SOCIAL MEDIA ADOPTION AMONG SMALL AND MEDIUM ENTERPRISES: AFFORDANCE PERSPECTIVE

By

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Abstract

Current study advances the understanding of adoption of social media technology in small and medium sized enterprises. Widely regarded as essential in contemporary business environments, social media have substantial effects on productivity and competitiveness. However, this research questioned the technology and did not take the technology features and functionalities for granted that predictable or has a universal properties to measure any adoption decision. In this study, in line with technology-in-practice perspective, social media is performed as a general function and no specific or has some predictable outcomes. This thesis focuses primarily on Small to Medium Enterprises (SMEs) in a developing country context, with reference to Malaysia. The thesis uses technology affordance perspective and modified Technology-Organization-Environment (TOE) model to determine antecedents and outcomes of the adoption of social media. This study employed a sequential mixed-methods research approach to meet the research objectives. The data was first collected through 17 semi-structured interviews to study the situatedness of social media in business setting, followed by a survey of 337 SMEs in Malaysia to examine the hypotheses of the extended model. The survey data were analysed using structural equation modelling (SEM). Connectivity, interaction, intimacy, flexibility, collaboration, top management support, investment and customer pressure were found to have a significant influence on SMEs' decisions to adopt social media, while the adoption itself has a positive influence on technology paradoxes and business performance. This study has important implications and value for the research community, on how the technology has affected the changing nature of work, work practices and business environment. It contributes to enhancing our understanding about the factors influencing the adoption of social media technology in SMEs.

Contents

List of Tables

List of Figures

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Author's Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Signature :

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Abbreviations

AVE	Average variance extracted
CA	Content analysis
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CR	Construct reliability
CSR	Corporate social responsibilities
DOI	Diffusion of Innovation Theory
EFA	Exploratory factor analysis
HR	Human resource
IS	Information system
IT/ICT	Information technology/ information and communication technology
RMSEA	Root mean square error of approximation
SEM	Structural equation modelling
SMEs	Small and medium enterprises
SNS	Social network site
TA	Thematic analysis
TPA	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TOE	Technology Organization Environment
UGT	Uses and Gratification Theory
URL	Uniform Resources Locator

Chapter 1: Introduction

1.1 Research background

During the past two decades, researchers and practitioners have made considerable efforts to examine the process and the factors influencing the adoption of technology in business (Humaid & Ibrahim, 2019) to increase their understanding of various aspects of the technology adoption process in organizations (Taherdoost, 2018).

Social media has become a recent technology that enables organizations to be more efficient and competitive as an integrated part in operating business activities (Eze & Chinedu-Eze, 2018) and represent a new and more agile way of doing business (Andzulis et al., 2012). Therefore, all types of business organisations, regardless of their size and activities, have realised the importance of adopting social media (Nah & Saxton, 2013). Such adoption yields substantial benefits to business (Merrill et al., 2011) in areas such as advertisement, promotion, branding, customer feedback, market research, product development and promoting word of mouth (Ainin et al., 2015). These benefits are no longer reserved solely for large organisations (He et al., 2014; Verheyden & Goeman, 2013) as social media have become relevant to small and medium-sized enterprises (SMEs) as well (Meske & Stieglitz, 2013).

Despite of the significance of social media adoption and the vast amount of existing literature (Jabeen, 2017; Ahmad et al., 2018), it indicates that only a small number of SMEs are convinced about the perceived benefits and added value (Saldanha & Krishnan, 2012). The general result surfaced a persisting barriers and problem to its implementation, such as vague knowledge and lack of perceived relevant among small business and it has not fully utilized to the potential (Wamba & Carter, 2014; Michaelidou *et.al*, 2011). Another one aspect is lack of effective framework and metric of implementation measurement (Effing & Spil, 2016; Michaelidou et.al., 2011).

While most of the studies gave attention in general usage, there is a gap between expectations of technology and business realities and academic efforts to explain it are met with limited success (Jones et al., 2014). Due to the changing nature and dynamism of mobile technology and work practices in the context of SMEs, understanding of social media adoption requires an alternative research perspective (Basole, 2004; Basole & DeMillo, 2006; Rouse, 2005). There is a need to increase effort and embrace the business goal based on relationship between technology and the users (Motameni & Nordstrom, 2014; Perrigot et al., 2013; Kim et al., 2011).

This research aims to offer an alternative perspective theoretically to investigate the factors associated with social media adoption from the approach of technology-in-practice and the impact to the small and medium enterprises. As social media has widely established in mobile environment, this study also led to investigate deeper on technology in SMEs practice that affect the adoption factors. The research focus on reframing the conceptual perspective on how technology is being used in practice by not separating technology and business entities. It reviews the technology affordance perspective which tightly bound any actions of utilising social media. Section 1.2 provides an initial review of current literature related to social media adoption.

1.2 Research motivation

There are two main research strands surrounding social media technology adoption. The first strand is concerned with the consistent interest in social media antecedents, factors, motivation, intention or determinant of the adoption (e.g., Alsharji et al., 2017; Humaid & Ibrahim, 2019; Ashamaila, 2018; Odoom et al., 2017). The second is emergent strand of research focusing more on the theoretical and practical implications of social media in organizational setting (Treem & Leonardi, 2012; Leonardi, 2017) which explain more details on how and why of the phenomena such as real time communication, tacit information dissemination, engagement with information and relationship building (e.g., Atanassova & Clark, 2015; Scott & Orlikowski, 2014; Humaid & Ibrahim, 2019). There is a little research has been devoted to the study on social media in practice that enables information sharing, communication and collaboration that allows business to accelerate their work

(Leonardi & Barley, 2008; Markus & Silver, 2008, Scott & Orlikowski, 2014). Due to the separation of the two strands of technology research mainly in technology adoption and technology-in-practice topic, existing literatures have provided little empirical understanding of technology when it occurs in SMEs setting (Morgan-Thomas, 2016).

Despite the growing evidence that mobile technology has influenced the business to use social media as valuable competitive advantage (Vickery & Wunsch-Vincent, 2007), more research on social media situatedness within business context is needed (Morgan-Thomas, 2016; Leonardi, 2017). Organizations are struggling to professionally implement it and possible to be a waste of organizational resources, because of still lacking on comprehensive framework, methods and research instruments to develop social media strategies (Effing & Spil, 2015).

The literature shows that most studies have used several models and frameworks to investigate adoption by SMEs such as the Theory of Reasoned Action (TRA), Theory of Perceived Behaviour, Technology Acceptance Model (TAM), Technology-Organization Environment (TOE), Diffusion of Innovation (DOI) that extent the measurement of the determinants of adoption and usage (Matikiti & Mpinganjira, 2018). However, the theories used a deterministic information system approach which implicitly acknowledge that technologies have a generic properties, less focus was given to investigate on how social media afford users to achieves its intended goals on perception of the characteristics (Faraj & Azad, 2012; Fayard & Weeks, 2014). There is also a lack of study attempt to re-assess the adoption approach in reframing or modify the theoretical adoption model or framework (Paniagua & Sapena, 2014).

Another issue with respect to social media technology-in-practice studies is that they are confined to developed countries. In developing countries, there has been much less research, with only a few studies on the adoption of new technologies in some Asian countries, such as Malaysia (Ainin et al., 2015).

In summary, this study is motivated by the approach to theorizing and researching the social media SMEs in Malaysia. It contributes to the current literature on the

adoption of technology innovations in the context of developing countries and in SMEs. In addition, this study responds to calls for further research to study the adoption of technology in SMEs (Jones et al., 2013; Orlikowski & Iacono, 2001) and to advance a fresh approach to theorizing and researching the technology - SME practice nexus (Morgan-Thomas, 2016).

1.3 Research context

SMEs have always formed the backbone of national economies. Indeed, most governments regard the SME sector as a major driver of the economy and a source of employment opportunities (MacGregor & Vrazalic, 2007). SMEs in Malaysia form the bulk of firms in the country and they play critical role in the country's development (Ramayah et.al, 2016). In 2015, there were 907,065 SMEs operated in Malaysia with value of gross output generated amounted to RM1.0 trillion, accounted for 66.0% of total employment in Malaysia, engaged 5.7 million persons with salaries and wages paid of RM128.5 billion with value of fixed assets of RM583.7 billion (Department of Statistics Malaysia, 2016).

Over the years, the Malaysian government has recognised information and communication technology (ICT) as the backbone of the growth of a business, and e-commerce has become a fundamental part development strategy. The government intends to transform SMEs into a more dynamic sector with high value added. SMEs are to be capital intensive and to exploit high technology. In line with the Government’s agenda to accelerate the adoption of technology and innovation by SMEs in 2017, RM190.5 million was spent for the implementation of 26 innovation and technology adoption programmes, benefiting 7,185 SMEs (SMIDEC, 2018). The incentive has encouraged SMEs to be more receptive towards new technology, and its benefits and viewed as the fundamental part of creating competitive advantage of the firms (Jaganathan et.al., 2018)

However, despite these initiatives, finding shows that SMEs have few resources to allocate to ICT and lack of ability to recognize the advantages stemming from technologies (Jaganathan et.al., 2018). While technology produce innovations that are more fluid and changing with capabilities that can be added after its introduction

(Lyytinen & Yoo, 2002), Malaysian SMEs are transforming the technologies in ways that the designers had not originally anticipated (Hashim, 2015). Although the technology offers possibilities for doing certain things, SMEs has ignored or misinterpret them (Fayard & Weeks, 2014). Further, there is a little evidence on how social media is being used on practice and reflecting the context of use in SME, localized and subject to situational constraints (Leonardi, 2017; Orlikowski & Scott, 2008).

Social media adoption among SMEs in Malaysia may well follow a similar pattern. While social media has affected the changing nature of work, work practices and work environment (Leonardi & Vaast, 2017), there is a call to review and re-conceptualize the technology in more balanced perspective (Orlikowski & Iacono, 2001).

1.4 Theoretical approach

Studies regarding the adoption of new technologies have identified various theories and models used as foundations to address adoption at organisational levels. In the study to review the literature on theoretical models used in the adoption of technologies, Taherdoost (2018) found that the Technology-Organisation-Environment (TOE) model is among the most common theoretical lenses used to explore the adoption and diffusion of new technologies in organisations.

TOE model by Tornatzky, Fleischer & Chakrabarti (1990) selected for three reasons. First, it has been widely used to understand the introduction of new technologies in organisations (Oliveira & Martins, 2011) and offers firm's context influence adoption decisions (Baker, 2011). Second, it has been used to study the adoption of prior technologies in the SME context such as electronic data interchange (EDI) (Kuan & Chau, 2001); open systems (Chau & Tam, 1997); web site (Oliveira & Martins, 2008); e-commerce (Liu, 2008; Martins & Oliveira 2009); enterprise resource planning (ERP) (Pan & Jang 2008); business to business (B2B) e-commerce (Teo et al., 2006); e-business (Lin & Lin, 2008, Oliveira & Martins, 2010). Lastly, past research has demonstrated that the TOE model has broad applicability and possesses explanatory power across a number of research surroundings (Thong, 1999; Quaddus & Hofmeyer, 2007; Ifinedo, 2011).

Despite of useful TOE theoretical perspective for examining contextual factors affecting the adoption of technology, the technology constructs previously has been influenced by Rogers (1995) DOI theory, a deterministic view that defined technology as narrow and tactical (Basole, 2008). The perspective has continued to rely on expectations of its separateness, stability and predictability (Morgan-Thomas, 2016) and becomes isolated from business practices and seems relevant only at selective moments (Orlikowski, 2007; Orlikowski & Scott, 2008).

In this study advances a conceptualization of technology context in TOE model with ontological assumptions building on the emerging technology-in-practice perspective to avoid deterministic approach. It offers an alternative concept of technology affordance lens rooted in the work of Gibson (1979) to understand how technology might implicated in SMEs practices. This affordance perspective on technology use focuses its gaze on the intersection between business' goals and a technology's material features providing in-depth understanding of the dynamics of constitutive entanglement between social and material in SMEs practice (Faraj & Azad, 2012; Fayard & Week, 2014; Robey et.al., 2012). It helps explain why, how and when technology become enrolled in and affect the organizational action (Faraj & Azad, 2012).

1.5 Research aims and objectives

This research aims to contribute to a growing body of research by exploring factors that influence the adoption of social media among SMEs in a developing country context, with Malaysia chosen as the country of study. It also aims to develop and empirically test a relevant theoretical framework to fill the knowledge gap in the literature for understanding the changes of adoption environment of social media technology. In line with the existing limitations of the technology adoption research and technology-in-practice research (Morgan-Thomas, 2016; Leonardi, 2017), current research aims to examine the concept of social media affordance in business context, re-assess a theoretical model and identify major determinants which influence adoption to further development of overall model in SMEs. In order to address the stated aims of this research, the following objectives were established:

1. To understand the social media nature among SMEs in Malaysia.
2. To examine the social media affordance to SMEs.
3. To develop and test a framework, to analyse data and validate the proposed conceptual model to determine the factors associated with social media adoption in SMEs

To achieve the above objectives, the following questions are posed:

1. RQ1: How social media has affected the changing nature of work, work practices and business environment in SMEs?
2. RQ2: What are the outcomes of technology affordance approach in SMEs to social media adoption model?
3. RQ3: What are the significant factors that associated with social media adoption and impacts to SMEs?

1.6 Research design

To address the research objectives, this research adopts an exploratory sequential mixed methods research design. In the last couple of decades, mixed methods' research approach has emerged incorporating elements of both qualitative and quantitative approaches in a single study (Doyle et al., 2009). Thus, it has been described as a natural complement (Johnson & Onwuegbuzie, 2004), and a logical and a viable alternative to address the weaknesses of qualitative and quantitative research approaches when used individually (Johnson & Onwuegbuzie, 2004).

The research design involves two separate stages including the collection of qualitative data using semi-structured interviews, which is analysed using thematic analysis method. This was followed by the quantitative phase in the form of electronic survey, where the primary data analysis methodology is represented by Structural Equation Model (SEM).

The selected empirical approach follows from the stated research objectives. In line with the first question, this study adopts a qualitative methodology to explore the current development, changes and the practice of the identified social media in SMEs. Consistent with the second research question, the qualitative stage is further used to explore the social media affordance and the potential outcomes. The qualitative phase thereby informs the quantitative phase by helping to develop the

second research instrument (survey) and finalize the conceptual model. Finally, the updated conceptual model is then tested in the second stage.

The following research design adopted in this research involves two distinct studies. Qualitative research, which explore the factors and impact of social media usage and later to develop the propose a conceptual model. In quantitative research it will test the research hypotheses.

1.7 Expected contributions

Current study expects to make contributions particularly to the academic literature on technology affordance and technology adoption. This project expected to offer a methodological contribution, and contributions to the business practice.

First, this research aims to extend the literature on emerging technology adoption. Most of the theories that has been discussed is a theory owned by the IS research community in this field (Taherdoost, 2018), thus this study offers a different approach to explore ever-growing technology adoption.

Secondly, current study aims to contribute to the improvement of technology adoption model which explore the understanding of constantly evolving technology in mobile environment (Ahmad, Abu Bakar & Ahmad, 2019). The study expects to provide more holistic understanding of the nature and dimensionality of factors that associated in social media adoption in SMEs setting. As the number of enterprises using mobile technology increases, it becomes imperative to have a more complete understanding of what value and impact it has, what drives and enables it, and in what ways it can and will transform the nature and practices of work, organizational cultures, business processes, and potentially entire enterprises (Basole, 2006).

Thirdly, this study intends to offer a methodological contribution by exploring the constructs that capture the specific technology affordance factors in technology adoption. The researcher seeks to develop a valid and reliable measurement by capturing the experiences of social media implemented in SMEs.

1.8 Thesis structure

Current thesis is divided into 8 chapters, structured as follows. Following the introduction to the thesis, Chapter 2 provides a literature review of the present state of research on social media. The first part of the chapter discusses the nature of social media in SME context, including the definition, benefits, challenges, antecedents together with impacts and outcomes. The second part include the critiques on previous study and later the chapter is close with the research gap and questions.

Chapter 3 presents the overall research design and approach to the research that guides the collection and analysis of empirical data. The chapter starts with the discussion of philosophical considerations related to the current research, addressing the appropriate ontological and epistemological positions. Additionally, the chapter the arguments for the chosen analytical approach.

Chapter 4 concerns methodology adopted in qualitative research of this thesis. The chapter starts with an overview of the sampling design used. The chosen method of data collection and approach to the analysis in line with specific requirements for the rigour in qualitative research are also addressed. At the end of the chapter addresses the findings pertinent to the first research objective concerning the technology affordance and outcomes in SMEs.

Chapter 5 is dedicated to the design of quantitative data collection and analysis and covers the issues applicable to the research design of this thesis. Specifically, the chapter discusses the issues related to the conceptualisation and operationalisation of the research constructs. It outlines the process of identifying the relevant measures for the constructs and significant adaptation of existing measures of several variables.

Chapter 6 addresses the data analysis methodology adopted in the quantitative research, and the steps undertaken to ensure the suitability of the collected data. The chapter presents the quantitative research instrument and outlines the process of questionnaire development. Questionnaire structure is presented, followed by the

discussion of hypotheses design and issues related to questionnaire administration. Finally, the chapter presents the results of the survey. In line with the RQ2 and RQ3, the chapter addresses the analysis and results of hypothesis testing related to the influence of adoption factors and the impact of social media adoption in SMEs.

Chapter 7 provides an in-depth discussion of study findings vis-a-vis the research questions stated in this thesis based on the evidence from the both studies. Specifically, here the results of the studies are compared to the evidence from the existing research on technology affordance and TOE model, and their correspondence with or deviation from the existing literature is explained.

Finally, Chapter 8 addresses the key contributions of this thesis. It discusses the theoretical and methodological contributions of the current research, followed by the overview of the implications for the business practice. The chapter closes with a discussion of limitations of the current research and potential avenues for future enquiries.

Chapter 2: Literature Review

2.1 Introduction

Social media platforms connect millions of users and the far-reaching effect of these platforms may not have been anticipated by their founders (Samuel & Joe, 2016). Facebook for example, the most widely used social media platform, has more than 2.3 billion monthly active users as of May 2019 (Facebook, 2019) and Twitter, one of the most popular and largest microblogging services has witnessed a substantial growth to surpass 330 million monthly users with 145 million active users daily (Twitter, 2019). This huge and increasing number of users has provides businesses with opportunities to connect with more people and raises the profile of social media among businesses (Bocconcelli et al., 2017; Perez-Gonzales et al., 2017; Pourkhoni et al., 2019).

Despite this, the utilisation of social media tools in business settings is relatively emerging (Wamba & Carter, 2016) though, there is a global shift towards their adoption and use in business settings. These tools have been found to play a crucial role in the success of businesses today as they allow businesses to have a presence in online 'spaces' that their customers and other stakeholders inhabit (Alsharji, Ahmad & Jabeen, 2017; Jagongo & Kinyua, 2013; Ahmad, Abu Bakar & Ahmad, 2019). The literatures indicate a growing interest among different types of business, small, medium and large, in utilising the immense opportunities that social media offer to carry out various functions across a wide range of industries. These include marketing (e.g., Mukerji et.al. 2019) entrepreneurship (e.g., Harris and Rae, 2006) strategy (e.g., Kaur and Misra,2019) and human resources (e.g., Jeske and Shultz, 2019). Several researchers have noted that social media are used in different business functions, such as customer relationship management (Dolan et al., 2019), marketing (Shareef et al., 2019; Jin, Chi & Gao, 2018) and knowledge management (Archer-Brown & Kietzman, 2018; Soto-Acosta et al., 2014). In addition, social media have penetrated a wide range of industries, such as manufacturing and retailing, as well as services industries (Xiang & Gretzel, 2010; Majumdar & Bose, 2019).

As far as the large organisational context is concerned, the Fortune 500 have recently increased their engagement in social media. Culnan et al., (2010) examined the adoption of four social media platforms – Facebook, Twitter, client-hosted forums and blogs. The results of their study found that each company has adopted more than one platform, indicating a wide deployment of social media platforms among these large companies.

Over time, social media have recently witnessed an uptake in all types of organisations, regardless of the size. This may be at least partially explained by the cost implications of their use. Several empirical studies have confirmed that social media tools do not require large investments (Cesaroni & Consoli, 2015; Michaelidou, Siamagka & Christodoulides, 2011; Kaplan & Haenlein, 2010), suggesting that both large and small enterprises can use these tools. It can be presumed that these tools are particularly useful and relevant to small businesses (Broekemier, Chau & Seshadri, 2015; Dirgiatmo, 2015), particularly to overcome some of the limitations associated with their size (Cesaroni & Consoli, 2015). There is growing evidence that SMEs benefit from creating a presence on social media and that such benefit is no longer the sole preserve of large enterprises (Verheyden & Goeman, 2013).

The increasing number of businesses utilising social media platforms is not surprising, considering the increase in the spending on these tools. The Forrester research report 2014, for example, estimated that social media spending in the US will increase from $8.2 billion in 2014 to $18.7 billion in 2019 (Miglani, 2014). This expected increase is indicative of the shift towards social media use in businesses, suggesting that the adoption of these technologies is on a par with, or slightly better than, other ICT (Lacho & Marinello, 2010).

In addition, it is becoming increasingly common for organisations to develop and implement social media platforms for internal use (Leonardi & Treem, 2012; Leonardi, 2014; Huang, Baptista & Galliers, 2013). Estimates suggest that between 65% (Bughin & Chui, 2010) and 70% (KPMG, 2011) of organisations currently use some form of social media and that with experience they are becoming increasingly sophisticated in their social media use (Kane et al., 2014).

It is also clear that businesses are taking advantage of using social media to conduct various activities. Recent studies on social media adoption provide empirical evidence to support their potential positive and wide-ranging impacts on SMEs (He et al., 2015; Jones, Borgman & Ulusoy, 2015; Kapoor et al., 2018).

This chapter reviews past research pertinent to the thesis and the literature review is divided into sections. The first section analyses literature in the area of the adoption of social media in the SME context, the definitions, the benefits, challenges and antecedents associated with adoption, in order to gain a clear understanding of the in relation to previous technology adoption in the SME context.

In second section, the study explores past literature social media as information technology (IT) innovation and review on technology adoption in affordance theory. The third final section attempt to challenge a conceptual change in business on socio-technical perspective to lay foundation of the research that require further investigation which concludes by critical insight of previous theories and approach to derive the research questions.

2.2 Definition of social media

The first recorded use of the term social media is thought to have come from the AOL executive Ted Leonis, who in 1997 was recorded as stating that consumers needed to be provided with social media, places where they can be entertained, communicate, and participate in a social environment. From there, the term social media became increasingly mainstream, initially as an individual recreational pursuit and eventually as a major organisational concern (Leonardi & Treem, 2012).

Aral, Dellarocas & Godes (2013) described social media as a “moving target” (p.4) and difficult to define due to their continuous, rapid development (Kane et.al, 2014; Hogan and Quan-Haase, 2010). Social media can be described in many functions, a social networking website, such as Facebook, a microblogging platform (Twitter),

a video-sharing platform (Youtube), an online encyclopaedia (Wikipedia) (Kaplan & Haenlein, 2010).

The definitions share a number of common features, such as the networking of individuals (Boyd & Ellison, 2007; Kane et al., 2014), the importance of user generated content (Kim et al., 2010; Scott & Orlikowski, 2014) and the fundamental role of the internet (Kaplan & Haenlein, 2010; Scott & Orlikowski, 2014).

The seminal definition of social media was offered by Boyd and Ellison (2007) who were specifically interested in social networking websites. Their study was concerned on how social media influenced the dynamics of communication between individuals (Boyd & Ellison, 2007). It corresponded with a massive increase in public awareness and use of social networking sites, particularly Facebook (Boyd & Ellison, 2007; Kiron et al. 2012). Many studies of social networks at the time adopted the definition (e.g., DiMiccio et al. 2008; Lewis et al., 2008; Debatin et al. 2009; Beer, 2008).

An alternative early definition that was widely adopted came from Kaplan and Haenlein (2010). They emphasised the utility of the internet for social media activity, and in particular Web 2.0,

> *"a term that was first used in 2004 to describe a new way in which software developers and end users started to utilise the World Wide Web; that is, as a platform whereby content and applications are no longer created and published by individuals, but instead are continuously modified by all users in a participatory and collaborative fashion."*

In their definition, Web 2.0 constituted the ideological and technical foundation for social media, whilst all activity that occurred on the platforms was described as "user generated content" (Kaplan & Haenlein, 2010, p. 617). Other definitions that followed (e.g., Kim et al. 2010; Majchrzak et al. 2013) built upon the two defining characteristics introduced by Kaplan & Haenlein (2010), or simply used their original definition (Huang, Baptista & Galliers, 2013).

As studies of social media in organisations have gradually focused less on description and more on the theoretical and practical implications of social media

for organisations (Treem & Leonardi, 2012), so the approach to defining social media has evolved. Appendix A gives some examples of the social media definitions offered by an emergent stream of research focusing on social media.

The research in small business particularly has defined social media as an enabler to performance certain business task by leveraging technological capabilities. Social media is well accepted as tool that enable business to produce user-generated content without physical presence by the active engagement and online contributions of large numbers of people across time and space (Scott & Orlikowski, 2014). It offers two-way real time communication, tacit information dissemination, engagement with this information, and relationship building (Atanassova & Clark, 2015), enables and supports information sharing, communicating, and collaboration that allows businesses to accelerate their work by working in global markets (Humaid & Ibrahim, 2019).

All the descriptions clearly regard social media as communication tools supported by internet-based technologies for dissemination of information. Most of them acknowledge the high concentration of user generated content across such platforms. Based on the understanding of social media and the aforementioned definitions, this study adopts the following definition:

> *Social media is made up of various user-driven platforms that facilitate diffusion of compelling content, dialogue creation, and communication to a broader audience. It is essentially a digital space created by the people and for the people and provides an environment that is conducive for interactions and networking to occur at different levels.*

2.3 Small and Medium-Sized Enterprises (SMEs) in Malaysia

Small and medium-sized enterprises (SMEs) have always formed the backbone of national economies. Indeed, most governments regard the SME sector as a major driver of the economy and a source of employment opportunities (MacGregor & Vrazalic, 2007). With the diffusion of information technology, when low cost hardware and operating systems were made available in the market, the

development of most countries during the last two centuries has been based mainly on SMEs (Ordanini, 2006).

SMEs play an important part in the economic activities of most nations (Simpson & Docherty, 2004). There are numerous examples in the literature that illustrate the weight that SMEs carry in their own national economies. In most European countries, SMEs constitute more than 90% of businesses. In the UK, for example, there are an estimated 5.7 million businesses of which more than 99% are SMEs (BEIS, 2018). SMEs also contribute between 40% to 70% of job opportunities, providing most new employment, especially in high technology and other innovative sectors (OECD, 2017). SMEs hold the key to a country's economic future and remain as major players in the market (Curran & Blackburn, 2001).

Malaysia represents the voice of SMEs and the proponents of their growth in international platforms, such as the Association of Southeast Asian Nations (ASEAN), Asia Pacific Economic Cooperation (APEC) and Organisation for Economic Cooperation and Development (OECD) (SMIDEC, 2018). Over the years, the contribution of SMEs to economic growth, employment and development in the region plays a crucial part in achieving sustainable economic development and regional economic integration (Ismail & King, 2014).

There is no specific definition of SMEs; as this depends on the country's criteria that are based on either quantitative or qualitative measurement (Hashim, 2007). In Malaysia, SMEs are defined by the number of people employed by the firm. More specifically, consistent with Aris (2007), SME is defined as a firm employing 10 to 200 employees. Definition of SMEs is based on the Malaysia Small Medium Industries Development Corporation (SMIDEC, 2018) details:

i) For the manufacturing sector, SMEs are defined as firms with sales turnover not exceeding RM50 million OR number of full-time employees not exceeding 200.
ii) For the services and other sectors, SMEs are defined as firms with sales turnover not exceeding RM20 million OR number of full-time employees not exceeding 75.

The Malaysian government has recognised the need to assist in solving SMEs problems, such as inadequate finance and lack of access to commercial banks credit experienced by Bumiputra small business owners since the early 60s (Hashim, 2007). This included acknowledging SMEs as the training ground for future entrepreneurs, restructuring the racial economic imbalance between Bumiputra and Non-Bumiputras, and mobilizing the private savings of the middle classes for investment in industrial ventures (Hashim & Wafa, 2002). Part of the assistance by government is because SMEs face enormous obstacles such as lack of access to finance, insufficient internal resources and management capabilities, and legal and regulatory barriers (Hashim & Wafa, 2002).

In 2018, the government has announced the establishment of the Ministry of Entrepreneur Development (MED). The ministry is expected to coordinate and streamline the policy, create awareness amongst SMEs about available assistance and implementation of all programmes related to entrepreneurship and SMEs, provides a variety of aids to SMEs, such as incentives, loans, and grants, and promoting Malaysian brands in international marketplaces for various countries, platforms and products (SMIDEC, 2018).

The government intends to transform SMEs into a more dynamic sector with high value added. The SMEs ability to innovate and adopt technological changes is a crucial factor to determine the growth of a business. In 2017, RM190.5 million was spent for the implementation of 26 innovation and technology adoption programmes, benefiting 7,185 SMEs (SMIDEC,2018).

Generally, social media promised to provide Malaysian SMEs with the same potential opportunities for efficiency and cost savings that had already been offered to large organisations. However, in spite of these changes, the speed of technology adoption among SMEs has not achieved a satisfactory result, thus creating a so-called 'digital divide' phenomenon (Ordanini, 2006).

