 6, which also contains the Case Studies. Prior to that, and last in this chapter, is the Chapter 5 GEM data and sample.



## Chapter 5: Data and Sample

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### 5.1 Overview of the Chapter

In this chapter the Global Entrepreneurship Monitor (GEM) is introduced and identified as one of the most appropriate sources from which to draw sample data and variable measures for use in this research. In section 5.2, the intent and design for the research is explained. In section 5.3., the design and purpose for the GEM study are explained. In section 5.4., the purpose of the Individual National Teams is explained. In section 5.5., the reasons behind the National Experts Survey (NES) are discussed. In section 5.6., the elements of the Adult Population Survey (APS) are provided. In section 5.7., the purpose for the GEM Database is discussed. In section 5.8., details about the sample data and variable measures are provided. In section 5.9., the processes for how to test for mediation and moderation are discussed.

### 5.2 Intent and Design for this Research

The intent and design for this research included tests for mediation and moderation. To that end a large sample population was gathered ( $n = 40$ ). As the project unfolded the process was corrupted twice, once in 2015 and once in 2016. Both times were the result of technical or software errors that reduced not only the sample size but also the correlative ability required for mediation and moderation. The sample size reduced to 11% of the original population ( $n = 40$ ). (Please see Appendix Chapter 4 Hierarchical Multiple Linear Regression Analysis 1 p. 175 for further content on this topic.)

### **5.3 Design and Purpose of the GEM Study**

GEM was designed as a comprehensive multi-country initiative with the objective of facilitating cross-country assessment and comparison of entrepreneurial activity in a nation's economic growth by using the same measurement approach in all countries involved in the study (Reynolds, Bosma, Autio, Hunt, DeBono, Servais, Lopez-Garcia & Chin 2005). Initiated in 1997, GEM has expanded to over 80 participating countries in the past decade (Lepoutre, Justo, Terjesen & Bosma 2013).

The design of the GEM conceptual model proposes relationships between established and new business activity and economic growth at the national level. It also proposes antecedents of these two forms of business activity. The GEM model is important because it guides how data is collected and analysed by the individual national team of volunteers and it reflects a wide range of factors associated with national variations in entrepreneurial activity and the major contextual features. Empirical tests of the many relationships in the model required four data collection activities: adult population surveys (APS), unstructured interviews with national experts, self-administered questionnaires completed by national experts (NES), and the assembly of relevant standardized measures from existing cross-national data sets.

What is GEM's purpose? The purpose is to study the behaviour of individuals with respect to starting and managing a business. Why is the study important? It is widely acknowledged that entrepreneurship is one of the most important forces shaping the changes in the global economic landscape (Glaeser, Kerr & Kerr 2013; Thompson, Jones-Evans & Kwong 2009; Levie & Autio 2008; Levie 2007; Reynolds, Bosma, Autio, Hunt, DeBono, Servais, Lopez-Garcia & Chin 2005; Shane & Venkataraman 2000). And GEM

provides a fundamental understanding of the mechanisms between entrepreneurship and national economic growth by assembling relevant harmonized cross national data on an annual basis.

#### **5.4 Purpose of the Individual National Teams**

GEM is formed of a consortium of individual national teams, and each national team is led by an academic institution. Because the individual entrepreneur in her/his individual country is considered to be the basic unit of analysis for the GEM initiative, the team is the official national representative of the project – responsible for collecting GEM data in the country on an annual basis and producing a National Report of their findings – and acting as the point of contact for any GEM enquiries.

#### **5.5 Reason for the National Expert Survey (NES)**

The NES is the basic model utilized to develop the GEM envisioned characterization of countries in terms of nine dimensions referred to as entrepreneurial framework conditions (EFC) (Reynolds et al. 2005). The nine dimensions include: i) entrepreneurial finance, ii) government policy, iii) government entrepreneurship programs, iv) entrepreneurship education, v) R & D transfer, vi) commercial and legal infrastructure, vii) entry regulation, viii) physical infrastructure, and ix) cultural and social norms. The nine dimensions were designed to complement the eight characteristics that were developed as part of the Global Competitiveness Index (GCI) research program (Schwab & Sachs 1997, 1998). The eight GCI characteristics include: “domestic economic openness, share of gross domestic product (GDP) spent by government, finance, infrastructure, technology, management, labor, and civil institutions” (Hanke & Walters 1997 16).

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The entrepreneurial framework conditions represent different aspects of the national context that were expected to enhance entrepreneurial activity but as Reynolds et al (2004) point out, a major problem remained, there were no harmonized indices or measures that could be utilized as single item or multiple item indices of these entrepreneurial framework condition. One solution was to create an independent procedure to develop these national context measures (Reynolds et al. 2005). It was considered “appropriate to use the informed judgements of national experts” regarding the status of entrepreneurship in their own countries (Ibid. 222). Hence, the survey is administered to a minimum of 36 experts chosen on the basis of reputation and experience. Efforts were made to ensure that experts with a substantial range of background and knowledge were chosen in each country (Reynolds et al. 2004). Personal interviews with the national experts had two components: an open ended review of the experts’ views on their countries contributions (strengths) and limitations (weaknesses) regarding what existing entrepreneurship policy and/or program changes would enhance the level of entrepreneurship in their country; this was followed by completion of a self-administered fixed response questionnaire.

### **5. 6 Elements of the Adult Population Survey (APS)**

There are three basic elements of the GEM measures of national entrepreneurial activity: i) the sample of respondents, ii) the interview schedule used to collect individual level data, and iii) the creating of indices and measures that reflect entrepreneurship as a national attribute. When combined, the three elements create the APS instrument which the GEM National Teams use to measure the level and nature of entrepreneurial attitudes, activity, and aspirations of individuals all over the world (Lepoutre et al. 2013).

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

The APS goal is to explore the role of the individual in the lifecycle of the entrepreneurial process. The focus is on business characteristics (Reynolds et al. 2004), the actions taken to start/run a business (Ibid.), and personal attributes and various forms of entrepreneurial activity (Thompson et al. 2009). More specifically, personal attributes looks at the SME owner's psychological factors of perceived capabilities and perceived opportunities, and the motivational aspects of necessity-based vs. opportunity-based employment (Ibid).

Annually GEM surveys representative population samples of at least 2,000 randomly selected adults in each participating country between May and August in the national language(s) and facilitates translation and back-translation of questions. In developed countries where the majority of the populations live in households with landline phones, the surveys are completed by using phones and a phone call is placed to an adult in the household on a weekday night or during the day on the weekend. In developing countries where the majority of the populations live in households without landline phones, the surveys are conducted using either face-to-face interview techniques or with the use of mobile phones. From each individual interviewed in the GEM sample, records are collected of gender, employment status, educational background, and household income. Once collected the APS data is weighted to reflect the national population and harmonized with the other countries by the GEM coordination team<sup>1</sup>.

### **5.7 The Purpose for the GEM Database**

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<sup>1</sup> Weights are based on age and gender structure for every country. Additionally, other characteristics such as education and ethnicity are captured in the weights, if appropriate. Most countries adopt a regional stratification to ensure that all regions are represented in the sample.

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

The GEM database is the consolidated master file comprised of all separate individual datasets which have been checked and harmonized, and as mentioned earlier, all individuals have been assigned the appropriate final weights (Reynolds et al. 2005). The use of the individual case weights, developed for each country, ensure that the final aggregate indicators are representative of the adult population in each country (Lepoutre et al. 2013).

### **5. 8 Sample Data and Variable Measures – UK only**

Sample data from the GEM Adult Population Survey (APS) Global Individual database consists of over 162,724 questions, many of which deal with parameters outside the scope of this present research. The sample data used for this study focuses only on the UK adult population. Of the sample data there are nine proxies (variables) that correspond to the research concepts. The nine variables are listed as follows in Table 5.1:

**TABLE 5.1 GEM Variables Used as Proxies for This Study – UK only (subset)**

<b>Question number</b>	<b>Statement</b>
i3. SUSKILL	Do you have the knowledge, skill and experience required to start a business.
i7. NBSTATUS	In your country, those successful at starting a new business have a high level of status and respect.
Q2A. OMSME	Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others.
2G2.OMCOMPET	Right now, are there many, few, or no other businesses offering the same products or services to your potential customers.
2G3.OMNEWTEC	Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years.
5W2.INVORTRY	In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.
5W3.INVORLIF	In the next 6 months, new products and services will improve your working life.
209. ESTBBUSO	Established business that is older than 42 months.
302. EB:	Any job now or in 5 years.

(Source: GEM Adult Population Survey 2011 1-44)

Table 5.2 shows the summary for all the variables used as proxies for this study – UK only.

**Table 5.2 Summary of Variables: Descriptive Statistics – UK only**

Question	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic   Std. Error	Std. Deviation Statistic
Country - UK	2,000	44	44	44.00   .000	.000
i3.	1,956	0	1	.41   .011	.493
i7.	1,857	0	1	.80   .114	.400
2A.	1,996	0	1	.14   .008	.345
2G3.	190	1	3	2.88   .026	.358
5W2.	1,272	1	5	2.82   .033	1.180
2G2.	193	1	3	1.54   .044	.612
5W3.	1,272	1	5	2.82   .033	1.180
209.	2,000	0	1	.08   .006	.265
302.	2,000	0	1	.05   .005	.214
Valid N (listwise)	169				

### 5. 8. 1. Measures

The following subsections contain units and methods used to identify relationships and effects in this research.

#### 5. 8. 1. 1. Mediating Variables

Mediation is said to occur when a causal effect of the relationship between Individual Absorptive Capacity (IAC) (predictor variable) and Individual Performance in the SME (IPSME) (outcome variable) can be explained by their relationship to Willingness to Follow a Technologically-Enabled Trend (WFTET) (mediator variable) and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool (mediator variable). This mediation analysis will assess the strength of the direct relationship between the predictor variable and outcome variable (Table 3) and estimate the indirect effect and its significance (Table 4).

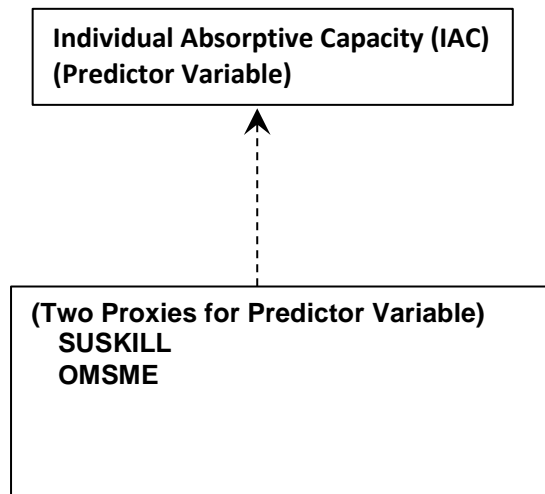


**5. 8. 1. 1. 2 Individual Absorptive Capacity – Predictor Variable:**

First, the predictor variable in this research is Individual Absorptive Capacity (IAC). For Individual Absorptive Capacity (IAC) this research uses the following variables as proxy:

- i3. 'Do you have the knowledge, skill and experience required to start a business?'  
Proxy Name: SUSKILL (GEM Adult Population Survey 2011 3);
- Q2A. 'Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others?'  
Proxy Name: OMSME (GEM Adult Population Survey 2011 Q2A).

**Figure 5.1**  
Individual Absorptive Capacity  
Two Proxies



**5. 8. 1. 1. 3 Willingness to Follow a Technologically – Enabled Trend and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool – Mediating Variables:**

The two mediating variables in this research are Willingness to Follow a Technologically – Enabled Trend (WFTET) and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool (VBT). For Willingness to Follow a Technologically – Enabled Trend this research uses the following four proxies:

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2G3. 'Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years?'

Proxy Name: OMNEWTEC (GEM Adult Population Survey 2011 18);

5W2. 'In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time?'

Proxy Name: INVORTRY (GEM Adult Population Survey 2011 36);

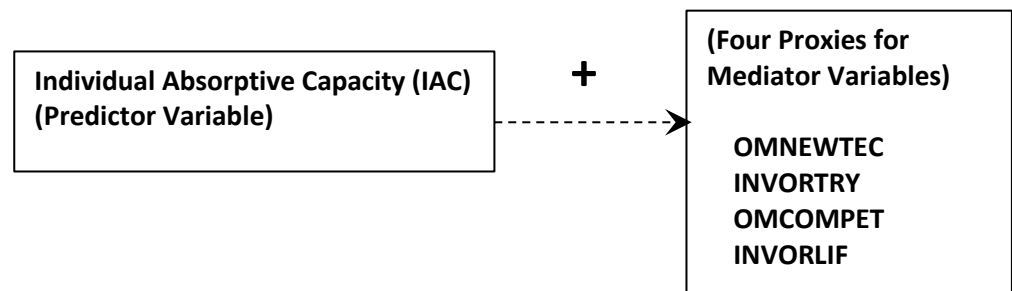
2G2. 'Right now, there are many, few, or no other businesses offering the same products or services to your potential customers?'

Proxy Name: OMCOMPET (GEM Adult Population Survey 2011 18);

5W3. 'In the next 6 months, new products or services will improve your working life.'

Proxy Name: INVORLIF (GEM Adult Population Survey 2011 36).

**Figure 5.2 Willingness to Follow a Technologically – Enabled Trend (WFTET) and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool (VBT) Four Proxies**



### 5. 8. 1. 1. 4 Individual Performance in the SME (IPSME) – Outcome Variable

Last, the outcome variable is Individual Performance in the SME (IPSME) and this research uses the following three proxies:

i7. 'In your country, those successful at starting a new business have a high level of status and respect';

Proxy Name: NBSTATUS (GEM Adult Population Survey 2011 3);

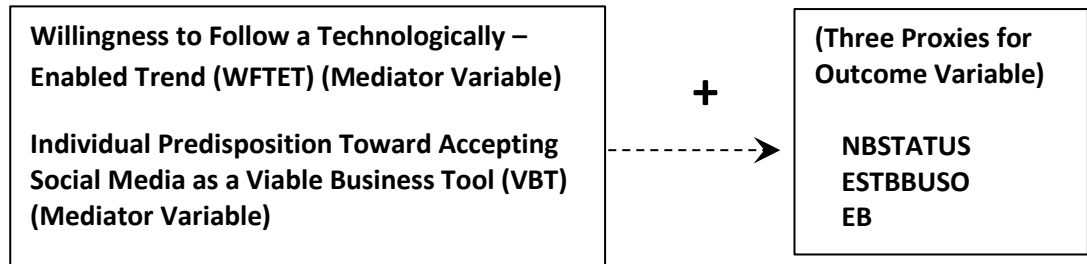
209. 'Established business that is older than 42 months';

Proxy Name: ESTBBUSO (GEM Adult Population Survey 2011 209);

302. 'Any job now or in 5 years.'

Proxy Name: EB (GEM Adult Population Survey 2011 302).

**Figure 5.3 Individual Performance in the SME (IPSME)  
Three Proxies**



### 5. 8. 2. 1. Moderating Variables

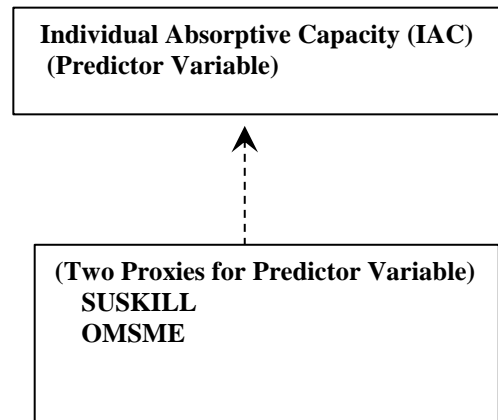
Moderation is said to occur when the causal effect of willingness to follow a technologically-enabled trend (WFTET) and predisposition toward accepting social media as a viable business tool (VBT) influence the direction and/or strength of the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME).

#### 5. 8. 2. 1. 1. Individual Absorptive Capacity - Independent Variable:

First, the independent variable in this research is Individual Absorptive Capacity (IAC). For Individual Absorptive Capacity (IAC) this research uses the following two variables as proxies:

- i3. 'Do you have the knowledge, skills and experience required to start a business?'  
Proxy Name: SUSKILL (GEM Adult Population Survey 2011 3);
- Q2A. 'Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others?'  
Proxy Name: OMSME (GEM Adult Population Survey 2011 Q2A).

**Figure 5.4.**  
Individual Absorptive Capacity  
Two Proxies



As mentioned above SUSKILL (GEM Adult Population Survey 2011 3) is proxy for Individual Absorptive Capacity (IAC). IAC refers to the individual’s experience, knowledge, and cognition; SUSKILL refers to an individual’s knowledge, skill and experience required to start a new enterprise (GEM 2011).

**5. 8. 2. 1. 2. Willingness to Follow a Technologically - Enabled Trend (WFTET) and Predisposition Toward Accepting Social Media as a Viable Business Tool (VBT)**

An examination of WFTET, and predisposition toward accepting social media as a VBT, and their interaction.

**5. 8. 2. 1. 2. 1 Willingness to Follow a Technologically - Enabled Trend (WFTET) – Moderating Variable**

Second, Willingness to Follow a Technologically - Enabled Trend (WFTET) is the first of two moderating variables in this research. For Willingness to Follow a Technologically -

Enabled Trend this research uses the following two variables as proxies:

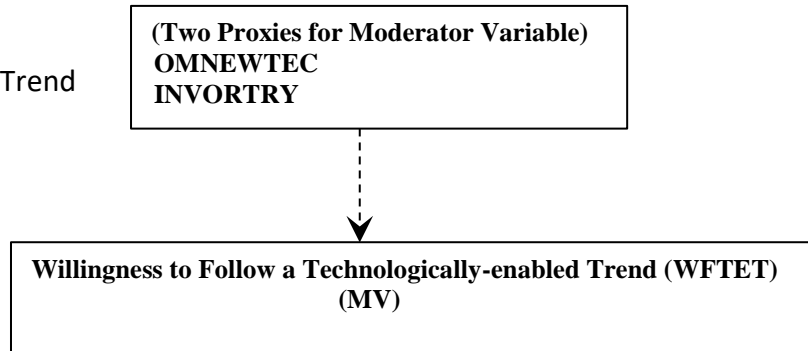
- 2G3. ‘Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years’;
- Proxy name: OMNEWTEC (GEM Adult Population Survey 2011 16);

5W2. 'In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.'

Proxy name: INVORTRY (GEM Adult Population Survey 2011 37).

**Figure 5.5**

Willingness to Follow a Technologically-enabled Trend  
Two Proxies



In examining mechanisms through which an SME owner's individual absorptive capacity translates to individual performance in the SME, several researchers (Ahlin et al., 2014; Fischer & Reuber 2011; Sarasvanthy, Dew, Reid & Wiltbank 2008; Cook 2008) emphasise that the direct link between what the SME owner thinks she or he can create (cognition) and individual performance may be moderated by other variables. The first moderating variable OMNEWTEC (GEM Adult Population Survey 2011 16) is proxy for WFTET because the term 'technologies' can refer to either emergent or well-established trends in Web-based technologies available for consumers to follow, and SME owners are consumers who follow those trends. Also, the strength of belief the entrepreneur seems to have in her/his capability to recognize patterns among events, data and experiences (Dane & Pratt 2007) could influence her/his willingness to follow a Web-based trend. Therefore, the direct link between individual absorptive capacity and individual performance in the SME may be moderated by individual willingness to follow a technologically-enabled trend. Examples of technologically-enabled trends would be: Google<sup>+</sup>, Twitter, and

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Pinterest (Greenwald 2014). Hence, the variable, OMNEWTEC (GEM Adult Population Survey 2011 16) is one proxy for WFTET.