2.4 Previous research on social media

Social media usage is one of the most popular online activities. In 2019, it was estimated about 2.95 billion people were using social media worldwide, and the number projected to increase to almost 3.43 billion in 2023 (Clement, 2020). Based on a comparison of the number of active accounts on the top social network in each country to the population, UAE ranked first with a social media usage penetration of 99 percent (Statistica, 2020). Social network penetration is constantly increasing worldwide and as of January 2020 stood at 49 percent penetration worldwide in 37 countries. Interestingly, 18 out of 37 countries that have a higher penetration percentage are from developing economies countries.

At the same time, there are more gadgets of active mobile devices all over the world. It crossed over around the 8 billion mark and a growing number of other mobile information technologies that permeate all aspects of life (GSMA Intelligence, 2020). Together with the mobile gadgets, social media usage has also become increasingly mobile, in large part to social apps. As of January 2020, the mobile social media penetration in Asian countries was high due to mobile-first connectivity in these markets (Clement, 2020).

This figure is anticipated to grow as lesser developed digital markets catch up with other regions when it comes to infrastructure development and the availability of cheap mobile devices. Mobile-first market Eastern Asia topped the global ranking of mobile social media penetration, followed by established digital powerhouses such as the Americas and Northern Europe. In term of mobile social media penetration, Taiwan had the highest rate of penetration, with 89 percent. In comparison, Japan had a mobile social media penetration rate of 61 percent, while India had a 21 percent penetration rate. Market leader Facebook was the first social network to surpass one billion registered accounts and currently boasts approximately 2.5 billion monthly active users, making it the most popular social media worldwide.

The average time per day spent on social media varies greatly by country. Whilst U.S. users spent approximately one hour and 57 minutes using social media each

day, the Philippines ranked first in terms of user engagement. The average time per day spent on social media in the country amounted to four hours and one minute, twice the amount of time spent by U.S. users. Clearly, from the statistic, the penetration of social media is high among Asian countries.

In order to review the current situation and to have a better understanding of what previous academic research has been done, an extensive searching method has been applied related to social media and SMEs. An outcomes-oriented review analyses and synthesizes previous literature focusing on findings information on a research outcome, to establish a justifiable need for the current research. In a methodological review, research methods are investigated to identify key variables, measures, and methods of analysis and inform outcomes-oriented research (Randolph, 2009). The methodological review is also helpful to identify methodological strengths and weaknesses in a body of research, and examine how research practices differ across groups, times, or settings (Cooper, 1988).

A review of theories is also been carried out to establish what theories already exist and the relationships between them (Cooper, 1988). A theoretical review can help establish a lack of theories or reveal that the current theories are insufficient, helping to justify that a new theory should be put forth. Finally, literature reviews are also focused on practices or applications, concentrate on how a certain intervention has been applied or how a group of people tend to carry out a certain practice (Randolph, 2009).

The results show that from the beginning of 2005 through January 2019, 2,682 articles have been indexed in Web of Science in the field of social media and business. However, since 2009, scientific productions in this topic have grown rapidly and in 2017, there was a substantial increase in the number of studies. Generally, the findings also show that the United States with 1,269 published articles and the Business Horizons Magazine with the publication of 73 articles, pioneered in the publications of this topic.

The search protocol has been narrowed to the most recent years of publication, to include 3 and 4 stars from The Association of Business Schools (ABS) ranking

journals. ABS provide a guide to the range, subject matter and relative quality of journals in which business and management academics publish their research. has been reviewed and categorized based on research theme into Table 1. As it can be seen, the articles selected were the recent research that extended from previous topic.

Table 1. Research focus in studies on social media in SMEs

Research Focus	Authors
Studies related to antecedents and adoption	Odoom et al. (2017), Tajudeen et al. (2017), Alshamaila (2018), Kiron (2013), Schaupp (2014), Ahmad et.al. (2019), Alsharji (2017), Humaid and Ibrahim (2019), He and Zha (2015), Atanossova and Clark (2015), Fosso and Carter (2014), Matikiti et al. (2018), Koski, Pajarinen and Rouvinen (2019)
Studies related to benefits, affects and effects	Ainin et al. (2015), Humphreys (2015), Jinghua (2014), Sipior (2014), Lagrosen and Grunden (2014), Effin and Spill (2015), Tajudeen et al. (2015)
Studies related to barriers, problems, risks and challenge	Gagliardi (2013), Sipior (2014), Newman (2014), Spangler (2014), Taneja (2015), Taherdoost (2018), Ashamaila (2018)
Studies related to impact and implications to business	Gu (2014), Kadam (2014), Laurell (2014), Lee (2013), Sultan (2013), Hajli (2015), Kadam (2014), Tajudeen et al. (2018), Tajvidi and Karami (2017), Ahmad et al. (2019), Odoom et al. (2017)

After years, the notion of social media began to become widely used in the business literature while developing importance and recognition of the concept. The growing body of social media and small business literature has increased the knowledge in various business functions, goals and practices.

The studies also have shown a consistent interest in social media adoption particularly in antecedents, factors, motivation, intention or determinant of the

adoption (e.g., Alsharji, Ahmad & Jabeen, 2017; Humaid & Ibrahim, 2019; Ashamaila, 2018; Odoom et al., 2017)

Although studies shown a focus on behavioural and attitude towards adoption (e.g Matikiti & Mpinganjira, 2018), the is always many studies that focus on the impact of social adoption, specifically to business performance (e.g., Tajudeen, Jaafar & Ainin, 2018; Tajvidi & Karami, 2017; Ahmad, Abu Bakar & Ahmad, 2019; Odoom et al., 2017)

Before introducing the approach used for this study, the methods employed in the previous literature will be summarized and discussed. As in Appendix B that explain research related to social media, qualitative, quantitative or mixed research method approaches were conducted by different researchers due to their research questions, paradigm and preference.

2.4.1 Social media studies in SMEs context

Recently released reports demonstrate that, each year, the number of businesses that embrace social media has increases (Clement, 2020). Trainor et al. (2014) noted that social media is rapidly becoming essential for businesses. It has found that prior researches mainly focus on two areas: (i) SMEs and social media; and (ii) SMEs and their adoption of social media.

In addition, research has stated that there is a positive attitude towards social media adoption and that SMEs have started to recognise the importance of using these technologies (Cesaroni & Consoli, 2015; He et al., 2015). For example, Aspania & Ourania (2014) reported that about half of the surveyed SMEs have created a presence on four main social media platforms: Facebook, Twitter, YouTube, and LinkedIn. Another study reported slightly more than half (54%) of the surveyed SMEs were using social media applications for various purposes (Broekemier et al., 2015). A recent study by Burgess, Marwick and Poell (2017), examining social media adoption among Australian SMEs, found that 85%, engage with customers via Facebook. Similarly, the overwhelming majority of the Inc. 500 companies in the US, have a presence on social media. The results of ten years of data (2007-2017) revealed that the companies have increased their usage of social media, with

96 percent reported to have a presence in 2017, compared to only 57 percent in 2008 (Pourkhoni et.al., 2019).

Given the extensive adoption of social media as a marketing tool (Webster & Hume, 2019; Anatassova & Clark, 2015; Yong & Hassan, 2019) the marketing literature predominantly poses research questions relating to consumers. Studies in this domain have interrogated the impact of social media on consumer behaviour (Andrews et.al., 2019; Goel & Goldstein, 2014; Bigne et.al. 2018) and the ability of individuals to rate products (Vemprala et.al., 2019), comment on brands (Kamboj et.al., 2018; Kregor et.al., 2018, Lund, Cohen & Scarles, 2018) and influence each other (Madsen, 2019; Tijunaitis, Jeske & Shultz, 2019; Kaur & Misra, 2019).

Researchers have investigated the role of social media in customer knowledge management. For example, Kaur and Misra (2019) suggested that companies should use social media to gain knowledge about their customers and opportunity to engage them in knowledge sharing (Leonardi, 2014). Using social media tools, businesses are able to form brand-centric communities and engage customers in rich dialogues about their products (Aspania & Ourania, 2014; Lacho & Marinello, 2010). This rich involvement is argued to promote a culture of sharing and exchanging ideas with customers, which is seen as enriching customers' creativity, can lead to product development (Muninger, Hammedi & Mehr, 2019) and to creating a brand identity (So et al., 2018). Hence, social media tools strengthen businesses' movement towards making use of internal and external feedback, which ultimately influences their business' performance. This may explain why social media tools have been argued to be the best instrument for businesses to deepen their connection with customers across the globe and to receive valuable feedback (Aspania & Ourania, 2014).

Similarly, the human resources (HR) industry has been particularly affected by social media. For some organisations, social media afford the opportunity to screen potential new employees (Clarke & Roberts, 2010). Accordingly, HR studies have focused on how social media has transformed traditional processes such as employability, career development and employee selection (Brigdstock, 2019; Roth, Bobko & Iddekinge, 2016) and job search behaviour (Buettner, 2016; Alexander, Mader & Mader, 2019; Bizzi, 2018). The use of social media has also prompted many ethical questions related to personal communication among

workers (Hajli, 2018; Fusi & Feeney, 2018) and the external communication of an organisation's company corporate responsibilities initiatives (Reilly & Larya, 2018, Saxton et.al., 2019, Dunn & Harness, 2018; Wang & Huang, 2018; Hao, Farooq & Sun, 2018; Patel et.al., 2019).

It has been challenging for empirical studies to keep pace with the rapid proliferation of social media technologies at all levels of society (Treem & Leonardi, 2012). The "far reaching consequences of social media" (Aral, Dellarocas & Godes, 2013, p. 3) have stimulated interdisciplinary interest, although some scholars suggest that information systems (Aral, Dellarocas & Godes, 2013) or communication studies (Treem & Leonardi, 2012) are the most suited to play a central role in social media research.

Social media has also affected the changing nature of work, work practices and work environment (Leonardi & Vaast, 2017). The introduction of the mobile internet environment, and other interactive multimedia platforms, has improved the efficiency and effectiveness of operational, tactical and strategic processes in organizations (Buhalis, 2004). The mass diffusion of miniaturised computers linked together in personal, local and global networks has created unprecedented technological intimacy over global infrastructure (Sorensen, 2011). Mobile technology, cloud computing and 'internet of things' are the emerging technology concept that has influence in recent research field (Parveen et al., 2015).

The following section provides additional analysis of the potential benefits offered by social media to SMEs.

2.4.2 Benefits of using social media for SMEs

The ongoing growth of social media penetration (Clement, 2020) raises questions about how these applications might be beneficial in an organisational setting in SMEs. A number of studies have discussed various benefits, providing empirical evidence on the relevance of social media.

In broad terms, the studies suggest that the adoption and use of social media bring SMEs many benefits, including: eWOM branding (Li & Wu, 2018; Ananda et.al. 2019; Michaelidou et al., 2011); building brand relationships (Thompson et.al, 2018; Hudson et al., 2015; Dahnil et al., 2014); providing real-time information

about products (Kim & Song, 2018; Aspania & Ourania, 2014); integrating and enhancing customer relationship management (Guha, Harrigan & Soutar, 2018; Broekemier, Chau & Seshadri, 2015); networking and collaboration (Meske & Stieglitz, 2013); increasing awareness (Algharabat et.al 2019; Jones, Borgman & Ulusoy, 2015) as well as advertising and promotion (He et al., 2015; Parveen et.al, 2018).

Another key benefit of social media is that they represent a source of attraction for SMEs to have more flexible forms of collaboration with each other (Drummond, McGrath & O'Toole, 2018), which is sometimes perceived as the only way to compete with large enterprises (Matikiti & Mpinganjira, 2018). In their exploratory investigation of the potential of social media for collaboration between SMEs, Barnes et al. (2012) provided confirmation for five area of potential collaboration, namely; internal operational efficiency; enhanced capability; external communications; enhanced service offerings; and lifestyle benefits.

Studies have also attempted to highlight the financial returns on investment in these social media tools, that has yielded unclear results as it seems difficult to measure the financial impact of social media on the adopters (Ainin et.al., 2015). This is supported that social media is something that the overwhelming majority do not assess (Michaelidou et al., 2011) and that there was no significant effect, suggesting that firms were not benefiting in term of performance from their investments in social media (Ahmad et al., 2019).

However, in her study seeking insights into social media usage by small businesses, Perveen et al. (2015) has shown a strong impact of Facebook usage on financial performance of SMEs as it leads to increases in sales transactions, sales volume, sales enquiries and number of customers. This view can be also seen in a study by Jones et al., (2015), which provided empirical evidence on the impact of social media on sales and repeat sales indicated by owners of SMEs in a rural region in the US. The result of study also shows that social media usage has a very strong positive impact on an organization's performance in terms of cost reduction, enhanced customer relations, and improved information accessibility (Tajudeen et al., 2018).

Besides the marketing and business performance there is also an evidence of costing and valuation. Indeed, one of the most significant benefits of social media, has been giving SMEs an unprecedented level of access to a global market, and reducing their operating costs while optimizing profitability simultaneously (Basri, 2016). Unlike traditional marketing avenues, contemporary SMEs grant direct and personalized contact to almost every potential and current customer. In the words of Apenteng and Doe (2014) found that SMEs can therefore take advantage of the social media to grow businesses at lower costs and attain a greater market reach.

This also implied another benefit, where marketing has become easier, cheaper, and more effective for SMEs to "reach a global audience with less effort, time, and money" (Logofatu, 2012, p. 214). Largely, social media enables SMEs to shape their marketing around customer behaviour in specific social media platforms, such as by age, sex, class, region, and preferences, to make their marketing effort more successful at a cheaper in less demanding process (Logofatu, 2012). When businesses begin to use social media by building a strong visible digital or online presence, these businesses tend to gain in terms of productivity because they are able to reach to a wider market (Apenteng & Doe, 2014). SMEs have embraced social media platforms to save costs, increase profitability and modernize their marketing strategies (Omar, 2015) by reducing the expenditure in marketing and advertising. Advertising has gained a cost benefits in the social media platforms which would have only feasible in the highly expensive mass media (Shabbir et al., 2016).

2.4.3 Challenges facing SMEs in relation to social media adoption

While a generally positive attitude toward technology where business can see immediate returns on limited investment in marketing and customer service activities (Tajudeen et al., 2018), nonetheless, there are an internal and external barrier that hinder the technology adoption process in SMEs.

Despite of the benefits that social media technologies offer to businesses and the growing evidence of their relevance to SMEs, previous research has shown that the adoption rate of technology by SMEs is still low and that SMEs are less likely to utilise new technologies (Ahmad et al., 2019). The adoption of social media in

SMEs is still perceived to be in its infancy (Bihmani, Mention & Barlatier, 2018; Treem & Leonardi, 2012). In addition, several researchers have noted reluctance among some SMEs to adopt social media due to doubt about the effectiveness of these tools (Omosigho & Abeysinghe, 2013; Nakara, Benmoussa & Jaouen, 2012). Therefore, many enterprises may therefore not have been fully aware of the possible benefits (Meske & Stieglitz, 2013; Wamba & Carter, 2014).

SMEs face several challenges, impeding their access to many technologies. With respect to financial limitations, SMEs are less able to risk committing resources to adopt new technologies than their larger counterparts (Cesaroni & Consoli, 2015; Haller & Siedschlag, 2011). Thus, securing the associated resources may not be affordable to SMEs, which might explain why they tend to be cautious about any expenses (Ghobakhloo et al., 2011). SMEs are known to be risk averse and have limited capacity to take risk (Bharati & Chaudhury, 2015). Indeed, relevant literature provides strong evidence that financial constraint has been cited as the primary reason that limits the adoption of technology in SMEs and inhibits SMEs from investing to acquire new forms of technology (Carcary et al., 2014; Kannabiran & Dharmalingam, 2012). As a result, they tend not to invest in expensive projects, including investment in new technologies (Harindranath et al., 2008).

There is also a significant evidence of deficiencies in skills and relevant in-house expertise (e.g., Kannabiran & Dharmalingam, 2012; Ongori, 2009). Despite most commonly being the decision makers to technology investment (Abdullah et al., 2013), but they are often not specialist IT managers (Windrum & Berranger, 2003), SME owners or managers tend to lack the required skills and expertise to judge the potential offered by technology (Muninger, Hammedi & Mahr, 2019). They also tend to undertake limited formal planning with respect to both administrative tasks and business decisions (Bharati & Chaudhury, 2015), and lack information about suitable IT solutions (Ashrafi & Murtaza, 2013). Plenty of firms leveraged social networking sites (SNS) after being influenced by the trends and popularity without a strategic plan, guidelines or understanding a good digital marketing culture (Jani et al., 2018).

It is noteworthy that SMEs may receive a non-professional support, which in turn may lead to a poor strategy and may hider their IT investment (Chibelushi, 2009). This may also explain why some SMEs adopt particular technology despite having no clear strategic goal and lacking relevant internal capabilities (Spinelli et al., 2013).

Ongori and Migiro (2010) have reviewed literature on IT adoption in SMEs and identified their lack of relevance to the nature of business operations and legal framework. Manochehri et al. (2012) found additional barriers, including lack of information with respect to available technologies, lack of time, negative experience with technology tools, and lack of top management support. Many firms are facing barriers to the integration of measurement practices into their business routines (Jani et.al., 2018). In study, Alshamaila (2018) survey results also revealed that top management belief, firm readiness, negative comments and reviews, and a low level of awareness are barriers to social media adoption by SMEs.

In a similar vein, Hashim (2007) concluded that technology adoption among SMEs in Malaysia falls below expectations. They do not place reassessment practices on activities within the social media medium as a necessity and have no clear knowledge of social media ability to be optimized with various effective use tactics through a bit of investment and technical effort (Jani et.al., 2018).

In addition to the above, it is noticeable that there are some context-related challenges that might be associated with the adoption of new technologies. SMEs in developing countries, struggle with other challenges that seem to limit their adoption of technology tools. Equally important, Al-Gharbi and Ashrafi (2010) stated that cultural differences could be viewed as another barrier that contributes to the slow adoption of technology in developing countries. One may suggest that there is a relatively low and slow rate of technology adoption in SMEs in developing countries compared to those in developed countries (Schlagwein & Prasarnphanich, 2014; Odoom et al., 2017). Further, Omosigho and Abeysinghe (2012) have argued that it is therefore important to identify factors that influence organisations to adopt social media as this will help to prepare these organisations to use and benefit from social media.

2.4.4 Antecedents of social media adoption

Earlier studies (e.g., Weiguo, 2014; Tirunillai, 2014; Shin, 2014) focused on technological properties of the technology of individual perspective using behavioural theories such as Roger's Diffusion of Innovation (DOI), Technology Acceptance Model (TAM) and Uses and Gratification Theory (UGT). While social media has been accepted in business organization, the literature has also moved to the antecedents in business setting and environment. Table 2 shows the studies on antecedents of social media adoption.

Alsharji, Ahmad & Abu Bakar (2017) investigated the antecedents of social media adoption intention by SMEs showed that the technology factors had no significant effect on social media adoption. However, more studies found that technology factors are the main antecedents to the adoption. Tajudeen et al. (2017) and Alshamaila (2018) agreed that interaction and compatibility are among antecedents that influence the usage of social media by SMEs beside the relative advantage which consequently offer performance benefits (Odoom et al., 2017).

Table 2. Studies on antecedents of social media adoption

Studies on antecedents	Authors
Interaction	Odoom et al. (2017), Tajudeen et al. (2017), Alshamaila (2018)
Mobile Environment	Schaupp and Belanger (2014), Ahmad et al. (2019)
Compatibility	Odoom et al. (2017), Tajudeen et al. (2017), Alsharji et al. (2017)
Cost Effectiveness	Odoom et al. (2017), Schaupp (2014)
Relative Advantage	Tajudeen et.al (2017), Alshamaila (2018), Alsharji et.al (2017), Humaid and Ibrahim (2019),
Perceived of Usefulness, Easy of use	He and Zha (2015), Humaid and Ibrahim (2019)
Organizational Culture and Internal Environment	Atanossova and Clark (2015), Fosso and Carter (2014), Humaid and Ibrahim (2019), Matikiti et.al (2018), Koski, Pajarinen and Rouvinen (2019),

	Alshamaila (2018), Tajudeen et al. (2017), Alsharji et al. (2017)
External Influences	Humaid and Ibrahim (2019), Alshamaila (2018), Alsharji et al. (2017)

Odoom et al. (2017) hypothesized that interactivity, compatibility and cost effectiveness are motivations to social media usage demonstrate that the interdependencies of social media motivations across product-based and service-based SMEs. Moreover, SMEs who offer physical products are more likely to employ social media based on cost-effective motives while service SMEs are more likely to consider interactivity as a key motivation (Schaupp & Belanger,2014).

Evidently, SMEs in emerging markets appears to be reaping enhanced social media benefits by deploying their marketing campaigns. Miranda et al. (2015) suggest that diffusion of social media is based on an organization's vision that offers a well-defined range of moves to choose from, with the freedom to improvise. Tajudeen et al. (2017) investigated the antecedents of social media usage in organizations found that the antecedents of social media usage revealed that relative advantage, compatibility, interactivity, institutional pressures were positively associated with organizational usage of social media, however cost-efficiency, top management support, entrepreneurial orientation and structural assurance were found not to be significant.

Matikiti and Mpinganjira (2018) research was to establish factors that influence attitude towards the use of social media marketing by travel agencies and tour operators in South Africa. The results showed that managerial support and managers' level of education are the two main internal factors which influence attitude towards the use of social media marketing. Pressure from competitors, perceived benefits and perceived ease of use were found to be the most prominent external factors which influence the use of social media marketing. The results also revealed that technical knowledge moderates the relationship between attitude towards social media marketing and the level of social media marketing usage. An empirical study was carried out Humaid and Ibrahim (2019) found that Saudi small business entrepreneurs tend to use social media for the major constructs of

performance expectancy, effort expectancy, social influence, and facilitating conditions. Schaupp and Belanger (2014) found out that technology competence, customer pressure and mobile environment antecedents were significant.

Marshall et.al. (2012) used qualitative method approach to explore the breadth of usage by sales managers and salespeople. The work gained insight on social media within the context of sales world and provided a positive and negative impact on sales job and people. Reza (2014) offered a relation between social media functionalities and marketing objectives and strategies. The authors posited that marketer should embrace goal based on exchange relationship rather than transaction, to related factor perceive cost versus the benefits between consumers and marketers.

It can be seen from the above literatures, the antecedents of adoption are varied by technology characteristics, organizational contexts and staff competency level external environment. Even there are little evidence was found in the cases of adoption behaviour being driven by purposeful or thoughtful agenda Durkin and McGowan (2013) it is revealed that SMEs still need to increase effort to improve performance, increase competitiveness and more engage with customers.

2.5 Outcomes and impact of social media adoption

Social media outcomes to business might be measured through either accounting or financial market metrics (Aral et al., 2013). Rishika et al. (2013) modelled customer visit frequency and customer profitability as a function of their participation in a firm's social media activities. On the positive effects, they find that this participation leads to an increase in both of these important business outcomes. This is supported by finding from Kwok and Yu (2013) who found that sales can be increased with Facebook usage. When organizations use Facebook, it is likely to have a positive impact in terms of both financial and non-financial performances. This is similar outcome with Paniagua and Sapena (2014) that suggested financial performance is affected by user generated content in social media. Andriole (2010) concluded that Web 2.0 helps to improve collaboration and communication in business.

The most recent study by Ahmad et al., (2019) presented a quantitative survey to explore factors that influenced social media adoption by SMEs in the United Arab

Emirates (UAE), and its impact on performance. The study however found that social media adoption had no effect on SMEs' performance.

Subramaniam and Nandhakumar (2013) studied enterprise system users and found that integrating social media has facilitated user interactions and helped embed relationship ties between virtual actors. Another study concerning social features in enterprise systems reveals that business interactions are less social, and highly context specific (Mettler & Winter 2016). Van Osch and Steinfield (2016) showed that the enterprise system user involved in social network posting will show differences in team boundary spanning activities based on their hierarchical position.

Benthaus et al. (2016) analysed Twitter data to find that social media management tools have a catalysing effect on employee output as they enrich the user engagement process. Kuegler et al. (2015) showed that using enterprise social networking within teams strongly influences task performance and employee innovativeness. Leonardi (2014) revealed that communication visibility increases metaknowledge between organizations, which results in innovative products and services minus knowledge duplication.

Miller and Tucker (2013) has study the extent of social media managed by firms reported that most firm postings are centred on firm's achievement and are not necessarily in clients' interest. Management and utilization of social media is agreed to provoke employee activity, which helps in employee innovativeness, retention, and motivation. Studies also hinted against ignoring social media engagement, which can reportedly have a negative impact on a company's image.

Ainin et al. (2015) revealed the value of social media towards financial and non-financial performance of small businesses. Using interview and survey, the use of social media has strong and positive impact on both financial and non-financial performance of small business. Following the research, Parveen et al. (2015) investigated the impact of social media on organizational performance base on the perspective of social media managers in Malaysia. The results showed there was ten main social media usage. The impact factors were to enhanced customer

relationship and service, cost reduction, improved information sharing, improved brand visibility, revenue generation and create competitive advantage. Tajudeen et al. (2017) also showed that social media usage has a very strong positive impact on an organization's performance in terms of cost reduction, enhanced customer relations, and improved information accessibility.

Tajvidi and Karami (2017) investigated the influence of social media on firm performance with mediating role of marketing capabilities in the UK, hotel industry. Results from the data analysis demonstrate the positive and significant relationship between social media use and firm performance. A number of interesting findings are highlighted from the results of the data analysis. It has been found that use of social media has positive effect on SMEs performance. Dealing with social media for bookings and marketing activities has positive and significant effect on overall performance of studied firms. The results have similarities with the finding of Cervellon and Galipienzo (2015) and Garrido-Moreno and Lockett (2016) which find the positive effect of social media for improving firm success and better performance.

Research using subjective measures to examine the relationship between IT implementation and organisational performance is also an approach that being used widely. For instance, Rodrigue, Peterson and Ajjan (2016) provided evidence that social media technologies like Facebook positively impacts the customer-orientated processes which in turn impacts the sales performance of an organization.

Ainin et al. (2015) used more general approach in measuring the impact to the organization's performance. The research found that Facebook usage has a very strong positive impact to both financial and non-financial. Financial performance was measured in terms of increase in sales transaction, sales volume, sales enquiries and number of customers while non-financial performance was categorized into three groups: cost reduction, improved customer's relations and improved information accessibility.

As can be seen from the above studies, most of them investigated the general use of specific social media application for businesses, with no evidence shown that social

media has been measured using financial data. The above literature provides inconclusive results on the impact on business, this research agrees with Ainin et al. (2015) approach to categorize the impact into general group as a starting point (financial and non-financial). Particularly the study of impacts of social media adoption on SMEs requires further examination.

2.6 Affordance theory in technology studies

Hutchby (2001) was the first author to apply the original concept of affordance moving from the environment to technologies, understood as IT artefacts (Pozzi et al., 2014). He considered the functional and relational aspects of affordance as possibilities for action and acknowledged the potential of this approach for studying the complex relationship between technologies and the actors. Recent literature has described affordances as possibilities for goal-oriented action, emerging from the relation between IT artefact, considered in terms of IT features, and organizational systems (Zammuto et al., 2007) and afforded to specified groups of actors by technical objects (Markus & Silver 2008).

In this regard, several scholars have also proposed the concept of affordances as a useful theoretical lens to provide understanding of social media phenomenon in social and organisational life (Majchrzak et al., 2013). Despite valuable and insightful findings of these studies, the understanding of social media technologies and their effects is still evolving, and the extant research has not comprehensively addressed the effects of such technologies.

The notion of affordances, as a concept under ongoing debate, has been employed in variety of ways to study social media technologies. For example, while some studies have focused on the users' perception or actualisation of affordances (Ellison et al., 2014), others have explored the affordances they provide for the users or the implications of such affordances (Treem & Leonardi, 2012). Notwithstanding the significance of social media technologies and their affordances, no research has tried to integrate and synthesise the findings from this extent literature.

The notion of affordance has recently been applied to organizations to better understand how new combinations of technology and organizational features

continually create possibilities that affect organizational innovation (Yoo et al., 2012), form, and function (Leonardi & Barley, 2008; Zammuto et al., 2007). Regarding the organizational uses of information technology, 'the concept of technology affordance refers to an action potential, that is, to what an individual or organization with a particular purpose can do with a technology or information system (Majchrzak & Markus, 2012). Thus, affordance is an emergent property of the technology-organization system.

As such, an affordance is neither a property of the technology itself (e.g., uploading pictures to Facebook) nor a characteristic of the organization (e.g., a risk-averse organizational culture), but rather an opportunity for action that exists at the intersection of these two entities, given their respective characteristics (e.g., the ability of the hotel to use an informal language on Facebook creates new opportunities for traditional organizations to engage customers and connect with them instantly.). This idea suggests that, although organization and technology interact directly with one another, they are distinct phenomena. Alone, neither organization nor technology is empirically important. ''But when they become imbricated—interlocked in particular sequences—they together produce, sustain, or change either routines or technologies'' (Leonardi, 2011, p. 149).

Given the nature of affordance, theorists have increasingly adopted this perspective when studying digital technologies and social media adoption and uses. Social media produce innovations that are more fluid and changing, with capabilities that can be added after their introduction (Lyytinen & Yoo, 2002). To simplify, organizations are transforming social media technologies in ways that the designers had not originally anticipated.

Studies adopting the affordances approach emphasise the relationship between the people and the things (Hutchby, 2001; Leonardi & Barley, 2008, 2010; Markus & Silver, 2008; Scott & Orlikowski, 2014). Treem and Leonardi (2012) suggest that an advantage of this approach is that it avoids defining social media according to particular features that can quickly become obsolete.

2.7 Critiques on previous studies

From reviews on previous research theories, models and research approach, there are a number of limitations and concern on previous works. First, theorists have been slow to study the uses and effects of communication technology in the firm in general because they often believe that such technologies are ancillary to their topics of interest (Leonardi & Barley, 2010; Orlikowski & Scott, 2008). The pervasiveness of social media in the workplace and the fact that such technologies are often the province of non-IT managers and employees means that they are likely to be increasingly implicated in all kinds of phenomena that are within the areas of interest of scholars.

From the previous study has raised few concerns. Firstly, the issue on the definition of social media and how it has been operationalised. It became common for early studies to forego offering an explicit definition and instead to make reference to a popular platform that readers might commonly identify as social media (e.g., Culnan et al., 2010; Marwick & Boyd, 2011; Lerman & Gosh, 2010). However, it was not appropriate in all instances given the heterogeneity of sites referred to using the umbrella term social media (Kaplan & Haenlein, 2010).

This practice resulted in descriptive studies that failed to contribute significant theoretical insights (Leonardi & Treem, 2012). From 152 sources, Facebook emerged as a prominent in number of social media research (Hafezieh & Eshraghian, 2017). While in different industry, some social media were more popular than others such as TripAdvisor for travel industry (Cabiddu et.al., 2014). In different country has a different type of social media, for example China's localized social media such as Weibo (Chiu, Ip & Silverman, 2012), that is not known or used by other country.

Social media dispersion will turn as a concern when a new social media platform is introduced, or a new group of users started adopting and using social media in different ways, or the social media features become obsolete over time. Significant flaw of these early definitions is that they "do not develop theory about the consequences of social media use for organising" (Treem & Leonardi, 2013, p.145). They observed that Boyd and Ellison (2007)'s definition was too narrow to be

generalisable, whilst Kaplan and Haenlein (2010)'s definition was too broad to offer an insight into the ways social media might influence behaviour.

An alternative approach in demand to remedy these difficulties. For example, in order to remedy these difficulties, Treem and Leonardi (2003) proposed an alternative approach for scholars to define social media not according to particular technological features, but rather in relation to the types of behaviour typically afforded across various organisations.

This definition clearly identify social media as tools for organization, but in the spirit of the affordances approach (Treem & Leonardi, 2012), it should be acknowledged that social media have had effects – a shift in the locus of activity from the desktop to the web, a shift in locus of value production from the firm to the consumer and a shift in the locus of power away from the firm to the consumer (Berthon et al., 2012). For example, for some organisations, social media afford the opportunity to screen potential new employees (Clarke & Roberts, 2010) whilst for others the same kinds of sites afford the opportunity for knowledge sharing and networking (Leonardi, 2014).

Further, the introduction of the social media on mobile internet environment has affected the nature of work, work practices and work environment (Leonardi & Vaast, 2017). Mobile technology has improved the efficiency and effectiveness of operational, tactical and strategic processes in organizations (Buhalis, 2004). This environment changes should also be investigated deeper.

Second, there are limited theoretical lenses and frameworks for understanding and conceptualizing the ways that social media become embedded in and impact various business processes of broad concern to scholars. While conceptualising social media, looking back at past SMEs literature, shown dominant deterministic view, where technologies as a tool of organising.

Social media are always perceived as technological tools because they enable a group of individuals to do things and achieve ends (Hutchby, 2001; Leonardi, 2011; Orlikowski & Scott, 2008). Social media have been designed and developed to 'extend human faculties' (Jung & Lyytinen, 2013, p. 290) by performing specific

actions, communicating (Jung & Lyytinen, 2013), exchanging information (Orlikowski & Scott, 2014), storing information (Scott & Orlikowski, 2014) and achieving specific goals with greater connectivity (Orlikowski & Scott, 2014), greater efficiency (Jung & Lyytinen, 2013), and time saving (Mazmanian et al., 2013). However, technology acceptance models make use of predictors that are exclusively cognitive, relating the adoption and actual behaviour of a new technology to attitudes, beliefs and perceptions (e.g., Ajzen, 1991; Rogers, 1995; Davis, 1989; Davis, Bagozzi & Warshaw, 1992).

This perspective prevailed technology in deterministic view that comprises in categories that focused on user's intention and perception, rate of technology diffusion and penetration and on monetary value as capital (Morgan-Thomas, 2016). It shares the assumption the critical aspects of IT can be captured through some set of surrogates such as individual perceptions, diffusion rates or dollars (Moore & Benbasat, 1999). This measurement has been widely accepted and applied in technology adoption model, when the determinants of the adoption was measured from the set of technology assumption (e.g., Tajudeen et al., 2018; Alsharji et al., 2019; Ahmad et al., 2019). Most technology adoption research takes positivist stance and consider system as one object and adapt model which the antecedents were from the process of syntheses from the previous literature. Thus, most of the technology is defined as narrow and tactical (Basole, 2008).

Using deterministic information system approach such as Technology-Organization-Environment (TOE) model to determine the antecedents or factors that associate with technology adoption shows that the technology is always defined as predictable properties. For instance, Tajudeen et al. (2018) includes certain antecedent factors that are specific to social media usage in organizations. This approach tends to implicitly acknowledge that technologies have generic properties. That is, underlying the interest in multiple technology classes is a shared understanding that certain technologies have common universal functionalities and that these functionalities, though varying by technology class, are predictable and known (Morgan-Thomas,2016).

The items to measure different purposes of social media usage in organizations were developed based various technology adoption theories such as DOI, Resources Based View theory and Institutional Theory, which seems practical to most of information system studies to measure the determinants of adoption and usage (Matikiti & Mpinganjira, 2018). Howevever, linking adoption with outcomes, research designs tend to imply that technology exerts a causal influence on SME performance, either directly (Abebe, 2014; Cragg et al., 2013) or through a moderating effect (Dibrell et al., 2008; Higón, 2012).

Further, how social media achieves its intended goals depends in part on its inherent characteristics and in part on user perceptions of these characteristics (Hutchby, 2001). That is, technological affordances are neither exclusively properties of digital technologies nor of individual users but occur as a result of the confluence between an individual's line of action and the possibilities offered by digital technology (Faraj & Azad, 2012). When users encounter social media tools, they perceive cues about actions that the tool enables and these perceptions shape but do not determine actions (Fayard & Weeks, 2014).

Although a particular social media offers possibilities for doing certain things, individuals can ignore or misinterpret them (Fayard & Weeks, 2014). Technologies are rarely used in the manner intended by their creators and users shape their enactment in practice, that is, digital technologies unfold in practice (Leonardi, 2011). The risk of this view is that the proxy become confused is what is intended to represent or measure when such study deal with surrogates, they tend not to conceive of historical or cultural variations in IT artefacts given that those variations may not be evident in the surrogate measures (Orlikowski & Iacono, 2001).

Determinist portrays technology as an external, independent, and unambiguous agent of change (Feldman & Orlikowski, 2011). As a consequence, technology becomes isolated from business practice and seems of relevance only at selective moments such as development, adoption, or breakdown (Orlikowski, 2007; Orlikowski & Scott, 2008). Dominant adoption models of technology in SMEs continue to rely on expectations of its separateness, stability, and predictability (Morgan-Thomas, 2016). However, the theories of practice (Feldman &

Orlikowski, 2011) assumes that any social activity, including business, comprises practices, that is, organized patterns of activity that involve shared rules, principles, tasks, and projects (Schatzki, 1996, 2002).

In another perspective, social media become a tool that may either enable or prevent actions, and their use involves generative effects such as creating, enabling, or allowing certain activity, but also constraining effects such as enframing, channelling, or disallowing (Hutchby, 2001). For example, while affording communication with broad audiences, Twitter restricts the length of a message to 140 characters, admittedly with varied success (Time, 2015).

A further implicit assumption concerns the separateness of technology and practice is that technology seems an entity that is distinct from SMEs practice. The concept of 'adoption' underscores this principle as a common current in SMEs scholarship concerns the act of adoption, that is, bringing the technology into the operations of SMEs (Abebe, 2014; Clark & Douglas, 2011; Jones et al., 2013; Peltier et al., 2012) or the issue of implementation, deepening the connections between technology and various existing business processes (Bengtsson et al., 2007; Fink & Disterer, 2006; George et al., 2013). The analytical separateness of technology and practice continues past adoption even when technology is tightly coupled with practice. For example, the Ashurst et al. (2012) study shows how technology interacts with various processes to generate implications for innovation and the integration of business processes.

A new theoretical frame for viewing technology, an approach that offers the possibility of theoretical integration should contribute to put the integration in more balanced perspective. Appendix C shows the differences between the affordance approach and others. This current study might benefit from considering implementation from integrated or broader strategic implementation when the technologies are diffused through the entire organization to create value to stakeholder. Sorensen et al. (2008) emphasized that the resulting benefits of technology are context-dependent and that organizations must carefully experiment to investigate how to yield the most benefit to the organization. The introduction of emerging and potentially disruptive IT into organizations particularly raises the

question of its transformative impact on work, work practices, and the work environment (Basole & DeMillo, 2006; Rouse, 2005). Chen and Nath (2008) conclude that both social and technical systems are highly interdependent and must be jointly optimized. To understand technology use in practice, it is necessary to understand practices within settings and acknowledge the multiple activities, understandings, rules, and normative prescriptions that a given practice reflects (Schatzki, 2002). Table 3 below is the distinction on how technology can be perceived differently in a different perspective of technology-in-practice as compared to previous studies.

Table 3. Technology-in-practice as compared to previous studies

Technology-in-practice views	**Past studies views**
Tangible technology and its features should be replaced with the focus on the emergent, situated, and dynamic technology in practice.	Looking for generic properties of technology such as compatibility, complexity, trialability and observability.
Attention more on expectation from technologies.	Cover on one side of adoption gap which is business uptake, limited attention to expectations from technology.
Revolved around identifying contingencies that moderate the adoption and outcomes.	Expectation and not scrutinized technology and how they work
What technology does in practice, which enacted functionalities that emerge when groups of individual encounter technologies in context.	Technology assumed has generic, predictable and universal properties, complete, stable and homogenous.
Causality between business practice and digital object going both ways, with technologies affecting practices and practices affecting technologies.	Prioritized understanding of technology over understanding of SME's practice with technology.

Technological capabilities enacted is always localized and subject to situational constraint.	Technology properties is instrumental and deterministic view created a partial and incomplete depiction of technology in SME practice.

In today's technology (e.g., open source software, virtual team, global-distributed work), technology-in-practice view is clearly a new scope for a future research direction with all variants focusing on the dynamic interactions between people and technology whether during construction, implementation or use in organization, or during deployment of technology at large.

IT adoption research should also be more clearly connected to the research on change management and change leadership, because IT adoption and implementation concern change and the acceptance of work tasks, processes, and collaboration Venezia, Allee and Schwabe (2008) and they are well suited when the intention is to increase the knowledge and understanding of IT adoption and implementation in constantly changing and unexpected organizational contexts (Benbasat & Barki, 2007).

Orlikowski & Iacono (2001) mentioned to re-conceptualize the technology in ensemble view. The research stream argues that the preoccupation with tangible technology and its features should be replaced with the focus on the emergent, situated, and dynamic technology in practice (Scott & Orlikowski, 2014). The enactment of technology in practice, which encompasses adoption, implementation, and impact, is necessarily 'socio-material' reflecting both the material features of technology and the social context of technology use (Leonardi, 2013; Orlikowski & Scott, 2008).

2.8 Research gaps and research questions

From the literature review confirmed that only a limited number of academic publications regarding social media affordance could be. The literature review reveals three research gaps related to the topic of SME social adoption. First, the analysis of previous research shows limited effort aimed at connecting the emerging social media technology affects as a factor influences the adoption despite of

evidence that indicate that a considerable number of impacts took place within business organization. There is a little evidence on how social media is being used in practice and reflecting the context of use in SME, localized and subject to situational constrains.

Most technology adoption research takes positivist stance and consider system as one object and adapt model which the antecedents were from the process of syntheses from the previous literature. This study benefits from considering implementation and from integrated or broader strategic implementation when the technology is diffused through the entire organization to create value to stakeholder (Benbasat & Barki, 2007). Additionally, qualitative and interpretive research is needed in order to bring out new and unexpected experiences and views from social media users. It would also be valuable if researcher could consider, justify, and be more aware of their methodological approaches and choices (Scott & Orlikowski, 2014).

Therefore, the first research question of this research objective is to investigate the current nature of social media:

RQ1: How social media has affected the changing nature of work, work practices and business environment in SMEs?

The second gap concerns antecedents of social media adoption. In spite of the significance of IT innovation adoption and the vast amount of literature available, knowledge of the technology adoption phenomenon for organizations is still limited (Abdul Hameed et al., 2012). Understanding process and factors influencing the adoption and implementation of IT usually exhibit inconclusive outcomes. As a result, factors found to be influential in one organizational setting may not have any weight or inversely impact in a different situation.

Moreover, the majority of past IT literature has focused on the adoption decision of IT innovation adoption and has rarely examined adoption and use of technology in organizations simultaneously. There is a lack of research offering a model to explain technology affordance in organizations.

In addition, innovation adoption theories and user acceptance models limit to explain the perception of individual's attitude and behaviour towards adoption and acceptance of an innovation. There is a necessity for expanding current innovation adoption theories and models to incorporate the context of business organization. This research may benefit from considering implementation and adoption as a part of a dynamic social system, and not as an individual decision to adopt or not adopt IT in isolation.

Despite the large amount of literature examining factors that facilitate or inhibit IT adoption, literature falls short in understanding and validating a set of characteristics that influence the adoption and use of an innovation. Past research makes it almost impossible to draw firm conclusions on the effects of different factors influencing technology adoption process. However, it is fundamental to identify factors that enable or inhibit its implementation process to address the full adoption process.

The second gap concerns the difference about the factors associated with social media adoption with the objective to examine the factors associated with adoption.

RQ2: What are the outcomes of social media affordance approach in SMEs to social media adoption model?

Finally, previous research has highlighted the importance of social media shaping the business decision and impacting business's performance. Despite the existing evidence of the implication from social media, the research on the impact of social media adoption is still largely fragmented (Ainin et al., 2017). Additionally, the majority of social media adoption has been concerned with identifying the impacts of technology adoption, with limited research focusing on the effect of social media after the effects of emerging disruptive technologies.

Due to an expected nature and specific effects of the technology to business, it is expected that additional outcomes of social media adoption in SMEs will be uncovered. Thus, the third research question objective is to uncover the impact of social media adoption:

RQ3: What are the significant factors are associated with social media adoption and impacts to SMEs?

2.9 Chapter Summary

This chapter aims at reviewing the literature on the technology adoption in SMEs context in general, with special emphases on social media technologies. Hence, the chapter reviewed and presented findings of the existing scholarly work related to factors influencing the adoption of IT. It has presented sufficient details and analysed various social media in the business context; the benefits, challenges including previous work and related theories. Also, it has offered explanation for theoretical perspectives underpinning technology research on SME context. Finally, this chapter has provided a rationale behind the choice of applying affordance approach into theoretical model underpinning this research. The next chapter describes the research design followed to conduct the present study.

Chapter 3: Study Description

3.1 Introduction

Based on the research aim, research objectives, and research questions, this chapter critically discusses the available options, and provides adequate justification, for all methodological decisions taken, describing the research process in depth. The chapter opens with an overview of the research paradigm that guides the overall enquiry and a brief discussion of the chosen research paradigm and its epistemological and ontological principles. The chapter then discusses overall research design and the relationship between study questions and empirical procedures concerning data collection and analysis.

3.2 Research paradigm

Given that an understanding of philosophy of research is considered as an essential prerequisite in conducting research, the chapter starts with a discussion on research enquiry paradigms. As any other piece of academic research, this study is guided by a set of practices, beliefs and assumptions that frame the way the researcher approaches the enquiry.

In other words, the study follows a certain research paradigm (Morgan, 1980) which concerns a set of assumptions about what the nature of reality (ontology) and the position of scientific enquiry within this reality (epistemology). These assumptions affect the types of questions being investigated, the type of methodology used, and the type of knowledge that is being produced. Understanding different research paradigms allows researchers to identify which areas of knowledge require investigation, and it directs the researcher towards choosing the appropriate methodology (Deshpande, 1983).

Towards the adoption of a research paradigm for the purposes of this study, the discussion below presents briefly six of the most cited research paradigms, namely: positivism, post-positivism, critical theory, constructivism, participatory, and pragmatism.

A. Positivism

Positivism is based on the pillars of naive realism proposing that there is a single reality consisting of what is directly perceived through human senses; therefore, ontologically reality is considered as fixed and objective. Positivism holds a deterministic view of reality based on causal laws. Its understanding enables researchers to predict the outcome of natural and human actions. Humans are considered rational beings, perceiving reality independently of their consciousness. Human behaviour is learned by experience and observation, guided by external sources producing consistent behavioural outcomes. Epistemologically, positivism proposes a dualist and objectivist view, that is the inquirer should be independent from the object of the study to avoid influence and bias so that to achieve true, objective and replicable findings. Methodologically, given that reality is considered accurate and precise, it can be measured through empirical, primarily quantitative methods, that are used to verify hypotheses (Guba & Lincoln 1998).

B. Post-positivism

Post-positivism represents an attempt to overcome the major criticisms to positivism. Such criticisms are primarily related to positivism's assumption of the fixed and objective reality that can be truly studied and measured, as well as the rationality of the human being. Although post-positivism, similarly to positivism proposes that there is a single, objective reality, it challenges positivism's notion that absolute truth can be discovered. As a result, researchers cannot prove a hypothesis, but rather fail to reject it (Phillips & Burbules 2000).

Ontologically, post-positivism is based on the pillars of critical realism proposing that an approximate, imperfect, and probabilistic understanding of reality can be achieved only through critical examination (Guba & Lincoln 1998). Similar to positivism, post-positivism also holds a deterministic view of reality, is based on causal laws. However, their understanding enables researchers to make probabilistic (not accurate or true) predictions about the outcome of natural and human actions. As a result, researchers when studying human behaviour cannot be positive about their claims (Creswell, 2013). Epistemologically, post-positivism abandons dualism accepting that researchers are subjective and therefore able only to approximate reality. As Guba and Lincoln (1998, p.205) suggest "objectivity remains a

regulatory ideal" with critical traditions and the critical community acting as guardians of objectivity. Methodologically, post-positivism proposes empirical observation and measurement (Creswell, 2009), however, it encourages qualitative techniques to enable researchers solicit emic viewpoints, collection of situational information and use of more natural settings for research (Guba & Lincoln 1998).

C. Critical theory

Guba and Lincoln (1998) suggest that critical theory is an umbrella term used to denote a number of alternative paradigms such as participatory inquiry, materialism, feminism and neo-Marxism, although in later work they consider participatory as a paradigm of its own (Guba & Lincoln 2005). In contrast to Guba and Lincoln (1998, 2005), Creswell (2009) considers critical theory as a qualitative theoretical perspective and not as a paradigm. Ontologically, critical theory is rooted on historical realism, accepting a single reality. However, reality is shaped by historically situated factors such as ideological, political, economic, ethnic, gender and social forces. The effects of such forces are crystallized over time into structures. At a point in time, such structures become "real and natural" to the extent that, in practice, they constitute a virtual or historical reality (Guba & Lincoln 1998).

Epistemologically, critical theory rejects positivism's and post-positivism's dualism, supporting that the inquirer's values not only influence the subject of the enquiry, but are interactively linked; resulting in value mediated subjective findings. This belief leads to a dialogic and dialectical methodology that attempts to uncover how historical structures may determine human actions employing all forms of qualitative and quantitative analysis techniques (Onwuegbuzie et al., 2009).

D. Constructivism

Constructivism is based on the philosophical assumptions of relativism, which supports that there is no absolute or objective truth. Therefore, reality is relative, subjective, and based on how individual sees and perceives the world or the object under investigation. As a result, ontologically, in contrast to positivism, constructivism assumes multiple realities that are locally constructed. Multiple realities are attributed to the belief that for the same phenomenon there are multiple contradictory, but equally valid, accounts. These realities are mental constructions

(constructed reality) that are socially and experientially based, therefore their content and form are based on each individual's understanding and interpretation of the world within he/she lives and operates (Anderson 1986; Hudson & Ozanne 1988; Guba & Lincoln 1998, 2005; Sarantakos 2005; Creswell 2009).

Epistemologically, as is the case in critical theory, constructivism supports that the inquirer and the object are interactively linked. Therefore, knowledge is created as the investigation and the interaction proceeds, based on the participant's views about the object, or the phenomenon under study (Anderson 1986; Hudson & Ozanne 1988; Guba & Lincoln 1998, 2005; Sarantakos 2005; Creswell 2009). Methodologically, constructivism adopts a hermeneutical and dialectical approach using all forms of qualitative techniques. Constructions of reality can be elicited through a dialectical interaction between the enquirer and the respondent. Those constructions are then interpreted through hermeneutical techniques, to reach a consensus for a new, more informed reconstruction. Although strong supporters of constructivism and relativism disagree with the use of any quantitative measures, the use of descriptive statistics is sometimes seen by constructivists as a representation of one of the multiple reality valid accounts of a phenomenon (Onwuegbuzie et al., 2009).

E. Participatory

The participatory paradigm is based on the work of Heron and Reason (1997) who argue that constructivism fails to adequately account for knowledge generated through experience, such as "knowing by acquaintance, by meeting and by felt participation in the presence of what is there" (p.277). As Heron (1996, p.10) argues "if reality is nothing but an internal mental construct, no warrant can be given for supposing that the other people being studied actually exist". Ontologically, the participatory paradigm proposes a subjective-objective reality: What can be known consists of a subjectively articulated world that is objective in relation to how it is shaped by the knower. A prerequisite to become a knower is to be known by other knowers, therefore a mutual participative awareness is required (Heron & Reason 1997).

Epistemologically the participatory paradigm supports that there are four interdependent ways of knowing based on critical subjectivity: experiential (direct

encounter), presentational (graphic, musical, vocal, verbal act, metaphors of aesthetic creation), propositional (knowing in conceptual terms and by description as expressed in statements and theories), and practical (how to do something by skill or competence). Methodologically the participatory inquiry is based on cooperative inquiry not only among co-researchers, but also among the informants who are involved in all aspects of research decision making, and in the use of language grounded in a shared experiential context.

F. Pragmatism

Pragmatism as a research paradigm, offers an alternative worldview compared to positivism / post-positivism and constructivism, as it focuses on the research problem and the consequences of the research. Pragmatism promotes the examination of practical consequences as means to understand the importance of philosophical positions and therefore to inform decisions on the actions required to be taken in order to understand real world phenomena (Johnson & Onwuegbuzie 2004). Biesta (2010) argues that pragmatism should not be considered as a philosophical position, but as a set of philosophical tools to address problems. This argument results from one of the core ideas of pragmatism supporting that philosophical activity should aim in addressing problems rather than building philosophical systems.

Pragmatism has also been considered as an "anti-philosophy" since it prefers action rather than philosophizing (Johnson & Onwuegbuzie 2004). In a similar vein, Creswell (2009, p.10) considers that "pragmatism is not committed to any one system of philosophy and reality". Ontologically, pragmatism is oriented towards problems of the real world, however accepting that there are multiple "existential" realities (Feilzer, 2010, p.8) consisting of different layers, or elements, each of which can be objective, subjective or both.

For Dewey (2010) "things [...] are what they are experienced as", therefore whatever is experienced is real, although the experience itself does not results in any knowledge. Such realities are open to empirical enquiry, removing researchers' constraints resulting from the dichotomy of positivism/post-positivism and constructivism (p. 13).

Epistemologically, pragmatism supports that knowledge is both based on the reality we experience within the world we live in, but it is also constructed (Onwuegbuzie et al., 2009). Methodologically, pragmatism enables researchers instead of focusing on methods, to focus on the research problem, on the approaches to understand it and on its consequences to the real world (Creswell, 2009). Pragmatism rejects the thesis that qualitative and quantitative research are incompatible (Onwuegbuzie et al., 2009). Such a belief enables researchers to use pluralistic approaches to derive knowledge, away from traditional dualisms (quantitative / qualitative), allowing a free, informed, movement between qualitative and quantitative methods, techniques and procedures to best meet researchers' needs and purposes (Creswell, 2009). The ontological belief that there are different layers of reality (objective, subjective, or mixture) enables pragmatism to provide the philosophical basis for mixed methods research (Howe 1988; Johnson & Onwuegbuzie 2004; Creswell 2009; Onwuegbuzie et al., 2009; Biesta, 2010; Feilzer, 2010; Greene & Hall 2010; Tashakkori & Teddlie, 2010). Table 4 is the summary to compare the main research paradigms discussed.

Table 4. Comparison on main research paradigms

Research Paradigm	Ontology	Epistemology	Methodology
Positivism	There is a single reality, fixed and objective.	Dualist and objective in nature. Can be measured and known.	Experimental leading to decontextualized results, hypotheses are tested, with quantitative methods are superior.
Post positivism	Reality exists but it cannot be accurately detected.	Modified dualist and objective.	Modified experiment and interpretive research.
Critical theory	Historical realism.	Transactional and subjective findings that are influenced by values.	Dialog based and logical.

Constructivism	There is no single reality or truth. There are multiple realities. Reality is co-constructed.	Reality needs to be interpreted. Interactive / transactional and subjective with co-created findings.	Quantitative methods, interpretative and logical with a well described context.
Participatory	Proposes a subjective-objective reality.	Supports that there are interdependent ways of knowing based on critical subjectivity.	Based on cooperative inquiry among co-researchers and informants who are involved.
Pragmatism	Reality is constantly renegotiated, debated and interpreted.	Best method to use is the one that solves the problem.	Consider the practical effects of the objects of researcher's conception.

3.2.1 Paradigms in social media research

As discussed briefly, positivism and interpretivism have different ontological, epistemological and methodological positions. There has been an on-going debate, and a divide between their supporters surrounding the primacy of the paradigms (Guba, 1990) and the incompatibility of mixing paradigms (Creswell & Clark, 2007; Onwuegbuzie & Leech, 2005). Many methodologists have argued for the need to take a practical view that draws on strengths, and addresses the weaknesses, of each paradigm (Onwuegbuzie & Leech, 2005; Mingers, 2003).

Considering the interpretivist-positivist continuum, the current study adopts a post-positivist stance. In line with the post-positivist paradigm, in this study the researcher aims to achieve objectivity and reduce possibility of (Moutinho and Hutcheson, 2011), current study involves the use of qualitative and quantitative data to answer the research questions.

The examination and interpretation of the data should be as systematic and transparent as possible to closely reflect the reality (Guest, Namey & Mitchell,

2013), rigorously analyse and review the findings to minimize the bias and achieve research validity (Ryan, 2006; Pickard, 2013).

The study adopts a post-positivist stance for several reasons. First, the research builds on the body of knowledge that aims to uncover reality questions and explicitly seeks generalizable knowledge. Furthermore, the study aims to establish the causal relationships between the proposed research constructs. Specifically, the researcher is interested in uncovering the causal relationships between factors that influence social media adoption, as well as its outcomes, which is in line with the positivist view. At the same time, the study is also concerned with exploring the nature of social media in SMEs with technology-in-practice perspective in mind.

As such, this requires a more exploratory approach to uncover the meaning of the core research concept, thus steering the research towards the post-positivist paradigm which encompasses both qualitative and quantitative enquiry. Post-positivism is adopted as it sees that encourages the combination of quantitative and qualitative methods to explore the depth of the research problem and overcome the shortcomings of adopting only quantitative methods (Guba, 1990; Brand, 2008). The post-positivist assumptions seem to fit very well with the current context, which due to the novelty of the phenomenon under investigation requires both exploratory and confirmatory logic.

3.3 Research method approaches

The most frequently used qualitative methods were semi-structured interviews, case study and secondary data while the most frequently used quantitative method is the self-completed questionnaire survey. In social media studies, it is not surprising that semi-structured interview approach was more dominant than questionnaire because of the nature of emerging social media field which required more in-depth understanding (e.g., Olof Lagrosen & Grunden , 2014; Effin & Spil, 2015; Parveen et.al., 2014; Durkin & McGowan, 2013; Barnes et.al., 2012.), alternatively researchers used secondary data in their research (e.g., Kim et.al., 2011; Panigua & Sapena, 2014; Bin & Gu, 2014; Witzig et.al., 2012). Johnson and Onwuegbuzie (2004) underlined the value of qualitative research, highlighting the rich detailed

description of complex phenomena and the advantage of flexible tools of investigation. It provides a more robust context in which quantitative data can be interpreted.

It is also an evidence that researchers chose questionnaire surveys as their quantitative research method to deal with different research questions (e.g., Ainin et al., 2015; Fosso & Carter, 2014; Yan Xin et al., 2014). Rooted in empirical sociological research, quantitative survey methods seem well suited to investigating socio-psychological factors involved in user acceptance of technology systems. The survey-based studies have produced a rich set of findings concerning different user groups and a variety of technologies. Factors such as antecedent and consequent have been explored and empirically tested using survey instruments.

Schaupp and Belanger (2014) found a methodology approach in answering the research questions on the antecedent and the value of social media to small business. They used both semi structured interview and survey in the research and indicated that the mixed method has a potential for future research direction.

For the purposes of comparison to these literature, semi-structured interview will be employed within this study to deal with similar research objectives and research questions, to investigate the nature of social media usage, factors associated with adoption, the perceived benefits and challenges of adoption, and the measurement for adoption.

3.4 Exploratory sequential mixed method design

By allowing and legitimizing the use of mixed methods, post-positivisms allows flexibility in research designs. For example, interview protocols may be structured or semi-structured; and the data analysis follows a specific pattern or order to be transparent, with any explanations based on the collected data (Guest, Namey & Mitchell, 2013).

This study adopts the sequential exploratory strategy mainly because of the expected outcome that clearly to develop good measures and then to use the

measures as outcomes in survey project. The study sought to examine social media situatedness within business context begin with an exploratory, qualitative first phase of interview with SMEs owners/managers in Malaysia. The reasons for adopting the qualitative stage is two-fold:

1) While technology is rapidly change, it is important to explore the nature and changes to initial research model utilising social media in SMES.

2) To identify the key factors and impacts of social media adoption in SMEs and generate items and develop measures of social media adoption SMEs as well as newly uncovered factors and outcomes.