INVORTRY (GEM Adult Population Survey 2011 37) is the second proxy for WFTET. Why? Because as Kaplan and Haenlein (2010) point out, the willingness to use new Web-based technologies like blogs, Twitter and Facebook in their daily work allows SME owners to engage in timely and direct end-consumer contact at relatively low cost and higher levels of efficiency than can be achieved with more traditional communication tools (e.g., fax, letter). This leads to consideration of the second moderating variable.

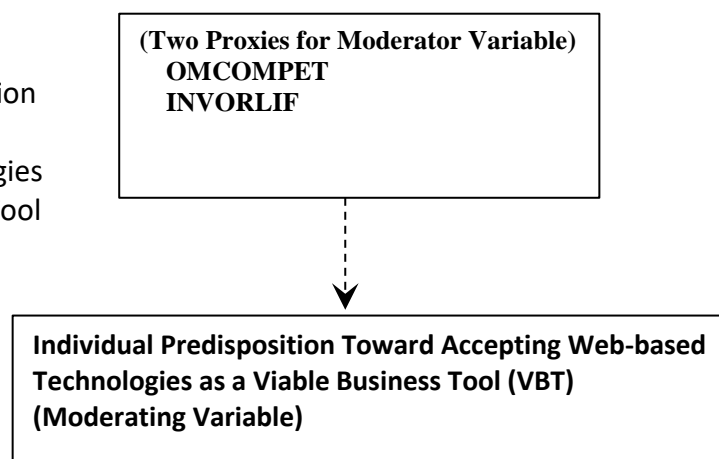
### **5. 8. 2. 1. 2. 2 Individual Predisposition Toward Accepting Web-based Technologies as a Viable Business Tool (VBT) – Moderating Variable**

The second moderating variable in this research is Individual Predisposition Toward Accepting Web-based Technologies as a Viable Business Tool (VBT). Two proxies in the GEM database correspond to the concept Individual Predisposition Toward Accepting Web-based Technologies as a Viable Business Tool (VBT):

2G2. 'Right now, are there many, few, or no other businesses offering the same products or services to your potential customers';  
Proxy Name: OMCOMPET (GEM Adult Population Survey 2011 16);

5W3. 'In the next 6 months, new products and services will improve your working life.'  
Proxy Name: INVORLIF (GEM Adult Population Survey 2011 37).

**Figure 5.6**  
Individual Predisposition  
Toward Accepting  
Web-based Technologies  
As a Viable Business Tool  
Two Proxies



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

As mentioned above, OMCOMPET and INVORLIF (GEM Adult Population Survey 2011 39, 50) are the two proxies for VBT. Why? Because of the rapid and frequent changes that occur in consumer groups, products, and the mix of competitors, SMEs owners might benefit from accepting Web-based technologies as a viable business tool. The frequent changes can make it difficult for SME owners to successfully differentiate their products/services from competitors offering the same products/services to potential customers (Wiggins & Ruefli 2005). As Larrañeta, Zahra & González (2014) see it, business success might depend on the enterprise owner remaining familiar with changing market forces and by trying out a range of competitive actions - including the use of social media - as this strategy could be part of what drives her/his business success. So, how might an SME owner use social media as a viable business tool in her/his enterprise? Of the numerous options available, the following three suggestions are provided. First, the SME owner could recognize the great value in applying the social media tool and prioritize the learning of it, if it is not learned already. Second, if the SME has a website then use retargeting adverts to convert the casual website visitor to client/customer. Third, generate attractive original content and cross-post it on other web-based platforms to attract followers and differentiate products/services from competitors'.

The range of choice of web-based technologies could allow SME owners to match their capabilities and resources with opportunities for improved individual performance in the SME. Indeed, prior studies (Larrañeta, Zahra & González 2014; Robinson & McDougall 2001) show that some SME owners' perception of opportunities is a key personal attribute for pursuing a broad scope of Web-based technology strategies to use as strategic business tools in their daily work. In short, the above discussion implies that acceptance of Web-based technologies as a viable business tool may moderate the

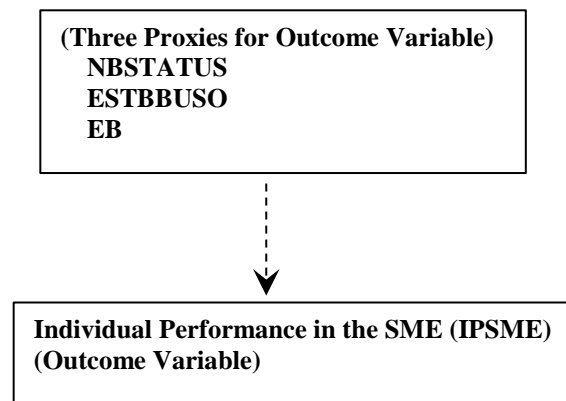
relationship between individual absorptive capacity and individual performance in the SME. This leads to consideration of Individual Performance in the SME, as the dependent variable.

### 5. 8. 2. 1. 3 Individual Performance in the SME (IPSME) – Dependent Variable

The dependent variable in this research is Individual Performance in the SME (IPSME). For individual performance in the SME this research uses the following three variables as proxies:

- i7. 'In your country, those successful at starting a new business have a high level of status and respect';  
Proxy name: NBSTATUS (GEM Adult Population Survey 2011 3).
- 209. 'Established business that is older than 42 months';  
Proxy name: ESTBBUSO (GEM Adult Population Survey 2011 209);
- 302. 'EB: Any job now or in 5 years';  
Proxy name: EByyEMP (GEM Adult Population Survey 2011 302).

**Figure 5.7**  
Individual Performance  
In the SME  
Three Proxies



One potential determinant of entrepreneurial success is social legitimization (Levie & Autio 2008; Etzioni 1987) or national respect for entrepreneurship, regardless whether it is a new business (NBSTATUS) (younger than 42 months) (GEM Adult Population Survey 2011 3) or an established business (ESTBBUSO) (older than 42 months) (GEM 2011 APS



Global Individual Level Data 15 Feb 2015.sav [DataSet1], Question 209). National respect for entrepreneurs, as evidenced by peoples' attitudes toward those who have obtained personal wealth through entrepreneurial actions, as well as positive publicity and media on the topic, is likely to influence peoples' perceptions of the social desirability of entrepreneurial actions and to increase the entrepreneurs' social status (reputation). Reputation summarizes what individuals say about a person's past behaviours and may be used to forecast future performance or, at least, what others are likely to say about a person's future behaviour (Barrick & Mount 1991).

Entrepreneurs are known to be curious, to speculate, take risks and discover (Hayek 1945; Kirzner 1997b). Why are those personal attributes important; should they be? Consider this: during this process, the entrepreneur interacts with consumers and competitors alike and thereby influences perceptions about what others think about her/his character. If the influence is positive and good then the perceptions are likely to increase the entrepreneur's reputation. The increased reputation can translate into increased demand by the consumer of products or services from the entrepreneur (Klepper & Sleeper 2005). This higher demand of products and services by consumers may lead the SME owner to meet the increased market demand by hiring more workers in the SME and thereby offering employment to un/skilled workers for 'any job now or in five years' (EB) (GEM Adult Population Survey 2011 302)..

## **5. 9. The Processes of Testing for Mediation and Moderation**

Discussion of the logic and process of testing for mediating and moderating variables and their respective effects follows below. Mediation methods come next. Moderation methods are after.

### 5. 9. 1 Mediation Methods

Specific to the mediation here in this paper, the following steps will be taken. First, the independent construct is individual absorptive capacity (IAC). It is measured by two binary variables: SUSKILL and OMSME (GEM Adult Population Survey 2011 3, Q2A). For SUSKILL, respondents were asked “do you have the knowledge, skill and experience required to start a business?” (Ibid.). SUSKILL (Ibid.) is coded as 1 indicating yes and 0 indicating no. For OMSME (GEM Adult Population Survey, 2011: 13), respondents were asked “are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling and goods or services to others?” OMSME (Ibid.) is coded as 1 indicating yes and 0 indicating no. This measurement approach is similar to Lambert, Negash, Stillman, Olmstead and Fincham’s (2012) and is conceptually supported by Lane, Koka and Pathak (2006) who point out that there may be antecedents of absorptive capacity that are placed at the level of individuals. Lane, Koka and Pathak (Ibid.) assert that these antecedents have been neglected in the literature, and because of this there is little knowledge of the effect of key individuals’ impact on absorptive capacity.

The literature on antecedents of absorptive capacity is limited due to a lack of studies designed to uncover as to how an individual’s past experience, past related knowledge and cognition (learning – up to current) establish individual absorptive capacity. Lane, Koka and Pathak (2006) suggest the absorptive capacity concept requires more research that shows how individual level antecedents influence future outcomes. Specific to the research undertaken in this paper, the purpose is two-fold. The first purpose is to close the existing gap in research by establishing the antecedents of absorptive capacity as being past experience, past related knowledge, and cognition (learning – up to current).

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The second purpose is to explore the influence of these antecedents on individual performance in the SME (IPSME). This leads to the next variable.

The dependent variable is individual performance in the SME (IPSME). It is measured by three variables: NBSTATUS, ESTBBUSO, and EB (GEM Adult Population Survey 2011 3, 209, 302). For NBSTATUS, respondents were asked “in your country, do those successful at starting a new business have a high level of status and respect?” (GEM Adult Population Survey 2011 3). NBSTATUS (Ibid.) is coded as 1 indicating yes and 0 indicating no. For ESTBBUSO, respondents were asked whether their business is an “established business that is older than 42 months?” (GEM Adult Population Survey 2011 209). ESTBBUSO (Ibid.) is coded as 1 for yes and 0 for no. For EB, respondents were asked if “any jobs now or in 5 years?” (GEM Adult Population Survey 2011 302). EB (Ibid.) is coded as 1 indicating yes and 0 indicating no.

Third, there are two mediating constructs, willingness to follow a technologically-enabled trend (WFTET) and predisposition toward accepting social media as a viable business tool (VBT). First, WFTET is measured by two binary variables: OMNEWTEC and INVORTRY (GEM Adult Population Survey 2011 18, 36). For OMNEWTEC, respondents were asked “have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years?” (Ibid. 18).

For INVORTRY (GEM Adult Population Survey 2011 36) respondents were asked “in the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time”. INVORTRY (Ibid.) is coded as 1 indicating yes and 0 indicating no. This measurement approach is conceptually supported by Lambert,

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Negash, Stillman, Olmstead & Fincham (2012) who argue that conceptual variables measured at the individual level may account for differences in people's behaviour.

Second, VBT is measured by the variables OMCOMPET and INVORLIF (GEM Adult Population Survey 2011 18, 36). For OMCOMPET, respondents were asked "right now, are there many, few, or no other businesses offering the same products or services to your potential customers?" (GEM Adult Population Survey 2011 18). OMCOMPET (Ibid.) is coded as 1 indicating yes and 0 indicating no.

### 5. 9. 2 Moderation Methods

Specific to the moderation here in this paper, the following steps will be taken. First, the independent construct is individual absorptive capacity (IAC). It is measured by one binary variable: SUSKILL (GEM Adult Population Survey 2011 3). Respondents were asked "do they have the knowledge, skill and experience required to start a business (SUSKILL)" (GEM Adult Population Survey 2011 3). SUSKILL (Ibid.) is coded as 1 indicating yes and 0 indicating no. This measurement approach is similar to Lepoutre et al (2013) and is conceptually supported by Volberda, Foss and Lyles (2010) who argue that, among other outcomes, the absorptive capacity concept requires more research that shows how individual level antecedents influence future outcomes such as competitive advantage, innovation, and firm performance.

Second, the dependent construct is individual performance in the SME (IPSME). It is measured by the following three binary variables: NBSTATUS (GEM Adult Population Survey 2011 3), ESTBBUSO and EByyEMP (GEM 2011 APS Global Individual Level Data 15 Feb 2015.sav [DataSet1], Question 209, 302). First, "in your country, those successful at starting a new business have a high level of status and respect (NBSTATUS)" (GEM Adult

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Population Survey 2011 3). NBSTATUS (Ibid. 3) is coded as 1 indicating yes and 0 indicating no. The second question, “established business that is older than 42 months (ESTBBUSO)” (GEM 2011 APS Global Individual Level Data 15 Feb 2015.sav [DataSet1], Question 209) is coded as 1 indicating yes and 0 indicating no. The third binary variable is “EB: any job now or in 5 years (EByyEMP)” (Ibid. Question 302) and is coded as 1 indicating yes and 0 indicating no.

Third, the two moderating constructs are: i) willingness to follow a technologically-enabled trend (WFTET) and ii) individual predisposition toward accepting Web-based technologies as a viable business tool (VBT). WFTET is measured by two items: OMNEWTEC and INVORTRY (GEM Adult Population Survey 2011 16, 37). First, respondents were asked “have the technologies or procedures required for this product or service been available for less than a year, between one to five years, or longer than five years (OMNEWTEC)” (Ibid. 16). OMNEWTEC (Ibid.) is coded as 1 indicating less than a year, 2 indicating between one to five years, and 3 indicating longer than five years. Second, “in the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time (INVORTRY)” (GEM Adult Population Survey 2011 37) is coded as 1 indicating strongly agree, 2 indicating somewhat agree, 3 indicating neither agree nor disagree, 4 indicating somewhat disagree, and 5 indicating strongly disagree.

The second moderating construct, individual predisposition toward accepting Web-based technologies as a viable business tool (VBT) is measured by two items: OMCOMPET and INVORLIF (GEM Adult Population Survey 2011 16, 37). First, “right now, are there many, few, or no other businesses offering the same products or services to your potential

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

customers (OMCOMPET)” (Ibid.) is coded as 1 indicating many business competitors, 2 indicating few business competitors, and 3 indicating no business competitors. The second variable “in the next six months new products and services will improve your working life (INVORLIF)” (Ibid. 37) is coded as 1 indicating strongly agree, 2 indicating somewhat agree, 3 indicating neither agree nor disagree, 4 indicating somewhat disagree, and 5 indicating strongly disagree.

### **5. 9. 3 Results**

The relationship between Individual Absorptive Capacity, Individual Performance in the SME, Willingness to Follow a Technologically – Enabled Trend and Individual Predisposition Toward Accepting Social Media as a Viable Business Tool. First, Pearson’s Correlation is run to measure the strength of relationship between SUSKILL, OMSME, NBSTATUS, ESTBBUSO, and EB (GEM Adult Population Survey 2011 3, Q2A, 7, 209, 302). Second, hierarchical multiple linear regression is deployed to provide the information necessary to assess how valid and generalizable the variables are in the models (Fields 2015). Pearson’s Correlation results are shown in Table 3, following.

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<b>Table 5.3: Pearson's Correlation</b>										
	SUSKIL L	NBSTAT US	OMSM E	OMCOMP ET	OMNEWTE C	INVORTR Y	INVORLI F	ESTBBUS O	EB	
<b>SUSKILL</b>	Pearson Correlation	1	-.046*	.322**	-.086	.049	-.084**	-.084**	.254**	.202**
	Sig. (2-tailed)		.050	.000	.239	.508	.003	.003	.000	.000
	N	1956	1817	1952	189	186	1248	1248	1956	1956
<b>NBSTATUS</b>	Pearson Correlation	-.046*	1	-.036	.061	.114	-.095**	-.095**	-.038	-.016
	Sig. (2-tailed)	.050		.117	.419	.136	.001	.001	.106	.484
	N	1817	1857	1853	177	174	1196	1196	1857	1857
<b>OMSM</b>	Pearson Correlation	.322*	-.036	1	.c	.c	.049	.049	.718**	.562*
	Sig. (2-tailed)	.000	.117		.000	.000	.081	.081	.000	.000
	N	1952	1853	1996	193	190	1268	1268	1996	1996
<b>OMCOMPET</b>	Pearson Correlation	-.086	.061	.c	1	-.172*	.014	.014	-.073	.024
	Sig. (2-tailed)	.239	.419	.000		.018	.854	.854	.316	.738
	N	189	177	193	193	188	176	176	193	193
<b>OMNEWTEC</b>	Pearson Correlation	.049	.114	.c	-.172*	1	.009	.009	.015	-.029
	Sig. (2-tailed)	.508	.136	.000	.018		.907	.907	.839	.691
	N	186	174	190	188	190	174	174	190	190
<b>INVORTRY</b>	Pearson Correlation	-.084**	-.095**	.049	.014	.009	1	1.000**	.014	.005
	Sig. (2-tailed)	.003	.001	.081	.854	.907		.000	.617	.866
	N	1248	1196	1268	176	174	1272	1272	1272	1272
<b>INVORLIF</b>	Pearson Correlation	.084*	.095**	.049	.014	.009	1.000**	1	.014	.005
	Sig. (2-tailed)	.003	.001	.081	.854	.907	.000		.617	.866
	N	1248	1196	1268	176	174	1272	1272	1272	1272
<b>ESTBUSO</b>	Pearson Correlation	.254*	-.038	.718**	-.073	.015	.014	.014	1	.783*
	Sig. (2-tailed)	.000	.106	.000	.316	.839	.617	.617		.000
	N	1956	1857	1996	193	190	1272	1272	2000	2000
<b>EB</b>	Pearson Correlation	.202*	-.016	.562**	.024	-.029	.005	.005	.783**	1
	Sig. (2-tailed)	.000	.484	.000	.738	.691	.866	.866	.000	
	N	1956	1857	1996	193	190	1272	1272	2000	2000

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

c. Cannot be computed because at least one of the variables is constant.

### 5. 9. 3. 1 Pearson's Correlation Results

The correlation between SUSKILL and NBSTATUS is  $-0.046^*$  which indicates a weak-to - medium strength relationship, considering the statistical significance is at the level of 0.05, based on a 2-tailed significance test. The correlation between SUSKILL and ESTBBUSO is positive and significant at 0.254 which indicates a medium - strength relationship, considering the p-value  $< 0.01$ . The relationship between SUSKILL and EB is positive and significant at .202 but is smaller than SUSKILL and ESTBBUSO at .0.254, with the value equals to 0.202. It can be seen that of all the predictors SUSKILL has a higher positive correlation (0.254) to ESTBBUSO than either SUSKILL to NBSTATUS (-0.046) or SUSKILL to EB (0.202). In general, these variables are not very correlated at all.