The qualitative approach is appropriate in this study as it aims to explore users' affordance and outcomes in a constantly changing environment in technology.

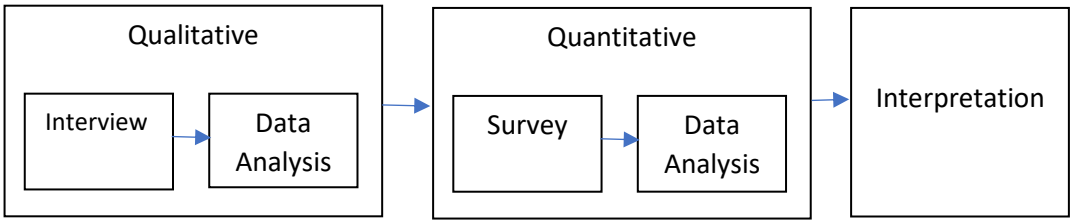
From a qualitative thematic analysis of the data, then an extensive review of the literature can be performed to determine appropriate measures the qualitative findings. The intent of the exploratory strategy is to develop better measurements with specific samples of populations and to see if data from a few sample (in qualitative phase) can be generalized to a large sample of a population (in quantitative phase).

The qualitative data is also will be used to develop hypotheses that can be tested using the in quantitative phase. The initial phase qualitative data collection was connected to the subsequent quantitative measures and their rigorous testing for scores on validity and reliability.

The study is timed for the quantitative phase to follow the qualitative phase, and the quantitative phase could be stated as the development of the measures. The emphasis in the project favoured quantitative research, and the study could be pointing toward the survey at the end. Recognizing that the researchers came from technology industry, the strong quantitative orientation of the study makes sense, the design may or may not be implemented within an explicit theoretical

perspective. The process of this mixed methods designs as it is applied in the current research is illustrated in Figure 1.

Figure 1. Exploratory sequential mixed methods design



Source: Adapted from Creswell (2014)

Generally, the choice of research methods depends on the research problem that is investigated, as well as researcher's background and the audience it addresses (Creswell, 2014). The use of qualitative and quantitative methods allows to reach a more thorough and comprehensive understanding of the social media phenomenon, as well as to test the causal relationships between social media adoption and its factors and impact.

The purpose of this strategy is to use quantitative data and results to assist in the interpretation of qualitative findings. Morgan (1998) suggested that this design is appropriate to use when testing elements of an emergent theory resulting from the qualitative phase and that it can also be used to generalize qualitative findings to different samples. Similarly, Creswell et al. (2003) cited one purpose for selecting this approach: to determine the distribution of a phenomenon within a chosen population.

3.5 Integrating mixed methods

The study illustrates how different methods may be integrated into one study in order to facilitate a deep understanding of technology adoption. Following a sequential design, the study consists of three phases three phases adapted the "three levels of understanding" from Lee (1991). In an attempt to integrate positivism and interpretivism in organizational research, Lee proposed the above framework in

which different research paradigms coexist in order to facilitate an iterative development of integrated understanding.

According to Lee, the first level of understanding is subjective understanding, which consists of the common-sense and everyday meaning of reality; the second level of understanding is interpretive understanding, which consists of the researcher's systematic interpretation of the first-level meaning; and the third level is positivist understanding, which tests the researcher's propositions in a manner similar to, or modelled on, the way in which propositions are tested in the natural sciences. Table 5 shows project phases and the research methods that will be followed in the study.

Table 5. Project phases, levels of understanding and research methods

Project Phase	**Level of Understanding**	**Research Methods**
Phase 1: Literature Review Reviewing the deployment	1st level - Subjective understanding	Literature and discipline review
Phase 2: Qualitative Interviewing Conducting in-depth interviews with respondent	2nd level - Interpretive understanding	Individual interview
Phase 3: Quantitative Survey Collecting quantitative data from a large sample of the population	3rd level - Positivist understanding	Questionnaire survey

Phase 1: Literature Review

The research started with initial reading on social media in business related organization. The literature and discipline review led to the subjective understanding that the organizations experience in social media technology: the antecedent, usage, factors associated with the adoption, benefits, impact and concerns. Researcher can assess the current nature of research on a social media, which will help determine what is already known and how extensively the social media topic has already been researched.

One of the additional benefits derived from doing the literature review is that it will reveal which researchers have written the most on a social media, therefore, probably the experts on the topic. In many cases may discover new angles that need further exploration by reviewing what has already been written. It is often useful to review the types of studies that previous researchers have launched as a means of determining what approaches might be of most benefit in further developing a topic. By the same token, a review of previously conducted studies might lend itself in determining a new angle for approaching research.

Phase 2: Qualitative Interviewing

The interview is semi-structured, with open-ended questions. The purpose of the interviews was three-fold. First, qualitative interviews provide a holistic view of the alert technology as it is perceived by its users or potential users. A holistic picture needs to be drawn before one can proceed to select interesting theoretical constructs on which to focus the study. Second, the codes and themes developed from qualitative data analysis inform the design of the questionnaire drawn up for the subsequent quantitative data collection. Finally, qualitative data collected from interviews can be used to cross-validate, explain and enrich data obtained through other methods as such triangulation is able to cancel out the bias inherent in one particular method and give us a “convergence upon truth” (Losee, 2003).

One thing to be noted here is that the interview instrument is used more as a guideline for conversation than as a rigid questioning protocol. In fact, the interview protocol was being constantly refined as the interviews accumulated. This type of open-ended inquiry allowed eliciting responses in a non-leading, natural manner. The main points covered in each interview is the same, but the wording and order of questions is spontaneous in order to accommodate the flow of the conversation. The length of interviews ranged from 30 minutes to 90 minutes, with an average of 45 minutes. All the interview transcripts will be transcribed for coding and analysis (Bazeley, 2007). Segments of transcripts were labelled with keywords (codes), and these codes were then categorized and integrated into the coding theme.

In a nutshell, this emerging interpretive understanding phase of the study gave the researcher an improved interpretive understanding of what motivated SMEs to adopt the technology and how the understand the technology related to their business. Consequently, the qualitative data give rise to a new set of important constructs that might not have been discovered through using survey instruments.

Phase 3: Quantitative Survey

Although qualitative interviewing offered an in-depth view of the local meanings of social media, this level of understanding has its limitations. The qualitative analysis aimed to interpret existing reality from the viewpoint of the subjects (the current level of acceptance) rather than to predict future acceptance. Indeed, generalizability (representativeness of the sample) and hypothetico-deductive logic are the very strengths of the positivist approach (Lee, 1991). In order to expand and verify the findings from the SME population, a quantitative survey will be conducted following the interviews.

Table 6 highlights that both quantitative and qualitative data are required in each objective and research question of this research. The data will be analysed respectively, and the results are mutually reinforced, and provide supportive arguments. While the quantitative research focuses on the relationship between different variables, qualitative research is used as an exploratory tool for understanding the reasons behind.

Table 6. Approach applied in the research

Research Objectives	Research Questions	Approach
To understand the social media adoption nature among SMEs in Malaysia.	RQ1: How social media has affected the changing nature of work, work practices and business environment in SMEs?	Qualitative + Quantitative
To examine the social media affordance to SMEs.	RQ2: What are the outcomes of technology affordance approach in SMEs to social media adoption model?	Qualitative + Quantitative
To develop and test a framework, to analyse data and validate the proposed conceptual model to determine the factors associated with social media adoption in SMEs	RQ3: What are the significant factors are associated with social media adoption and impacts to SMEs?	Quantitative

3.6 Chapter summary

The chapter has outlined and justified the general research design guiding this project. Concerning the general design, the project followed the principle of pragmatism. The study employed a mixed-method approach with a qualitative data collection and analysis followed by the quantitative stage. The exploratory qualitative stage is aimed at exploring the conceptual model and answering the first research question. Whereas the confirmatory quantitative stage was used to test the empirical model and address the two remaining research questions. The research was thus split into two studies (i) qualitative approach and (ii) quantitative and hypothesis testing.

The next chapter will address the details in the design of qualitative study, starting from the data collection, data analysis, questionnaires and follows by analysis, findings and discussions.

Chapter 4: Qualitative Research

4.1 Introduction

It was noted in the previous chapter that two-phase design is adopted in the study. The first phase of this research project follows a qualitative design. In particular, the study pursuits exploratory with technology-in-practice perspective in mind, through the collection of interview data with SMEs in Malaysia with the following objectives:

- To examine social media situatedness within business context
- To explore and ascertain the appropriateness of variable that can be used to operationalise constructs
- To provide some insight into empirical context, and thereby into how questions could be effectively framed in the questionnaire.

The sections below address in detail the design decisions undertaken in this study starting from the data collection, going into data analysis, question of rigour in qualitative analysis, findings and discussions.

4.2 Sampling

Careful consideration is needed to construct an effective sampling strategy to ensure that the selected sample in each component of the research is compatible with the overall research design (Collins et al., 2007). There may be a wide choice of combinations of sampling methods (Teddlie & Yu, 2007). Probability, purposive, and convenience sampling are discussed briefly in the following Table 7 to provide a background sampling strategy.

Table 7. Taxonomy of sampling strategies

Sampling technique	Different type of sampling	Description
Probability sampling	• Random Sampling • Stratified Sampling • Cluster Sampling • Sampling Using Multiple Probability Techniques	• Aim to achieve representativeness, which is the degree to which the sample accurately represents the entire population. • Primarily used in quantitatively oriented studies. • Involve ‘‘selecting a relatively large number of units from a population, or from specific subgroups (strata) of a population, in a random manner where the probability of inclusion for every member of the population is determinable’’ (Tashakkori & Teddlie, 2003, p. 713).
Purposive sampling	• Sampling to Achieve Representativeness or Comparability • Sampling Special or Unique Cases • Sequential Sampling	• Primarily used in qualitative studies. • May be defined as selecting units (e.g., individuals, groups of individuals, institutions) based on

	• Sampling Using Multiple Purposive Techniques	specific purposes associated with answering a research study's questions. • Type of sampling in which, ''particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices'' (Maxwell 1997, p. 87).
Convenience sampling	• Captive Sample • Volunteer Sample	• Drawing samples that are both easily accessible and willing to participate in a study.

Source: Adapted from Teddlie and Yu (2007)

The aim of this stage is to gain in-depth views of social media adoption in SMEs rather than to produce a statistically representative sample or draw a statistical inference. Thus, purposive sampling technique would be the most appropriate sampling strategy to be used in this phase of research. Several researchers, (e.g., Devers & Frankel, 2000) shown that purposive sampling is the most often used sampling strategy for carrying out qualitative investigations.

Qualitative phase in this study adopted a purposive sampling and later snowball technique to recruit participants. Purposive sampling method involved choosing participants that are knowledgeable about the research topic, and able to generate meaningful insights that helped answer the research questions (Ritchie & Lewis,

2003; Bryman, 2004). Here “the sample units are chosen because they have particular features or characteristics which will enable detailed exploration and understanding of the central themes and puzzles which the researcher wishes to study” (Ritchie & Lewis, 2003).

The purposive sampling in this study meant that interviewees had to satisfy the 3 following criteria:

a) To have been in small or medium enterprise clusters in Malaysia
b) To be an active social media user.
c) In a position to initiate, implement or control social media

In terms of the first criteria, for defining SMEs is based on the Malaysia Small Medium Industries Development Corporation (SMIDEC) definition of SMEs. For the manufacturing sector, SMEs are defined as firms with sales turnover not exceeding RM50 million OR number of full-time employees not exceeding 200. For the services and other sectors, SMEs are defined as firms with sales turnover not exceeding RM20 million OR number of full-time employees not exceeding 75.

To access individuals that fit the stipulated criteria, the researcher began with his personal contacts, and then followed a snowball approach. Snowball sampling represents a type of sequential sampling (Teddlie & Yu, 2007), where “the researcher makes initial contact with a small group of people who are relevant to the research topic and then uses these to establish contacts with others” (Bryman & Bell, 2011). The researcher thereby asked some of her contacts to participate in the study and to suggest other potential interviewees who would satisfy the participation criteria. Using snowball sampling provides the flexibility of data collection and allows the issue to be investigated in-depth, as the participants recruited fit the participation criteria and can provide insights into the research problem.

4.3 Semi-structured interviews

The qualitative data collection involved semi-structured interviews. Semi-structured interviews are often adopted to "confirm study domains and identify factors, variables, and items or attributes of variables for analysis or use in a survey" (Schensul et al., 1999, p. 149). Although the interview protocol followed a list of themes and questions, the interview approach was flexible, where some questions were crossed out, while others were added depending on the flow of the conversation. The researcher was interested in the participants' stories in detail and in soliciting rich examples from their own experiences, thereby not forcing the predefined concepts and theories (Magnusson & Marecek, 2015). Adoption of semi-structured interviews allow flexibility in gathering the data, where the researcher can alternate between the questions depending on the flow of the discussion, add follow-up questions and ask additional clarification (Mitchell & Jolley, 2012).

Semi-structured interview is best used in this stage of study because of the location factor which in Malaysia that limit the chance to interview or meet the participants more than once. While unstructured interview is time consuming and require a skilled interviewer, it also produce large amounts of text which is difficult to analyse. As opposite, the semi-structured interview has guide to provides a clear set of instructions for interviewers and can provide more reliable, comparable qualitative data, which often preceded by observation, informal or unstructured interviewing. It allows the researchers to develop a keen understanding of the topic of interest necessary for developing relevant and meaningful semi-structured questions. The inclusion of open-ended questions and training of interviewers to follow relevant topics that may stray from the interview guide does, however, clearly provide the opportunity for identifying new ways of seeing and understanding the topic at hand, thus the most appropriate approach technique to use.

The data collection involved face to face interviews used to accommodate the participants that were out of direct proximity from the researcher. At the beginning of the interview respondents were advised about the purpose of the study to set the main setting of the interview and the interview should take up to 1 hour. Participants

were advised that their anonymity would be preserved, they were provided with a Plain Language Statement and that they would able to ask questions if the additional explanation of the study and its process was required. Once the participants agreed to take part in the research, they were provided with a Consent Form to sign.

The number of participants recruitment followed a "theoretical approach, where the data collection lasted until the data saturation had been reached, where no new information was uncovered in the interview (Baker & Edwards, 2019). The total participants adequately represent a sample at least one from each state in both East and West Peninsular Malaysia. In total 17 interviews were carried out each interview is between 30 minutes to 90 minutes in duration. The interviews were conducted by researcher himself.

Respondents were free to talk about one or more social media application of their choice. The semi-structured interview protocol was developed over a period of three weeks. Over the process of the interviews, some of the questions were rephrased with the latest social media jargon to suit the participants.

The interview guide is presented in the Appendix D. The interview guide was divided into three themes – where interviewees were asked to 1) talk about their current practice and utilization of social media for business purposes, 2) management and operationalization of social media technology in daily business routine, 3) the social media impact in their business activity. At the start of the interviews, respondents were asked to share about their business and activities and their involvement in implementing social media. The set of interview protocol seek to explain why the business owners' perceptions, decisions and how they use social media.

Out of 21 respondents, 1 respondent has pulled out from the statistic on personal reason. Another 1 recorded interview is excluded from the research because of very poor audio quality which was conducted during heavy rain and bad weather. There were 4 businesses that being attended by 2 respondents in one interview session. All interviews were audio recorded and transcribed resulting in 152 pages of transcription (using font size 12 and line spacing 1).

An initial review of the findings illustrate that the participants used Malay as the primary language, as Malay is the majority spoken language with English as official business language in the country. To reduce the loss of meaning and to enhanced the validity of cross-English qualitative study, the researcher stayed in the original language as long and as much as possible, delayed the use of fixed-one word-translation and analyse using fluid descriptions of meaning using various English formulations. It later checked the interpretation by going back to the preliminary findings in the source language. To ensure trustworthiness, the transcript translated back to the original language by another translator followed by a member check.

4.4 Study sample

In total 17 semi-structured interviews were conducted. The sample was composed of participants from various industries and years of establishment and included both male and female participants. Interviewees were employed in different and roles, and also included managers. Each interview was between 40 minutes and 90 minutes in duration and the interviews were conducted by researcher himself. The sample consists of 17 companies from East Malaysia, and 10 others from West Malaysia: North Region (3), Central Region (5), Southern Region (2) which comprises the region or state covered during the interview.

4.4.1 Background of interviewees

To preserve participants' anonymity, their names were changed to codes that started either with a letter 'SME' indicating their business and followed by a number from 1 to 17. SME1 is company established since 2008 to offer travel and tours package to customer. Their main office is in Ipoh and have representatives in every Malaysian region. SME1 started to use social media in 2006; they started with a website and then moved onto Facebook and Instagram. The participant for the study were the owner of the company who also initiated company's social media strategies.

SME2 has more than 15 years of business in healthcare and has 6 branches and 1 X-Ray center. The company primarily operates across the Malaysian Central region, with 30 full time staff and 6 professional doctors. However, the usage of social media only started in year 2009 initiated by the medical director. SME2 only use Facebook as sole social media channel to engage with public.

SME3 started in 2003 as aquaculture related business to breed fishes and produce aquaculture product. Since 2010 the company has ventured into ecotourism by offering fishing tour to visitors. With the idea from founder, SME3 started its social media presence in 2013, which started with a website and followed by a Facebook fan page. They also used to appoint external company to develop their website, but the social media is managed by his wife and brother.

SME4 is providing printing services in Sabah. The company started from home since 2000 and opened the first outlet in 2005. Over the years, SME4 has increased the production quality through the use of automation and machinery in the processes. They started its presence in internet using website and blog and later with Facebook. The social media usage was initiated by the owner to promote and share information with their customer.

SME5 is a packed food manufacturer and supply the product to 104 local outlet using external company distribution services. The business, however, was started as a training centre before the owner decided to change the business when the landscape of the IT business changed. The social media presence was established in the organization since then with its first presence on Facebook and website.

SME6 is a supply and wholesaler of glass and PET bottles in fulfilling booming demand for small bottle. The business started with 3 partners and supported 3 staff. They are the main supplier with the supply come from local bottle manufacturer. Considering to import the supply from China, the company suggested that having a social media presence is important. Hence, they have established a website and started to use Facebook. They also have started the use of Instagram to promote their products to customers.

SME7 is a leading digital publication start-up company in Malaysia. They have 6 co-founder and their business operation is relying on internet and technologies. They have 12 writing contributors that feed the content for publication. With a plan to expand the operation in Indonesia, the company leverage the use of internet by blog and Facebook. They also have recently started to use Instagram to promote more visual content to the readers. The respondent is an editorial manager in the organization.

SME8 owned by a husband and wife who venture into food and beverages industry. They opened several outlets in Sabah offering niche food to customers since 2012. They have grown from a small business to a franchise concept approach by using bloggers to review their products. Since then they are actively using Facebook, Instagram and Twitter.

SME9 has operating since last 2004 years with producing composed fertiliser. It also has goats in a feedlot and being supported by government in term of financial and consultation. With the support of 5 staff, the business has expanded to 17 acres of area to develop as ecotourism activities centre. In 2014, the business has won national level competition which providing them with another RM2 million development grant as a winning prize. The business remains as sole proprietor and the development of the site is aggressive. To support their tourism business, the business has started Facebook page recently.

SME10 business started since 1999 as a learning centre providing extra activities for schools. The respondent are husband and wife who expand the business into 5 learning centres in Johor Bahru. There are more 1,000 students enrolled and most of the instructor/trainers are part-timer from local schools. The business has also promoted e-learning as a part of new approach in delivering content to students. The social media was initiated by the owner and use Facebook as main channel.

SME11 is a private limited company, were co-founded by two computer programmers. The main activities are to develop web and mobile application. Their office is in Cyberjaya but has been a start-up company by developing mobile games.

The business uses Facebook, Instagram and Youtube to expose their followers with new update on their applications.

SME12 providing customers with a niche health product. It started 2 years ago and being well accepted by the customer. The business has been in spotlight in local media for the product that they are offering. Mainly they are using Facebook and Instagram. The respondent has experience working under international fast food chain industry. The business has central kitchen that produce foods to be distributed in Kuala Lumpur and Selangor.

SME13 has started in 2014 as an insurance agency that selling policies to the customer. When the business has grown to more than 100 agents, the owner decided to expand the operation by opening a new private limited company. Their headquarter is in Seberang Prai, Pulau Pinang and opening branches in Ipoh, Kelang, Terengganu, Kelantan and Alor Setar. The business has achieved a million-dollar agency in year 2004,2013 and 2014, as s recognition of high achievement business. They have started their website, but most of their agents are using blog and Facebook.

SME14 has been started by serial entrepreneur since 1998 as a web hosting company. The business has started with selling things online including mailing list and e-book. SME14 was form during the dot com year, when the demand of website and online property was high. Other than hosting services, SME14 offers consultancy work, training, event and online marketing activities. The company has been using social media since 2003 and their main application are Facebook, Instagram and Twitter.

SME15 have started in 2009 offering web-based application development then, until the business has grown to offer a full-scale information technology services to clients, starts from consultancy, training, web application, copywriting and online marketing. While the main activity is services, the business has tested many social media applications for their business need. The respondent was one of the co-founding partner in the business who have experienced in internet business for almost 10 years.

SME16 is using Facebook to promote their Islamic insurance (Takaful) to their customers. Known as policies consultant, they are required to deal with customers and later report the updates and progress to headquarters in Kuala Lumpur. The business started from home and use social media to educate followers in takaful and other subject such as zakat and hibbah.

SME17 started to use classified website to promote the hospitality services in Kota Kinabalu and later slowly initiated the social media presence with Facebook. The business started by offering an accommodation and homestay to customers since 2011 with a very minimal capital RM10,000 that were collected from 10 funders. Since then, the business has opened the second and third homestay when the market demand increased. The owner who has a working background as a school teacher and has been in various business for more than 12 years.

Table 8 is the summary of the participants of the interview

Table 8. 17 SMEs in interview

Name	Gender	Role in Business	Industry	Years of establishment	Duration of interview, (min)
SME1	Female	Owner	Travel Services	6	50 minutes
SME2	Female	Medical Director	Healthcare	15	40 minutes
SME3	Male	Owner	Aquaculture	13	45 minutes
SME4	Male	Owner	Printing	16	42 minutes
SME5	Male	Owner	Manufacturing	4	44 minutes
SME6	Male	Owner	Trading	2	49 minutes
SME7	Female	Manager	Digital Publication	2	40 minutes
SME8	Male/Female	Owner	Food & Beverages	4	49 minutes
SME9	Male	Owner	Agro-tourism	12	55 minutes
SME10	Male/Female	Owners	Education	17	56 minutes
SME11	Female	Owner	Information Technology	2	52 minutes
SME12	Male/Female	Owner	Food & Beverages	2	75 minutes
SME13	Male	Owner	Insurance	12	40 minutes
SME14	Male	Owner	ICT	14	61 minutes
SME15	Male	Owner	ICT	7	72 minutes
SME16	Male	Manager	Insurance	4	47 minutes
SME17	Male	Owner	Hospitality	6	36 minutes

4.5 Approach to qualitative data analysis

This section discusses the steps undertaken to analyse the interview transcripts collected during qualitative stage of this research. The purpose of the analysis is to explore the existence of theme of social media affordance in SMEs practice and to explore the impact of the usage. There are many different types of data analysis methods used to analyse qualitative research, including narrative analysis, discourse

analysis, semiotic analysis, content analysis, and thematic analysis (TA) (Braun, Clarke and Terry, 2014; Liamputtong, 2009). Among these types, content analysis (CA) and TA are the two commonly used methods in qualitative research inquiry across a range of fields. The two approaches have some similarities and some differences (e.g, Braun et al., 2014; Vaismoradi, Turunen & Bondas, 2013; Joffe & Yardley, 2004). One of the main differences is that CA outcomes tend to be quantitative in nature whereas TA outcomes focus on identifying and describing both explicit and implicit ideas (Guest, MacQueen & Namey, 2011; Joffe & Yardley, 2004). This implies that CA is partially quantitative as it involves establishing categories and then counting the frequencies of occurrence within the collected data (Joffe & Yardley, 2004).

The qualitative analysis process was performed according to the general procedures of qualitative data analysis suggested by (Creswell, 2013; Miles & Huberman, 1994) which suggested a three-step thematic analysis interactive model to analyse interview data namely, data reduction, data display and conclusion drawing and verification. The three steps represent an ongoing, iterative and simultaneous data analysis process.

4.5.1 Thematic analysis

For the present qualitative study, TA is used to analyse the qualitative data collected via a semi-structured interview instrument. This type of qualitative analysis is appropriate and widely accepted and adopted (Guba & Lincoln, 1994; McGregor & Murnane, 2010). The main advantage of thematic analysis is its flexibility, as unlike other methods of qualitative analysis, it is not tied to particular epistemological approach and theoretical framework and may be adopted by researchers taking either a realist or constructionist stance (Braun & Clarke, 2006).

Secondly, thematic analysis further offers flexibility in the process of data analysis. It allows searching for patterns and themes within the data, going back and forth to the literature and data to make sure that the analysis is solid and thorough (Braun & Clarke, 2006). This advantage leverages an important feature: there are no rules about the number of times a theme or a pattern within the theme is observed for it to be coded. It is not explicitly required that a theme takes a large amount of text in

an interview and the researcher has flexibility in a sense that he should apply his own judgement about what is going to be considered a theme (Braun & Clarke, 2006). An important condition in identifying and coding themes is that they provide valuable insight to the research questions (Boyatzis, 1998). This does not mean that the analysis becomes superficial and incomplete, as the themes are revisited multiple times, with the sub-themes emerging, and the data being organized in the most adequate and thorough way (Braun & Clarke, 2006).

Following the procedures of thematic analysis (Joffe & Yardley, 2004; Vaismoradi et al., 2013), the analysis aimed to uncover both manifest and latent themes that needed further interpretation. As such, the analysis not only focused on the explicitly acknowledged motivations as they were mentioned in the interviews but also on the examples that were not so explicit.

4.5.2 Data analysis procedure

The interview transcripts were coded using a combination of deductive and inductive coding (Fereday & Muir-Cochrane, 2006). Deductive codes were applied to where the purpose to match the actual data with the broader categories identified in the literature. A more inductive approach to coding was employed when identifying the social media technology-in-practice and impacts of social media. The approach to coding is consistent with methodological guidelines because “no theme can be entirely inductive or data driven”, and the researcher’s prior knowledge and assumptions will always affect the way the data is coded (Joffe & Yardley, 2004).

The qualitative data analysis represented an iterative process, where the researcher initially developed a preliminary theoretical framework based on the literature on social media. Specifically, the list of factors found in the literature was synthesised, and broader categories of factors were included in the framework based on the review of the relevant literature.

These categories, however, were not treated as final, as the researcher took a step away from the initial framework and let the themes and subthemes emerge during the interviews. The newly emerged themes and subthemes were then compared with

those in the preliminary research framework, and further, the literature was re-analysed. These steps were repeated, where the researcher would go from the interview data back to the literature to constantly compare and justify the grouping of subthemes into higher-order themes using theoretical basis.

The process of data analysis thereby represented a continuous refinement and going back to the literature, with new categories emerging and the factors being categorised in the most appropriate way to reflect the underlying category closely. Finally, it was decided that enough theoretical evidence supported the grouping of the themes and subthemes, as the new conceptual model was developed. To ensure the reliability of thematic coding, the specific codes and quotes were checked regarding their correspondence with the chosen definition of the constructs. The example of thematic analysis is illustrated in Appendix E.

Data reduction

Data reduction is the first step involved in the qualitative data analysis. According to Miles and Huberman (1994, p.10), it is the "process of selecting, focusing, simplifying, abstracting and transforming the data that appear in written-up field notes or transcription". In the study, data reduction was achieved by carrying out three activities: iterative reading of the interview data, identification of the themes and subthemes and creation of codes.

At the outset, the researcher carefully and thoroughly read and re-read the interview transcripts. This was found useful for four purposes: (i) to familiarise oneself with the data and make sense out of it, (ii) to gain a holistic overview and a summary of what has been said in each transcript, (iii) to identify data that relates to concepts or ideas identified in the main themes and consequently discard irrelevant data and (iv) to look for potential patterns that emerge from the interview data (Creswell, 2013; Burnard et al., 2008).

The next stage in data reduction is the identification of the main themes. As the purpose of the research is to investigate social media in practice and the impacts, the interview questions used in this phase of research were structured and guided by the two contexts of the initial framework. These contexts were used as the main

themes to deductively categorise and organise the contents of the interview data (Creswell, 2013). In order to facilitate the coding procedure, each theme was assigned a code as shown in Table 9.

Table 9: Classification of the main themes

No.	Theme	Code
1	Affordance context	Uc
2	Impact context	Ic

Following the identification of the main themes, the third activity done as part of the data reduction was to create initial codes. A code refers to 'tagging chunks of texts of labels' (Denzin & Lincoln, 2000). It is described as a way of organising data to show the relationship and patterns among data and thus relating it to the main themes (Braun, Clarke & Terry, 2014; Creswell, 2013; Burnard et al., 2008; Braun & Clarke, 2006). This helps the researcher to break down the transcripts data into smaller chunks and to manage the large volume of the interview contents by labelling and sorting the data into codes. Overall, there are three types of codes that can be used be the researcher: (i) codes from the data, (ii) predetermined codes from the theory and (iii) combined codes from data as well as predetermined codes (Creswell, 2013). Because this study employed a hybrid analysis approach, a combined approach to generating codes was used.

Regarding the predetermined codes, in the present study, 6 initial codes referred to throughout the thesis as subthemes were identified in accordance to factors aligned to each context as guided by the interview questions. The subthemes were coded, traced and aligned into the main themes. The list included connectivity, mobility, persistence, intimacy, visibility, collaboration, interaction and flexibility which were all connected to the affordance context theme. It also included technology paradoxes and performance, which were connected with the impact context theme.

Regarding the codes emerging from the data, as a result of the iterative analysis process, four subthemes emerged from the data and were coded and connected to

the two main themes (as will be discussed in the stages of the data analysis in the subsequent section).

The three emerged subthemes were connected with the affordance context theme. As coding is a continuous process, after collating codes into potential themes, themes and subthemes were then reviewed and refined (Braun, Clarke & Terry, 2014). These themes were then checked as to whether they form a coherent pattern. Overall, a total of 10 subthemes were identified. Table 10 illustrates the subthemes (both deductively identified and inductively emerged) that were used to analyse the 17 interview transcripts.

Table 10. The sub-themes identified to relate the data

No.	Theme	Code	Code Abbreviation
1.	Affordance (Uc)	Connectivity	CON
		Mobility	MOB
		Persistence	PST
		Interaction	ITR
		Visibility	VIS
		Collaboration*	COL
		Intimacy*	INT
		Flexibility*	FLX
2.	Impact (Ic)	Technology Paradoxes	UPX
		Performance	PFM
*New identified sub-themes			

Having identified the themes and subthemes to organise the interview data, the next step was to undertake a systematic analysis of the contents of each interview transcript. This resulted in having chunks of organised texts to understand the data. Therefore, each of the individual extract was coded to make sense of the interview contents and to identify and fit the extracts to the subthemes. Notwithstanding, there were some cases where some extracts were coded more than one time as they showed relevance to more than one subtheme. There were also cases where some longer extracts showed more than one subtheme. It was therefore important to

connect it to the relevant subthemes. The next step in the analysis process is data display, which focuses on the data as a whole. This is explained in more detail in the subsequent sections.

Data display

Data display is the second step in the data analysis process. It is described by Miles and Huberman (1994) as "an organised, compressed assembly of information that permits conclusion drawing and action". It is an important step for the data management and visualization as it enables the researcher to condense a large amount of raw data into a more manageable amount of data (Creswell, 2013; Williamson & Long, 2005). Besides being considered a useful way to communicate, summarise and analyse the qualitative data, data display also is viewed as an effective way to promote the transparency of the analysis process (Williamson & Long, 2005). In other words, this step allows for an easily comprehensible and a visually stimulating representation of the analysed data to draw conclusions about the analysis results (Alhojailan, 2012; Williamson & Long, 2005). In this instance, this step takes many forms such as tables, charts, decision trees and other geographical formats (Williamson & Long, 2005; Miles & Huberman, 1994; Strauss & Corbin, 1990).

In case of this study, in order to condense the interview data into a more manageable format and to elucidate some aspects of the analysis of the research issue, two basic data displays forms, namely checklist matrix and tables were used. In respect to the checklist matrix, it is used to "provide a way to organise the data into a key theme, variable or a domain of interest" (Williamson & Long, 2005). In our study, a checklist matrix was constructed for the purpose of organising themes and codes across all cases (see Table 11). It was used to depict the social media practice by SMEs and the impact of the adoption. The column headings of the matrix identified the list of the investigated SMEs (from SME01 – SME17), whereas each row was assigned an affordance to adopt social media identified in step one of the analysis process.

As noted earlier, tables were another data display form to explain the main themes, manage the data and convey the findings of this study. Table 12 provides an

example of how the interview data of every transcript were organised and summarised in a way that was both meaningful and easy to understand. In order to distinguish between the findings of each interview transcript, a tracking scheme of the extracted segment was used. In another words, each extracted segment of the text was assigned a code that consisted of two main parts: companies pre-identified codes (SME01, SME02 …. SME17) and subthemes to code the text script. For instance, code SME1 UcFLX is used to refer to the view of the affordance of the "flexibility" by the participant of SME11 (see Table 12). Similarly, the view of the key informant of SME 9 about the "visibility" was coded as SME15 UcVIS.

Once the raw interview data are coded, displayed and organised in a meaningful way, the researcher can then draw conclusions from the findings of the analysed qualitative data, which is discussed in more detail in the subsequent sections.

Table 11. Checklist Matrix

Cateories & Themes		**SMEs**																
		SME1	SME2	SME3	SME4	SME5	SME6	SME7	SME8	SME9	SME10	SME11	SME12	SME13	SME14	SME15	SME16	SME17
Affordance context (Uc)	CON					x						x						
	MOB	x						x										
	PST	x	x		x		x	x				x	x	x	x		x	
	ITR	x	x				x				x					x		x
	VIS	x		x	x	x	x	x	x	x		x	x	x	x	x		
	COL	x	x					x	x						x		x	
	INT	x	x		x			x	x		x	x	x				x	
	FLX	x							x		x	x						
Impact context (Ic)	UPX		x	x		x	x	x	x	x	x		x	x			x	x
	PFM	x			x	x	x			x		x			x	x		

Table 12. Example of data organized and summarized

Main theme	Sub-theme	Interviewee	Typical comments	Data Extract Code
Affordance context (Uc)	**Flexibility (FLX)**	SME11	"We initially started at home. After the success of the project, we were offered and incubator by MaGic at Cyberjaya. After hit by stroke (disease), I can't go back to my previous work. I need to do something remotely from home. […] During that time I can't do programming, half of my body paralyzed, my hand cramped. But I slowly recover."	SME11 UcFLX
Usage context (Uc)	Visibility (VIS)	SME9	"I use Facebook to make announcement and promotion. Until today, we just update what we are doing here, what service available. Other than Facebook, not yet. Now I manage it by myself. I have SME9 Page. People can check-in and tag. It is in the map."	SME09 UcVIS

Conclusion drawing and verification

This is the third step in the iterative process of the qualitative data analysis. In this step, the researcher attempts to assign a meaning to the results and make sense of the data in relation to the context of the issue under investigation. This step consists of two main activities, namely, conclusion drawing and process verification (Miles & Huberman, 1994).

At the outset, the researcher made use of the data displays to draw conclusions about the research issue. In case of this study, the aim at this phase is to gain insight among the investigated SMEs. The end outcome of these results would be a development of a preliminary constructs which could then be used to initiate the second phase of the research.

In the second activity, verification, the aim is to establish a rigour and trustworthiness in the qualitative data analysis. This is essential as it helps to identify any possible bias in the analysis process or any potential misinterpretation in describing the research findings. There have been many strategies suggested to verify the credibility of the qualitative analysis results that include, but are not limited to the following (Denzin & Lincoln, 2000): (i) triangulation (the use of more than one method of data collection, multiple data sets and multiple researchers, multiple time periods), (ii) members checks (asking a smaller number of participants from the original sample-SMEs owner-managers who took part in the study--to verify the content of the analysed scripts), and (iii) peer check (seeking the help of another person, researcher, to check the data analysis process and verify the accuracy in the analysis process).

These ways help to identify any possible bias in the analysis process or potential misinterpretation in describing the research findings. In this study, the analysed data went through members checks to examine the credibility of the analysis process and the analysis outcomes and hence, modification was incorporated when the explanations and discussion of the findings was made. Having explained the data analysis process, and prior to reporting the main findings, the following section offers a summary of the profiles of the participating SMEs.

4.6 Qualitative data findings

This section will present the finding of exploratory interviews on social media practice among SMEs in Malaysia. First the nature, purpose, usage and definition toward social media are presented. Next, the factors associated with the social media adoption in SMEs are outlined. It later follows by the impact social media to SME and finally, the chapter summary addresses the key highlight and the implication of the chapter to the next study.

By examining the responses of the SMEs owners/managers of the participating SMEs in relation to the two main categories, this study explored the affordance and impact of social media usage in SMEs. Table 13 presents a summary of the findings

of qualitative study of this research. It follows by the result present the findings of the qualitative data related to each theme identified.

Table 13. The summary of qualitative findings

No.	Subtheme	Evident in investigated SME
1.	Connectivity	SME05, SME11
2.	Mobility	SME01, SME07
3.	Persistence	SME01, SME02, SM04, SME06, SME07,SME11-SME14, SME16
4.	Interaction	SME01, SME02, SME06, SME10, SME15, SME17
5.	Visibility	SME01,SME03-SME09, SME11-SME15
6.	Collaboration	SME01,SME02,SME07,SME08,SME14,SME16
7.	Intimacy	SME01,SME02,SME04,SME07,SME8, SME10-SME12, SME16
8.	Flexibility	SME01,SME08,SME10,SME11
9.	Technology Paradoxes	SME02,SME03,SME05-SME10, SME12,SME13,SME16,SME17
10.	Performance	SME01,SME04-SME06,SME09,SME11, SME14,SME15

4.6.1 Social media affordance for SMEs

The analysis of the data reveals a total of 8 technology affordance of social media in SMEs business activities. Next subsection will explain more in detail.

4.6.1.1 (Uc) Theme 1 Social transparency

A key feature of social media that distinguishes them from other technologies used in the workplace is that they allow users to see into the communications and behaviours of co-workers. On most social media sites, the conversations that people have with each other, the documents they post, the comments they make, the content they like, and their articulation of their own social networks are visible for anyone in the organization to see (Leonardi & Vaast, 2017). Consequently, several authors have suggested that the rise of social media use within the workplace coincides with an increase in social transparency.

Enterprise social networking technologies can increase people's metaknowledge (Leonardi, 2015). Social media use can generate a new phenomenon in

organizations, high levels of visibility (e.g., publishing of content through social media) can decrease transparency and produce opacity (Stohl et al., 2016). Over the course of the analysis two specific technology affordance emerged *flexibility* and *intimacy*. Findings related to each of the mentioned affordance are discussed below.

Visibility

This is one of the most prominent factors for using social media in SMEs found. In addition to have an ongoing relationship among users, the interview shows that the interviewees rely on the combination of an infrastructure of cells and portable handsets moving to keep the network and people exist and 'see' each other.

For instance, they interviewees easily start imitating other users' action by opening social media accounts on the most popular social media websites, albeit without understanding their functionality, with the purpose to get together and to be reached anytime. The widely use and popular social media has influenced the usage of social media as what experienced by SME12:

"There is an input from friends make me want to try. When you see their marketing and sales increase significantly."

For SME16, the implementation of social media is influence on the client, prospect and availability of social media technology surrounds them. The selection strategy has also been shared and explained in detail by SME6:

"There was some consultant who use anything (social media) that is available. But my approach is depending to who we are seeing, that influence the type of social media selection. When the people at the age of 40, Whatsapp is enough. But for younger generation there is always be more (social media)"

"I use it when people (customers) use it. For example, Instagram when people start using it. We have to be fast, because some Malaysian might want to create the brand that belongs to me. It (the brand name) is not protected in social media, anyone can have your name initially."

The imitation strategies have also been used by SME5, SME4 and SME1. But they are aware that the technology is keep changing, as what being phrased by SME14:

"I don't know that. People always say something new is always coming. Pokemon Go said replacing social media, the user has exceeded Twitter. You don't know that. Things change rapidly. We never know when Facebook will be there. The trend can change anytime."

Therefore, SMEs have no idea how to make good use of them at the initial sign-up stage but willing to take an advantage of social media always-available state by experiential learning (i.e. trial and error), even though some of them adopted an attitude of 'wait and see' as what being practice by SME3:

"We test the market when other people use it first. Just follow, we are not pioneer. The newness. All people use to attract attention. If Facebook is not updated (features), they may be gone just like Friendster. The followers eventually can't turn to cash."

It also can be noticed, any business that targeted a mass public group such as ecotourism is likely to try social media as a channel to get more engagement with customers. (SME9, SME3) when social media afford them to outreach customers beyond geographical boundary.

Intimacy

It is also become evident throughout the conversation with interviewees that they feel a closer relationship among users and technology when the technology keep a personalize information about the users. Intimacy highlighted as an essential novel aspect of social media which relates to the proximity to the ongoing relationship with self-disclosure and trust.

One of the interviewees SME2 stated how social media usage created a continuous relationship among friends and customers as mentioned in:

"Once in a while, I put up a personal status, most of it actually, to expand, to give them information, so they aware the current situation. For education, promotion, main program that we have, announcement, activities and product review."

Specifically, SME12 stated that they use social media mainly for customer service activities has foster closer relationship in more informal situation:

"We want to have communication with customer. We chat with time, (become close) and become friends. Even they call me 'Sis' (sister)."

SME11 claimed that social media is also used to engage more with customer using personal capacity, soft sell approach. SME11 also developing trust by expressing more emotions in social media that help her being more transparent and more sincere to customers. As she explained in the interview:

"Initially, what I did was in my personal Facebook, I write what I do in business. 'I write a coding', 'thank you to my client' and so on. I realize that when I say thank you to my client, the trust is gained. This person has authority and knowledge, then people will message me to help on their website. I saw the success. Let say I want to promote one particular game. I show them the benefits, not the features, I put on Youtube."

Not surprising, this factor was prominent in the context of socializing, when SMEs has opportunity to engage with customer in more relax, off business discussion. This relationship develop trust and put customers in informed decision making when dealing with SMEs.

Flexibility

This interviews also expressed their involvement in overseeing and managing work by balancing the planned job with emergent action from social media.

"We use Facebook Ads. Then we will control the location, age, sex etc. We will focus and use Facebook technical analysis." (SME12)

Interviewee further describe their flexibility to perform thing in unconventional way in doing business activity that breaks down its institutional process. The interviewees explain the remote business environments, human mobility and movement of information as described:

"When we stay at home and only have to go to headquarters office for document submission. We use social media concurrently with our manual operation. The culture of work has multi-layers. Social media can be considered as a success when you don't to be in a road traffic. We can adjust and being flexible whenever we need to go to the headquarters." (SME16)

One of prominent respond of the interviewee is about the freedom and choice she has prefer after unable to work to office after illness. She expresses her relief when she still can perform business routine regardless the location. The interviewee shares her experience:

"We initially started at home. Soon after, from the profit of business project, we were offered an incubator space in by MAGIC in Cyberjaya. There is a MarkerLab, a free office. I had a stroke, so I need to do something remotely from home using internet" (SME11).

Mobility

Another important affordance is when interviewees frequently mentioned how the computing and technology become more personal item to the users. It is also become evident throughout the conversation with interviewees that they feel close user-technology relationships when the technology follows the individual instead of being defined by fixed workstations. The variety of social media technologies platform and the availability of the system has moved technology from the desk and closer to the body.

The finding from the interview is the perception of the respondents toward how the social media within mobile technology environment change the way they work and using the technology practically. As mentioned previously, the respondents consider mobile application as a type social media. While some of the respondent in

confusion and not sure in deciding mobile application should be considered as social media or not (SME2 and SME13), some of the respondent (e.g SME14) being positive that mobile application should be including social media:

"I think it's just a progression. It is still computing devices, but different size and mobility, but the concept is the same. Once you reply and everybody can see and respond to your respond."

"People can network with other guys. That social. I still consider Whatsapp and Telegram as social media. Because there is some characteristics just like SMS but it's quite public because you can have a large group and broadcast features"

Social media such as Facebook, Twitter and Instagram have available for mobile version, thus the making it available on mobile devices such as mobile phone and tablets.

4.6.1.2 (Uc) Theme 2 Network articulation

Establishing a "connection" with someone via social media suggests that the user is interested in initiating or reinforcing a social relationship. For a contact to be established on social media, both end users have to agree to the connection (Leonardi & Vaast,2017). Thus, in articulating their network on social media, users are testing the robustness of their social network as they see whether targets will accept their request to be connected (Kane, 2015).

Network articulation is the social media affordance of engaging in online knowledge conversations. It can foster productive knowledge conversations in the workplace as employees try to expand their social and intellectual capital. It can also inhibit the productivity of these knowledge conversations if preferential attachment is activated. (Majchrzak et al., 2013). The smaller one's online social network size in the organization, the more highly assessed they were by colleagues. Activities in the informal organization can enhance the effectiveness of the formal organization. The information gathered is useful in lubricating their interaction and building a stronger tie with the colleague. (Leonardi & Meyer, 2015)

Connectivity

The interviewees mentioned establishing a connection using extensively automated in global mobile infrastructure using inexpensive mobile devices to outreach populations. Despite significant telecommunications works needed to deliver this automation, the users were able to manage their own connectivity.

In this theme, the interviewee refer connectivity provides an essential part of everyday organizational life, with activities and resources simultaneously interconnected and highly distributed. For instances, referring to connecting group in a different community using technology, SME11 mentioned that she was easily acknowledged by different people for business network when the technology itself connect them within the same platform.

"For marketing, for promotion, for influence, for me myself. (From the circle of friends) It is sometime people in a group looking for game developer" (SME11)

SME12 has its own interpretation on how internet connectivity has created an opportunity and achieve certain goal:

"There is Youtube. There is a prospect that will call directly. But you have to post regularly. Now is the trend when people use videos. The frequency. If you do it long enough, the will be more viewers. It is also being done widely in Facebook. Don't really understand the function of social media."

Interaction

Another finding of social media affordance is the interaction that mediated by mobile devices, services and associated infrastructures. The aspects of interaction denote how people in the workplace socializing for business benefits. The interviewee from SME12 stated that, interactivity in social media helps him to streamline his business and sales process to be more effective, as he mentioned in:

"Social media is a communication tool for work routine. More to consultation, share problems, looking at requirement and analysis. Social media (use) to update

information such identity card, forms, payslip or claims. From there we will support technically. But not yet on sales closing."

SME12 confirmed that social media made the interaction simultaneously to achieve different tasks done in more purposely manner, and not based on priority. The participant from SME16 stated that:

"Social media is a communication tool for work routine. More to consultation, share problems, looking at requirement and analysis. Social media (use) to update information such identity card, forms, payslip or claims."

Social media impose an approach where information source comes from new drivers from users using different type of interaction (e.g Share & Retweet) from user-generated contents (e.g reviews and blogs). For example:

"We look carefully. Make initial study. Depend to the (social media) user demand to understand the market. Look the data from Facebook, Look for active region. Malaysia and Indonesia are very active regions, they can have many Likes in just few minutes. Is not the same as the US or another region." (SME7)

4.6.1.3 (Uc) Theme 3 User-generated contents

Social media have enabled user-generated content, whereby any employee may contribute and share their own content to all or most in the organization (Kaplan & Haenlein, 2010). This turn toward user-generated content means that employees are increasingly gaining a voice within their workplaces and have a forum upon which to share their ideas, concerns, and insights about work-related matters. The existing evidence also suggests that organizations are able to harness knowledge and information from people (e.g., customers, suppliers, competitors) from outside the organization and incorporate their ideas into organizational activities. (Leonardi & Vaast, 2017)

Active involvement of managers in social media drives more user-generated content from employees, especially when done with generic, non-client targeted postings. Thus, when a business actively manages its social media presence, it predominantly

succeeds in increasing user-generated content from employees rather than from outside users. Yet when an organization devotes its postings toward client-specific communications, then active social media management can still lead to incremental user-generated content from clients (Miller & Tucker, 2013).

Collaboration

One of the most frequently mentioned affordances of social media was the involvement with more audience and target groups. They explained on how they have contributed to working together with mutual interdependencies on collaborations. SME15 explained how they can collaborate to organize an event using social media with no session to meet up among members:

"If we plan to conduct a seminar or evet, we will use social media to introduce it… Other that sales and marketing, we have Whatsapp which can increase the productivity and all being sort in faster manner. No need to have face to face interaction."

It is also become evident throughout the interview, that they use social media for sharing the businesses' information with the public in a strategic way. The respondent from SME13 stated that:

"There are many agents using social media and blog as a referral page. However, Facebook is more on advertisement (purpose). For example, we advertise the trip to London and we organize recruitment drive to a location, at the same time inviting people to workshop."

Respondent from SME14 happily explained follows:

"Some of the members/founder, literate in IT, teachers in IT. So we are using Facebook to reach out, to get people be aware what we are offering. We have Facebook group; we have local group for example Balik Pulau group which started with a few people but now has several thousand people. That's quite decent."

Persistence

Another prominent factor documented in the interviews was the social media afford user interaction and relationships as an ongoing recording and updating data and record memory of interaction aspects (Mathiassen & Sorensen, 2008).

The process in social media created content and updating such writing a comment, tagging, emoji or emoticon and easily being remembered by other users. Activities have in common in other businesses as stated by the respondents below:

".. somebody will tag my name. It is popularity and existence, and I can un-tag myself. I don't use other outside marketing other than social media. Entirely on social media." (SME11)

The respondent from SME16 said that they keep updating the information about their business and product with the public via social media, which helped the customers aware and updated:

"We help (client) technically. Using social media to build up reputation, say hello. When we got into community, for prospecting and services, keep in touch. (The client) Maybe be from bachelor, married and having kids. Or maybe the customer change job. The product line is evolving together with their current situation."

In this regard, the qualitative data shows that SMEs engage with 'refreshed' communication using social media, they are easily being recognize within customers which helps them to keep a good long-lasting business relationship with them.

4.6.2 Impact of social media for SMEs

In addition to explore social media in SMEs practice, this study was also concerned with the outcomes of such manifestation, albeit research has shown a number of different outcomes of adoption.

To explore these relationships, participants were asked whether they feel anything has changed to their business in their relationship with usage of social media. Within

the social media impacts, two distinctive sub-themes emerged: 1) *technology paradox* and 2) *business performance*

4.6.2.1 Technology paradoxes

One of the prominent reports were the negative feeling towards benefits of social media. Conflicting requirements in organization ability to be efficient in managing current benefits of the social media and at the same time trying to be adaptable for coping the changing environment demand. Some SMEs started social media use in individual capacity. However, when it comes to business practice, the task of managing social media become an issue. Here one of the interviewees (SME8) complaint:

"It's too burdensome (when you have to do it by yourself e.g posting, share, updates). I have drained for any idea; thus I have to re-post (the same content)."

The same situation for SME12 when the social media is all depend to their effort,

"It's all us. We are the one who take an order, send the order, reply and respond".

SME16 also explained all the update must also been done independently by themselves:

"I am the one. Amongst consultant there will be a number of discussions. Every group will administer their own Facebook. If under Headquarter, then they will organize their own.

The issue of security is also being mentioned during the interviews. Interviewees has also stressed that security of social media is also a threat. SME12 share his experience about the people with a fake online identity:

"Social media is not genuine. Sometime that is not the real story. For example, the riches have it all, but rarely put it any (status of richness) in social media. Facebook is not reflecting the real people."

SME10 argued about integrity of online word-of-mouth in social media:

"It is not the same. If someone put up a comment, people won't believe it. It will be assumed a marketing gimmick to create more sales. It can't be trusted."

Hatred crime and social media bully also become a threat to user as what SME16 explain:

"Now is an era where people tend to take a snapshot (on chat or conversation). Then the screenshot sent to be viral elsewhere. It tarnishes our image. Same goes with (fake) testimonial. Even video and photo (being manipulated) is not spared. It is beyond control."

16 interviewees stated that they do not have in-house expertise or staff and lack of relevant social media knowledge. Therefore, most social media-related work is done by the owner themselves or their family members, and they learn by doing (i.e. trial and error).

"It is difficult to measure. Unless, we are a big company, that has consistent sales and income. It cannot be measured, even (the number of) Like I not a guarantee of (financially) return. Merely we can look at it. But now, less people tend to click Like (button). The retention level is low." (SME17)

Some of interviewees mentioned that they don't really understand how to measure social media effectiveness and relate it to business goals:

"It is difficult to measure. It is subjective. Sales is difficult to be measured (using social media). Perhaps in form of respond and incoming calls. In every call, you can ask them the source the get to know the business." (SME17)

A clear agreement from respondent informed that the number of followers in the social media is not suitable to be translated as the measurement of social media.

"The number of (Facebook) Like is not sales in return. We used to advertise to targeted audience. But there are settings for quality customer." (SME1)

"It (measurement) must be in my sales. If you have hits, but there is no sales, no point. It does not get the engagement. Unless you have some viral strategies. I have seen some 2 million followers (Facebook page), but when they put up advertisement, nobody responds. It does not translate the percentage if only 100 people but out of 2 million Like. People are getting immune to commercial messages." (SME14)

SME8 has an experience with unskilled staff to manage their social media:

"It works when we decide to outsource. But if we pay fixed salary, they will come back to us (asking for a next task). For example, Jesselton, come back to us. At the end, we are the one who give him an idea of promotion. For me, I only have to feed him with basic information, and he is the one who must be responsible to elaborate or convey the message."

According to the high staff turnover rates, most employees are unskilled workers, and training capital is not made available or prioritized; it is clear that respondents are not interested in educating and training existing staff.

4.6.2.2 Business performance

The interviews also reported impacts in term of performance to the business. Here interviewees indicated that constant usage to the social media – by posting, sharing and liking – and seeing how the social reacts and respond among themselves, they felt their business performance increased. Furthermore, reflecting on personal experience of communicating using social media (e.g., to helps other, feed information, updates about something) and having received satisfactory level of communication exchange, they further admitted that this resulted in increased value of business performance.

It is interesting that social media not only changes the method of communication between customers and SMEs, but also provides opportunities to break down social and cultural barriers between staff and owners.

"It would increase communication among colleagues, doctors. It also increases the business name when people rate our services on social media. When people tagged, share location, and even when they come, they checked in." (SME2)

In terms of business performance, all respondents stated that their number of followers has increased. SME1 also stated that customers demand from social media campaign make up the largest portion of their business. In addition, the campaign setting, and performance can be easily monitored using Facebook analysis tool.

Evidence show pure social media websites, such as social networking (Facebook and Instagram) improved online customer relationships and help to share information and advertising or promotion. Social media provides a new channel for communication and sharing information between SMEs and their customers SME17 explained that they use social media more than just for informal chat but also to deliver document such as quotation or ordering form in electronic format.

Some evident show, particularly Facebook and Instagram do not have direct impact in revenue, without any support from other media or human interaction. These pure social media websites shown lack of direct transaction or any revenue generating activity.

"Let say a page has hundreds of (Facebook) Like. And there are another one with thousands (Facebook Like). But the least Like got higher conversation rate (in sale). Like is just a perception, but it can't translate on how many sales you will make. If you make yourself a fanpage, people will buy the product because of you and not of the product itself." (SME15)

It reveals that SMEs facing difficulty when social media only show basic informational level (e.g a promotion and contact number) to attract an action from viewers. Without a website or any interactive e-commerce features, the customer can only views without taking any action to perform sales. This is because a customer may see their information online but persist in contacting SMEs in different mean.

"The main thing they are looking is commerce feature. Telegram can have 1000 people, a lot of people (business) use this, you can have big number of people, but you cannot close sales because there is no transaction. A lot of request, post, Telegram has the highest demand for commerce. They want to be able sell online. In Facebook you cannot do this, unless you can embed tools to make it commerce platform." (SME14)

The customer relationship is being improved using social media where the feature it offers has been simplified yet amplified. Some of long process of customer relationship has been compiled and set to automation to assist business to serve the customer better. SME13 use social media to explain and assist customer on complicated topic:

"Agent who are promoting using social media, will communicate, having question and answer session online. At the end, it may lead to close a (business) deal. If there is a new concept, the answer is already provided."

However, SME10 stated that social media still cannot replace their traditional way of managing customer relationship or promoting marketing programs, because customers are also in the probing stage and much like managers still need time to accept social media.

In management, three common activities influenced by social media are: advertisement and promotion, communication and sharing information and customer relationship, First, advertising and promotion is highlighted by SMEs as a benefit of using social. They pay large amounts of attention to tracking and communication with customers who shared opinions and experiences about their products or services.

"We allocate RM3,000 per week at least to run the advertisement. We can set the price and it give a high return. The budget is not only for one package. For travel company it is not much as compare to selling product. If travel can cost (Facebook advertisement) at 0.08 cent but selling product can reach as high as 30 cents."

As explained in previous section, it is significant that managing promoting and marketing involves significant human resource and advertisement costs. However, it opens businesses up to greater opportunities (e.g., sales, leads, client database).

It is worth discussing that financial impacts were not as strongly pronounced throughout the interviews, where brand paradoxical benefits and performance were mentioned more frequently. The data has demonstrated that technology paradox seemed to be more prominent impact in social media use.

4.7 Implications of qualitative research

There are several implications of the qualitative study. First, the data reveals a range of factors that prominent in social media practice among SMEs. Specifically, the data reveals eight affordance associates with technology and organization including connectivity; persistence; interaction; visibility; intimacy; flexibility and collaboration. Noteworthy findings concern social media adoption impacts. Two impacts of social media have been identified, namely – technology paradoxes and performance.

Thirdly, the qualitive findings inform the conceptual model in significant way which will be discussed in next chapter and how it can be integrated with proposed conceptual model.

From the three main themes (social transparency, network articulation and user generated content), the review of studies of interview reveals repeated references to the affordances of connectivity, mobility, persistence, interaction and visibility. Flexibility, mobility and collaboration were also emerged from supporting the qualitative data analysis. The studies reviewed below therefore provide a useful starting point for understanding the affordances of social media in SMEs practice. Later, these affordances will become guideline as aa pre-defined constructs during the next quantitative analysis.

Consequently, the proposed conceptual model will be modified to reflect the findings revealed in the interviews. The transformed conceptual model and relationships between the constructs are covered in detail in the next chapter.

4.8 Chapter summary

This chapter has presented the specific decisions guiding qualitative Study 1. The qualitative phase included 20 semi-structured interviews with 17 SMEs. Participants were recruited using a combination of purposive sampling and snowball approaches. The interviews were analysed using thematic analysis method. The data collection and analysis were aimed at ensuring rigour of the qualitative design, including by satisfying the validity and generalisability criteria. In the following chapter the research constructs are defined, and hypothesised relationship are outlined. There relationships are later tested in the quantitative stage discussed in further chapter.

Chapter 5: Conceptual Framework

5.1 Introduction

This chapter presents the conceptual model developed based on the findings from the literature review and results of the qualitative stage of this research. It opens with an overview of approaches to technology adoption. Specifically, it outlines two perspectives: TOE and technology affordance view. The chapter then integrates these perspectives and proposes hypotheses to be tested in the quantitative study. The discussions advance the preliminary theoretical framework and then develops a new model outlining the concepts and formal research hypotheses.