### 5. 9. 3. 2 Hierarchical Multiple Linear Regression

Second, hierarchical multiple linear regression estimates the indirect effect and its significance on the relationship between the predictor variable(s) (independent variable(s)) and the outcome variable (dependent variable). Because a hierarchical method is deployed, each set of summary statistics is repeated for each stage in the hierarchy and there are, therefore, three models. Model 1 refers to the first stage in the hierarchy when only SUSKILL is used as the predictor. Model 2 refers to the second stage when two predictors (OMNEWTEC and INVORTRY) are added. Model 3 refers to when the final two predictors (OMCOMPET and INVORLIF) are added.

The first model summary contains the following six variable names: SUSKILL (predictor), OMNEWTEC (predictor), INVORTRY (predictor), OMCOMPET (predictor), INVORLIF (predictor) and NBSTATUS (dependent). The first model summary is below (Table 4).



**Table 5.4: The First Regression Model Summary**

Model Summary<sup>d</sup>

Model	Change Statistics									
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
	1	.027 <sup>a</sup>	.001	-.006	.450	.001	.110	1	54	.741
2	.218 <sup>b</sup>	.048	.029	.442	.047	3.745	2	52	.026	
3	.222 <sup>c</sup>	.049	.024	.443	.002	.265	1	51	.607	1.967

a. Predictors: (Constant), SUSKILL

b. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC

c. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC; OMCOMPET; INVORLIF

d. Dependent Variable: NBSTATUS

In general, 2% - 3% of the variance between the variables is explained by the model. This percentage does not explain any difference. More specifically, based on the negative adjusted R<sup>2</sup> (-.006) and the F value (.110), model 1 is dreadful. 1% of the variation in NBSTATUS can be explained by SUSKILL. Also, the negative adjusted R<sup>2</sup> indicates there is not much value in the relationship between SUSKILL and NBSTATUS. Model 2 is a little better than model 1, based on the adjusted R<sup>2</sup> (.029) and the F value (3.745). It explains a little value in the relationship between SUSKILL, INVORTRY, OMNEWTEC and NBSTATUS. By adding model 3 no value is added to the predictive capability. It loses ground on the difference between its adjusted R<sup>2</sup> (.024) and the F value (.265) compared to the adjusted R<sup>2</sup> of model 2 (.029) and its F value (3.745). Ideally, the Adjusted R<sup>2</sup> between the models should get bigger but such is not the case in this model summary.

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The second model summary contains the following six variables: SUSKILL (predictor), OMNEWTEC (predictor), INVORTRY (predictor), OMCOMPET (predictor), INVORLIF (predictor) and ESTBBUSO (dependent). The second model summary is next (Table 5).

**Table 5.5: Second Regression Model Summary**

Model Summary <sup>d</sup>										
Model	Change Statistics									
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df 1	df 2	Sig. F Change	Durbin - Watson
1	.103	.011	.005	.418	.011	1.794	1	16	.182	
2	.215	.046	.029	.413	.036	3.078	2	16	.049	
3	.260	.067	.045	.409	.021	3.724	1	16	.055	2.149

a. Predictors: (Constant), SUSKILL

b. Predictors: (Constant), SUSKILL, INVORTRY, OMNEWTEC

c. Predictors: (Constant), SUSKILL, INVORTRY, OMNEWTEC, OMCOMPET, INVORLIF

d. Dependent Variable: ESTBBUSO

Overall, this model explains approximately 4.7% of the variance between the variables. Specific to model 1, an abysmal 1.1% of the variation in ESTBBUSO can be explained by SUSKILL. By adding WFTET to the model the adjusted  $R^2$  increased 3.6% which is a significant change (in the adjusted  $R^2$ , pvalue <.05). So now, 4.7% of the variation in ESTBBUSO can be explained by SUSKILL and WFTET. By adding VBT, no value was added to the predictive capability. Based on the model summary, all these variables are not very generalizable.

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The third model summary contains the following six variables: SUSKILL (predictor), OMNEWTEC (predictor), INVORTRY (predictor), OMCOMPET (predictor), INVORLIF (predictor) and EB (dependent). The third model summary follows next (Table 6).

**Table 5.6: Third Regression Model Summary**

Model Summary <sup>d</sup>										
Model	Change Statistics									
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df 1	df 2	Sig. F Change	Durbin-Watson
1	.077 <sup>a</sup>	.006	.000	.501	.006	.999	1	16	.319	
2	.127 <sup>b</sup>	.016	-.002	.502	.010	.852	2	16	.429	
3	.133 <sup>c</sup>	.018	-.006	.503	.002	.260	1	16	.611	2.181

- a. Predictors: (Constant), SUSKILL
- b. Predictors: (Constant), SUSKILL, INVORTRY, OMNEWTEC
- c. Predictors: (Constant), SUSKILL, INVORTRY, OMNEWTEC, OMCOMPET, INVORLIF
- d. Dependent Variable: EB

In general, for model 1, 7.7% of the variation in EB can be explained by SUSKILL.

However, based on the negative adjusted R<sup>2</sup> (-.002) and the F value (.852), model 2 is awful. In model 2, the negative adjusted R<sup>2</sup> (-.002) and the F value (.852) indicates very little in the relationship between EB and SUSKILL can be explained by WFTET. When model 3 is added, no value is added to the predictive capability. Model 3 is abysmal. It loses ground on the difference between its adjusted R<sup>2</sup> (-.006) and the F value (.260) compared to the adjusted R<sup>2</sup> of model 2 (-.002) and its F value (.852). A negative adjusted R<sup>2</sup> indicates the model is not good and the variables are not very generalizable (Fields

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2013). Also, ideally, the adjusted  $R^2$  between the models should get bigger but such is not the case in this model summary. Based on this model summary, models 1, 2, and 3 are not significant models ( $p$ value  $>.05$ ).

The implications from all the regression model summaries are three-fold. First,  $\pm 3\%$  of variances has been explained. This percentage does not explain any differences between the predictor and the dependent variables. This leads to the second implication: mediators explain how external physical events take on psychological significance and may account for differences in people's behaviour. And mediators address the mechanisms by which an effect occurs and speak to how or why such an effect occurs. In order for a variable to mediate the relationship between two variables there should be a change in the strength of the relationship between the two variables as a result of the inclusion of the mediator. The model summaries indicate a  $\pm 3\%$  change in strength which does not explain the difference of the variance so there is no mediation to test. This leads to the third implication.

Third, moderators provide information on the circumstances under which effects are present, and moderators specify when certain effects will hold. Given that moderation is demonstrated through a significant interaction between the predictor(s) and moderator in a regression, and just  $\pm 3\%$  of the variance is explained in the model summaries, there is no significant interaction evident. Hence, there is no moderation to test.

As mentioned earlier, the methods of statistics and qualitative data analysis are viewed as complementary paradigms. The next chapter presents the case studies and their findings.

## Chapter 6: SME Case Studies

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### 6.1 Overview of the Chapter

The chapter proceeds as follows: Sections 6.2 - 6.5 contain the presentation of the case studies, each with an individual thematic focus on the intersection of theory and real-world application. This praxis demonstrates solid linkages to the hypotheses H1a-H1c and H2 as the SME owners relate their experiences. It is helpful to note all five SMEs are located in County Kent, UK, and the owners have prior experience in using social media (and demonstrate Individual Absorptive Capacity) in common. The thematic groups are “Without Realizing It”, “Building Blocks of Influence”, and “Attaining the Unachievable”.

### 6.2 Case Study 1 “Without Realizing It”

The theme “without realizing it” conveys the idea that by relating new information to past experience and past related knowledge already stored in their long-term memories SME owners can have found meaning in the new information. The term for this cognitive process is ‘meaningful learning’ (Ormrod 2014 202) which is embedded in cognitive psychology. Ramsden (1993 4) put it this way, “meaningful learning is the process of gaining knowledge or ability through the use of experience.” This process is sometimes referred to as “comprehension or understanding” (Ormrod 2014 202). And as Ormrod (ibid.) points out it is not unusual to see learners mentally organizing or elaborating on the things they are learning without being consciously aware that they are doing so.

Meaningful learning appears to facilitate both storage and retrieval of knowledge. For instance, Mayer (1996) points out that the information goes in (memory storage) more quickly and is remembered (retrieved) more easily when it is organized or elaborated on.

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There may be a transfer of learning across bodies of knowledge that are organized and expressed in similar ways. As a consequence, experience and/or performance (skill) in one area or task may influence and improve skill on some subsequent area or task (Ellis 1965).

Specific to this study, meaningful learning on using social media has occurred when SME owners associated (linked) the new knowledge with their past experience and past related knowledge about using social media. This is consistent with Minbaeva, Pedersen, Björkman, Fey and Park's (2003) emphasis on the connection between the individuals' abilities (education; skills) and their motivation to absorb new knowledge. In situations where the SME is a new business, the owner's desire for visibility (Dutot & Bergeron 2017) might motivate her/him to take training courses on social media in hope of increasing customer interaction, and thus, business revenue. Prior personal familiarity of using social media enables the individual to link new knowledge gained from instructional courses with existing knowledge had prior to launching the SME. For instance, the owner of EventCo (Appendix 4.4 p. 155: NBSTATUS\*\*) linked her prior experience (Appendix 4.2 p. 150-151: HU-PE/Pre-SME) in using Facebook with the subsequent learning about innovative ways of using social media, before launching EventCo. She remarked:

*"I just used Facebook since it came out....for social purposes. I went on as many courses as possible to understand how to use social media for cross-platform application and after the courses, when I started my event consultancy business three years ago, that's when I really started using social media professionally...."*

### 6. 2. 1 Antecedents of Individual Absorptive Capacity: Three into One

Salience in personal experience learning to use various social networking platforms (e.g., blogs, Facebook, LinkedIn) has proven influential in the processing and transferring of learning new social media skills in the professional lives of many established SME owners. This prior experience enables them to link the newly-acquired knowledge of how to use new technologies in beneficial ways in their professional lives. Additionally, depth of personal experience using social media platforms (e.g., Skype, Twitter, Video) for cross platform application (e.g., Twitter with HootSuite and Klout) is also a key factor in the lives of SME owners.

Ormrod (2014) points out that meaningful learning does not necessarily have to be experienced in sequence for the connections to be made between the new information and prior knowledge. In many situations new information reminds learners of something they already know, leading them to retrieve the stored knowledge to working memory and thereby making connections between data points (Shapiro 2004). For instance, salience in experience and knowledge using social media before starting the enterprise (Appendix 4.2 p. 150: HU-PK/Pre-SME) proved to be influential in connecting new material with existing knowledge for the owner of PRCo, an established business (Appendix 4.4 p. 155: ESTBBUSO\*\*):

*"...I have heaps of experience and knowledge with using social media but I wasn't comfortable or familiar with the social media platforms, so before starting my business I went and got trained. Very quickly I realized I've known this, I understand this, now I know how to use these platforms, and I feel highly competent using these platforms, devices, and the content..."*

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Meaningful learning is influenced by the individual's past experience of her/his own learning, cognitive processes, and her/his consequential regulation of those processes to enhance learning and memory. As Ormrod (2014) points out, social learning theorists and cognitivists alike have portrayed effective learning in a similar manner – as a process of setting goals, choosing strategies that are likely to help oneself achieve those goals, and then re-evaluating the results of one's efforts (Peterson 1988; Wittrock 1994). This process is known as "self-regulation" (Ormrod 2014 138). Self-regulation has value in that it internally drives one along a measured, measurable arc - and as small goals are achieved in service of the larger, this mechanism allows for the data aggregation and association that yields meaningful learning.

Among the outcomes of self-regulation are self-efficacy and intrinsic self-motivation. Intrinsically motivated learners are more likely to be cognitively engaged in the task, strive for true understanding of the subject matter by engaging in meaningful learning, and seek out additional opportunities to pursue the task (Becker, McElvany & Kortenbruck 2010). For instance, the history of pursuing the task of using social media is consistent among all SME owners prior to the starting up of their enterprises with one exception, found in the owner of established business SalonCo (Appendix 4.3 p. 153; HU-PE/Pre-SME, HU-PK/Pre-SME, HU-COG; Appendix 4.4 p. 156: ESTBBUSO\*\*). Below, the owner shares his experience in using social media:

*"I didn't have much experience using it but I knew about it. There was a leaning from a big company...for me to try using social media more in my business, for professional use. I didn't want to...I felt pressure from the company. Nevertheless, I went and got well trained."*



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Meaningful learning facilitates problem-solving through restructuring and insight. Those who favor a cognitive understanding (Burns 1995; Köhler 1925) have suggested that prior experience and prior related knowledge are important for problem-solving as it involves mentally combining and recombining various elements of a problem eventually leading to insight and a problem solution. In other words, experience and knowledge in changing the way a problem is perceived (cognitive restructuring) eventually makes the correct solution (insight) easy to obtain.

Köhler (1925) has suggested that by allowing one's self to think about possible solutions to the problem, and by arranging the problem elements in various ways, one eventually arrives at insight that solves the problem. For instance, problem-solving experience and knowledge gained while at a previous employer proved valuable to the owner of GraphicCo, a new business (Appendix 4.4 p. 155). The GraphicCo owner wanted to generate extra sales during what was traditionally a low-revenue period for the company, the months of January and February. The re/combining of various elements of the problem and thinking about possible solutions eventually led the owner to a decision (Appendix 4.2 p. 150: HU-PE/Pre-SME, HU-PK/Pre-SME, HU-COG), related below:

*"...I was trying to generate extra sales in our quiet time which is January and February...I was thinking about all sorts of possible solutions, about my client base, about what I have done at my previous job in a retail store ...a day or two later I arrived at the decision to launch a six month social media marketing campaign by cross-posting adverts, promotions, and in-store events..."*

The above examples highlight how past experience, past related knowledge, and cognition link (Appendix 4.2 p. 150: HU-PE/Pre-SME, HU-PK/Pre-SME, HU-COG; GEM

Proxy: SUSKILL). Given evidence of a relationship these three factors can be established as antecedents of individual absorptive capacity (IAC). The next few paragraphs explain the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME) and why this is the case.

### **6. 2. 2 Relationship between IAC and IPSME**

One reason for the relationship between IAC and IPSME is because meaningful learning can motivate job performance. Motivation for performing any particular task depends on interest in a particular topic or activity that is new, different, or innovative (Ormrod 1999). Many interests probably come from individuals' prior experiences and past related knowledge with the topics and activities.

Cognitive theorists (Nolen 2007; Hidi & Renninger 2006) have proposed that motivation for performing a task is a function of two fairly subjective factors. First, high expectation or expectancy; the person expects to succeed. The success will depend not only on the person's current level of ability but also on the quality of instruction, the availability of resources and support, and the innovation-individual congruence (i.e., the "fit" between the innovation and what the individual wants it to do/how the individual wants to use it) (Appendix 4.2 p. 150: IC-FIT; Appendix 4.4: Owner's Motives). For instance, the owner of EventCo, a new business, relates how her expectancy of success was enhanced by the quality of training:

*"...in my previous job I've used social media but not to good results...before starting my own business I wanted to increase my skill on social media in order to get good results. A number of years ago I went to a lot of training ... In training I've observed the instructor and learned some new key strategies to good results...they*

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*work well... I still use them in my small business along with some other new ones I learned in a training course I attended recently..."*

Second, and equally important, is value; the person must believe that performing the task has direct or indirect benefits – anything from career relevance, to achieving a desired goal, or yielding a hedonistic pleasure (for personal enjoyment which produces a favorable attitude). For instance, career relevance seems to be a motivator for all but one SME owner (Appendix 4.4 p. 156). Said the owner of SalonCo, an established SME:

*"Initially, I felt there was no good reason for me to use social media in my business...I felt there was no value in using it ....I didn't actually think it would benefit my career."*

Another motivator is centrality. Centrality evidences how important, how much of a priority and/or how much effort, is the use of social media to the person (Ormrod 2014; Miles & Huberman 1994). Ormrod (2014) has pointed out that intentional learners are eager to acquire mastery of the subject matter, and so prioritize it and/or exert considerable effort toward mastery. Also, they bring to the table a variety of self-learning and self-regulatory strategies gained from their past experiences. Lastly, Southerland & Sinatra (2003) mention that intentional learners believe the knowledge about a topic continues to evolve and improve over time and that acquiring mastery of the subject often takes time, effort, and perseverance. Notice that centrality as a motivator is high for most owners and merely a moderate motivator for just one (Appendix 4.4 p. 155). As the owner of a new business, EventCo, stated:

*"It was one of many things I was working on."*

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Also for one of these career-motivated users, a relationship exists among the variables: high centrality and favourable attitudes are also present (Appendix 4.4 p. 155). The owner of CompuCo, an established business mentioned that:

*“Using social media increases my reputation, my influence, and my business...it’s my vehicle for engaging with people...it’s an essential part of my business...I’ve always liked the new technologies but I didn’t actually know a lot about social media so I took some training on it; now I know quite a lot more.”*

Salient points from the above case are as follows: Evidence has been given of how and why the three antecedents link (past experience, past related knowledge, and cognition). Given this relationship, they are established as antecedents of individual absorptive capacity (IAC), the independent variable. Evidence has also been given of why (motives) - what causes or originates - the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME), the outcome variable.

The following evidence, from the second case study, shows how that is the case. To get favorable attitudes toward IPSME high levels of moderating variables career relevance (WFTET) and centrality (VBT) need to be present.

### **6.3 Case Study 2 “Building Blocks of Influence”**

The theme “building blocks of influence” emerges from the idea that by assigning a high valuation to the use of social media, things such as communicating and connecting with others and personal effectiveness can increase the SME owner’s influence. Increased influence can lead to increased reputation which can positively benefit the SME owner’s career relevance. The term suggested for the process of assigning valuation is “cognitive-influenced valuation” (CV) (Author’s own 2017) which is informed by the theoretical

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perspective of cognitive psychology. What drives an entrepreneur will influence her or his willingness to follow a technologically-enabled trend (WFTET). As Burns (1995) emphasizes, it is not at all unusual for individuals to have different needs and concerns at different times, and that they have subjective interpretations in different contexts, and it is those potentially mutable interpretations that are assigned value by the individuals.

Davis (1989) points out that an individual will tend to use or not use an application to the extent s/he believes it will help the individual perform her/his job better. The term for that is “perceived usefulness” (Davis 1989 320). This follows from the definition of the word useful: “capable of being used advantageously” (Oxford Dictionary 1988 1448).