5.2 Previous technology adoption model

The specific question of adoption of social media belongs to a long tradition of studies examining adoption of technologies (Barnes et.al, 2012). That research encompasses multiple frameworks developed to provides a rich body of evidence which inform various theoretical models for examining adoption and impact in businesses (Taherdoost, 2018).

A number of models and frameworks have been developed to explain adoption of new technologies. Due to the fundamental differences between technology types it has been widely accepted by researchers that it may not be possible to develop a unifying theory of technology adoption that can be applied to all types of technologies (Taherdoost, 2018). In addition, due to the changing nature of technology innovation, it is not feasible to generalize the adoption model into an overall representation.

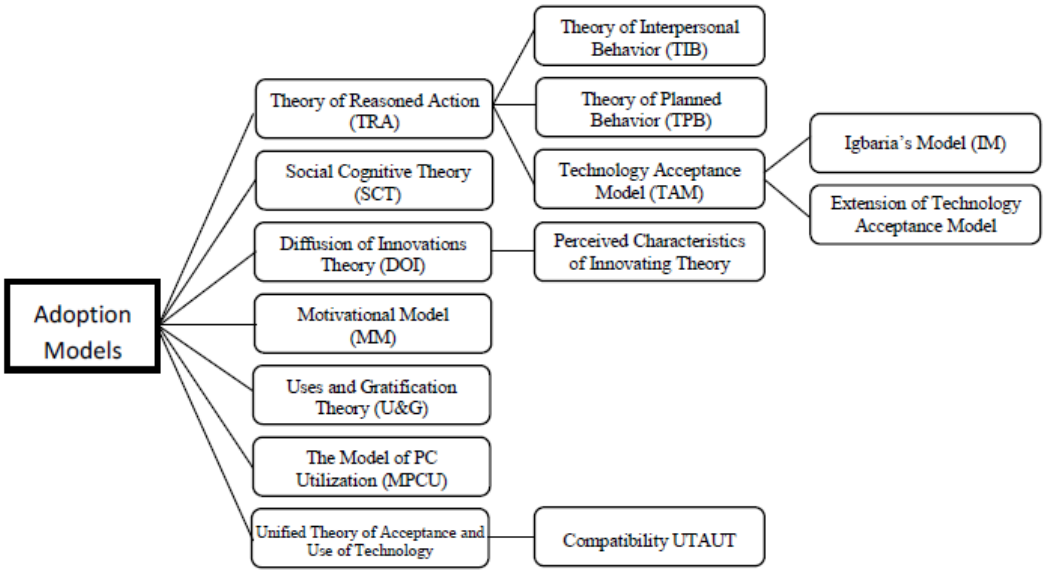
However, researchers have been utilizing several theories and theoretical models to explain the individual adopter's attitude, innovation adoption behaviour, user acceptance of technology and various determinants in different contexts of technology innovation adoption.

When examining adoption of technologies, among the most commonly used theoretical models were the Diffusion of Innovation Theory (Rogers, 1983), Perceived Characteristics of Innovating (Moore & Benbasat, 1991), Theory of Reasoned Action (Fishbein & Ajzen, 1975), Theory of Planned Behaviour (Ajzen, 1991), Technology Acceptance Model (Davis, 1989), Technology Acceptance Model 2 (Venkatesh & Davis, 2000), Technology Acceptance Model 3 (Venkatesh & Bala, 2008), Technology, Organization and Environment model (Tornatzky & Fleischer, 1990) and the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003).

Other models employed in the innovation adoption studies include Social Cognitive Theory (Bandura, 1989), Task-Technology Fit (Goodhue & Thompson, 1995), Tri-core model (Swanson, 1994), Diffusion/Implementation Model (Kwon & Zmud, 1987), Innovation Adoption Research Model (Agarwal & Prasad, 1998) and the framework for innovation adoption and implementation (Gallivan, 2001). Together with these models, some researcher applied Resource-Based Theory (Barney, 1991). The following sub-sections describe some of these theories that widely used by the researchers.

From the previous critical review by Toherdoost (2017) shows that Technology Acceptance Model (TAM), Diffusion of Innovations (DOI), Theory of Reasoned Actions (TRA), Theory of Planned Behavior (TPB) and Unified Theory of Acceptance and Use of Technology (UTAUT) are among the most influential adoption theories. In the research sample found that articles focused into the adoption and acceptance of technology by individuals in the frameworks of the TAM, DOI, TRA and TPB. TAM was the most influential theoretical framework, which is in line with earlier findings in the IT implementation and adoption literature (e.g., Chuttur, 2009; Lee et al., 2003; Venkatesh et al., 2007). All these theories seek to explain potential adopter attitudes and their innovation-related behaviour. Many of the studies used a field survey research design with the assumptions of the positivistic research tradition.

Figure 2. An overview of technology adoption models



Source: Taherdoost, 2018

According to Kriponant (2007), despite the specific advantages of each theory, the capability of a theory or model in predicting and explaining behaviour is measured by the extent to which the predictors in the theory could account for a reasonable proportion of the variance in behavioural intention and usage behaviour.

Adoption models rooted on a diversity of theories, for example, DOI is from sociology and TRA is from social psychology (Bouten, 2008) while TPB and Social Cognitive Theory (SCT) are from psychosocial theories (Gagnon, Sanchez & Pons, 2006). All theories have proven their effectiveness in predicting and explaining a variety of human behaviours in differing contexts. On the other hand, TRA and TPB differ from DOI in the sense that the former focuses on explaining the behaviour of individuals.

The latter concentrates on adoption decisions in which the organizational characteristics play a key role, not the individual. SCT and TPB integrate the notion of perceived outcomes when forecasting behaviour while DOI and TAM focus solely on beliefs about the technology. DOI, TAM and TPB adopt a unidirectional perspective towards causal relationship, in which environmental constructs affect cognitive beliefs, which affect attitudes and behaviours whereas SCT relies on the

bidirectional nature of causation in which behaviour, emotional and cognitive factors and environment constantly and mutually affect each other (Carillo, 2010).

Another model rooted in the theory of human behaviour is the Model of PC Utilization (MPCU) introduced by Thompson and Higgins (1991). On the other viewpoint, TIB, TPB and SCT theories are similar and conceptually overlap, however, SCT and TPB have been used more frequently in the study of behaviour than has TIB. The TIB includes all aspects of the TPB model, however it includes additional components that add to its predictive power, namely that of habits and facilitating conditions (Woon & Pee, 2004).

Similarly, there are some overlapping factors between DOI and TAM such as complexity and perceived ease of use, relative advantage and perceived usefulness (Carter & Belanger, 2005). Likewise, facilitating condition used by Venkatesh, Morris captures notions of Ajzen's perceived behavioural control, Thompson, Higgins's facilitating conditions and Moore and Benbasat's compatibility construct. Most information system researchers have not made a distinction between the affective component of attitudes and the cognitive component or beliefs.

Some of the previous models focus on internal antecedents of behaviour like attitudes, values and intentions while others focus more on external issues such as norms, incentives and institutional constraints. Besides, a quantity of models does not provide clear guidelines for the operational definition of the variables within the model. UTAUT, TAM, and DOI seem to be the most common approaches in the field of information system.

5.3 Technology adoption framework for SME

Technology adoption in business is multidimensional, that is, influenced by factors from several dimensions (Tornatzky & Fleischer, 1990; Wolfe, 1994; Rogers, 1995). As innovation theories do not provide a complete explanation of technology innovation adoption at the organizational level, information system researchers have combined individual level adoption models such as DOI, TRA and TAM with other contexts within the organization to provide more affluent and illustrative models (Chau & Tam, 1997). Researchers have built analytical and empirical models to describe and predict innovation adoption in organizations.

Generally, a framework of organizational technology adoption encompasses attributes from different contexts that affect the technology adoption process. Researchers and practitioners have attempted to identify various factors as potential determinants of innovation adoption in business. Studies have also empirically validated various attributes in different contexts that influence the adoption of technology.

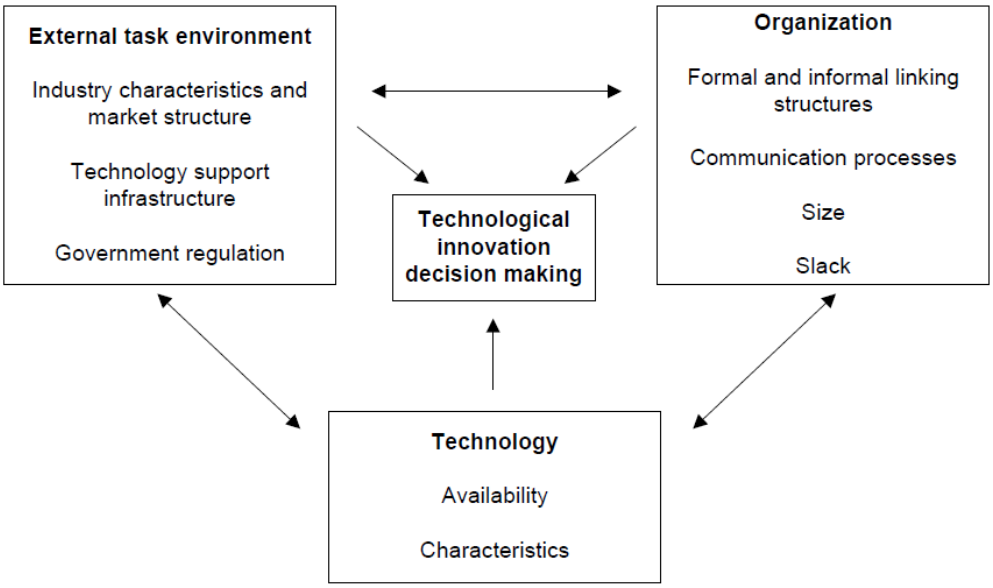
For organizational level analysis such as SMEs, determinants include features of the technology itself, attributes of the organization, environmental factors with which the organization interacts and characteristics of individuals within the organization (Tornatzky & Fleischer, 1990; Rogers, 1995). Organizational level adoption frameworks sometimes incorporate characteristics from a user acceptance context (Karahanna et al., 1999). These studies extend user acceptance models such as TRA, TAM or TPB to develop their framework to examine user acceptance constructs.

Tornatzky and Fleischer (1990) present a framework for technological innovation decisions with technological, organizational and environmental factors. This model was known as the "TOE framework" and has become a useful theoretical perspective for examining contextual factors affecting the adoption of social media in SMEs. Next section will discuss in more detail on TOE and how it can be important framework in this study.

5.3.1 Technology-Organization-Environment (TOE) model

The TOE framework was developed in 1990 by Tornatzky and Fleischer. It identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context (Figure 3). (a) *Technological context* describes both the internal and external technologies relevant to the firm. This includes current practices and equipment internal to the firm, as well as the set of available technologies external to the firm (Thompson 1967, Khandwalla 1970, Hage 1980). (b) *Organizational context* refers to descriptive measures about the organization such as scope, size, and managerial structure. (c) *Environmental context* is the arena in which a firm conducts its business—its industry, competitors, and dealings with the government (Tornatzky & Fleischer 1990).

Figure 3. Technology, organization and environment framework



Source: Tornatzky and Fleischer, 1990

This framework is consistent with the DOI theory, in which Rogers (1995) emphasized individual characteristics, and both the internal and external characteristics of the organization, as drivers for organizational innovativeness. These are identical to the technology and organization context of the TOE framework, but the TOE framework also includes a new and important component, environment context. The environment context presents both constraints and opportunities for technological innovation. The TOE framework makes Rogers' innovation diffusion theory better able to explain intra-firm innovation diffusion (Hsu et al., 2006).

Several authors used only the TOE framework to understand different technology adoptions, such as: electronic data interchange (EDI) (Kuan & Chau 2001); open systems (Chau & Tam 1997); web site (Oliveira & Martins 2008); e-commerce (Liu 2008, Martins & Oliveira 2009, Oliveira & Martins 2009); enterprise resource planning (ERP) (Pan & Jang 2008); e-commerce (Teo et al., 2006); e-business (Zhu et al.,. 2003, Zhu & Kraemer 2005, Zhu et al., 2006, Lin & Lin 2008, Oliveira & Martins 2010); knowledge management systems (KMS) (Lee et al., 2009). This framework has contributed significantly to develop an appropriate framework for social media adoption studies.

In the most recent studies have shown a practical application of TOE framework in social media adoption particularly in antecedents, factors, motivation, intention or determinant of the adoption (e.g., Tajudeen et al., 2018, Matikiti & Mpinganjira, 2018; Ahmad et al., 2019; Alsharji et al., 2017). The TOE model posits that attributes from all these three contexts (technology, organization and environment) influence technology adoption in business. Past research has demonstrated that the TOE model has broad applicability and possesses explanatory power across a number of research surroundings (Thong, 1999; Quaddus & Hofmeyer, 2007; Ifinedo, 2011).

5.3.1.1 Literatures on TOE model

Technology context describes existing technologies in the organisation as well as the pool of technologies available in the market. A consideration of existing literature on IT adoption using TOE shows that the impact of characteristics of the technology has long been recognised. Many researchers have argued the importance of a set of technological features on the adoption process. The technology context constructs previously been influenced by Rogers (1995) Diffusion of Innovation theory, a user behaviour perspective. Rogers (2010) has identified five attributes of technology that may have an influence on the decision to adopt or reject a given technology in organisations: relative advantage; complexity; compatibility; trialability; and observability and have been widely examined in the IT adoption literature (Ramdani & Kawalek, 2007). In this study however is to offer an alternative perspective on how to put technology more into SMEs practice.

Organisation context, the second set of determinants in the TOE framework, have, through a considerable number of studies, been found to impact the adoption of new technologies. In case of SMEs, the characteristics of a business have been examined to identify their potential role in the adoption of new technologies. The organisational factors that have been widely examined such as, top management support; business resources; and investment.

Top management support has long been at heart of studies examining IT adoption in organisations. It is evident from reviewing the social media adoption literature that top management support has a strong impact on the decision to adopt new technologies within organisations. With respect to SMEs, there are many published

studies describing the role of top management support, which is considered a key enabler in the adoption decision for in SMEs (Parveen et al., 2012; Alsharji et al., 2018). In a recent study, Ahmad et al. (2019) found that managerial role in SMEs is essential in the introduction of new technologies. This role, played by top management, is seen as being essential to create a supportive environment to facilitate the adoption decision in their enterprises (Al-Qirim, 2004). According to Al-Qirim (2004), top management commitment to IT initiatives in their enterprise is important to: (i) ensure the required resources for adoption; and (ii) to signal support to internal stakeholders (i.e. owners, line managers and employees) of the importance of adopting new technologies. However, the top down approach of imposing social media use on team members can reduce productivity and should be avoided (Agnihotri et al., 2012).

Business resources is important organisational factor that has been found to have a positive and direct impact on the decision to adopt new technologies in organisational settings. The resources of the business include the knowledge about the technology, prior technical experience and the familiarity with social media. As documented in the existing social media adoption literature (e.g, Alshamaila, 2018; Jabeen, 2018), the accumulated knowledge, experience and familiarity with previous technologies facilitate the future adoption of new forms of technologies within organisations. In the case of social media, familiarity with other internet-based technologies can have a direct influence, facilitating social media adoption in SMEs. Thus, this factor could be expected to play a significant role to drive social media adoption in SMEs.

Investment is another organization determinate that affect technology adoption in organizations. According to Zhu et al. (2006), larger organizations have more financial investment and technological knowledge, and therefore are more likely to adopt an IT technology. The importance of having financial resources and technological knowledge is also supported by Chong and Chan (2012)’s study on technology adoption. Social media is relatively easy to use, inexpensive, and widely available, and therefore, enables SMEs to reach resources and customers previously dominated by large firms (Kim et al., 2011). While investing in web applications can potentially be rewarding, SMEs face a number of inhibiting factors such as sufficient fund to acquire technology. Studies indicate that firm size is an important

determinant of a firm's involvement and decision process in acquiring technologies (Dholakia et al., 1993; Van der Veen, 2004). Large firms have the budget, expertise, and economies of scale to adopt new ICTs and can take the risk of exploring new technologies (Clemons & McFarlan, 1986). For SMEs, lack of money, personnel, and time have been barriers in adopting online technologies (Van der Veen, 2004) however, the advent of lower cost and easily accessible web technologies has encouraged the social media adoption.

However, it is widely recognised that small organisations have limited scope for investment in technology that is essential to increase sustainability (Fong, 2011; Kapurubandara, 2009). With respect to investment limitations, SMEs are less able to risk committing resources to adopt new technologies than their larger counterparts (Haller & Siedschlag, 2011; Drew, 2003). It has been argued that many SMEs may avoid adopting technologies owing to their inability to justify the associated cost of investment (Levenburg, Schwarz Y Motwani, 2015). Thus, securing the associated resources may not be affordable to SMEs, which might explain why they tend to be cautious about such expensive investment (Ghobakhloo et al., 2011). Indeed, relevant literature provides strong evidence that financial constraint has been cited as the primary reason that limits the adoption of technology and inhibits SMEs from investing to acquire new forms of technology (Carcary, Doherty & Conway, 2014; Kannabiran & Dharmalingam, 2012; Hoffman et al., 1998). As a result, they tend not to invest in expensive projects, including investment in new technologies (Harindranath, Dyerson & Barnes, 2008).

The **environment context** represents the third set of factors in the TOE framework that has been identified to affect the adoption of social media in SMEs. The IT adoption literature suggests that looking into the environment in which SMEs operate helps to understand IT uptake within these types of businesses (Kapurubandara & Lawson, 2006). In fact, it is believed that the arena in which an enterprise operates represents a primary stimulus for the adoption of innovations as organisations respond to changes in the external environment (Alshamaila, Papagiannidis & Li, 2013; Damanpour & Schneider, 2006; Kapurubandara & Lawson, 2006). In reviewing the IT organisational adoption literature, many studies have found factors related to this context to be influential in adoption (e.g., Ramdani, Lorenzo & Kawalek, 2009; Jeon, Han & Lee, 2006; Grandon & Pearson,

2004; Kuan & Chau, 2001; Mehrtens, Cragg & Mills, 2001). Several environment factors have been identified as affecting an organisation's decision to adopt new technologies, including; competitive pressure; external technology support; and customer pressure.

Competitive pressure is generally viewed as an incentive for organisations within the same industry to adopt new technologies. Much of the technology adoption literature in the organisational context acknowledges that competitive pressure plays a critical role in the adoption process. According to Haller and Siedschlag (2011), organisations are more inclined to adopt new technologies as a response to strong competition in their market as this enables them to enhance their performance and their survival rate. Gaining competitive advantage may have become even more important as many organisations nowadays are exposed to international competition in a global market. In the context of SMEs, several studies have found a strong influence of competitive pressure on the adoption of various types of technology. Pressures from competitors within the same industry play a role in social media adoption (Jabeen et al., 2017). A firm feel pressure to adopt social media if competitors that have adopted social media are perceived favourably by their customers. Moreover, a firm feel pressure to adopt social media if competitors that have adopted social media are perceived favourably by others in the industry. According to Ghobakhloo et al. (2011), an increase in the number of technology adopters accelerates the adoption decision among non-adopters, suggesting the significance of this factor on the adoption decision. In this sense, it can be expected that competitive pressure is another environmental factor that stimulates SMEs to adopt social media technologies.

Customer pressure is an important environmental factor that impacts new technology adoption. Literature that has considered the adoption of prior IT has reported that SMEs' decisions to adopt new technologies are affected by the pressure imposed by customers (Ghobakhloo et al., 2011; Parveen et al., 2017). Many other studies indicate the significance of this environmental factor in SMEs' decisions to adopt new technologies (Durkin, McGowan & McKeown, 2013; Tajudeen et al., 2019; Matikiti & Mpinganjira, 2018). The widespread and the increasing users base for social media is expected to encourage SMEs to move towards adopting these technologies. There are, though, contradictory findings in

this area such as that of Rahayu and Day (2015) who found that the decisions of Indonesian SMEs to adopt IS innovations were not influenced by the pressure received from customers whereby customers were found only to use the companies' websites to browse the products, but placed their orders using more conventional channels.

Finally, external technology support has been identified in the IT adoption literature as a relevant environmental factor. As noted earlier, unlike large enterprises SMEs lack IT skills to adopt and use new technologies. It has therefore been argued that an increase in the sophistication of technology leads to an increase in SMEs' needs for external support (Abdullah, Wahab & Shamsuddin, 2013). Supported from qualitative study interviews, external support has also been found to be significantly related to the adoption of many IT in SMEs. In terms of social media, SMEs may be encouraged to adopt these technologies if they feel that there is adequate support from third parties, such as consultancy agents.

Research has validated that three TOE contexts influence technology adoption. Studies that employed the TOE model assumed a unique set of factors from each context depending on the specific technology or condition under which it is being examined. TOE characteristics have been validated by several studies and have received consistent empirical support (Iacovou et al., 1995; Thong, 1999). Table 14 is the list of selected previous social media studies on TOE framework.

Table 14. Previous social media studies on TOE framework

No.	Authors	Technology context constructs	Organization context constructs	Environment context constructs
1.	Tajudeen, Jaafar and Ainin, 2018	Relative advantage, Compatibility	Top management support, Entrepreneurial orientation	Institutional pressures
2.	Jabeen, 2017	Perceived relative advantage, perceived compatibility	Social media knowledge, management towards social media	Pressure from customer, pressure from competitors
3.	Ahmad, Abu Bakar and Ahmad, 2019	Relative advantage, compatibility, complexity, trialability, observability	Management support	Competitive industry, Bandwagon pressure, Competitive pressure
4.	Alsharji, Ahmad and Abu Bakar, 2018	Relative advantage, compatibility, complexity, trialability, observability	Top management support	Competitive intensity, bandwagon pressure, competitive pressure
5.	He et.al, 2015	Usefulness, ease of use, enjoyment	Age, educational level, familiarity with technology, willingness to try	Peer pressure and media
6.	Matikiti and Mpinganjira, 2018	Perceived benefits, perceived ease of use	Managerial support, age, education level, time constraints	Pressure from competitors, pressure from customers
7.	Alshamaila, 2018	Relative advantage, ease of use, interactivity, innovativeness	Strategic business plan, market scope	Community demand, competitive pressure

5.3.1.2 TOE model combined with other theories

This section discusses the relevant research that used TOE framework and combined the framework with other theoretical models. There is a significant evidence that some authors used the TOE framework with other theories to understand IT adoption (e.g., Thong 1999, Gibbs & Kraemer 2004, Hsu et al., 2006, Zhu et al., 2006, Li 2008, Soares-Aguiar & Palma-Dos-Reis 2008, Chong et al., 2009, Oliveira & Martins 2010).

Some studies combining the TOE framework and DOI theories. Thong (1999) joined CEO characteristics from DOI to the TOE framework. Chong et al. (2009) added innovation attributes (relative advantage, compatibility, and complexity) from DOI and an additional new factor in the adoption study called information sharing culture characteristics to the TOE framework. Zhu et al. (2006a) combined relative advantage, compatibility, cost, and security concern from DOI with the TOE framework. Wang et al. (2010) added relative advantage, complexity, and compatibility from DOI to the TOE framework.

While some other studies combined the TOE framework with the institutional theory (e.g., Gibbs & Kraemer 2004, Li 2008, Soares-Aguiar & Palma-Dos-Reis 2008). The institutional theory adds to the environmental context of the TOE framework external pressures, which include pressure from competitors and pressure exerted by trading partners.

Iacovou et al. (1995) analysed interorganizational systems characteristics that influence firms to adopt IT innovations in the context of technology adoption. It was based on three factors: perceived benefits, organizational readiness, and external pressure. Perceived benefits is a different factor from the TOE framework, whereas organizational readiness is a combination of the technology and organization context of the TOE framework. Hence, IT resources is similar to technology context and financial resources is similar to organizational context. The external pressure in the Iacovou et al. (1995) model adds the trading partners to the external task environmental context of the TOE framework as a critical role of technology adoptions.

Hsu et al. (2006) used the DOI theory, the TOE framework, and the Iacovou et al. (1995) model to explain e-business use. Their model proposed four constructs; perceived benefits, organizational readiness, external pressure, and environment. Organization readiness is consistently used in all three frameworks in the literature while environment is from the TOE framework. Perceived benefits and external pressure are from the Iacovou et al. (1995) model.

Oliveira and Martins (2010b) used the TOE framework, and the Iacovou et al. (1995) model to explain adoption of e-business by firms belonging to European Union (EU) countries, by comparing the effect across two different industries: telecommunications and tourism. The model proposed comprises three dimensions (perceived benefits, technology and organizational readiness, and environmental and external pressure). The perceived benefits dimension came from the Iacovou et al. (1995) model. The technology and organizational readiness are a combination of TOE from the Tornatsky and Fleischer (1990) framework and organizational readiness from the Iacovou et al. (1995) model. The environmental and external pressure is also a combination from both earlier studies.

Most empirical studies are derived from the DOI theory and the TOE framework. As the TOE framework includes the environment context, it becomes better able to explain intra-firm innovation adoption; therefore, the researcher considers this model to be more complete. TOE framework also has a solid theoretical basis, consistent empirical support, and the potential of application to IS adoption. For this reason, an extensive analysis of the TOE framework was undertaken, analysing empirical studies that combine this TOE model with the DOI theory, the institutional theory, and the Iacovou et al. (1995) model, and concluding that the same context in a specific theoretical model can have different factors.

In terms of this study, for more complex new technology adoption it is important to combine more than one theoretical model to achieve a better understanding of the technology adoption phenomenon. Next section will examine how technology affordance approach has affected multiple organizational phenomena and processes in the benefits of SMEs in order to articulate an agenda for this research, advocating for a diversification of the phenomena and innovativeness in the methodological approaches.

5.4 Technology affordance approach in technology context

TOE tend not to conceive of historical or cultural variations in IT artefacts given that those variations may not be evident in the surrogate measures (Orlikowski & Iacono, 2001. This deterministic approach as explained in previous literature portrays technology as an external, independent, and unambiguous agent of change (Feldman & Orlikowski, 2011). As a consequence, technology becomes isolated from business practice and seems of relevance only at selective moments such as development, adoption, or breakdown (Orlikowski, 2007; Orlikowski & Scott, 2008).

Meanwhile, the theories of practice (Feldman & Orlikowski, 2011) assumes that any business activity that involve shared rules, principles, tasks, and projects (Schatzki, 1996, 2002). Thus, the context of technology usage in TOE should be adjusted to support an important influence on user perceptions which technology enactment occurs in the context of business practices. Practices are organized patterns of activity, doings, and sayings that involve shared rules, principles, knowledge, skills, tasks, and projects (Schatzki, 1996, 2002). Practices join multiple actions, projects, and emotions into recognizable domains of activity, for example, accounting practices, marketing practices, or advertising practices (Schatzki, 2002).

Researchers generally agree that an activity is inherently entwined with objects and it proceeds amid entities that affect it and to which it is constitutionally bound (Leonardi, 2011; Orlikowski & Scott, 2014; Schatzki, 2010). Technologies lead people to perform certain actions (Jung & Lyytinen, 2013; Mazmanian, 2013) and they shape what is possible or impossible to do (Faraj & Azad, 2012; Hutchby, 2001). Technologies are also co-constitutive of practice in that certain practices are increasingly designated to the technological domain (Jung & Lyytinen, 2013; Scott & Orlikowski, 2014).

In today's technology in global-distributed work, technology-in-practice view is clearly a new scope for a future research direction with all variants focusing on the dynamic interactions between people and technology whether during construction, implementation or use in organization, or during deployment of technology at large. To avoid the deterministic perspective of technology impact and understand how technology such as social media use by human actors facilitates changes in business

organisation and SME level, a theoretical perspective is required that does not prioritise material or social. To this end, the concept of affordances, that has been used in studies of IT and organisations (Robey et al., 2013; Zammuto et al., 2007) provides a useful theoretical lens to explain the relationship between social and material and understand the consequences. Based on an emerging discourse on the materiality of IT artefacts (Leonardi et al., 2012), the concept of affordance is adopted to understand how technology might be implicated in SMEs practices.

Since explaining and conceptualising the relationship between the social and the material have been the central concern for IS researchers and more recent perspectives on this relationship reject the former dualism between people and material means (Orlikowski & Scott, 2008; Orlikowski, 2007), the concept of affordances has been proposed as a powerful notion in providing in-depth understanding of the dynamics of constitutive entanglement between social and material in organisational practice (Faraj & Azad, 2012; Fayard & Weeks, 2014; Robey et al., 2012). As Gibson noted, affordances cut across the subjective-objective dichotomy.

An affordance lens is rooted in the work of ecological psychologist James Gibson (1979) and has formed the foundation for the field of design science. The term "affordance" refers to the potential for action that new technologies provide to users. All technologies are constructed out of material features that have properties that transcend their context of use. Although social constructivist approaches to technology use rightly argue that individuals can exercise their human agency to make choices about how to use the features of new technologies in their work (i.e Leonardi & Barley, 2010), those features are constructed out of materials that permit certain actions and limit others. When individuals perceive that those features allow them to perform certain actions, the technology can be said to provide an "affordance."

This affordance perspective on technology use, which focuses its gaze on the intersection between people's goals and a technology's material features, is a useful perspective for understanding the role of social media used within organizations. It is useful, in one sense, because it provides a way of transcending the two dominant theoretical positions that organizational scholars have adopted in their study of

technology: technological determinism and social constructivism. Its utility comes from recognizing that social media are technologies that are constructed out of certain material properties that enable the presentation, storage, and flow of information in ways that are difficult or impossible in other media.

Consequently, an affordance lens on technology use holds that affordances are not exclusively properties of people or of objects – they are constituted in the relationships between people and the materiality of the things with which they come in contact. For example, Hutchby (2001) argues that an object's affordances can change across different contexts even though its materiality does not. Also, as Leonardi (2011) suggests, people may perceive that an object offers no affordances for action, perceiving instead that its constraints their ability to carry out their goals. In short, people have perceptions, objects have materiality, and affordances or constraints are created when people construct perceptions of an object's materiality. Because affordances are relational such that they exist between people and an object's materiality, objects can be used in myriad ways and have multiple effects on the organization of work (Fayard & Weeks, 2007; Zamutto et al., 2007).

By focusing jointly on objects' materiality and on people's perceptions of affordance and constraint, an affordance lens is useful for theory in that it has the potential to help explain why, how, and when new technologies – like social media – become enrolled in and affect organizational action (Faraj & Azad, 2012). For example, when adopting an affordance lens, scholars who study, say, identification in organizations would not ask how social media affect identification practices, but rather how the affordances or constraints offered by social media become intertwined in the production of identification.

From the vantage point offered by an affordance lens, technologies like social media are constitutive features of all action that takes place in organizations and of the process of organizing because they offer the possibility of affording certain types of action that would be difficult or impossible to achieve without them and they sometimes constrain other kinds of action that are desirable. Although an affordance lens helps to see that technologies play a central role in organizations, it does not place the technologies in the foreground. Rather, organizational action is primary,

and technologies that afford and constrain activities that constitute such action are seen as facilitating conditions.

In particular, recent research has shown that social media that allow users, managers, and developers to act and interact with each other in novel ways might undermine or violate the assumptions of established theory. Consequently, researchers must adapt these theories for applications to social media settings, or possibly develop new ones (Kane et al., 2014; Majchrzak, 2009). In other words, theorists have called for a break with traditional information systems literature characterized by either technological determinism or institutionalism (Markus & Silver, 2008).

5.4.1 Social media affordance

Social media provide an unprecedented platform for employee communication and interaction there have been growing considerations of the ways in which social media within the workplace changes organizations and the work of their employees (Colbert, Yee & George, 2016). Managerial involvement with the technology, wide adoption in personal lives before adoption in organizations, the ascendency of user-generated content, and the unprecedented visibility of communication and interaction – mark social media use in organizations as one of the most significant changes to organizational life today (Leonardi & Vaast, 2017).

Large survey executives revealed that most managers consider that social media has and will continue to be strategically important to their organizations (Kiron et al., 2012). Such predictions would seem inappropriate were it not for the rapid diffusion and uptake of social media within organizations. A study of organizational technology use by Forrester, with responses from more than 10,000 workers across a variety of industries showed that, in 2012, 25% of employees used their company's internal social media regularly, and the number of employees using these tools was growing rapidly (Schadeler & Karcher, 2012). Such numbers represent a diffusion of organizational technologies that is unprecedented in scale and speed.

Social media provide a number of material features that are distinct from other communication technologies used in the workplace. Authors such as Treem and Leonardi (2012), Majchrzak et al. (2013), and Vaast and Kaganer (2013) have

provided overviews of specific affordances that social media commonly provide for employees in organizations. In what follows, Leonardi and Vaast (2017) take a different approach, reviewing studies to examine how use of social media produce affordances that generate several new phenomena in organizations that have the potential to change the way that people work and how organizations organize.

Seminal information system research has started to consider affordances at the less micro level of departments and organizations (Volkoff & Strong 2013). Leonardi (2013) in particular distinguished between individualized affordances, shared affordances, and collective affordances.

5.4.1.1 Generate content

According to Leonardi et al. (2013), social media allow workers to: (i) communicate messages with specific co-workers or broadcast messages to everyone in the organization; (ii) explicitly indicate or implicitly reveal particular co-workers as communication partners. In contrast to most other technologies used for communication, social media provide a forum for public communication among employees about user-generated content (Brownholtz et al., 2009; McAfee, 2009).

The content that is shared on social media tends to be generated by employees. This turn toward user-generated content means that employees are increasingly gaining a voice within their workplaces and have a forum upon which to share their ideas, concerns, and insights about work related matters (Leonardi & Vaast, 2017). An important feature of social media is that users can articulate a network of contacts from whom they receive information. by indicating that other users are “contacts,” “co-workers,” or “friends.” (Leonardi & Vaast, 2017). If a user articulates a particular contact, that contact’s name is added to the users’ list of contacts and that person’s communications, comments, and other posts appear on the user’s newsfeed. Ellison et al. (2011) have suggested that articulating networks is a primary way that users of social media build, enhance, and maintain their social capital.

Miller and Tucker (2013) discovered that user-generated content grew externally from customers and other clients and that user-generated content from among organizational employees grew as well. Specifically, they noticed that more generic

posts by management encouraged more user-generated content among employees who contributed ideas for new products and services and who became more engaged with the organization. Razmerita et al. (2014) focused on the types of technologies best suited for spurring user-generated content on social media. Their findings showed that tools that allowed employees and external constituents more control over their posts and the boundaries of their communities lead to higher levels of interaction and a diversity of knowledge. Thus, if one major goal of user-generated content is to encourage users to combine what they know into new idea, providing features that facilitate communities to assert control over their boundaries is essential (Kane et al., 2014).

Social media make it possible for anyone to create, circulate, share and exchange information in a variety of formats and with multiple communities (Leonardi & Vaast, 2017). Social media in business, however, have enabled user-generated content, whereby any employee may contribute and share their own content to all or most in the organization (Kaplan & Haenlein, 2010). This turn toward user-generated content means that employees are increasingly having a forum upon which to share their ideas, concerns, and insights about work-related matters. The existing evidence also suggests that organizations are able to harness knowledge and information from people (e.g., customers, suppliers, competitors) from outside the organization and incorporate their ideas into organizational activities.

5.4.1.2 Network sharing

Establishing a "connection" with someone via social media suggests that the user is interested in initiating or reinforcing a social relationship (Leonardi & Vaast, 2017). For a contact to be established on social media, both parties have to agree to the connection. Thus, in articulating their network on social media, users are testing the robustness of their social network as they see whether targets will accept their request to be connected (Kane, 2015). Such active processing in the decision about whether or not one wants to create or maintain a tie has the potential to strengthen social networks by forcing the target to confirm that he or she does indeed value a relationship enough to signal its presence to the larger user community. Consequently, articulating their networks on social media platforms may help users to reactivate dormant ties (Levin, Walter & Murnighan, 2011).

Fulk and Yuan (2013) have argued that employees with well-articulated networks on social networking media should be able to identify new contacts who have needed knowledge or information. Because users are initiating contact with new employees and are monitoring those contacts, they will learn information about those employees related to their jobs and be able to take advantage of this information at a future date. Majchrzak et al. (2013) termed this joint practice of articulating networks and monitoring content communicated or posted by those network connections as "network-informed associating." The authors suggest that as users begin to learn more about the contacts they have articulated through their use of social media in the workplace, they will also learn about new contacts to establish by watching those primary contacts engaged in their own network articulation with others and will continue to grow their own networks, thus exposing them to greater knowledge within the organization.

On most social media developed specifically for organizational use, the communications that occur between people in the organization are visible to all of those peoples' contacts and, often, by everyone in the organization (Leonardi, 2014). Users may also be able to maintain a set of "latent ties" (Ellison et al., 2011) through social media. Latent ties are electronic ties that a user forms with a target, but ties that are not activated. In other words, in articulating his or her network a users requests that a target be labelled as a contact. The target accepts, but the users and the target do not communicate or exchange information. Ellison et al. (2011) argue that there is value in these latent ties because they signal to third-party observers the breadth of someone's potential network, not just their actual network. Also, because establishing a latent tie has required both parties to agree that they would like a relationship, that work has already been accomplished should either party decide that they need to strengthen the tie with another at a future point, thus reducing the investment needed to coax information from a tie at the moment that information is needed (Leonardi & Vaast, 2017).

In a study of social networking site users at a firm, Leonardi and Meyer (2015) showed that social media could serve as a solid base from which to strengthen ties in times of need. The authors showed that when users determined that they needed complex knowledge from a particular co-worker, but did not have a sufficiently strong tie with which to acquire that knowledge they turned to the social networking

site to gain information about the target that would help lubricate social interactions with that person. Because the target was already joined or involved as a member of the user's network, the user could watch to see how that target communicated with others on the site and learn important information that would be fonder for communication with that person. The users could then take that information and use it to begin to build a stronger tie. Leonardi and Meyer (2015) found that when users did not ask for knowledge right away, but waited to strengthen their ties with targets, users were far more successful in strengthening ties when they had access to information about that target on a social networking site than when they did not. The increased tie strength that resulted paved the way for more satisfactory knowledge transfer between the two employees.

Although connectivity to network can have positive effects on social capital, research indicates that there are also problems that can arise once a user articulates his or her networks publicly (Leonardi, 2017). In one of the few studies that explicitly compared employee's articulated networks on social media to their offline communication networks, Brzozowski (2009) found a very high overlapped. In other words, people tended to establish networks with co-workers with whom they already tended to communicate via other channels. This duplication in networks belies many of the potential advantages of social capital enhancement if users are not taking advantage of the capabilities of social media to expand their networks, it is unlikely that network on social media will do much to change the nature of their relationships for the better (Kane et al., 2014).

In a study of Facebook use outside of organizations, Tong et al. (2008) found a relationship between Facebook friends and social attractiveness: those with a moderate number of friends were judged to be the most socially attractive and those with the lowest and highest number of friends were judged to be the least social attractive. This finding appears to hold similarly in organizational contexts. In a study of social network sites use, Mark et al. (2014) showed other problems that can arise with the public nature of network articulation. The authors found that users who had articulated the largest networks (i.e., indicated the greatest number of people in the organization as their contacts) were the most likely to receive negative assessments from their co-workers and were the least likely to be confided in and celebrated by their colleagues. The authors speculated the involvement in large

social networks resulted in perceptions of the user being not sincere and only interested in showing off, as opposed to being committed to building high-quality work relationships. Thus, it can have both positive and negative effects on one's ability to build, maintain, and strengthen ties with communication partners within the organization as users must confront the fact that the public nature of their articulated networks can both create information advantages, but also generate negative perceptions.

5.4.1.3 Transparency

Social media has also enabled more identity transparency. Identity transparency refers to one's ability to learn about another's identity. Identity transparency is enabled when observers can see a person's name, virtual identifiers, and profile information including demographic and historical data. They argue that identity transparency helps to hold individuals accountable, create conditions for trustworthiness, and promote liking through perceptions of similarity. They also suggest that enhanced identity transparency within the organization can increase information accuracy by holding people accountable to presenting useful and accurate information but that it can also decrease creativity by increasing conformity (Leonardi & Vaast, 2017).

Interaction transparency is enabled by third party access to people's communications with each other and the articulation of their social networks. They suggest that interaction transparency will result in increases in clustering due to popularity affects and decreases in privacy as asymmetries in identity and interaction transparency increase privacy violations (Cabiddu et.al., 2014).

Dong and Wu (2015) found that in globally distributed organizations, social transparency eased problems associated with cultural difference and increased mutual understanding across company sites. Bharati, Zhang and Chaudhury (2015) showed that social transparency increased users' social capital and their cognitive capital directly, but only affected their relational capital indirectly through increases in social and cognitive capital. Other studies (Schreurs & De Laat, 2014; Shami et al., 2015) have shown that social transparency can increase employee engagement as users learn about the personal and professional contexts of their colleagues and

thus have both the impetus to and useful information with which to approach them to develop relationships.

By making employees' interests and expertise more visible to others, and by enabling linkages among like-minded people, social media can foster the creation of communities of practice considered critical to organizational innovation, learning, and knowledge sharing (Aral et al., 2013; Kane et al., 2014b). Profiles, blog entries, comments and other persistent content help distributed but like-minded workers better establish common ground that can be the basis for community formation (Majchrzak et al., 2013). Connections among peers often produce a form of homophily, which has also been associated with stronger network ties among virtual teams and increased bridging and bonding social capital on social media (Yuan & Gay, 2006).

Yet as researchers point out, user-generated content and the establishment of communities on social media can also lead to the creation of an echo chamber where individuals seek out and talk with people who share their same backgrounds and opinions (Leonardi et al., 2013; Pfeffer, Zorbach & Carley, 2014). The production of an online echo chamber can potentially lead to lower integration of knowledge across disparate communities (Van Alstyne & Brynjolfsson, 2005). User-generated content could thus result in a fragmented set of communities with too few interactions among them. The formation of network ties across groups might be limited due to this subgrouping tendency (Leftheriotis & Giannakos, 2014; Mergel & Bretschneider, 2013). Outcomes such as groupthink, where conflicting perspectives are ignored might become more prevalent. This potential for a reduction in knowledge flows across communities might therefore signal a decline in organizational social capital from social media (Leonardi, 2017), an outcome that has been given surprisingly little attention so far.

The content shared via social media is visible to almost everyone in the organization. Employees and managers are able to broadcast messages across the organization in ways that were often impossible prior to the introduction of social media in the workplace (Leonardi & Vaast, 2017).

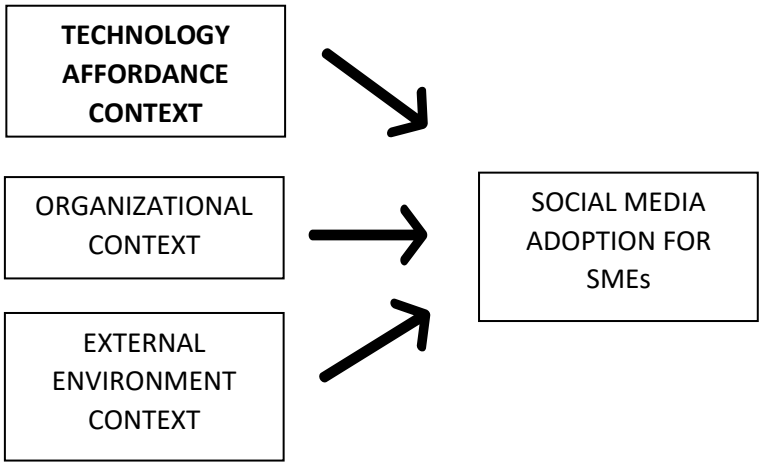
In a related vein, social media have afforded employees a "*voice*" beyond traditional channels of organizational communication. Miles and Mangold (2014) discussed how social media enable employees to deliver messages about the organization within and beyond its boundaries. The potential impact of these messages can vary widely depending upon what employees actually say about the organization. Employees may voice their dissatisfaction and potentially damage the reputation of the company or they may enhance the organization's public image by presenting an internal perspective on the organization to the general public. Miles and Mangold (2014) concluded that managers could guide employees' voice and manage the employee-triggered diffusion of social media.

5.4.2 Integrating technology affordance into TOE model

This research attempt to remedy the lack of study of social media use by addressing these two reasons head on. First, it suggests that a theoretical lens on social media use focuses on the types of business activities that social media afford users the ability to do. Secondly, as well as the types of activities social media also constrain users from accomplishing. These can provide a compelling framework through which to understand the use of social media in SMEs.

This research proposes to draw on this affordance perspective to interpret and organize prior research on social media within SMEs such that it can help to address the first concern outlined above: that scholars have not yet paid much attention to social media because they view that social media just as support technology to their core phenomena of interest. By highlighting the affordances and constraints provided by social media in the workplace, current study review demonstrates that social media are at the centre of most action within business. While organizational and external environment context will remain as an important factors of social media adoption, the affordance lens enables us to surface issues surrounding social media that mark them as distinct technologies from the many other computerized communication technologies that have been used in organizations for the past half century, while simultaneously showing how they become constitutive features of organizational action.

Figure 4. Proposed TOE Model



5.5 Research hypotheses: factors of adoption

Following the qualitative analysis, and in line with TOE model, this research proposes three categories factors of adoption. The first category is related to technology affordance to adoption and include eight factors – connectivity, persistence, intimacy, visibility, mobility, collaboration, interaction and flexibility. The second category is related to the organizational factors and includes three factors – business resources, investment and top management support. The third category is environmental factors and include three factors; competitive pressure, customer pressure and external technology support. The following sections develop the formal hypotheses that link factors associated with adoption. The impact of social media to technology paradox and business performance is also being explained.

The definition of social media adoption used in this research is based on the adoption conceptualization by Slappendal (1996) and is adapted to the context of social media in SMEs. As such, social media adoption id defined as the extent of social media technology usage by SMEs to support business activities. The measurements were adopted from Jelinek et.al. (2006), an extension of the traditional computer acceptance measures, which mainly assess frequency of use of measure adoption as a single decision. Four items were adapted reflecting the construct which the survey items used 7-point Likert scales that ranged from (1)

"strongly disagree" to (7) "strongly agree" (α=0.86) with acceptable model fit indices.

Table 15. TOE model with constructs

Context	Definition	Constructs
Technology affordance	Focuses on the social media technology affordance being considered, dependent upon the degree to which business can utilize social media sites and their offerings (Leonardi and Vaast, 2017)	Connectivity, Persistence, Interaction, Visibility, Flexibility, Intimacy, Mobility, Visibility
Organizational	Defined in terms of descriptive features like business size, communication process and management structure (Tornatzky and Fleischer, 1990)	Top management support, business resources, investment
External Environment	The arena in which a business conducts its business-its industry, competitors, access to resources supplied by others (Tornatzky and Fleischer, 1990)	Competitive pressure, Customers pressure, External technology support,

Technology affordance context

5.5.1 Connectivity and social media adoption

Connectivity affords users rapid access and constant communication with other users, so life can be more closely connected (Kumar & Ayedee, 2018; Ahmad et al., 2019). Social media enable instant messaging, e-mail and text messaging to be installed which support with integration making mobile workers available at times and in places (Kumar & Ayedee, 2018) by having "perpetual contact" (Abeele et al., 2018) between individuals and their social networks. Connectivity also means that business and the workers may never need to disconnect from their technology, allowing continuous communications at all times. Connectivity is conceptualized as *social media constant and continuous communication that affords SMEs to closely connected with stakeholders and multitasking workers.*

Businesses may make themselves continuously available to clients through their mobile devices to avoid losing potential business and to manage client relationships

(Sadler et al., 2006). For example, one business manager may choose to execute initial contacts with clients upon rising early in the morning, then engage with family members, and later follow up with clients via phone calls or text messages.

Boase (2008) discusses the multiplexity of communication on mobile media—where comments, like or respond in social media are all available simultaneously. Individuals maintain an awareness of their connections to different people and tend to use multiple modes to connect with individuals to whom they are close (Haythornthwaite, 2005). Connectivity may also facilitate the practice of converting dead time into productive time (Cousins & Robey, 2015). During dead time, such as waiting for a flight, or waiting in client's office, the connectivity enable business to perform business activity such as replying comment, updates status and location sharing. Business may also become adept at using chat messaging, and instant messaging to communicate with multiple partners simultaneously while traveling (Reinsch et al., 2008).

Findings from the qualitative stage have also revealed that interviewees are interested in establishing casual conversation with others. However, the ability to engage in interaction with information sources and people in remote places has become a new routine to business. As such it is expected that social media adoption will be driven by the factor of connectivity. This is hypothesized as:

H1 : Connectivity positively influences social media adoption in SMEs

5.5.2 Persistence and social media adoption

Finding from the qualitative study have revealed that SMEs are rely on the combination of an infrastructure of mobile and portable handsets moving that interact with hundreds or thousands of computers rather than only one which provide ubiquitous environment for engaging objects with other everyday objects. Persistence is conceptualized *as social media affords SME to create, update and access the lasting information* (He & Lu, 2016).

It is also an evidence from qualitative study the initiation of social media usage by SMEs were influenced by the availability of social media technology that surrounds them. Expanding the perspective of mobile information technology offers a range

of interesting opportunity for creating experiences by allowing the individual devices and the environment to interact (McCollough, 2004).

This merger between the environment and client devices has been characterised as augmented reality (Jain et al., 2018). The businesses stated that social media afford them to have two-way communication with customers, to build a good customer relationship by create, update and access the latest information regularly. As such it is expected that SMEs will be driven by the factor of technology ubiquitous to adopt social media. This is hypothesised as:

H2 : Persistence positively influences social media adoption in SMEs

5.5.3 Interaction and social media adoption

Interaction is conceptualized as *social media affords SME to socializing and interact with other for business benefits.* The use of social media implies the promise of the compression and fluidisation of space, time and context of interaction for the individual of both reaching beyond and of being reached from beyond the immediate context (Sorensen, 2020). Social media interaction also challenges the notion of linear clock time and supports social time with more flexible time disciplines (Liu, Jiu & Jensen, 2019). This allow speedy decisions but has argued by Rowell, Gustafsson and Clemente (2016) that temporal order of the workplace not only serves the behaviour of participants but also as an interpretive framework for rendering action in the setting meaningful.

Social media interaction also alters the broader contextual aspects of interaction from being locally conditioned to flexibly co-ordinated by the participant in terms of who is engaged in the interactions, their moods, cultural context and mutual recognition (Kakihara & Sorensen, 2002). Fluctuating individual preferences, organizational practices, powers and politics shape the particulars of the relationship between users, mobile technology (Sherry & Salvador, 2011).

The spatial opportunity transcending geographical barriers for interaction that associated with the ability to be more flexible access to interact with others and information resources. Interaction is no longer strictly bound to and locally conditioned by the geographical boundaries and challenges the established

understanding of social interaction (Ling, 2008). As iterated by Ling (2014), mobile interaction can alter timekeeping by replacing scheduling with direct micro coordination. The constant interweaving of situated and mediated interaction with people, services and technologies can shift relative importance of time and space in rhythms of interaction. In mobile interaction, when a person is available can be more important that where they are available (Green, 2002).

Findings from qualitative study provide further support to the link between interaction and social media adoption. Social media impose a approach where information source comes from new drivers such as Comments/Likes from users using different type of interaction (e.g., Share & Retweet) from user-generated contents (e.g., reviews and blogs) indicating that SMEs maybe consider interaction factor to engage with social media. This is hypothesized:

H3: Interaction positively influences social media adoption in SMEs

5.5.4 Visibility and social media adoption

Visibility is conceptualized as *social media affords SME to make knowledge, preference and public presence of business easily and frequently seen by others that lead to influence perception of public* (Treem & Leonardi, 2012). Social media afford users the ability to make behaviors, knowledge, preferences, and communication network connections that were once invisible (or at least very hard to see) to be visible to others (Treem & Leonardi, 2012). Visibility is tied to the amount of effort people must expend to locate information about the business. Visibility refers to the public presence of an individual or business organization in the media, and has an influence on business perceptions in times of crisis, buying preferences, and trust (Young & Kent, 2014) and refers to how frequent social media users appear to others. For example, business may post an update related to current issue two or three times that enticing social media users or extended network in social media to respond in a way of replying comment or let the post being shared with others. The more respond it gets, more visible it become to others.

When social media technologies enable people to easily and effortlessly see information about one business from an effort (e.g., post an update), then the technology was used to make that business's activities visible. Thus, those

businesses with strong media or brand presence are more on the mind of individuals and publics, as are the business that individuals interact with on a daily basis, leading to higher levels of trust, greater brand or product loyalty and increased sales. Bregman and Haythornthwaite (2001) note that visibility "refers to the means, methods, and opportunities for presentation; in our usage, it primarily addresses the speakers' concerns with the presentation of self". Whether through posts, comments, status updates, votes, friending, revisions, or pictures, contributions to social media are visible to all who have access to the system. Scholars have noted that social media's ability to provide increased visibility into both behaviors and information separates them from other technologies and creates unique consequences (Boyd, 2010; Grudin, 2006).

This is further emphasized in the findings from the qualitative stage, that have revealed that SMEs created identification to be easily being remembered by other users. By sharing the information about their business and product with the public via social media which helped in building a good relationship with their customers, good expectation and business reputations to SMEs. Relationships implement memory of aspects of the interaction (Mathiassen & Sorensen, 2008).

It is thereby anticipated that SMEs will be driven by the effort to get recognized by others, as individuals or brand. This is hypothesized:

H4: Visibility positively influences social media adoption in SMEs

5.5.5 Intimacy and social media adoption

SMEs forge close user-technology relationship when using social media every day. *Intimacy is conceptualized as social media affords SME to initiate, develop and maintain ongoing relationship with self-disclosure and trust that enable users to enhance and maintain quality in those network relationships* (Choi & Bazarova, 2015).

Social media affords users the potential to associate a mobile device or service with a single authorized individual, thus allowing the user to assume a unique identity. Identifiability is made possible through material features such as the username and identity in social media to which a unique individual. Intimacy is also enabled

usernames and passwords that uniquely identify the device and user account, the association and any business affiliation.

Intimacy is the ongoing relationship fostered and validated by the personal users. Relationships between technology and individuals can consist of elements of control, harmony, interruptions and overload (Arnold, 2003), shaped by practical matters of technology, situation and person's emotional state (Sorensen & Gibson, 2008; Ljungberg & Sorensen, 2000; Ciborra, 2006). For example, a personal validation by the business such as writing a comment on congratulating customer who having a new baby, seems more personalize in developing relationship between business and the customers. Intimacy can be strengthened by the configurability of the technology (Wiredu, 2005), such as using application that automatically send greetings on customers' birthday. Intimacy has similarity to personalization affordance that described as the potential to select mobile technology options and setting to match user's personal preferences or needs. (Cousins & Robey, 2015).

Intimacy is strengthened by the configurability of the technology (Wiredu, 2005). The user experience of intimacy is therefore a complex and emerging and is shaped by variety of factors, ranging from practical matters of technology and situation (Sorensen & Gibson, 2008) to issues of a person's emotional state (Cibbora, 2006). Findings from the qualitative stage suggest that SMEs view this as a platform to create continuous relationships among friends and customers in more relax and informal approach. The relationships offer a new engagement with customers using personal capacity soft sell approach. Furthermore, SMEs believe that by having engagement will develop trust by expressing more emotions in social media as that help her being more transparent and sincere to customers. SMEs thus may be motivated to adopt social media for purpose to get more personal with other stakeholders (e.g., customers, partners). It is thereby hypothesised:

H5: Intimacy positively influences social media adoption in SMEs

5.5.6 Flexibility and social media adoption

Flexible working practice, pressures from competing values, available technological support for remote interaction imply that working together is increasingly disassociated from being together (Sorensen, 2011). Work activities

are always socially and materially situated, however, the demand for rapid and complex decisions has extended the reach and flexibility of these situations through a variety of social media performances. Flexibility is conceptualized as *social media affords SME to help the business break down its institutional processes and explore new alternatives in business-related task and activities.*

Human mobility studies have extended beyond human nomadicity to more on issues surrounding telework and remote business environments (Basole, 2004). It also includes an object mobility (e.g documents, letters) and information movement that leads to another separate spatial reality (Kakihara & Sorensen, 2011) which often called cyberspace or virtual communities. The concept of physical location in cyberspace has fundamentally changed, as a geographical distances and boundaries has been dissolved (Basole, 2004) and become the driver of flexibility in operating business.

From the exploratory interview one of the interviewees expressed her relief when she was attacked with stroke disease. Her left side of body was paralyzed, and she was unable to commute to her office. She was set that all her business activity can only be supported while she is at home. She was unable to move, thus the business activities that demand her to commute has been outsourced to her partner while she focuses more administrative work that can be done remotely. She just chats and engaging with partners using Whatsapp and Facebook chat. Social media features have offered her flexibility to work in her 'virtual office' at home.

Studies indicate that flexibility in the timing and place of work have generally been well received by workers and have contributed to business goals. Social media has also provided business with opportunity of access to labour and highly skilled talent workers. For example, LinkedIn offer a platform for individual or worker to demonstrate their work quality and ability to perform certain or specialized job based on SME requirement. Despite have to hire a new staff, SME can have flexibility in employment structures (Hill et.al, 2008) Vary the traditional employment sequencing, SME able to engage with qualified and skilled manpower on temporary or project basis.

The contextuality in mobility provides an understanding in what way and circumstance the activity is being performed (Osorio-Arjona & Garcia-Palomares,

2019). For example, another interviewee further adds to contextual dimension where mobility has supported her illness while conducting business. The remote business environment one of the results from qualitative study that indicate SMEs has certain level of freedom in conducting business. This can be hypothesized:

H6: Flexibility positively influences social media adoption in SMEs

5.5.7 Collaboration and social media adoption

Collaboration can be characterized in a multitude of ways. Social media become a platform of negotiation and resolution in mutual interdependencies (Geiger, 2020). Information flows is can be control and manage by a different group for a different group (Odoom et al., 2017). Furthermore, the interviewee relates the management of knowledge (Newell et al., 2009) among members for customer service and collaboration activities that reach out more efficiently. Harris and Rae (2009), found that social networks will play a key internally, help to transform the traditional focus on control with an open and collaborative approach that is more conducive to success in the modern business environment.

Collaboration is conceptualized as *SME ability to utilize social media to perform a complex interdependent and interactive works by having a mutual understanding and share resources toward a collective goal* (Cardon & Marshall, 2015). It is also become evident throughout the qualitative study, that SME use social media for sharing the businesses' information with the public in strategic way. SMEs explained on how they are working together with mutual interdependencies on collaborations, collaborate to organize an event using social media with no session to meet up among members.

Collaboration in social media supports and enhances the collaborative works on the internet that refers to complex interdependent and interactive works toward a shared goal or goals and assisting in facilitating goal-oriented teams in the process of problem solving and group decision making (Kim et al,, 2011). Social media represent a way of collaborating that is a more interactive and bottom-up; that involves self-organizing and overcomes the deficiencies of command-and-control approaches to management and innovation, that more effectively facilitates idea sharing, knowledge management, and crowdsourcing (Kaplan & Haenlein, 2010; McAfee, 2009; Wright & Zdinak, 2008).

Social media driving an increasing amount of communication to teams rather than through hierarchical command approaches. Organizations are increasingly run under the assumption that effective teamwork and collaboration drive innovation and higher productivity. For example, using wiki or Whatsapp, discussion is from one person to another, or one to many, but also many to many, which multiple discussions are under way at the same time, and participants are often expected to participate in several discussions at the same time. Working in teams also increases satisfaction and engagement among employees (Berry, 2011).