Communicating and connecting with others is one of several perceived beneficial utilities of social media technology (Davis 1989). Cook (2008) asserts that it is entirely possible for one person to use social media to reach many hundreds or many thousands of other people around the world. Professionally, the use of social media by SME owners helps them make connections (e.g., Facebook), develop their business (e.g., LinkedIn), get jobs (e.g., gain client accounts, get references from current/former clients), and so forth. For instance, the owner of EventCo and the owner of CompuCo (Appendix 4.4 p. 155) perceive the value of social media (Appendix 4.2 p. 150: CV-PV) as a means of connecting with individual customers (Appendix 4.5 p. 156). The owner of CompuCo stated:

*“I use Twitter for very focused short messages to or from clients or other individuals, Facebook to provide professional commentary, and LinkedIn to write guest blogs for my commercial clients.”*

Personal effectiveness is another perceived usefulness (Appendix 4.2 p. 150: CV-PU\*\*) of social media. At the individual level, if a user (the SME owner) is more productive, more

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efficient, and more effective at his/her job than the system is high in perceived usefulness to that individual. And, it would make sense that person is willing to use it. One instance of using social media (such as Facebook, Google+, Pinterest and so forth) for increased efficiency comes from the owner of a new business, EventCo (Appendix 4.4 p. 155):

*"I had been using print ads when I started my business but it wasn't as useful for highly specific niche marketing so now I'm using social media.... for pop-up ads.... for my website....posting photos on Facebook....to Twitter....to Google+.... sending photos/texting with clients about their orders...now I'm more productive and efficient."*

Another example of increased efficiency and effectiveness (Appendix 4.2 p. 150) is given by the owner of PRCo, an established SME (Appendix 4.4 p. 155), about following trends in new social media:

*"...I follow trends; I have limited time, limited budget, and want to get to people as quickly and effectively as possible. So I follow social media trends to see whether it'll efficiently and effectively do what I need it to do. I've found that social media such as Twitter, Facebook, Google+, YouTube, and Pinterest are amazing!"*

A system high in perceived usefulness is one which the individual has motivation to utilize (Rindova, Williams, Petkova & Sever 2005). Specific to this research, it would make sense that motivation could impact the SME owner's willingness to follow a technologically-enabled trend (WFTET). Additionally, it would make sense that willingness to follow a technologically-enabled trend could build the SME owner's reputation in/directly. The following examples show how the willingness on the part of the individual SME owner to follow a technologically-enabled trend (WFTET) links

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influence and career relevance. First, the owner of a new enterprise, GraphicCo (Appendix 4.4 p. 155) reports:

*“I use social media every day...with it I am more effective and productive.... and problem solving for my clients become easier....over time those things help build my influence and it helps develop my business.”*

Second, the owner of an established business, SalonCo (Appendix 4.4 p. 156) stated:

*“I use social media at least 50% of every work day because it is superb for productivity, it’s very efficient for time management, and it’s measurable. I use the little apps and packages and online tools that generate numbers which show me data about my client engagement, span of reach, increased influence, and increased reputation. It’s about building blocks of influence, they don’t all lead to sales automatically, they lead to credibility-raising and increased influence....you’ve got to build that and earn it, and it doesn’t happen overnight.”*

Use of social media increases the SME owners’ self-confidence in having a good grasp of how best to use it to anticipate their clients’ needs and serve their clients well. For instance, the owner of PRCo (Appendix 4.4 p. 155; Appendix 4.5 p. 156) remarked:

*“I sit down with individual clients and find out what they want to achieve, who do they want to talk to, what audience do they want to reach, and what market do they want to break into. Afterward, I feel confident knowing how best to use social media to deliver optimal results for them. It’s key to my future success.”*

Relevant details from the above case are as follows: First, given that individual absorptive capacity (IAC) influences individual performance in the SME (IPSME) it would make sense

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these are positively moderated by willingness to follow a technologically-enabled trend (WFTET). Second, empirical evidence has been given of how and why willingness to follow a technologically-enabled trend (WFTET) positively moderates the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME). Third, empirical evidence indicates what types of moderators have been assigned valuation by the individual SME owners. Fourth, empirical evidence suggests why it is that in order to get favourable attitudes toward individual performance in the SMEs (IPSME), high levels of career relevance (WFTET), one of two moderating factors, is needed.

Evidence has also been given of why (motives) the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME), the outcome variable, is demonstrated through the owners' statements.

The following evidence, from the final case study, shows how it is the case that in order to get favorable attitudes towards individual performance in the SME (IPSME), high levels of centrality, the second of two moderating variables, is needed.

### **6.4 Case Study 3 "Attaining the Unachievable"**

The final theme encapsulates the goals behind the SME owner's adaptive behaviour of accepting social media as a viable business tool (VBT). An identified goal is to be highly competitive. One way to attain the distinction of being highly competitive is to differentiate oneself from one's competitors, as many other businesses may be offering the same product or service to the same potential customers. In that kind of competitive business environment the SME owner's high centrality of use of social media as a viable business tool can be a differentiation. This means that the SME owner's use of social



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media is a priority, is perceived as an essential business tool, is integrated into the business strategy, and is implemented via structured, planned tactics, methods, and techniques. More specifically, how social media is used will be the differentiation. For instance, the owner of an established business PRCo (Appendix 4.4 p. 155) shared her strategy for high centrality (Appendix 4.4 p. 155):

*“I have a business plan in place that says ‘we will use social media in terms of how we market ourselves and we will offer social media as a service therefore social media will help differentiate our organization’. So we will use it strongly for business development purposes to achieve those high metrics that we’ve set ourselves.”*

Other business uses of social media include advertising and marketing, human resources, launching new products and services, posting job openings, and tracking metrics.

Mangold and Faulds (2009) point out that when businesses enter the social media arena they carefully craft their message with the marketplace to consistently reflect their business values. More specifically, why social media is used will be a differentiator. As the owner of SalonCo (Appendix 4.4 p. 156) commented:

*“Whether people come here to buy a very good hair product we’ve newly launched on Social Mention....seen our advert on Facebook for a new service we offer....a job advert on the salon’s website, or pictures of haircuts posted on Instagram, or anything like that, I’ve had it all designed so no matter what the purpose, no matter what platform people go through to connect with the salon, it influences them to get here, to this salon. It’s ‘all roads lead to here’.”*

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The second goal is to keep updated on new social media technologies available so as to improve the life of the SME owner. The notion is that because all these SME owners currently use social media (Appendix 4.4 p. 155-156) they must therefore maintain ongoing effort (high centrality) to refine their use. Refinement means fine-tuning messaging and use of mechanism options to best fit their business (Choudhary 2012), improvement in utilization (Kaplan & Haenlein 2010), continued effort to learn (Ormrod 2014), continued effort to innovate (Lichtenthaler 2009), to maintain job relevance (Yi, Jackson & Park 2006), and remain competitive in their sector of industry (Choudhary 2012). Amongst the benefits of refinement are the ability to problem solve when obstacles or challenges emerge (Burns 1995) and to improve their professional life (Mangold & Faulds 2009). For instance, with regard to using social media to improve professional life, the owner of CompuCo (Appendix 4.4 p. 155) stated:

*“I subscribe to a couple of free social media sites on the Internet because they make my work life easier...I keep an eye on new developments and new features from Facebook and Twitter and Pinterest and Google+.”*

The third goal is for purposes of collaboration and cooperation. Cook (2008) pointed out that Schopieray (2003) identified cooperation as being focused on the product and collaboration on the process, yet that the objective of both being to generate a result that is better than what could have been produced alone. For instance, the owner of the new business EventCo (Appendix 4.4 p. 155) reported:

*“I don’t have any problems with talking to people who are in the same industry as myself. I can always find a different angle....you know, where we can collaborate*

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*on a project. So the fear of collaboration is gone out the window, really. It's just a question of where we'll get together 'cause we like to share our knowledge."*

Another new business owner (GraphicCo; Appendix 4.4 p. 155) stated the following:

*"My approach is to collaborate with my team and my clients. My team are clever people. We work well together. We give and receive input, and generally support one another on these projects. We stay up-to-date on technology. We are very productive and effective to create results by getting input from our clients about the graphic design they want. These are important ways I build my professional influence."*

Salient details from the above case are as follows: First, given that individual absorptive capacity (IAC) influences individual performance in the SME (IPSME) it would make sense that these are positively moderated by willingness to follow a technologically-enabled trend (WFTET) and individual predisposition toward accepting social media as a viable business tool (VBT). Second, empirical evidence has been given of why individual use of social media as a viable business tool (VBT) positively moderates the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME). Empirical evidence indicates that SME owners use the newer social media platforms/apps to compete by offering products and services to potential customers in better and different ways (VBT) than their competitors (Appendix 4.2 p. 150-151: AB). Empirical evidence has been given which indicates perceived usefulness of social media and the ability to use newer social media technologies to improve one's life positively moderates the relationship between individual absorptive capacity (IAC) and individual performance in SME (IPSME).

## **6.5 Chapter Summary**

The content of this chapter presents the case studies of three separate thematic points: “Without Being Aware”, “Building Blocks”, and “Achieving the Unachievable”. The focus around each theme and the SME owners’ application, even unwittingly, establishes linkages to H1a - H1c and H2. The next chapter will draw conclusions around the implication of these findings and the entirety of this research in general.

## Chapter 7: Discussion and Conclusion

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### 7.1 OVERVIEW OF THE CHAPTER

This chapter summarizes the findings and results, which contribute practical implications to Management literature in numerous ways and have merit for both academics and practitioners. It also examines areas where the research could expand, possible directions for future research, and potential applications of the theoretical developments found by this research.

The chapter proceeds as follows: In section 7.2 the four main findings of individual absorptive capacity, individual performance in the SME, willingness to follow a technologically-enabled trend and individual predisposition toward accepting social media as a viable business tool are discussed. In section 7.3 the four significant contributions to literature are highlighted. These include the relevance of this research to public policy on small businesses, why and how individual absorptive capacity influences individual performance in the SME, how it is that cognitive-influenced valuation influences willingness to follow a technologically-enabled trend, and how it is that adaptive behavior influences individual predisposition toward accepting social media as a viable business tool.

Section 7.4 discusses the limitations of this study and implications of this research. The former includes the sample size and lack of correlation between the data sets while the latter centers around small business policy at the local and regional levels. Section 7.5 proposes direction for future research, and in section 7.6 the conclusion is given.

## **7.2 DISCUSSION**

This study used a mixed-methods convergent exploratory design to explore why SME owners use social media in their daily work. The research investigated ‘why the relationship between individual absorptive capacity and individual performance in the SME and how this is the case’? More specifically, this study explored two interconnected concepts: what influence, if any, individual absorptive capacity has on willingness to follow a technologically enabled trend, and an individual predisposition to accept social media as a viable business tool, leading to improved performance in the SME. The four main findings are discussed below.

### **7.2.1 INDIVIDUAL ABSORPTIVE CAPACITY**

In this research, absorptive capacity has been examined at the level of the individual, thus responding to a call by previous research to examine individual cognition(s), as individual cognition(s) is the basis of a firm’s absorptive capacity (Lane, Koka & Pathak 2006). In addition, individual cognition is a critical internal driver of absorptive capacity (Lane et al. 2006; Cohen & Levinthal 1990). This examination at the level of the individual leads to the following four points.

### **7.2.2 PAST EXPERIENCE, PAST RELATED KNOWLEDGE, AND COGNITION AS**

#### **ANTECEDENTS OF INDIVIDUAL ABSORPTIVE CAPACITY**

First, from an academic point of view, this research proposed individual absorptive capacity (IAC) as being composed of the three antecedents: past experience (PE), past related knowledge (PK), and cognition (learning – up to the current moment) (COG). The empirical results, found in Chapter 6 (pp. 116 – 119), suggest a direct and positive link between PE, PK, and COG. Given that linkage these three have been established as

antecedents of IAC and provides foundational conceptual groundwork for related theories.

### **7. 2. 3 INDIVIDUAL ABSORPTIVE CAPACITY INFLUENCES INDIVIDUAL PERFORMANCE IN THE SME**

Second, this research empirically tested Volberda et al (2010) and Cohen and Levinthal's (1990) conceptualization of absorptive capacity at the individual level (IAC) and reinforced IAC by showing its influence on individual performance in the **SMEs** (IPSME). These results highlighted the effect of motivation on meaningful learning and individual job performance (Nolen 2007, 1996). Additionally, high levels of motivation influenced both individual success and beneficial outcomes (Hidi & Renninger 2006).

In the context of SME owners using social media in their daily work lives, these results revealed a similarity between both new and established entrepreneurs: they assign a high value to the drive for continuous learning and believe it is very important to them for attaining goals and for achieving successful project outcomes (Dutot & Bergeron 2017). And in a much broader and more general context learning for any individual, regardless of the related organizational size, is very important and the drive for it is likely no different from any business sector regardless of organizational size (e.g., MNEs, born globals) (Dutot & Bergeron 2017).

### **7. 2. 4 WILLINGNESS TO FOLLOW A TECHNOLOGICALLY-ENABLED TREND**

The third suggestion encompasses the theoretical constructs **w**illingness to **f**ollow a **t**echnologically-**e**nabled **t**rend (WFTET) and individual predisposition toward accepting social media as a **v**iable **b**usiness **t**ool (VBT). These two constructs are situated within cognitive psychology and business management and strategy, and this research proposed

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an individual's WFTET and VBT might positively influence the relationship between IAC and IPSME.

The empirical findings for WFTET suggest the following trifold links to existing theory:

First, high levels of self-efficacy (Ahlen, Drnovšek & Hisrich 2014) and prior training on use of social media (Kaplan & Haenlein 2010) positively influenced the relationship between IAC and IPSME when the SME owner attended activities, courses, or events in support of training on use of new social media technology.

Second, detecting meaningful patterns or trends in emergent technology (Helfat & Peteraf 2014) and personal motivation to learn (Colquitt & Simmering 1998) positively influenced the relationship between IAC and IPSME when the SME owner perceived a new opportunity to communicate and connect with others (Dutot & Ensley 2006) to increase his or her career and industry relevance (Venkatesh & Davis 2000).

SME owners count communicating and connecting with others (Cook 2008) via social media as a means of building reputation and influence (Sarasvanthy & Dew 2008), assigning it a perceived usefulness value (Venkatesh & Davis 2000). SME owners use social media, professionally, to make connections (e.g., Facebook) (Tolliday 2017), develop their businesses (e.g., LinkedIn) (Burgess, Selitto, Cox, Bureltjens & Bigley 2017), get jobs (Sensis 2016), gain client accounts (Michaelidou, Siamagka & Christodoulides), get references from former/current clients (e.g., Google+) (Breslauer & Smith 2009), launch new products or services (e.g., Social Mention) (Sensis 2016), and so forth. This means it is entirely possible for one entrepreneur to use social media to reach many hundreds or many thousands of other people around the world.

Third, increased efficiencies and effectiveness influenced the relationship between IAC and IPSME when SME owners believed their use of social media yielded key performance



indicators (essentially meeting their performance expectancy). SME owners used metrics sourced from Google analytics, website traffic, mobile traffic, followers, and retweets to measure their social media performance (Durkin et al. 2013); performance expectancy is a hallmark of their willingness to follow a technologically-enabled trend (Venkatesh, Thong & Xu 2012). This means SME owners were highly motivated and willing to use social media in their daily work because of a held belief that increased efficiency and job productivity positively influenced their professional reputation.

#### **7. 2. 5 INDIVIDUAL PREDISPOSITION TOWARD ACCEPTING SOCIAL MEDIA AS A VIABLE BUSINESS TOOL**

As mentioned above this construct comes from the disciplines of cognitive psychology and business management and strategy. The empirical findings for the construct of individual predisposition toward accepting social media as a **v**iable **b**usiness **t**ool (VBT) suggested the following three links to existing theory: First, high centrality of use of social media influenced the relationship between IAC and IPSME when SME owners identified being highly competitive as a business goal that would assist them in achieving long-term enterprise success (Dutot & Bergeron 2017). This means SME owners had strong belief in the value of incorporating social media as a strategic business tool into their daily work for sustainable business success. In addition, the high centrality of use of social media enabled SME owners to perceive and respond more quickly to both customer demands and competitor challenges (Gates 1999).

Second, SME owners consider social media to be an essential differentiator in their competitive business environments and thus prioritized its use in their daily lives (Dutot & Bergeron 2017). Additionally, SME owners carefully crafted their message with the

marketplace to consistently reflect their business values (Mangold & Faulds 2009); this is a purposeful differentiator behind the SME owners' social media strategy (Venkatesh et al. 2012).

Third, SME owners frequently cited business development purposes and functional purposes as reasons for using social media in the workplace (Dutot & Bergeron 2017; Blanchard 2011). This means SME owners implemented strong social media use via structured planned tactics, methods, techniques and functions. Structured planned tactics included upgrading enterprise IT capability (Davis 1989), while functions included advertising, marketing, human resources, launching new products and services, posting job openings, and tracking professional metrics (Durkin et al. 2013).

### **7.3 CONTRIBUTIONS TO LITERATURE**

The contributions to literature are significant for four reasons. First, this research explored why SME owners used web-based technologies in their daily work and how this use influenced their individual performance in the SME. This is relevant, as public policy in support of emergent entrepreneurial innovation is often shaped by the entrepreneurs' use of existing innovations (Acs 2006; GEM 2006) – a self-perpetuating cycle that can drive innovation and, potentially, successful economies. It is important to note that while the focus of this research has been at the individual level rather than at the organizational level, this research recognizes the important contributions of organizational-level use of innovations in the shaping of public policy.

### **7. 3. 1 INDIVIDUAL ABSORPTIVE CAPACITY AND INDIVIDUAL PERFORMANCE IN THE SME**

Second, this research explained the construct absorptive capacity (Cohen & Levinthal 1990) which derives from the academic discipline of cognitive psychology. This research then established past experience, past related knowledge, and cognition as being antecedents of individual absorptive capacity (IAC) (Cohen & Levinthal 1990).

Additionally, this research empirically tested Volberda et al. (2010) and Cohen and Levinthal's (1990) conceptualization of IAC at the individual level and reinforced it by showing influence on individual performance in the **SME** (IPSME). Subsequently, this research identified several perceived beneficial utilities SME owners have in relation to the use of social media. These included connection, communication, collaboration, and cooperation with others (Cook 2008).

### **7. 3. 2 COGNITIVE-INFLUENCED VALUATION AND WILLINGNESS TO FOLLOW A TECHNOLOGICALLY-ENABLED TREND**

Third, this research introduced the term cognitive-influenced valuation (CV) (Author's own 2017) from the academic discipline of Cognitive Psychology to explain how it is the case that individual SME owners were willing to follow a technologically-enabled trend (WFTET). This study has empirically shown that CV is a significant motivator of learning (Author's own 2017). Empirical results show increased self-confidence on the part of the SME owners when they had a good grasp of how to serve their clients well through use of social media. This study has also shown that individual SME owners assigned a high value to those things which motivated them to learn; motives are what drive SME owners' willingness to follow a technologically-enabled trend.

### **7. 3. 4 ADAPTIVE BEHAVIORS AND VIABLE BUSINESS TOOL**

Fourth, this research introduced the term adaptive behaviors (AB) (Author's own 2017) from the subject area of business management and strategy to explain how SME owners adapted their use of social media from low or moderate to high centrality in their strategic business practices; individual SME owners used social media as a strategically viable business tool (VBT). This research empirically established the practical actions taken by SME owners to use social media daily as a means toward sustainable enterprise success.

### **7. 4 RESEARCH IMPLICATIONS AND LIMITATIONS**

The implications are threefold. First, a small business policy implication centers around education for, and training on, use of social media by SME owners. Access to education and training on current and/or emergent social media is important for enterprise owners in order for them to compete in their industries. Digital skills matter for knowing how to access online data like websites, databases, and social networking sites and without these skills many SME owners most likely will experience difficulties in productivity and job performance. This raises an important topic for future research into the specific area of small business policy reflecting local factors.

For instance, local Councils play a crucial role in providing support for entrepreneurs to start and grow, which can generate local opportunities as well as creating the potential for securing investment in high-quality digital skills training and job opportunities. In order to promote the investment in high-quality digital skills training and creation of job opportunities SME owners must become engaged in the shaping of this provision, ensuring they have a stronger voice in influencing local policy through clear

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communication and collaboration. Research around the variance of shaping policy where more-collaborative processes are compared to less- or non-collaborative processes would further expand on this theory. Additionally, studies exploring how and to which recipients this access is made available, and the relative short- and long-term levels of success, would also broaden the applicable data available for consideration when shaping policy.

Second, another small business policy implication centers on the role of infrastructure and Internet connectivity. Without sufficient network coverage and access to the internet to complement their social media skills and tools, the SME owners will most likely not experience increased productivity or increased job performance. They must not only be able to access and deploy these skills, but they must be able to reach the target audience through the connectivity offered via the internet. This raises an important topic for future research into the area of small business policy reflecting regional factors.

For instance, many SME owners in the Canterbury area have great infrastructure and fast broadband speed, and high social media skills. In contrast, many SME owners in the Tonbridge area have limited infrastructure and slow connectivity, but high social media skills. These two areas may be in the same region but the former is likely to be more productive and have increased job performance than the latter. The relevance of this practical regional and local issue cannot be discounted and underscores the importance of more SME-led policy, particularly in geographic areas where there is a high interest in entrepreneurial ventures but a lack of the infrastructure necessary for success.

Third, a practical implication that this research has shown in general is that rather than one singular social media stream (e.g., Twitter, LinkedIn) being preferred across all sectors

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and in all situations, a professional will tend to use or not use a technology to the extent she or he believes it will help the individual perform her/his job better. Thus each professional will choose the social media tool(s) with the best fit for the current or immediate goal(s); one size does not fit all.

Limitations of this study include the small sample size and the locus of this study being County Kent, UK, where a larger sample size and/or a larger collection radius would yield additional comparative data. Further research including these factors would be beneficial. A striking feature of this study has been the lack of correlation between the quantitative data and the qualitative data, which could potentially be addressed by the above, as well. Future research with greater correlation between research focus and subject matter would also be beneficial and yield additional areas of theoretical development.

### **7.5 DIRECTIONS FOR FUTURE RESEARCH**

Future research will likely include a longitudinal survey. This will allow for more significant exploration and findings of mediating and moderating variables, as well as broadening new theoretical models relevant to this topic. Given the degree to which social media and new technological trends emerge, develop, and are applied to the business and management sector, greater understanding of their utilization can only be of value. Future research will also have the opportunity to explore a greater amount of historical data of SME owners' use of web-based technology, and particularly those who have lived with web-based technology for their entire lives rather than those who observed its development and emergence as a business tool within recent decades.

## 7.6 CONCLUSION

This initial research demonstrated the SME owners' belief in the efficacy of web-based technologies as well as exploring the theoretical and historical data that supports this belief. This research demonstrated qualitatively that each SME owner chose the social media tool with the best fit for the current or immediate goal(s) rather than one singular social media stream being preferred across all sectors and in all situations (Author's own 2017).

In addition, this research demonstrated SME owners' use of social media has career relevance and identified seven different variables that influence SME owners' use of social media in their daily work lives – both in terms of cognitive value and adaptive behavior. These variables were also empirically shown to influence the practical action(s) taken by SME owners to utilize social media as a business tool in their daily lives.

As a result, this research has not only advanced the topic beyond existing research (from organizational-level cognition and usage to the individual-level of cognition and usage) but has developed and proven new theoretical groundwork for additional research in this topic (IAC, IPSME, CV and WFTET, AB and VBT). As the use of web-based technologies continues to permeate all sectors of the business world and global trade, this topic has increasing relevance to academics and practitioners and the potential to act as a tangible indicator of the likelihood of a business' long-term success.

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# WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

## Appendix 4.1

### Sources of Codes

#### 1. Research Objective:

Why the relationship between individual absorptive capacity (IAC) and individual performance in the SME (IPSME) and how this is the case?

#### 2. Research Questions:

Research Question 1: What influence, if any, has individual absorptive capacity (IAC) on willingness to follow a technologically-enabled trend (WFTET) and individual predisposition toward accepting social media as a viable business tool (VBT) leading to improved individual performance in the SME (IPSME)?

Research Question 2: What is the process by which IAC impacts IPSME but might be positively moderated by WFTET and VBT?

#### 3. Hypotheses:

H1.1: IAC influences willingness to follow a technologically-enabled trend (WFTET) and predisposition toward accepting social media as a viable business tool (VBT)

H1.1a: Past experience (PE) positively impacts WFTET and VBT

H1.1b: Past related knowledge (PK) positively impacts WFTET and VBT

H1.1c: Cognition (COG) (learning – up to current) positively impacts WFTET and VBT

H1.2: WFTET and VBT positively impact IPSME

H2: IAC effects IPSME but might be moderated by WFTET and VBT

#### 4. Conceptual Framework:

Mediation: IAC influences WFTET and VBT; WFTET and VBT influence IPSME.

Moderation: IAC influences IPSME but might be moderated by WFTET and VBT.

#### 4. Key Variables: GEM Proxies:

IAC	SUSKILL
IPSME	NBSTATUS, ESTBBUSO, EB
WFTET	OMNEWTEC, INORGRY
VBT	OMCOMPET, INORGLIF

#### 5. Technology Acceptance Model (Venkatesh & Davis 2000; Davis, Bagozzi & Warshaw 1998)

Ease of use

Efficiencies

Job relevance

Output quality

Perceived value

Perceived usefulness

Perceived ease of use

Results demonstrability



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix A

#### LIST OF ANTECEDENTS, MEDIATING, MODERATING, AND OUTCOME VARIABLES: SME OWNERS' USE OF SOCIAL MEDIA

Antecedents (Establishing IAC)	Mediating and Moderating Variables (WFTET) and (VBT)	Outcomes (IPSME)
Prior experience	OMNEWTEC	NBSTATUS
Prior related knowledge	INVORTRY	ESTBBUSO
Cognition (learning-up to current)	OMCOMPET	EB
	INVORLIF	

(Source: Adapted from Miles & Huberman 1994 157)

## Appendix 4.2

## List of Codes

History of Usage (Establishes Antecedents of IAC)	HU (PRE)	Chapter
HU: Prior Experience (using social media, pre-SME)	HU-PE/Pre-SME (SUSKILL) **	5
HU: Prior Related Knowledge (about social media, pre-SME)	HU-PK/Pre-SME (SUSKILL) **	5
HU: Cognition (learning – up to current - on using social media pre-SME) (Cognitivism)	HU-COG/Pre-SME (SUSKILL) **	5
HU: Motivation (using social media, pre-SME)	HU-MOT/Pre-SME	5
<b>External Context</b>	<b>EC</b>	
EC: Industry	EC-IND	5
EC: Sector	EC-SEC	5
<b>Internal Context</b>	<b>IC</b>	
IC: Type of enterprise	IC-T/E	5
IC: Innovation-Individual Congruence	IC-FIT	5
<b>Ultimate Outcomes</b>	<b>UO</b>	
UO: SME Status	UO-STAT	5
New business; established less than 42 months	UO-NBSTATUS**	5
Established business; older than 42 months	UO-ESTBBUSO**	5
<b>Cognitive-Influenced Valuation</b>	<b>CV</b>	
CV: Motives/Motivation	CV-MOT	5
Personal (Private motivation)	CV-MOT/PRIV	5
Professional (Public motivation)	CV-MOT/PUB	5
CV: Career Relevance	CV-CR (OMNEWTEC; INVORTRY) **	5
CV: Attitude (user's attitude toward using social media)	CV-A	5
CV: Metrics used (for measuring the value created)	CV-MET	5
CV: Ease of use (using social media professionally)	CV-Ease of Use (EU) (OMNEWTEC; INVORTRY)**	5
CV: Types of value created (using social media professionally)	CV-Perceived Value (PV) (OMNEWTEC; INVORTRY) **	5
CV: Types of usefulness (social media, professionally)	CV-Perceived Usefulness (PU) (OMNEWTEC; INVORTRY) **	5
CV: Types of efficiencies	CV-Efficiencies (E) (OMNEWTEC; INVORTRY) **	5

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix 4.2

### List of Codes continued

<u>Adaptive Behaviours</u>	<u>AB</u>	
AB: Centrality	AB-CENT (OMCOMPET; INVORLIF) **	5
AB: Goals/Objectives (for your professional use of social media in your SME)	AB-Social Media Strategy (SMS) (OMCOMPET; INVORLIF) **	5
AB: Tactics/Methods/Techniques (for accomplishing the strategy)	AB-T/M/T (OMCOMPET; INVORLIF) **	5
AB: Types of obstacles/challenges encountered, professionally	AB-OB/CH (OMCOMPET; INVORLIF) **	5

(Source: Adapted from Strauss & Corbin 1994; Miles & Huberman 1994 59-60)

\*\* GEM Proxies: SUSKILL = IAC; NBSTATUS, ESTBBUSO = IPSME; OMNEWTEC, INVORTRY = WFTET; OMCOMPET, INVORLIF= VBT

## Appendix 4.3

### Definitions of Selected Codes

<u>History of Usage - HIST/PRE-SME</u>	<u>Definition</u>
HU: Prior Experience HU-PE/Pre-SME (SUSKILL) **	Individual experience with using social media before starting the SME, as recounted by the user. (Cohen & Levinthal 1990)
HU: Prior Related Knowledge HU-PK/Pre-SME (SUSKILL) **	Individual knowledge about using social media before starting the SME, as recounted by the user and suggesting a link to past experience. (Cohen & Levinthal 1990)
HU: Cognition (learning – up to current) HU-COG/Pre-SME (SUSKILL) **	Individual learning – up to current, on using social media, before starting the SME, as recounted by user and suggesting a link to (a) past experience and, (b) past related knowledge. (Cohen & Levinthal 1990)
HU: Motivation HU-MOT	Personal need for using social media before starting the SME, as recounted by the user and suggesting a private or backstage motive.
<u>External Context – EC</u>	
EC: Industry EC-IND	Industry in which the SME owner conducts business and indicative of greater representation across industries.
EC: Sector EC-SEC	Sector of industry in which the SME owner conducts business and indicative of greater EC-representation within sectors.
<u>Internal Context – IC</u>	
IC: Type of enterprise IC-T/E	Divergent companies selected across business disciplines and indicative of greater representation within the industries.
IC: Innovation-Individual Congruence IC-FIT	Perceived congruence between the capabilities of the social media innovation and the job goals of the individual, as recounted by the user. (Venkatesh, Morris, Davis, & Davis 2003; Thompson et al 1991)
<u>Ultimate Outcomes - UO</u>	
UO: SME Status UO-STAT	Type and status of SME.
UO-NBSTATUS**	New business; established less than 42 months (GEM Adult Population Survey 2011 Question i7).
UO-ESTBBUSO**	Established business; older than 42 months. (GEM Adult Population Survey 2011 Question 209).
UO-EB**	Any job now or in 5 years. (GEM Adult Population Survey 2011 Question 302).
<u>Cognitive-Influenced Valuation - CV</u>	
CV: Motives/Motivation CV-MOT	Assigning valuation of the motives/motivations which drives an entrepreneur to try out/use a new social media technology, as recounted by the user. (Durkin, McGowan & McKeown 2013)
Personal (Private motivation) CV-MOT/PRIV	Assigning valuation of those personal private motives/motivations which drive the SME owner to try out/use a new social media technology, as recounted by the user (e.g., hedonic motivation; social influence, self-efficacy, self- image). (Venkatesh, Thong & Xu 2012)
Professional (Public motivation) CV-MOT/PUB	Assigning valuation of those motives/motivations which drive the entrepreneur to try out/use a new social media technology in her/his work life, as recounted by the user (e.g., hedonic motivation; increased job performance, more efficient at work).
CV: Career Relevance (OMNEWTEC; INVORTRY) **	The degree to which the consequences of using a new social media technology are CV-CR important/relevant to the user's work life, as recounted by the user (e.g., to reputation, influence). (Venkatesh & Davis 2000 191)

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### **Appendix 4.3 (continued)**

#### Cognitive-Influenced Valuation - CV

CV: Metrics used (for measuring the value created) CV-MET	Key performance indicators measuring the value created from the use of social media technologies by the user in the workplace, as recounted by the user (e.g., Google analytics, website traffic, mobile traffic, followers, retweets, etc.). (Moore & Benbasat 1991 203; Venkatesh & Davis 2000 192; Durkin, McGowan & McKeown 2013).
CV: Attitude CV-A	An individual's overall generalized feelings associated with using social media technologies in her/his work life, as recounted by the user (e.g., liking, enjoyment, pleasure, joy associated with using). (Venkatesh, Morris, Davis & Davis 2003 440)
CV: Ease of use CV-Ease of Use (EU) (OMNEWTEC; INVORTRY) **	The degree to which the user expects the social media technologies to be easy to use in her/his work life, as recounted by the user. (Davis, 1989; Davis, Bagozzi, Warshaw 1989 985)
CV: Types of value created CV-Perceived Value (PV) (OMNEWTEC; INVORTRY) **	Recognition of the types of value created from incorporating social media technologies into the work life, as recounted by the user (e.g., increased span of reach, increased influence, the ability to more cost effectively grow a business; increased value of the business as a result of the three points mentioned just prior). Gregoire, Barr & Shepherd 2010)
CV: Types of usefulness CV-Perceived Usefulness (PU) (OMNEWTEC; INVORTRY) **	Perception that using specific types of social media technologies will increase the user's job performance in the work place, as recounted by the user (e.g., job related productivity, job related effectiveness, job related efficiencies, problem solving) (Venkatesh & Davis 2000 189; Davis, Bagozzi & Warshaw 1989 985).
CV: Types of efficiencies CV-Efficiencies (E) (OMNEWTEC; INVORTRY) **	The type of benefits which using social media technologies provides to the user in the work place, as recounted by the user. (Venkatesh, Thong & Xu 2012 159).
<u>Adaptive Behaviours - AB</u>	
AB: Centrality AB-CENT (OMCOMPET; INVORLIF) **	The degree to which accepting social media as a viable business tool for long term enterprise success and considered a priority in the daily work life of the user, as recounted by the user. (Dutot & Bergeron 2017)
AB: Goals/Objectives AB-Social Media Strategy (SMS) (OMCOMPET; INVORLIF) **	The aims and/or purpose(s) behind the decision to incorporate social media as a strategic business tool into the daily work life of the user, as recounted by the user (e.g., industry competitors, strategic orientation, hedonic motivation, etc.). (Dutot & Bergeron 2017; Venkatesh, Thong & Xu 2012 165).
AB: Tactics/Methods/Techniques AB-T/M/T (OMCOMPET; INVORLIF) **	The practical action(s) taken in which social media is used as a strategic business tool in the daily work life of the user in accomplishing the strategic business plan, as recounted by the user. (Dutot & Bergeron 2017; Blanchard 2011).
AB: Obstacles/challenges encountered AB-OB/CH (OMCOMPET; INVORLIF) **	Types of obstacles/challenges from competitors encountered in the daily work life of the social media user, as recounted by the user (e.g., limited SME resources (e.g., knowledge, time, staff, revenue), limited network resources (e.g., price value; newest social media technologies; customer input/influence). (Dutot & Bergeron 2017; Durkin, McGowan & McKeown 2013; Venkatesh, Thong & Xu 2012)

Appendix 4.4

Conceptually Clustered Matrix: "In vivo" Motives and Attitudes of SME Owners' Use of Social Media, County Kent

Research Questions

SME Name*	Owner's Motives (types)	Career Relevance	Centrality	Initial Attitude (towards using social media, professionally)	SME Status**
EventCo	<p><u>Social influence</u>: "My friends and I use it." (Pre-SME; PRIV-MOT)</p> <p><u>Observation, modelling</u>: learned by watching instructor. "She impressed me." (Pre-SME; PRIV-MOT)</p> <p><u>Self-motivation</u>: Learning to use the new social media applications is a way to "keep growing." (PUB-MOT)</p>	Vehicle for connecting with individual customers.	<u>Moderate</u> : "It was one of many things I was working on."	<u>Favourable</u> : "I was excited about it." (IC)	<p>New Business (NBSTATUS)</p> <p>In business less than 42 months</p>
GraphicCo	<p><u>Opportunity, effort justification</u>: "I did a chartered institute of digital media course and took a diploma. (Pre-SME; PRIV-MOT)</p> <p><u>Self-improvement/motivation</u>: "I use the experience, knowledge, and learning all the time...every day." (PUB-MOT)</p> <p><u>Marketing tool</u>: "I need to stay a step ahead so I can offer my clients a good service..." (PUB-MOT)</p>	Ticket to developing the business.	<u>High</u> : "It's the most important investment I've ever made."	<u>Neutral/Apprehensive</u> : "I was uncomfortable and unfamiliar with the platforms so I got trained how to use them, while at my previous employment, before I set up my enterprise." (IC)	NBSTATUS
CompuCo	<p><u>Self-improvement/motivation</u>: training courses were occasions to "keep learning and growing." (Pre-SME; PRIV-MOT)</p> <p><u>Opportunity</u>: Using social media "increases my reputation, my influence, and my business value." (PUB-MOT)</p>	Vehicle for engaging with customers.	<u>High</u> : "It's an essential part of my business strategy."	<u>Favourable</u> : "I've always liked the new technologies but didn't actually know a lot about social media so I took some training on it; now I know quite a lot more." (IC)	<p>Established Business (ESTBBUSO)</p> <p>In business more than 42 months.</p>
PRCo	<p><u>Self-improvement/motivation</u>: "I like learning to use new technologies." (Pre-SME; PRIV-MOT)</p> <p><u>Fit to personal style</u>: "I like to follow trends." (PRIV-MOT; PUB-MOT)</p> <p><u>Business tool</u>: "I take a strategic approach. So everything is connected.</p>	Key to future success.	<u>High</u> : "I am using my skills, experience, strategy, content, knowledge, and learning to package (social media) things up in such a way that makes it innovative enough for people to want to buy from me, be consulted by me,	<u>Neutral/Apprehensive</u> : I was not comfortable with the social media platforms so I went and got trained; very quickly it 'clicked'; now I feel quite self-confident using any of them." (IC)	ESTBBUSO

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

	It works well." (PUB-MOT)		or be trained by me."		
SalonCo	<p><u>Pressure</u>: "there was a leaning from a big company (L'Oreal)." (Pre-SME; PUB-MOT)</p> <p><u>Self-improvement/motivation</u>: occasion to "keep learning, keep growing." (PUB-MOT)</p> <p><u>Conformity</u>: "It is the way forward...for small businesses it's the future." (PUB-MOT)</p>	None at first; later, appreciates the visibility gained from referrals.	<u>High</u> : "Biggest thing I've ever done that somebody else told me to do."	<u>Unfavourable, then favourable</u> : "They said I should try it but I didn't want to. Nevertheless I got well trained; now I feel like I have a sense of ownership using any social media in my business. (IC)	ESTBBUSO

(Adapted from Miles & Huberman 1994 128)

\*Pseudonymous SME names

\*\*GEM Proxy for IPSME

For cell entries the coded chunks have been reduced to four kinds of entries: labels (self-motivation/improvement), quotations, short summary phrases, and ratings (favourable/unfavourable) (Miles & Huberman 1994). The labels and rating set up comparisons between informants and between cases. The quotations supply some grounded meaning for the material; they put flesh on the rating or label and can be extracted easily for use in the analytic text.

### Appendix 4.4 Supplement

(The summary phrases explain or qualify a rating, usually where there are no quotations (as in the "career relevance" column). In general it's a good idea to add a short quote or explanatory phrase beside a label or scale, otherwise the analyst is tempted to work with general categories that lump together responses that really mean different things (as clearly seen in the "High" responses in the "centrality" column). If lumping does happen and you are puzzled about something, the qualifying words are easily at hand for quick reference.)

Reading down the columns of Appendix 4.4 gives the reader a thumbnail profile of each informant and provides an initial test of the relationship between responses to the different questions. The informants have been ordered according to their enterprise's name (pseudonymous), their past experience, past related knowledge, and cognition (learning-up to current) on using social media prior to starting their enterprise (Pre-SME), and within the group of users an illustrative contrast between motives for using social media by new business owners and motives for using social media by established business owners, and the status of their SME (new business; established business) has been included. Also, within the group of users is an illustrative contrast between private motives (List of Codes: PRIV-MOT) and professional motives (List of Codes: PUB-MOT) by both new business owners and established business owners. What conclusions might be drawn from Table 5.3? First, in the second column, "self-motivation/self-improvement" motives are prominent. Also a noticeable amount of opportunities to use social media are being recognized by users. Second, there is career relevance for all but one SME owner. Third, centrality is high for almost all owners, and moderate for just one. Looking across rows uses the tactic of noting relations between variables and it can be seen that, for one of four career-motivated users, a relationship exists among the variables: High centrality and favourable attitudes are also present. But the opposite pattern (low career relevance, low centrality, and neutral/unfavourable attitudes) does not apply. In fact, it looks as if some people who are neutral would have been favourable were they not so apprehensive about doing well (tactic: finding intervening variables).

Note that, for users, regardless of the age of the enterprise, the modal pattern is self-improvement, high centrality, and neutral, often mixed initial attitudes; people are backing into what most call 'the most important thing' or 'biggest step' they have undertaken.

## Appendix B

### Qualitative Research: Interview Guide to Steer Interview with SME Managers

#### **Purpose of the Qualitative Research Interview Guide:**

The purpose of the research interview guide is to indicate the topics and their sequence to the interviewer during the interview, with or without detailed questions. Based on the degree of structuring, interviews can be divided into three categories: (i) structured interviews, (ii) semi-structured interviews and, (iii) unstructured interviews (Fontana & Frey, 2005; Kvale, 1996). A structured interview is an interview that has a set of predefined questions and the questions would be asked in the same order for all respondents. This standardization is intended to minimize the effect of the instrument and the interviewer on the research results. Semi-structured interviews are more flexible. An interview guide is prepared; but in the course of the interview, the interviewer has a certain amount of room to adjust the sequence of the questions to be asked and to add questions based on the context of the participants' responses. The unstructured interview technique relies on the social interaction between the interviewer and the interviewee; neither the question nor the answer categories are predetermined; the interviewer does not impose any *a priori* (italics original) categorization, which might limit the field of inquiry.

Based on previous studies of SMEs (Padilla-Meléndez, et al., 2013; Compeau & Higgins, 2013) this current research utilizes the interview guide to conduct semi-structured, face-to-face interviews with managers in SMEs. The purpose of the interview is to enquire of individual managers' about their use of social media in their workplace in order to explore the:

Research Question: 'In SMEs, what effect, if any, has social media on dynamic capabilities?'

#### **I. Briefing/Lead-in**

Thank you

*Describe study:* I am exploring the relationship between the use of social media by managers in the workplace and absorptive capacity. I am trying to understand the factors that determine social media usage.

*Implications:* Certain feelings, thoughts and attitudes may result in higher use of social media given certain conditions as perceived by the individual manager.

*Why Important:* Social media usage is prevalent in organizations. Exploring the research question could lead to useful understanding of the factors that determine managers' use of social media in SMEs. Understanding of those factors could result in the integration of



social media into the strategic business objectives. Efficiencies could increase and competitive advantage could rise.

*Appreciate* By soliciting managers' insight about use of social media in the workplace, my hope is to develop a better and more useful model. This research will use the tools of interview, online survey and case study to collect empirical and statistical information. My hopes are that the results support the proposed conceptual framework and contribute to strategic management theory.

Show knowledge of company based on background reading.

Your responses are confidential.

## II. Today's Agenda

- (1) Will ask you about *20 questions* about your use of social media in the workplace.
- (2) Will ask you to *reflect on a specific managerial decision – making experience in which you actively took part as observer or user of some type of social technological device (i.e., Android, iPad, mobile phone, Netbook, etc.) and some type of Internet-based application (i.e., blog, Email, Facebook, Google, Skype, Twitter, webcast, etc.) that enabled creation, addition or modification of content such that the content enabled the decision – making. Describe your thought process, from awareness of the objective to contingency planning, major challenges, how overcame, significant learning or insights you gained during the process.*
- (3) Will close/end the interview.

### **Part I** (parenthetical comments indicate how the data is used)

- (1) What is your prior knowledge using social media? (H1a)
- (2) What is your prior experience using social media? (H1b)
- (3) What is your current use of social media? (H1c)
- (4) What are your primary reasons for using social media in the workplace? (H1)
- (5) Do you feel like value is created when you use social media in your workplace? (H1, H2)
- (6) Do you feel like you are productive when you use social media in your workplace? (H2)
- (7) Do you feel like you are efficient when you use social media in your workplace? (H2)
- (8) Do you feel like your organization values your prior knowledge using social media? (H1b)
- (9) Do you feel like your organization values your prior experience using social media? (H1a)
- (10) Do you feel like your organization values individuals from diverse backgrounds using social media? (H2)
- (11) Do you feel like organizational work routines improve when you use social media to accomplish them? (H2)
- (12) Do you feel like your organization values your current usage of social media? (H1c)
- (13) How does your organization determine value from the information you create when using social media? (H2)

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

- (14) Describe your organization's overall support of the use of social media. (H2)
- (15) What major organizational obstacles/challenges? (H2)
- (16) How challenges were overcome? (H2)
- (17) Describe your organization's overall corporate strategy for social media. (RQ)
- (18) Explain the factors that determine your social media usage in the workplace. (RQ)
- (19) Describe your organization's innovative ability when using social media. (RQ)
- (20) What have been some of the most important things you have learned about using social media in the workplace? (RQ).

### **Part II**

Please describe a specific managerial decision making experience in which you were involved and social media was used to help with the decision. Describe and explain the process, from awareness and need recognition, through the process involved, and major factors considered. Then the social media implementation: major obstacles overcome, surprises, expectations, learning, satisfaction, performance.

### **Part III** Closing

Any further documentation? Referrals to other executives in your firm or from other firms?

Thank you.

## **Appendix C Exploratory Interview Questions for Senior and Mid-Level Managers**

### **Pre-Interview Contact**

1. Self-introduction and explaining the objective of the study.
  - About 1 hour interview, will be recorded and transcribed.
  - A copy of the transcript can be provided upon request.
  - All levels of confidentiality and anonymity will be maintained.
  - Information discussed will not be for commercial use.

### **Flow of Interview**

1. Restating the purpose of the study and reassuring the confidentiality and anonymity of the respondent(s).
2. Invite the respondent to introduce him/herself.  
Please introduce yourself. (Background; Industry experience).
3. Interview questions [Specific].
  1. What is your definition of social media? [Establishes understanding].
  2. What are examples of types of social media? [Establishes knowledge base].
  3. Which type(s) do you predominantly use in the work place? [Establishes preference].
4. Absorptive capacity: the ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends. Individual absorptive capacity includes general knowledge and experience about adaptiveness to change, collaboration, deflecting external threats, prior related knowledge, diversity of background and innovative capabilities. It may also include knowledge of the most recent technological developments in a given field.
  1. How does your pre-existing knowledge of innovation make a difference in your ease of learning a new innovation?

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

2. How does your absorptive capacity in the workplace make a difference in your use of social media?
  
5. Results demonstrability: degree to which an individual believes that the results of using a system are tangible, observable, communicable and the influence, if any, of knowledge of actual results of work activities  
.
  1. What effect does an increase in your results demonstrability in the work place have on your use of social media?
  
6. Facilitating conditions: organizational support that facilitates the use of Information Technologies (IT), organizational communication, voluntariness versus mandatory use of IT; regulatory or ethical compliance.
  1. What effect do facilitating conditions have on your use of social media?
  
  2. What effect do facilitating conditions in the work place have on your absorptive capacity?
  
  3. What effect do facilitating conditions in the work place have on your results demonstrability?
  
7. Environmental mechanisms: industry competitors, market conditions, consumer demands, and so on.
  1. What influence do environmental mechanisms have on your absorptive capacity?
  
8. Organizational mechanisms: relationships amongst HR, marketing, manufacturing, R&D and other functions within your organization.
  1. What results do organizational mechanisms have on your absorptive capacity?

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

9. Does your use of social media increase your quality of work? How? [Efficiency].
  1. Does your use of social media produce the desired results? How do you know? [Effectiveness].
10. How often does your organization measure data generated as a result of your use of social media? [Establishes time intervals for longitudinal studies].
11. How often does your organization compare your use of social media to the performance growth of the organization?
12. What is your opinion towards the strategic integration of social media into the strategic business objectives of the organization?
13. Do you have anything else to share regarding the topic?

(The order of the questions may vary according to the flow of the conversation).

~ End of interview (Thank the respondent) ~

## **Appendix D**

### **Research Terminology**

#### **Absorptive Capacity (AC)**

Past experience, knowledge (behaviour) and cognition (learning - up to the current moment) – to recognize the value of new information, assimilate it and apply it to beneficial commercial ends (Cohen & Levinthal, 1990).

#### **Dynamic Capability (DC)**

Organizational ways to increase growth; processes which organization can use to obtain, integrate, reconfigure, and release resources – this leads to new resources and resource configuration (Eisenhardt et al., 2009).

#### **Individual Absorptive Capacity (IAC)**

Past use behaviour and current usage of social media (Cohen & Levthal 1990; Lane, Kotha & Pathak 2006).

#### **Individual Performance in the Small to Medium Enterprise (IPSME)**

Past use behavior and current usage of social media, influenced by willingness to follow a technologically-enabled trend and an individual's predisposition toward accepting social media as a viable business tool (Author's Own, 2014).

#### **Social Media (SM)**

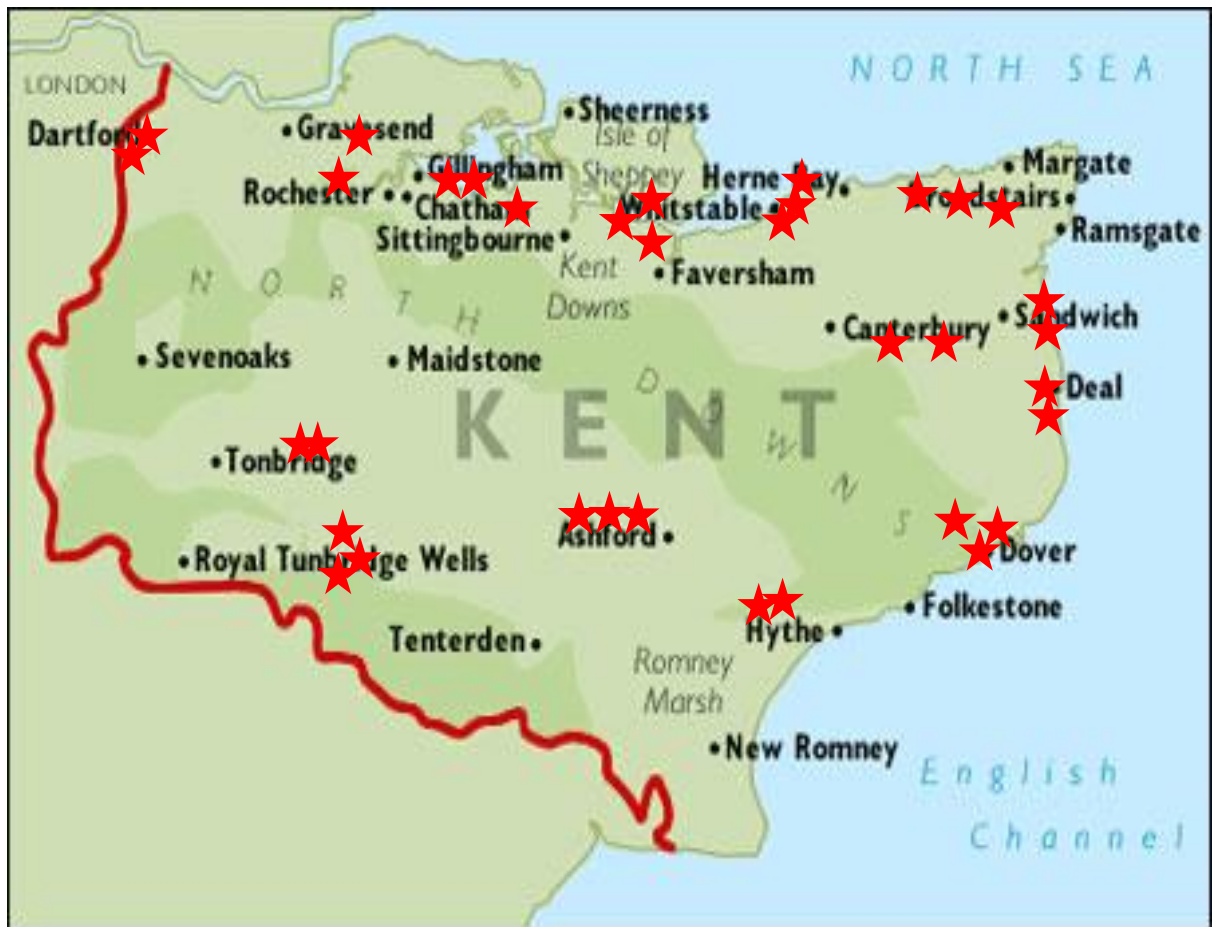
Internet-based application that build on the ideological and technological foundations of Web 2.0 and allow creation and exchange of user-generated content (UGC) (Kaplan & Haenlein, 2010).

#### **Social Media Apps**

Programs and/or software designed as internet (web) applications that enhance "virtual sociability". Examples include Facebook, Google, LinkedIn, MySpace, Twitter, etc.

Appendix E

Sample Population: SMEs in County Kent, UK



Note: Red stars on this sample population map reflect the location of one SME Owner interviewed for this research. As discussed in other sections, data from five of the forty interviewees was analysed.

**Appendix F Survey Questionnaire**

1. Absorptive Capacity (AC):
  - a. I have no difficulty recognizing the value of social media from external sources.
  - b. I believe I could learn to recognize the value of social media from external sources.
  - c. The social media is apparent to me.
  - d. I would have difficulty recognizing why social media may or may not be beneficial.
  
2. Perceived Usefulness (PU):
  - a. Using social media improves my performance in my job.
  - b. Using social media in my job increases my productivity.
  - c. Using social media enhances my effectiveness in my job.
  - d. I find social media useful in my job.
  
3. Perceived Ease of Use (PEOU):
  - a. My use of social media is clear and understandable.
  - b. Using social media does not require a lot of my mental effort.
  - c. I find social media to be easy to use.
  - d. I find it easy to get the social media to do what I want.
  
4. Computer Self-Efficacy (CSE): I could complete the job using a software package...
  - a. ...if there was no one around to tell me what to do as I go.
  - b. ...if I had just had the built-in help facility for assistance.
  - c. ...if someone showed me how to do it first.
  - d. ...if I had used similar packages before this one to do the same job.
  
5. Perceptions of External Control (PEC):
  - a. I have control over using social media.
  - b. I have the resources necessary to use social media.
  - c. Given the resources, opportunities and knowledge it takes to use social media, it would be easy for me to use the social media.
  - d. The social media is not compatible with other systems I use.
  
6. Computer Media Playfulness (CPLAY): The following questions ask you how you would characterize yourself when you use computers:
  - a. ...spontaneous
  - b. ...creative
  - c. ....playful
  - d. ...unoriginal
  
7. Computer Anxiety (CANX):
  - a. Computers do not scare me at all.
  - b. Working with a computer makes me nervous.
  - c. Computers make me feel uncomfortable.
  - d. Computers make me feel unesy.



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

- 8. Perceived Enjoyment (ENJ):**
  - a. I find using the system to be enjoyable.
  - b. The actual process of using the system is pleasant.
  - c. I have fun using the system.
  
- 9. Subjective Norm (SN):**
  - a. People who influence my behaviour think that I should use social media.
  - b. People who are important to me think that I should use social media.
  - c. Other senior and mid-level managers of this firm have been helpful in the use of social media.
  - d. In general, the organization has supported the use of social media.
  
- 10. Voluntariness (VOL):**
  - a. My use of social media is voluntary.
  - b. My supervisor does not require me to use social media (for mid-level manager to answer).
  - c. Although it might be helpful, using social media is certainly not compulsory in my job.
  
- 11. Image (IMG):**
  - a. Senior and mid-level managers in my organization who use the system have more prestige than those who do not.
  - b. Senior and mid-level managers in my organization who use social media have a high profile.
  - c. Having social media is a status symbol for senior and mid-level managers in my organization.
  
- 12. Job Relevance (REL):**
  - a. In my job as a senior or mid-level manager, using social media is important.
  - b. In my job as a senior or mid-level manager, using social media is relevant.
  - c. The use of social media is pertinent to my various job-related tasks.
  
- 13. Output Quality (OUT):**
  - a. The quality of the data output I get from using social media is high.
  - b. I have no problem using social media with the quality of the data output.
  - c. I rate the results from social media to be excellent.
  
- 14. Results Demonstrability (RES):**
  - a. I have no difficulty telling others about the results of using social media.
  - b. I believe I could communicate to others the consequences of using social media.
  - c. The results of using social media are apparent to me.
  - d. I would have difficulty explaining why using social media may or may not be beneficial.
  
- 15. Behavioural Intention (BI):**
  - a. Assuming I had access to the use of social media, I intend to use it.

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

- b. Given that I had access to the use of social media, I predict that I would use it.
- c. I plan to use social media in the next <n> months.

**16. Use (USE):**

- a. On average, how much time do you spend using social media in your workplace each day?

## Appendix G Technology Acceptance Model (TAM)

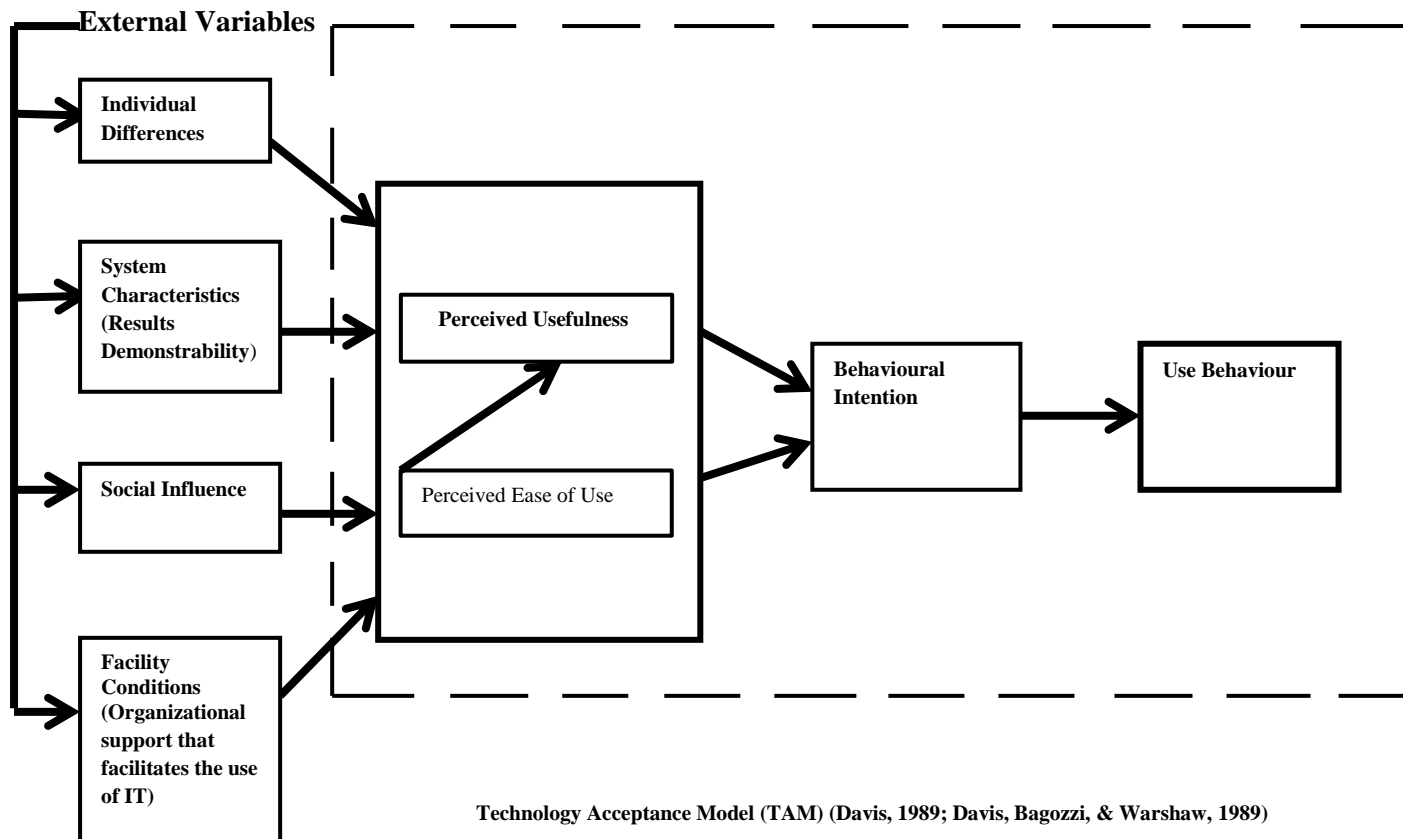
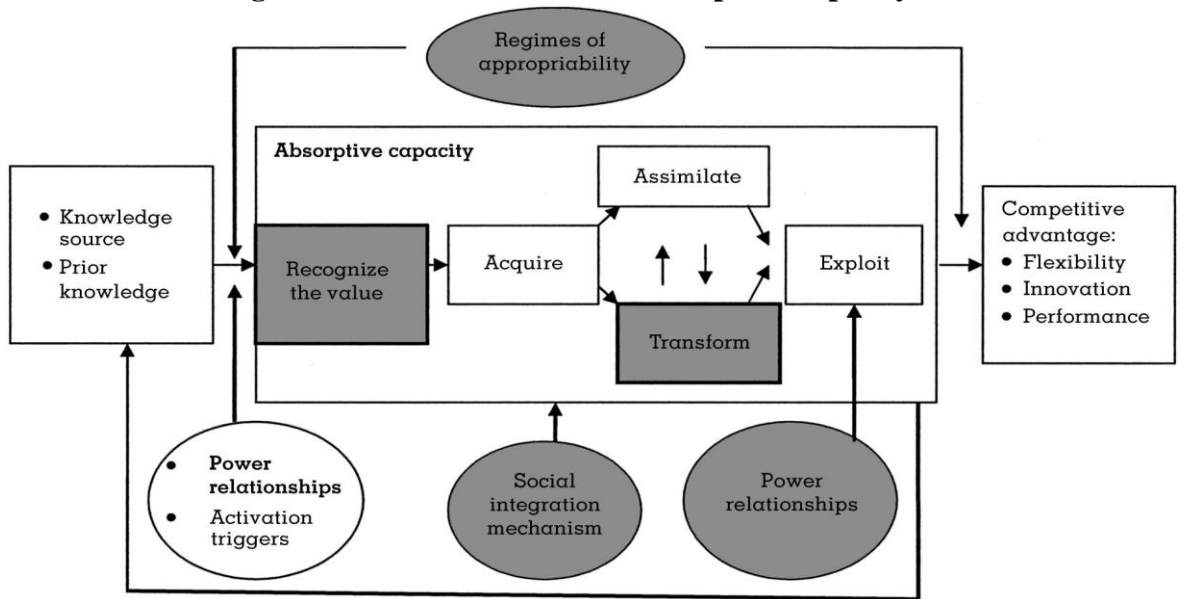


Figure 2: A Refined Model of Absorptive Capacity



(Todorova & Durisin, 2007, p. 776)

## **Appendix I Exploratory Interview Questions for Senior and Mid-Level Managers**

### **Pre-Interview Contact**

2. Self-introduction and explaining the objective of the study.
  - About 1 hour interview, will be recorded and transcribed.
  - A copy of the transcript can be provided upon request.
  - All levels of confidentiality and anonymity will be maintained.
  - Information discussed will not be for commercial use

### **Flow of Interview**

4. Restating the purpose of the study and reassuring the confidentiality and anonymity of the respondent(s).
5. Invite the respondent to introduce him/herself.  
Please introduce yourself. (Background; Industry experience).
6. Interview questions [Specific].
  14. What is your definition of social media? [Establishes understanding.]
  15. What are examples of types of social media? [Establishes knowledge base]
  16. Which type(s) do you predominantly use in the work place?
  17. Absorptive capacity: the ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends. Individual absorptive capacity includes general knowledge and experience about adaptiveness to change, collaboration, deflecting external threats, prior related knowledge, diversity of background and innovative capabilities. It may also include knowledge of the most recent technological developments in a given field.
3. How does your pre-existing knowledge of innovation make a difference in your ease of learning a new innovation?

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

4. How does your absorptive capacity in the workplace make a difference in your use of social media?
18. Results demonstrability: degree to which an individual believes that the results of using a system are tangible, observable, communicable and the influence, if any, of knowledge of actual results of work activities
- .
2. What effect does an increase in your results demonstrability in the work place have on your use of social media?
19. Facilitating conditions: organizational support that facilitates the use of Information Technologies (IT), organizational communication, voluntariness versus mandatory use of IT; regulatory or ethical compliance.
4. What effect do facilitating conditions have on your use of social media?
  5. What effect do facilitating conditions in the work place have on your absorptive capacity?
  6. What effect do facilitating conditions in the work place have on your results demonstrability?
20. Environmental mechanisms: industry competitors, market conditions, consumer demands, and so on.
2. What influence do environmental mechanisms have on your absorptive capacity?
21. Organizational mechanisms: relationships amongst HR, marketing, manufacturing, R&D and other functions within your organization.
2. What results do organizational mechanisms have on your absorptive capacity?

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

22. Does your use of social media increase your quality of work? How? [Efficiency].
  2. Does your use of social media produce the desired results? How do you know? [Effectiveness].
23. How often does your organization measure data generated as a result of your use of social media? [Establishes time intervals for longitudinal studies].
24. How often does your organization compare your use of social media to the performance growth of the organization?
25. What is your opinion towards the strategic integration of social media into the strategic business objectives of the organization?
26. Do you have anything else to share regarding the topic?

(The order of the questions may vary according to the flow of the conversation).

~ End of interview (Thank the respondent) ~

## Appendix J

### Qualitative Research: Interview Guide to Steer Interview with SME Managers

#### **Purpose of the Qualitative Research Interview Guide:**

The purpose of the research interview guide is to indicate the topics and their sequence to the interviewer during the interview, with or without detailed questions. Based on the degree of structuring, interviews can be divided into three categories: (i) structured interviews, (ii) semi-structured interviews and, (iii) unstructured interviews (Fontana & Frey, 2005; Kvale, 1996). A structured interview is an interview that has a set of predefined questions and the questions would be asked in the same order for all respondents. This standardization is intended to minimize the effect of the instrument and the interviewer on the research results. Semi-structured interviews are more flexible. An interview guide is prepared; but in the course of the interview, the interviewer has a certain amount of room to adjust the sequence of the questions to be asked and to add questions based on the context of the participants' responses. The unstructured interview technique relies on the social interaction between the interviewer and the interviewee; neither the question nor the answer categories are predetermined; the interviewer does not impose any *a priori* (italics original) categorization, which might limit the field of inquiry.

Based on previous studies of SMEs (Padilla-Meléndez, et al., 2013; Compeau & Higgins, 2013) this current research utilizes the interview guide to conduct semi-structured, face-to-face interviews with managers in SMEs. The purpose of the interview is to enquire of individual managers' about their use of social media in their workplace in order to explore the:

Research Question: 'In SMEs, what effect, if any, has social media on dynamic capabilities?'

#### **I. Briefing/Lead-in**

Thank you

*Describe study:* I am exploring the relationship between the use of social media by managers in the workplace and absorptive capacity. I am trying to understand the factors that determine social media usage.

*Implications:* Certain feelings, thoughts and attitudes may result in higher use of social media given certain conditions as perceived by the individual manager.



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

*Why Important:* Social media usage is prevalent in organizations. Exploring the research question could lead to useful understanding of the factors that determine managers' use of social media in SMEs. Understanding of those factors could result in the integration of social media into the strategic business objectives. Efficiencies could increase and competitive advantage could rise.

*Appreciate* By soliciting managers' insight about use of social media in the workplace, my hope is to develop a better and more useful model. This research will use the tools of interview, online survey and case study to collect empirical and statistical information. My hopes are that the results support the proposed conceptual framework and contribute to strategic management theory.

Show knowledge of company based on background reading.

Your responses are confidential.

### II. Today's Agenda

- (1) Will ask you about *20 questions* about your use of social media in the workplace.
- (2) Will ask you to *reflect on a specific managerial decision – making experience in which you actively took part as observer or user of some type of social technological device (i.e., Android, iPad, mobile phone, Netbook, etc.) and some type of Internet-based application (i.e., blog, Email, Facebook, Google, Skype, Twitter, webcast, etc.) that enabled creation, addition or modification of content such that the content enabled the decision – making. Describe your thought process, from awareness of the objective to contingency planning, major challenges, how overcame, significant learning or insights you gained during the process.*
- (3) Will close/end the interview.

#### **Part I** (parenthetical comments indicate how the data is used)

- (1) What is your prior knowledge using social media? (H1a)
- (2) What is your prior experience using social media? (H1b)
- (3) What is your current use of social media? (H1c)
- (4) What are your primary reasons for using social media in the workplace? (H1)
- (5) Do you feel like value is created when you use social media in your workplace? (H1, H2)
- (6) Do you feel like you are productive when you use social media in your workplace? (H2)
- (7) Do you feel like you are efficient when you use social media in your workplace? (H2)
- (8) Do you feel like your organization values your prior knowledge using social media? (H1b)
- (9) Do you feel like your organization values your prior experience using social media? (H1a)
- (10) Do you feel like your organization values individuals from diverse backgrounds using social media? (H2)
- (11) Do you feel like organizational work routines improve when you use social media to accomplish them? (H2)
- (12) Do you feel like your organization values your current usage of social media? (H1c)
- (13) How does your organization determine value from the information you create when using social media? (H2)

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

- (14) Describe your organization's overall support of the use of social media. (H2)
- (15) What major organizational obstacles/challenges? (H2)
- (16) How challenges were overcome? (H2)
- (17) Describe your organization's overall corporate strategy for social media. (RQ)
- (18) Explain the factors that determine your social media usage in the workplace. (RQ)
- (19) Describe your organization's innovative ability when using social media. (RQ)
- (20) What have been some of the most important things you have learned about using social media in the workplace? (RQ).

### ***Part II***

Please describe a specific managerial decision making experience in which you were involved and social media was used to help with the decision. Describe and explain the process, from awareness and need recognition, through the process involved, and major factors considered. Then the social media implementation: major obstacles overcome, surprises, expectations, learning, satisfaction, performance.

### ***Part III*** Closing

Any further documentation? Referrals to other executives in your firm or from other firms?

Thank you.

## Appendix K Hierarchical Multiple Regression Analysis

DV: NBSTATUS, IV: SUSKILL, Moderator Variables: WFTET and VBT

Descriptive Statistics			
	Mean	Std. Deviation	N
Qi7. In my country, those successful at starting a new business have a high level of status and respect.	<b>.72</b>	<b>.448</b>	<b>156</b>
Qi3. Do you have the knowledge, skill and experience required to start a new business?	<b>.85</b>	<b>.356</b>	<b>156</b>
5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>2.99</b>	<b>1.303</b>	<b>156</b>
Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>2.88</b>	<b>.365</b>	<b>156</b>
Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?	<b>1.49</b>	<b>.596</b>	<b>156</b>
5W3. INNOVATION: In the next 6 months, new products and services will improve your working life.	<b>2.99</b>	<b>1.303</b>	<b>156</b>

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix L

### Model Summary<sup>d</sup>

Model	R	R Square	Change Statistics							
			Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	<b>.027<sup>a</sup></b>	<b>.001</b>	<b>-.006</b>	<b>.450</b>	<b>.001</b>	<b>.110</b>	<b>1</b>	<b>154</b>	<b>.741</b>	
2	<b>.218<sup>b</sup></b>	<b>.048</b>	<b>.029</b>	<b>.442</b>	<b>.047</b>	<b>3.745</b>	<b>2</b>	<b>152</b>	<b>.026</b>	
3	<b>.222<sup>c</sup></b>	<b>.049</b>	<b>.024</b>	<b>.443</b>	<b>.002</b>	<b>.265</b>	<b>1</b>	<b>151</b>	<b>.607</b>	<b>1.967</b>

a. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?

b. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?

c. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

d. Dependent Variable: Qi7. In my country, those successful at starting a new business have a high level of status and respect.

**For Model 1, .1% of the variation in NBSTATUS can be explained by SUSKILL. By adding WFTET to the model, the R<sup>2</sup> increased 4.7% (a significant change in R<sup>2</sup>, pvalue <.05). By adding VBT, no value was added to the predictive capability.**

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

<b>Appendix M</b>		<b>ANOVA<sup>a</sup></b>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	<b>.022</b>	<b>1</b>	<b>.022</b>	<b>.110</b>	<b>.74</b>
						<b>1<sup>b</sup></b>
	Residual	<b>31.125</b>	<b>154</b>	<b>.202</b>		
	Total	<b>31.147</b>	<b>155</b>			
2	Regression	<b>1.484</b>	<b>3</b>	<b>.495</b>	<b>2.535</b>	<b>.05</b>
						<b>9<sup>c</sup></b>
	Residual	<b>29.663</b>	<b>152</b>	<b>.195</b>		
	Total	<b>31.147</b>	<b>155</b>			
3	Regression	<b>1.536</b>	<b>4</b>	<b>.384</b>	<b>1.958</b>	<b>.10</b>
						<b>4<sup>d</sup></b>
	Residual	<b>29.611</b>	<b>151</b>	<b>.196</b>		
	Total	<b>31.147</b>	<b>155</b>			

a. Dependent Variable: Qi7. In my country, those successful at starting a new business have a high level of status and respect.

b. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?

c. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2.

INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work

for the first time., Q2G3. How long have the technologies or procedures required for this product or service been

available?

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

d. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2.

INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

**The predictors in the models do not have explanatory power as indicated by the F-test in the ANOVA Procedure.**

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

**Appendix N**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	<b>.696</b>	<b>.094</b>		<b>7.421</b>	<b>.000</b>					
	Q13. Do you have the knowledge, skill and experience required to start a new business?	<b>.034</b>	<b>.102</b>	<b>.027</b>	<b>.332</b>	<b>.741</b>	<b>.027</b>	<b>.027</b>	<b>.027</b>	<b>1.000</b>	<b>1.000</b>
2	(Constant)	<b>.533</b>	<b>.303</b>		<b>1.758</b>	<b>.081</b>					
	Q13. Do you have the knowledge, skill and experience required to start a new business?	<b>.029</b>	<b>.100</b>	<b>.023</b>	<b>.288</b>	<b>.773</b>	<b>.027</b>	<b>.023</b>	<b>.023</b>	<b>.996</b>	<b>1.004</b>
	5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>-.065</b>	<b>.027</b>	<b>-.188</b>	<b>-2.377</b>	<b>.019</b>	<b>-.191</b>	<b>-.189</b>	<b>-.188</b>	<b>.999</b>	<b>1.001</b>

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

	Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>.125</b>	<b>.097</b>	<b>.102</b>	<b>1.287</b>	<b>.200</b>	<b>.109</b>	<b>.104</b>	<b>.102</b>	<b>.996</b>	<b>1.004</b>
3	(Constant)	<b>.463</b>	<b>.333</b>		<b>1.392</b>	<b>.166</b>					
	Q3. Do you have the knowledge, skill and experience required to start a new business?	<b>.026</b>	<b>.100</b>	<b>.021</b>	<b>.263</b>	<b>.793</b>	<b>.027</b>	<b>.021</b>	<b>.021</b>	<b>.994</b>	<b>1.006</b>
	5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>-.065</b>	<b>.027</b>	<b>-.188</b>	<b>-2.370</b>	<b>.019</b>	<b>-.191</b>	<b>-.189</b>	<b>-.188</b>	<b>.999</b>	<b>1.001</b>
	Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>.134</b>	<b>.099</b>	<b>.109</b>	<b>1.353</b>	<b>.178</b>	<b>.109</b>	<b>.109</b>	<b>.107</b>	<b>.966</b>	<b>1.035</b>



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Q2G2. Right now, are **.031** **.061** **.042** **.515** **.607** **.023** **.042** **.041** **.969** **1.032**  
there many, few, or no  
other businesses  
offering the same  
products or services to  
your potential  
customers?

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a. Dependent Variable: Qi7. In my country, those successful at starting a new business have a high level of status and respect.

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix O

### Hierarchical Multiple Linear Regression Analysis

DV: ESTBBUSO, IV: SUSKILL, Moderator Variables: WFTET and VBT

Descriptive Statistics			
	Mean	Std. Deviation	N
Manages and owns a business that is older than 42 months	<b>.78</b>	<b>.419</b>	<b>169</b>
QI3. Do you have the knowledge, skill and experience required to start a new business?	<b>.83</b>	<b>.373</b>	<b>169</b>
5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>3.04</b>	<b>1.295</b>	<b>169</b>
Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>2.88</b>	<b>.359</b>	<b>169</b>
Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?	<b>1.49</b>	<b>.589</b>	<b>169</b>
5W3. INNOVATION: In the next 6 months, new products and services will improve your working life.	<b>3.04</b>	<b>1.295</b>	<b>169</b>

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix P

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the	Change Statistics				Durbin-Watson	
				Estimate	R Square Change	F Change	df1	df2		Sig. F Change
1	<b>.103<sup>a</sup></b>	<b>.011</b>	<b>.005</b>	<b>.418</b>	<b>.011</b>	<b>1.794</b>	<b>1</b>	<b>167</b>	<b>.182</b>	
2	<b>.215<sup>b</sup></b>	<b>.046</b>	<b>.029</b>	<b>.413</b>	<b>.036</b>	<b>3.078</b>	<b>2</b>	<b>165</b>	<b>.049</b>	
3	<b>.260<sup>c</sup></b>	<b>.067</b>	<b>.045</b>	<b>.409</b>	<b>.021</b>	<b>3.724</b>	<b>1</b>	<b>164</b>	<b>.055</b>	<b>2.149</b>

a. Predictors: (Constant), Q13. Do you have the knowledge, skill and experience required to start a new business?

b. Predictors: (Constant), Q13. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?

c. Predictors: (Constant), Q13. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

d. Dependent Variable: Manages and owns a business that is older than 42 months

**For Model 1, 1.1% of the variation in ESTBBUSO can be explained by SUSKILL. By adding WFTET to the model, the R<sup>2</sup> increased 3.6% (a significant change in R<sup>2</sup>, pvalue <.05). Now, 4.7% of the variation in ESTBBUSO can be explained by SUSKILL and WFTET. By adding VBT, no value was added to the predictive capability.**

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix Q

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	<b>.313</b>	<b>1</b>	<b>.313</b>	<b>1.794</b>	<b>.182<sup>b</sup></b>
	Residual	<b>29.143</b>	<b>167</b>	<b>.175</b>		
	Total	<b>29.456</b>	<b>168</b>			
2	Regression	<b>1.361</b>	<b>3</b>	<b>.454</b>	<b>2.665</b>	<b>.050<sup>c</sup></b>
	Residual	<b>28.094</b>	<b>165</b>	<b>.170</b>		
	Total	<b>29.456</b>	<b>168</b>			
3	Regression	<b>1.985</b>	<b>4</b>	<b>.496</b>	<b>2.963</b>	<b>.021<sup>d</sup></b>
	Residual	<b>27.470</b>	<b>164</b>	<b>.168</b>		
	Total	<b>29.456</b>	<b>168</b>			

a. Dependent Variable: Manages and owns a business that is older than 42 months

b. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?

c. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?

d. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

**For Model 2 and 3 are significant models. The predictors have explanatory power. 5W2 (INNVORGTRY) is a unique incremental predictor of ESTBBUSO based on Beta and the p value <.05)**

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Appendix R

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Tolerance	VIF
1	(Constant)	<b>.679</b>	<b>.079</b>		<b>8.595</b>	<b>.000</b>				
	Q13. Do you have the knowledge, skill and experience required to start a new business?	<b>.116</b>	<b>.086</b>	<b>.103</b>	<b>1.339</b>	<b>.182</b>	<b>.103</b>	<b>.103</b>	<b>1.000</b>	<b>1.000</b>
2	(Constant)	<b>.689</b>	<b>.274</b>		<b>2.517</b>	<b>.013</b>				
	Q13. Do you have the knowledge, skill and experience required to start a new business?	<b>.109</b>	<b>.086</b>	<b>.097</b>	<b>1.272</b>	<b>.205</b>	<b>.103</b>	<b>.099</b>	<b>.097</b>	<b>.994</b>
	5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>-.059</b>	<b>.025</b>	<b>-.181</b>	<b>-2.385</b>	<b>.018</b>	<b>-.183</b>	<b>-.183</b>	<b>1.000</b>	<b>1.000</b>

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

	Q2G3. How long have	<b>.060</b>	<b>.089</b>	<b>.052</b>	<b>.677</b>	<b>.500</b>	<b>.060</b>	<b>.053</b>	<b>.051</b>	<b>.994</b>	<b>1.006</b>
	the technologies or										
	procedures required										
	for this product or										
	service been										
	available?										
3	(Constant)	<b>.931</b>	<b>.299</b>		<b>3.114</b>	<b>.002</b>					
	Qi3. Do you have the	<b>.110</b>	<b>.085</b>	<b>.098</b>	<b>1.295</b>	<b>.197</b>	<b>.103</b>	<b>.101</b>	<b>.098</b>	<b>.994</b>	<b>1.006</b>
	knowledge, skill and										
	experience required to										
	start a new business?										
	5W2. INNOVATION: In	<b>-.059</b>	<b>.024</b>	<b>-.181</b>	<b>-2.405</b>	<b>.017</b>	<b>-.183</b>	<b>-.185</b>	<b>-.181</b>	<b>1.000</b>	<b>1.000</b>
	the next 6 months you										
	are likely to try										
	products or services										
	that use new										
	technologies in your										
	daily work for the first										
	time.										
	Q2G3. How long have	<b>.030</b>	<b>.090</b>	<b>.026</b>	<b>.336</b>	<b>.737</b>	<b>.060</b>	<b>.026</b>	<b>.025</b>	<b>.964</b>	<b>1.037</b>
	the technologies or										
	procedures required										
	for this product or										
	service been										
	available?										

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Q2G2. Right now, are **-.105** **.054** **-.148** **-1.930** **.055** **-.153** **-.149** **-.146** **.970** **1.031**  
there many, few, or no  
other businesses  
offering the same  
products or services to  
your potential  
customers?

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a. Dependent Variable: Manages and owns a business that is older than 42 months

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix S                      Hierarchical Multiple Linear Regression Analysis

DV: EByyEMP, IV: SUSKILL, Moderator Variables: WFTET and VBT

Descriptive Statistics			
	Mean	Std. Deviation	N
EB: any jobs now or in 5 years	<b>.48</b>	<b>.501</b>	<b>169</b>
Qi3. Do you have the knowledge, skill and experience required to start a new business?	<b>.83</b>	<b>.373</b>	<b>169</b>
5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>3.04</b>	<b>1.295</b>	<b>169</b>
Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>2.88</b>	<b>.359</b>	<b>169</b>
Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?	<b>1.49</b>	<b>.589</b>	<b>169</b>



## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

5W3. INNOVATION: In the next 6 months, new products and services will improve your working life. **3.04** **1.295** **169**

### Appendix T

### Model Summary<sup>d</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the		Change Statistics				
				Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	<b>.077<sup>a</sup></b>	<b>.006</b>	<b>.000</b>	<b>.501</b>	<b>.006</b>	<b>.999</b>	<b>1</b>	<b>167</b>	<b>.319</b>	
2	<b>.127<sup>b</sup></b>	<b>.016</b>	<b>-.002</b>	<b>.502</b>	<b>.010</b>	<b>.852</b>	<b>2</b>	<b>165</b>	<b>.429</b>	
3	<b>.133<sup>c</sup></b>	<b>.018</b>	<b>-.006</b>	<b>.503</b>	<b>.002</b>	<b>.260</b>	<b>1</b>	<b>164</b>	<b>.611</b>	<b>2.181</b>

a. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?

b. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?

c. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

d. Dependent Variable: EB: any jobs now or in 5 years

**For Model 3, 7.7% of the variation in EByyEMP can be explained by SUSKILL. By adding WFTET and VBT, no value was added to the predictive capability.**

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

### Appendix U

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	<b>.251</b>	<b>1</b>	<b>.251</b>	<b>.999</b>	<b>.319<sup>b</sup></b>
	Residual	<b>41.927</b>	<b>167</b>	<b>.251</b>		
	Total	<b>42.178</b>	<b>168</b>			
2	Regression	<b>.679</b>	<b>3</b>	<b>.226</b>	<b>.900</b>	<b>.443<sup>c</sup></b>
	Residual	<b>41.498</b>	<b>165</b>	<b>.252</b>		
	Total	<b>42.178</b>	<b>168</b>			
3	Regression	<b>.745</b>	<b>4</b>	<b>.186</b>	<b>.737</b>	<b>.568<sup>d</sup></b>
	Residual	<b>41.433</b>	<b>164</b>	<b>.253</b>		
	Total	<b>42.178</b>	<b>168</b>			

a. Dependent Variable: EB: any jobs now or in 5 years

b. Predictors: (Constant), QI3. Do you have the knowledge, skill and experience required to start a new business?

c. Predictors: (Constant), QI3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?

d. Predictors: (Constant), QI3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

**Appendix V Models 1,2, and 3 are not significant models (pvalue >.05)**

		Coefficients <sup>a</sup>									
		Unstandardized		Standardized		Correlations			Collinearity		
		Coefficients		Coefficients					Statistics		
		Std.							Tolera		
Model		B	Error	Beta	t	Sig.	order	al	Part	nce	VIF
1	(Constant)	.393	.095		4.149	.000					
	Q13. Do you have the knowledge, skill and experience required to start a new business?	.104	.104	.077	.999	.319	.077	.077	.077	1.000	1.000
2	(Constant)	.589	.333		1.770	.079					
	Q13. Do you have the knowledge, skill and experience required to start a new business?	.104	.104	.077	.999	.319	.077	.078	.077	.994	1.006

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

5W2.											
INNOVATION:											
In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.											
Q2G3. How long have the technologies or procedures required for this product or service been available?											
3 (Constant)	.667	.367		1.817	.071						

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Qi3. Do you .104 .104 .078 1.000 .319 .077 .078 .077 .994 1.006

have the  
knowledge, skill  
and experience  
required to  
start a new  
business?

5W2. -.038 .030 -.099 -1.278 .203 -.100 -.099 -.099 1.000 1.000

INNOVATION:  
In the next 6  
months you are  
likely to try  
products or  
services that  
use new  
technologies in  
your daily work  
for the first  
time.

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Q2G3. How long have the technologies or procedures required for this product or service been available?	-0.038	.110	-.027	-.341	.734	-.014	-.027	-.026	.964	1.037
Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?	-.034	.067	-.040	-.510	.611	-.036	-.040	-.039	.970	1.031

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a. Dependent Variable: EB: any jobs now or in 5 years

## **Appendix W Analysis**

First, a parametric analysis checked for normality of variables (data) by using a two-way analysis of variance (ANOVA) (Fields 2013). The two-way ANOVA assumes that the data is normally distributed in each cell of the design. This can be checked using a variety of tests and/or graphical methods. This study uses one of the most common numerical methods: the Shapiro-Wilk test of normality. Shapiro-Wilk tests the null hypothesis that the distribution of the data is equal to a normal distribution (Mat Roni 2014). More specifically, Shapiro-Wilk test is run on each moderator variable (proxy) and as there are four proxies in this study there are four rows (see Table 3 below). In the “Sig” column under the “Shapiro-Wilk” column the significance value (i.e., p-value) is found for each variable.

**Appendix X Shapiro – Wilk Test**

**Tests of Normality**

	Kolmogorov-Smimov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
5W3. INNOVATION: In the next 6 months, new products and services will improve your working life.	<b>.186</b>	<b>172</b>	<b>.000</b>	<b>.901</b>	<b>172</b>	<b>.000</b>
Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?	<b>.349</b>	<b>172</b>	<b>.000</b>	<b>.710</b>	<b>172</b>	<b>.000</b>
Q2G3. How long have the technologies or procedures required for this product or service been available?	<b>.522</b>	<b>172</b>	<b>.000</b>	<b>.369</b>	<b>172</b>	<b>.000</b>
5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time.	<b>.186</b>	<b>172</b>	<b>.000</b>	<b>.901</b>	<b>172</b>	<b>.000</b>

a. Lilliefors Significance Correction

The findings show that the assumption of normality for INVORLIF and OMCOMPET (proxies for VBT) and OMNEWTEC and INVORTRY (proxies for WFTET) scores are not satisfied ( $p < .05$  level), as assessed by Shapiro-Wilk’s test ( $p < .05$ ).

To test the strength and direction of the relationships between the variables the results of a Pearson correlation is provided in Table 4 below.



### Appendix Y Pearson's Correlation

Model		Unstandardized		Standardized		
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.679	.079		8.595	.000
	Qi3 (IAC).	.116	.086	.103	1.339	.182
2	(Constant)	.689	.274		2.517	.013
	Qi3. (IAC)	.109	.086	.097	1.272	.205
	5W2. (WFTET)	-.059	.025	-.181	-2.385	.018
	Q2G3.(WFTET)	.060	.089	.052	.677	.500
3	(Constant)	.931	.299		3.114	.002
	Qi3. (IAC)	.110	.085	.098	1.295	.197
	5W2. (WFTET)	-.059	.024	-.181	-2.405	.017
	Q2G3.(WFTET)	.030	.090	.026	.336	.737
	Q2G2. (VBT)	-.105	.054	-.148	-1.930	.055

In Table 4 above, in Model 1 there is no statistical significance between IAC and IPSME. In Model 2, there is no statistical significance. In Model 3 at least one predictor has explanatory power.

**Appendix Z Hierarchical Multiple Regression**

A hierarchical multiple regression is done to determine if the two moderators OMNEWTEC and INVORTRY (proxies for WFTET) and OMCOMPET and INVORLIF (proxies for VBT) alter the effect of the independent variable SUSKILL (proxy for IAC) on the dependent variables NBSTATUS, ESTBBUSO, and EB (proxies for IPSME). Three regression models are described below. To begin, the Appendix below presents the starting model summary where NBSTATUS is the dependent variable, SUSKILL is the independent variable, and the moderator variables are INVORTRY, OMNEWTEC and OMCOMPET.

**Appendix AA DV: NBSTATUS; IV: SUSKILL; Moderator Variables: INVORTRY, OMNEWTEC, and OMCOMPET**

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	<b>.027<sup>a</sup></b>	<b>.001</b>	<b>-.006</b>	<b>.450</b>	<b>.001</b>	<b>.110</b>	<b>1</b>	<b>154</b>	<b>.741</b>	
2	<b>.218<sup>b</sup></b>	<b>.048</b>	<b>.029</b>	<b>.442</b>	<b>.047</b>	<b>3.745</b>	<b>2</b>	<b>152</b>	<b>.026</b>	
3	<b>.222<sup>c</sup></b>	<b>.049</b>	<b>.024</b>	<b>.443</b>	<b>.002</b>	<b>.265</b>	<b>1</b>	<b>151</b>	<b>.607</b>	<b>1.967</b>

- a. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?
- b. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?
- c. Predictors: (Constant), Qi3. Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNOVATION: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. How long have the technologies or procedures required for this product or service been available?, Q2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?
- d. Dependent Variable: Qi7. In my country, those successful at starting a new business have a high level of status and respect.

Next, the Appendix below presents the model where ESTBBUSO is the dependent variable, SUSKILL is the independent variable, and INVORTRY, OMNEWTEC and OMCOMPET are the moderator variables.

WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

**Appendix BB DV: ESTBBUSO; IV: SUSKILL; Moderator Variables: INVORTRY, OMNEWTEC, and OMCOMPET**

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.103 <sup>a</sup>	.011	.005	.418	.011	1.794	1	167	.182	
2	.215 <sup>b</sup>	.046	.029	.413	.036	3.078	2	165	.049	
3	.260 <sup>c</sup>	.067	.045	.409	.021	3.724	1	164	.055	2.149

a. Predictors: (Constant), Qi3. SUSKILL: Do you have the knowledge, skill and experience required to start a new business?

b. Predictors: (Constant), Qi3. SUSKILL: Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNORTRY: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time, Q2G3. OMNEWTEC: How long have the technologies or procedures required for this product or service been available?

c. Predictors: (Constant), Qi3. SUSKILL: Do you have the knowledge, skill and experience required to start a new business?, 5W2. INNORTRY: In the next 6 months you are likely to try products or services that use new technologies in your daily work for the first time., Q2G3. OMNEWTEC: How long have the technologies or procedures required for this product or service been available?, Q2G2. OMCOMPET: Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?

d. Dependent Variable: Manages and owns a business that is older than 42 months

Next, the Appendix below presents the last model summary where EB is the dependent variable, SUSKILL is the independent variable, and INVORTRY, OMNEWTEC, OMCOMPET, and INVORLIF are the moderator variables.

**Appendix CC DV: EB; IV: SUSKILL; Moderator Variables: INVORTRY, OMNEWTEC, OMCOMPET, and INVORLIF**

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.077 <sup>a</sup>	.006	.000	.501	.006	.999	1	167	.319	
2	.127 <sup>b</sup>	.016	-.002	.502	.010	.852	2	165	.429	
3	.133 <sup>c</sup>	.018	-.006	.503	.002	.260	1	164	.611	2.181

a. Predictors: (Constant), SUSKILL

b. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC

c. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC; OMCOMPET; INVORLIF

d. Dependent Variable: EB: any jobs now or in 5 years

## WHY DO SME OWNERS USE WEB-BASED TECHNOLOGIES?

Next, an analysis of variance (ANOVA) test is done to determine if a direct relationship exists between IAC and IPSME. Table 6 presents the ANOVA model.

### Appendix DD DV: ESTBBUSO; IV: SUSKILL; Moderator Variables: INVORTRY, OMNEWTEC, OMCOMPET and INVORLIF

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	<b>.313</b>	<b>1</b>	<b>.313</b>	<b>1.794</b>	<b>.182<sup>b</sup></b>
	Residual	<b>29.143</b>	<b>167</b>	<b>.175</b>		
	Total	<b>29.456</b>	<b>168</b>			
2	Regression	<b>1.361</b>	<b>3</b>	<b>.454</b>	<b>2.665</b>	<b>.050<sup>c</sup></b>
	Residual	<b>28.094</b>	<b>165</b>	<b>.170</b>		
	Total	<b>29.456</b>	<b>168</b>			
3	Regression	<b>1.985</b>	<b>4</b>	<b>.496</b>	<b>2.963</b>	<b>.021<sup>d</sup></b>
	Residual	<b>27.470</b>	<b>164</b>	<b>.168</b>		
	Total	<b>29.456</b>	<b>168</b>			

a. Dependent Variable: ESTBBUSO

b. Predictors: (Constant), SUSKILL

c. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC;

d. Predictors: (Constant), SUSKILL; INVORTRY; OMNEWTEC; OMCOMPET; INVORLIF