It is expected that organization will become more resourceful by having shared collaborative works that potentially increase the productivity. Hence, it is hypothesized:

H7: Collaboration positively influences social media adoption in SMEs

5.5.8 Mobility and social media adoption

Computer technology has undergone dramatic changes with the doubling of complex integrated circuits (Breuer & Bowen, 2019). This has led to an ever-shrinking computer from the initial phase of large mainframe computers to the personal computer to computer in hand and pockets. Making computers portable, interconnected and embedded is both a significant technological achievement that offers radical changes in the way in which computation is conceptualised. The technology follows the individual instead of being defined by fixed workstations.

Portability of the computer system marks an essential characteristic of the miniaturisation of computing technology. The term ‘mobile’ in mobile information technology essentially refers to the client part of the technology being portable and therefore supports users who are geographically mobile (Sorensen, 2011). The mobile environment in which a business operates influences the adoption and usage of mobile web technologies, including social media (Schaupp & Belanger, 2014). Mobility is conceptualized as *the ability of SME to create mobile enterprise when employees can exist separately of the geographical constraints of office.*

Findings from qualitative study suggest that SMEs accept social media by different form of technology; web and mobile that easily being access from handphone, tablet or computers. It is anticipated that the miniaturisation of computing technology and

availability of social media in various platform will motivate SMEs to adopt more easily. This is hypothesised:

H8: Mobility positively influences social media adoption in SMEs

Organizational context

5.5.9 Top management support and social media adoption

Top management support has long been at heart of studies examining IT adoption in organisations (Li & Wang, 2018). It is evident from reviewing the IT adoption literature that top management support has a strong impact on the decision to adopt new technologies within organisations. With respect to SMEs, there are many published studies describing the role of top management support, which is considered a key enabler in the adoption decision for technological innovations in SMEs (Choi & Thoeni, 2018; Tajudeen et al., 2018; Razmerita et al., 2016), Nisar, Prabhakar and Strakova (2019) found that managerial role in SMEs is essential in the introduction of new technologies. This role, played by top management, is seen as being essential to create a supportive environment to facilitate the adoption decision in their enterprises (Al-Qirim, 2004).

H9: Top management support is positively influences social media adoption

5.5.10 Business resources and social media adoption

Business resources is the final important organisational factor that has been found to have a positive and direct impact on the decision to adopt new technologies in organisational settings (Choi & Thoeni, 2018; Tajudeen et al., 2018). As documented in the existing IT adoption literature (Ahmad et al., 2019), the accumulated knowledge, experience and familiarity with previous technologies facilitate the future adoption of new forms of technologies within organisations become an important resource for business to survive. In the case of social media, familiarity with other internet-based technologies (such as, websites and online forums) can have a direct influence, facilitating social media adoption in SMEs. Thus, this factor could be expected to play a significant role to drive social media adoption in SMEs.

For social media initiatives to be successful, organisations need to give them enough time (Braun 2004). Time is needed to learn how the social networking site works, how other businesses in the same industry are using it for marketing, and how to present an attractive profile page (Matikiti & Mpinganjira, 2018). The time that businesses spend on social media sites in sending messages, attending to comments and blogging can be considerable. Braun (2004) and Au (2010) examined the adoption of new technologies by tourism businesses and revealed that time constraints and lack of understanding of how social media can be used.

It is postulated in this study that business resources such as technical knowledge and time will moderate the relationship between social media usage and intention to continue using social media (Matikiti & Mpinganjira, 2018). It is therefore posited in this study that:

H10: Business resources is positively influence social media adoption

5.5.11 Investment and social media adoption

Although social media has no significant cost to use when it comes as a free technology platform, it is still often one of the main important reason cited by research. Large enterprises are posited to have greater ability to invest in new technologies owing to greater financial resources (Cesarono & Consoli, 2015). According to Zhu et al. (2006) larger business have more financial resources and technological knowledge, and therefore are more likely affect the adoption of technology. It also supported by Kim and Garrison (2010)'s study on RFID adoption. Prior studies relate business performance to either annual technology investment which include annual technology investment includes hardware, software and cost related to maintenance, personnel and training (Chari, et al., 2008, Kobelsky etal., 2008). Thus, it is hypothesised:

H11: Investment is positively influence social media adoption

External environment context

5.5.12 Competitive pressure and social media adoption

There are results from the past studies shown that competitive pressures are a significant factor influencing the adoption of information technologies by enterprises (Ghobakhloo et al., 2011; Li, 2008). Competitive pressure generally viewed as an incentive for organisations within the same industry to adopt new technologies. Much of the technology adoption literature in the organisational context acknowledges that competitive pressure plays a critical role in the adoption process. According to Haller and Siedschlag (2011), organisations are more inclined to adopt new technologies as a response to strong competition in their market as this enables them to enhance their performance and their survival rate.

Gaining competitive advantage may have become even more important as many organisations nowadays are exposed to international competition in a global market. In the context of SMEs, several studies have found a strong influence of competitive pressure on the adoption of various types of technology (see, for example Ghobakhloo et al.v(2011), Ifinedo (2011)). According to Ghobakhloo et al. (2011), an increase in the number of technology adopters accelerates the adoption decision among non-adopters, suggesting the significance of this factor on the adoption decision. SMEs must consider introducing new technologies, in particular emerging internet-based technologies, to compete in today's knowledge-based economy (Al-Qirim, 2004). In this sense, it can be expected that competitive pressure is another environmental factor that stimulates SMEs to adopt social media technologies. It is thereby hypothesized:

H12: Competitive pressure is positively influence social media adoption

5.5.13 Customer pressure and social media adoption

Customer pressure is an important environmental factor that impacts new technology adoption (Rahayu & Day, 2015). Literature that has considered the adoption of prior technology has reported that SMEs' decisions to adopt new technologies are affected by the pressure imposed by customers (Rahayu & Day, 2015; Ghobakhloo et al., 2011). Tajudeen et al. (2018) support that these types of enterprise are more vulnerable to customer pressure than the large enterprises. They

attributed this to the fact that SMEs tend to rely economically on bigger customers for their survival in the marketplace.

Many other studies indicate the significance of this customer pressure in SMEs' decisions to adopt new technologies (Durkin, McGowan & McKeown, 2013; Consoli, 2012). However, there are studies which have found no significance for this factor in the adoption decision. For instance, a study by Ifinedo (2011) reported no significant role for customer pressure in the SME decision to adopt e-business. The widespread and the increasing customer base for social media is, though, expected to encourage SMEs to move towards adopting these technologies. This is hypothesised as:

H13: Customer pressure is positively influence social media adoption

5.5.14 External technology support and social media adoption

Li (2008) found that external technology support identifies as a relevant environmental factor. As noted earlier, unlike large enterprises SMEs lack sufficient IT skills to adopt and use new technologies, thus external information flows are optimal when were monopolised 'skilled' gatekeeper (Minto, 2018) such as consultant and vendor. This concept in light of the advances in technologies that altered how knowledge being sourced and shared (Whelan, 2009).

It has therefore been argued that an increase in the sophistication of technology leads to an increase in SMEs' needs for external support (Abdullah, Wahab & Shamsuddin, 2013). Thus, external support has been found to be significantly related to the adoption of many ICTs in SMEs (see, for example, Choi & Thoeni, 2018; Tajudeen et al., 2018). Arguably, in terms of social media, SMEs may be encouraged to adopt these technologies if they feel that there is adequate support from third parties, such as consultancy agents. Thus, it has been hypothesized:

H14: External technology support is positively influence social media adoption

5.6 The impact of adoption

Despite many advantages of using social media, business level research on social media and its impact on business performance has not grown rapidly (Lovejoy & Saxton, 2012; Shahizan et al., 2012). This study also investigates the impact of social media adoption on business performance. It being notice from the previous literature and finding of exploratory interview, the adoption has also demonstrated an evidence of technology paradoxes as an impact of the social media adoption.

Business impact refers to the actual benefits business received after the usage of using social media being adopted. From the literature, performance has been identified as possible impact of social media usage. These include technology paradoxes and performance. The formal hypotheses connecting social media adoption and its impacts are discussed in the following sections.

5.6.1 Social media adoption and technology paradox

Chae and Yeum (2010) proposed seven type of mobile technology paradoxes namely efficiency/inefficiency, fulfil/create need, empowerment/enslavement, planning/improvisation, public/private, new/obsolete and engage/disengage. Four technology paradoxes will be adapted in this study on the ground of relevancy with social media technology and supported by finding in exploratory interview. Technology paradoxes is conceptualized as *the existence of simultaneous opposite assumptions, conflicting conclusion derived by advantages or profits gained from adoption social media in SMEs.*

“Efficiency” means to reduce the required effort or time with technology and “inefficiency” means that use of technology requires more effort and time. For example, social media offers flexibility in working time and place with the expectation the workers will be more motivated, but sometimes it can be less productive when workers spend more time chatting on personal purpose. “Fulfil needs” means to accomplish what a user wants with the social media and to “create needs” means to generate new desire, which was unknown until the social media was used. For example, once Facebook Live, a feature that enabling live video broadcasting was introduced. SME started to leverage content with expectation such feature could engage with more prospect. However, the new feature requires

SME to have extra devices (e.g good microphone and high-quality video camera) and a skill of video production.

“Empowerment” means to reinforce the power of users with the use of a mobile device and “enslavement” means that users are subordinate to the mobile device. Social media gives users freedom from the restraint of time and place; thus they work anytime and anywhere. However, at the same time they also experience that they are bound by the technology. For example, call-for-action in Facebook Advertisement feature, invited prospect to directly contact business either by call or private messages. The urgency of prospect to get instant reply from business, demand extra commitment to attend. Thus, even when they are at home or at vacation, they are still connected to customer enquiries.

Social media is also a useful apparatus in planning to engage or cooperate with people and other social activities. However, the impromptu nature of a mobile device sometimes encourages people to improvise rather than plan in advance. For example, people become less sensitive to not being on time as long as they let the other party know that they will be late because they can easily get in touch with the other party by using mobile phone (Chae & Yeum, 2010).

Further, SMEs have lack of relevant social media knowledge and not really understand how to measure social media effectiveness and on how to relate it to business goals. SMEs face a paradox of having a good social media usage but burden with many responsibilities of managing social media for SME, when almost all SMEs stated that they have to do all social media responsibility (e.g update, interact) and do not have in-house expertise or staff. While social media forged a closer relationship between SMEs and customers, from the evidence show that social media become a treat of hatred, faked identity, fraud and cyber bully. Hence, it can be hypothesised:

As social media becomes more familiar in daily activities, businesses will start to realize the conflict between their initial expectations of the service and what they actually observe. Social media allows people to be reachable at any time, but at the

same time they also lose freedom when mobile technology is attached to them. It hypothesized:

H15: ***Social media adoption positively influences technology paradoxes***

H15a: Social media adoption positively influences efficiency

H15b: Social media adoption positively influences control

H15c: Social media adoption positively influences competence

H15d: Social media adoption positively influences fulfilment

5.6.2 Social media adoption and business performance

Performance is conceptualized as *SME ability to used social media to achieve the degree of fulfilment of managerial goals in business practice and their realized outputs by the end of certain period (*Porter, 1991). From the previous literature, social media outcomes to business might be measured via either accounting or financial market metrics (Aral, Dellarocas & Godes, 2013). Rishika et al. (2013) model customer visit frequency and customer profitability as a function of their participation in a firm's social media activities. This is supported by finding from Kwok and Yu (2013) who found that sales can be increased with Facebook usage. This is similar outcome with Paniagua and Sapena (2014) that suggest financial performance is affected by user generated content in social media. Ainin et al. (2015) research found that Facebook usage has a very strong positive impact to both financial performance that was measured in terms of increase in sales transaction and sales volume. Ferrer et al. (2013) demonstrated that the use of social media technologies positively impacts the social capital of an organization and therefore its performance.

Michaelidou et al. (2011) measured performance using the numbers of users interact with the social media tool used. The measurement of effectiveness was such as number of users joining group, comments, user giving positive or negative comment, number of friends' request, and number of customers attracted via social media. However, finding from the qualitative study suggest that SMEs experiences no real financial in term of sales or revenue generation after using social media.

Parveen et al. (2015) measured the impact using six impact factors: enhance customer relationship, cost reduction, improved information sharing and accessibility, revenue generation and competitive advantage. Supported by Harris

and Rae (2009), found that social networks will play a key role in the future of marketing. Kim and Ko (2012) developed construct to measure influence on customer equity using social media.

While the result show positive impact in SME performance, however, from exploratory interview has a different finding. Some interviewees found that social media does not result any sales return. It has been reported that the problem is to apply a set of measurement to calculate return of investment in every social media initiative. Thus, it is hypothesised:

H16: ***Social media adoption positively impacts business performance***
H16a: Social media adoption positively impacts non-financial performance
H16b: Social media adoption positively impacts financial performance

5.7 Summary of hypotheses

The graphical representation of the conceptual model is illustrated in Figure 5.

Figure 5. Proposed conceptual model

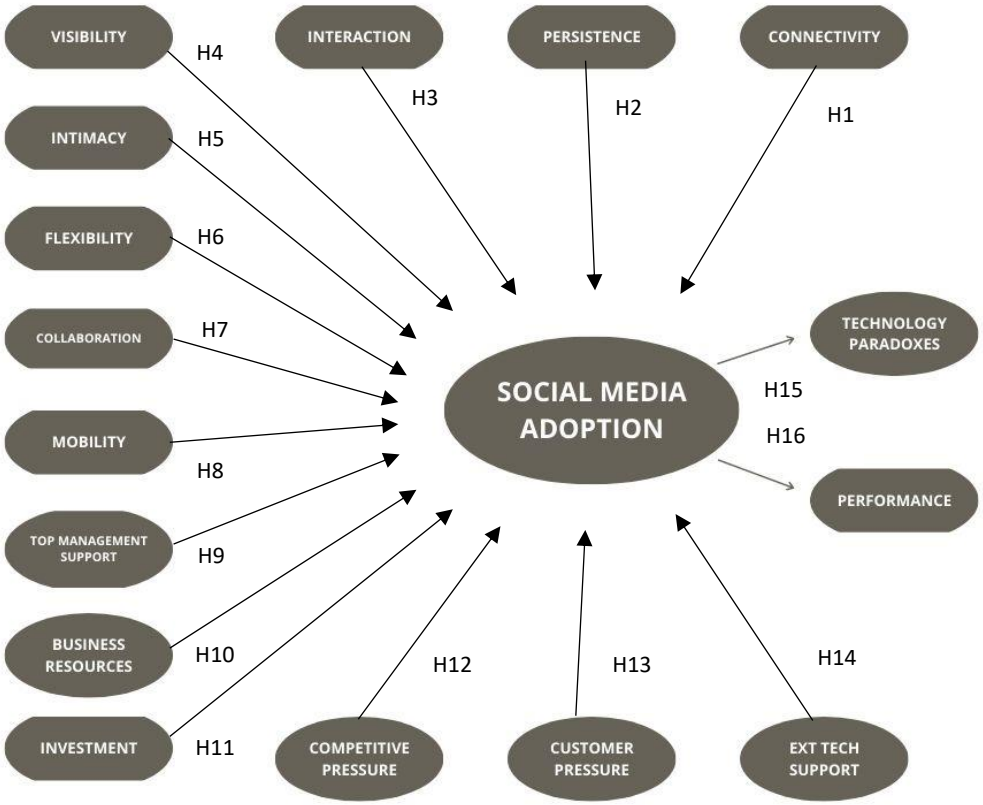


Table 16 below is the summary of hypotheses that include all factor associated with social media adoption and the impact.

Table 16. Summary of hypotheses

The factors associated with social media adoption	
Technology affordance factors	
H1	Connectivity positively influences social media adoption
H2	Persistence positively influences social media adoption
H3	Interaction positively influences social media adoption
H4	Visibility positively influences social media adoption
H5	Intimacy positively influences social media adoption
H6	Flexibility positively influences social media adoption
H7	Collaboration positively influences social media adoption
H8	Mobility positively influences social media adoption
Organization factors	
H9	Top management support positively influences social media adoption
H10	Business resources positively influence social media adoption
H11	Investment positively influence social media adoption
Environment factors	
H12	Competitive pressure positively influences social media adoption
H13	Customer pressure positively influence social media adoption
H14	External technology support positively influences social media adoption
The impacts of social media adoption	
H15 Technology paradoxes	
H15a	Social media adoption positively impact efficiency
H15b	Social media adoption positively impact control
H15c	Social media adoption positively impact competence
H15d	Social media adoption positively impact fulfilment
H16 Business performance	
H16a	Social media adoption positively impacts non-financial performance
H16b	Social media adoption negatively impacts financial performance

5.8 Chapter summary

This chapter has presented the conceptual model developed based on the literature review and the findings of quantitative study. Furthermore, the proposed relationships between the constructs have been formally expressed in the form of research hypotheses. Specifically, the chapter addressed the relationships between the 14 constructs, with the relationships between social media adoptions. Finally, the relationship between the two impact – technology paradoxes and performance with social media adoption is also discussed and hypothesised. Overall, 16 hypotheses have been proposed. The next chapter will outline the measurement of each construct that will be used to test the model empirically.

Chapter 6: Quantitative Research and Findings

6.1 Introduction

Chapter 6 focuses on the second stage of research design: confirmatory hypothesis testing. It opens by outlining procedures related to the collection of quantitative data including sampling, sample, data collection though online survey and the treatment of non-response. It then presents details of data analysis including the approach to testing with structural equation modelling.

The chapter is divided into three main sections: study set-up; data collection; and data analysis. Next section explains the development of the survey instrument that was used for the empirical data collection and highlights the main issues that required careful attention.

The section then goes on to report the activities related to data collection, discusses and justifies the sampling aims to describe the ethical considerations associated with this phase of the study in more detail. It explains the piloting procedure used describes the survey administration procedure.

The final substantive section of this chapter, section 6.5, presents the online survey data and its analysis, describing the steps taken to analyse the quantitative data and test the model developed in the Chapter 5. Before moving into a thorough discussion of the survey results, it presents a descriptive analysis of the survey respondents and then reports the online survey results and presents the findings.

6.2 Questionnaire development

The questionnaire development followed the procedures suggested by Churchill (1979) and DeVellis (1991). The questionnaire reflected the conceptual model, which in turn was developed based on the insights from the qualitative data analysis and review of the previous literature. The final model included 16 constructs. In the first step of questionnaire development, the concepts or “the basic building blocks of theory” (Blaikie, 2010, p. 115) were defined. The insights from the literature and the qualitative study helped to identify the domain of the constructs and this

involved searching for the relevant definitions for the research constructs in the published academic papers in the fields of information system and communication research. Next, the most appropriate definitions were evaluated in terms of their fit to the research context and ability to explain the core research constructs. Additionally, during the conceptualisation stage, the dimensions of the constructs were identified, where appropriate.

Finally, following the conceptualisation stage, the concepts were operationalised or transformed into variables (Blaikie, 2010). This stage involved a search for the measurement scales for the study constructs within existing literature. Existing scales were found and evaluated. At this stage, several decisions were also made, including regarding the minimum number of items to be used, where it was decided that each of the variables would be measured to achieve high levels of construct validity (Maydeu-Olivares & McArdle, 2003).

Next, the decisions regarding the appropriate measurement scales to be used for each of the variables were also made by addressing each of the variables separately. This process involved reviewing published papers in search for appropriate measurement scales for each variable. As a result, the measures were adapted based on the existing scales. All of the variables were operationalised as 7-point Likert-type questions (Brand, 2008), excluding the screening questions and questions related to the demographics of respondents. The operationalisation of each construct is outlined in the following section.

6.2.1 Instrument structure and measurement operationalization

As can be seen the final version of the survey was designed to cover the key areas of social media adoption and, more importantly, the TOE-related questions. However, prior to asking the questions, it is important to establish what Goddard and Villanova (1996, p.116) referred to as an “administration protocol”. It is viewed as a highly important element of the survey instrument (Boynton & Greenhalgh, 2004) as (i) it enhances the quality of the responses (Rowley, 2014) and (ii) it works as stimulus to boost response rate (Kaplowitz et al., 2011). In general, the protocol includes important information that helps the respondents to complete the survey in an effective and efficient way.

For this study, it is important to mention that the first page serve as a protocol for the survey, providing a clear articulation of the purpose of the research, its relevance to the respondents and the researcher's contact information. In addition, respondents were briefly provided with statements indicating the rationale behind their selection as candidates, as well as an estimate of the time it would take to complete the survey. The introductory page also presented information on the code of conduct followed in this research phase and briefly explained how confidentiality and anonymity of the responses would be guaranteed. Overall, the final version of the survey had eight sections and was comprised of 33 questions. Table 17 presents an overview of the structure of the survey instrument. Each section will now be briefly introduced and explained.

Table 17. Overview of the survey structure

Section	Area	No of items
1	Respondent-demographic information	3
2.	Respondent – business general information	5
3.	Social media adoption	3
4.	Technology affordance factors	8
5.	Organizational factors	3
6.	External environment factors	3
7	Impact	8
8.	Respondent-respond to survey	1

Background information about respondents is common practice in survey research (Blair, Czaja & Blair, 2013). Section 1 was therefore designed to capture demographic information from the respondents, and elicit information on their enterprises/businesses, including their use and of social media platforms. This was divided into three areas: Section 1 (Respondents demographic information), Section 2 (business general information) and Section 3 (General information on social media usage among the surveyed enterprises). The overwhelming majority of the measures for items in the three sections were adopted from previously validated studies in the IT innovation.

In the Section 1, three questions (Q1-Q3) were used to measure respondents' demographics characteristics. All questions were measured using a nominal scale and were included in the main analysis and as the basis for the descriptive analysis. Table 18 summarises the questions included in this section, the categories and how each question was coded.

Table 18. Questions on respondent's demographic information

Question no.	Demographic information	Categories
Q1	Gender	Male Female
Q2	Age	Below 25 25 to 34 35 to 44 45 to 54 55 to 64 65 and above
Q3	Education qualification	No formal qualification High school Technical & vocational training Professional qualification Undergraduate Postgraduate Others

Section 2 comprised five questions to elicit background information about the enterprise. The included questions were about the enterprise's age, size, annual sales, business activity and scope. These items also were measured using a nominal scale and included in the main analysis and as the basis for the descriptive analysis. Items that measured the enterprise's age were adopted from Al Barwani et al. (2014).

The measurement of size was based on the definition of SMEs by SMIDEC, Malaysia, as illustrated in Table 19. The four categories used to measure market scope were taken from previous work in IT the innovation literature (Alshamaila, 2013; Ramdani, Chevers & Williams, 2013; Buonanno et al., 2005).

Table 19. Questions on respondent's business general information

Question no.	Business general information	Categories
Q4	Business sector	Services Manufacturing Agriculture Construction Mining & Quarrying
Q5	Year(s) of establishment	Less than a year 1 to 3 years 3 to less than 5 years More than 5 years
Q6	Annual sales figure	Less than RM300.000 RM300,000 to less than RM3 million RM3 million to less than RM15 million RM15 million to less than RM50 million More than 50 million
Q7	Total number of employees	Less than 5 6 to 74 75 to 199 More than 200
Q8	Market scope	Local State/Regional National International

Section 3 comprised a series of questions (Q9- Q11) about adoption of social media in SMEs to categorise respondents into adopters and non-adopters. The first question in this section was designed to represent the dependent variable, response outcome: adopt or not adopt. This item was adopted from Jelinek et al. (2006). In addition to this question, the respondents of adopting enterprises were asked about what social media platforms their enterprises use and the purposes of use. Table 20 summarises the question included in this area of the survey, the categories and how each question was coded.

Table 20. Questions on respondent's social media adoption

Question no.	Social media adoption	Categories
Q9	Type of social media used	Facebook Instagram Twitter Whatsapp Telegram Blog Wechat LinkedIn Google+ Others
Q10	Purpose of adoption	Employee management Attract new customer Increase customer awareness Customer service activities To receive customer's feedback Customer relations Public relations Business networking Getting business referrals Cultivate relationship Interact with suppliers Information sharing and search Conduct market research Communicate brand Others
Q11	Social media adoption	Source : Jelinek et.al (2006)

Sections 4, 5 and 6 comprised a series of statements representing factors related to the three TOE contexts. In this part of the survey, it was decided to use closed-ended questions as this type of question serves to elicit data in a form that is easy to handle (Bee & Murdoch-Eaton, 2016; Boynton & Greenhalgh, 2004). The measurement of all of the TOE items in the three sections was anchored on a seven-point Likert scale, which is widely-used rating format to indicate a degree of agreement and disagreement with a statement or set of statements (Croasmun & Ostrom, 2011; Allen & Seaman, 2007; Bertram, 2007). The response to each statement is assigned a numerical value ranging from 7 for 'strongly agree' to 1 for 'strongly disagree'. The obtained values of all the responses to the statements of each particular item may then be analysed. Section 7 was also a closed-ended question with the same seven-point Likert scale anchor which comprises a series of statements representing the impact of social media adoption to technology paradoxes and business

performance. The description of sections 4, 5, 6 and 7 of the survey are given below, with accompanying Table 21 to illustrate the factors included in each section, the operational measures used and the sources of the measurement from the literature.

In the final section, one open-ended questions were asked aimed to seek additional comments about the research topic. At the end of the instrument, a simple message to thank the respondents for their time and effort in completing the survey was added as this was advocated by Rowley (2014) and Reynolds (2006).

Table 21. Definitions and development of measurement

Construct	Definition	Development of measures
Connectivity	Connectivity is conceptualized as social media affords SMEs to have constant and continuous communication that allow business to be closely connected with stakeholders and multitasking workers.	The set of questions adapted from Fawcett et.al (2007) with Cronbach's alpha > 0.86 and factor analysis more than 0.7. It was anchored on a 7-point Likert scale (7: strongly agree, 1: strongly disagree).
Persistence	Persistence is conceptualized as social media affords SME to create, update and access the lasting information related to business.	The set of questions adapted from Yates, Wagner and Majchrzak (2010) to measure contribution role behaviours of organization and was anchored on a seven-point Likert scale (7: never, 1: all the time)
Interaction	Interaction is conceptualized as social media affords SME media to communicate and interact with others for business benefits.	The set of questions adapted from Park, Kee and Valenzuela (2009) showing high levels of internal consistency and temporal reliability, Cronbach's alpha > 0.81. It was anchored on a seven-point Likert scale (7: strongly agree, 1: strongly disagree)
Visibility	Visibility is conceptualized as social media affords SME to make knowledge, preference and public presence of business easily and frequently seen by others that lead to influence perception of public.	The set of questions adapted from Drèze and Zufryden (2004) which measured Internet Visibility Index from 5000 sample by high correlated parallel form reliability test.
Intimacy	Intimacy is conceptualized as social media affords SME to initiate, develop and maintain ongoing relationship with self-disclosure and trust that enable users to enhance and maintain quality in those networked relationships.	The set of questions was adapted from Vitak (2012) which presents a model including disclosures, privacy and social capital to measure social media engagement. It was anchored on a five-point Likert scale (5: strongly agree, 1: strongly disagree).

Flexibility	Flexibility is conceptualized as social media affords SME to help the business break down its institutionalized processes and explore new alternatives in business-related tasks and activities.	For the construct of flexibility adapted measurements from Zhou and Wu (2010) to examines the role of technological capability and flexibility in innovation. A 7-point Likert-type scale was used, ranging from 1 (strongly disagree) to 7 (strongly agree).
Collaboration	Collaboration is conceptualized as SME ability to utilize social media to perform a complex interdependent and interactive works by having a mutual understanding and share resources toward a collective goal.	The set of questions 1 to 3 was adapted from Cardon & Marshall (2015) which measured social media use for work and collaboration, while question 4 and 5 was adapted from Marion, Barczak, & Hultink (2014).
Mobility	Mobility is conceptualized as the ability of SME to create mobile enterprise when employees can exist separately of the geographic constraints of office.	The set of questions adapted from Hoang et.al (2008) with Cronbach's alpha > 0.934 and was anchored on a seven-point Likert scale (7: strongly agree, 1: strongly disagree)
Top management support	The role of top management support, which is considered a key enabler in the adoption decision for technological innovations in SMEs	Adapted measurements from Chong and Chan (2012) used the measurement on structural equation modelling analysis on RFID technology diffusion. Responses to the items were made on a five-point Likert scale format ranging from 1 (strongly disagree) to 5 (strongly agree).
Business resources	Resources, mainly money, expertise and technical IS experience, all of which make it difficult for SMEs to formulate technology adoption plans and establish their needs and goals with regards to technology use (Durkin, McGowan and McKeown, 2013; Kannabiran and Dharmalingam, 2012).	The construct adapted measurements from Chong and Chan (2012) to use structural equation modelling analysis on RFID technology diffusion. Responses to the items were made on a five-point Likert scale format ranging from 1 (strongly disagree) to 5 (strongly agree).
Competitive pressure	Competitive pressure is conceptualized as the degree to which a business is affected by competition in the market	Chong and Chan (2012) used the measurement on structural equation modelling analysis on RFID technology diffusion. Responses to the items were made on a five-point Likert scale format ranging from 1 (strongly disagree) to 5 (strongly agree).
Customer pressure	Conceptualized as the degree to which the business's customers	Adapted measurements from Jelinek et.al (2006) that used the

	who have adopted an innovation pressure the business to use it	measurement on sales technology adoption. Responses to the items were made on a seven-point Likert scale format ranging from 1 (strongly disagree) to 7 (strongly agree).
External technology support	The breadth of external technology assistance of a firm is defined as the number of different technology providers that the firm utilises for its external technology acquisition	For the construct of external technology support is adapted measurements from Ifinedo (2011) to explore e-business acceptance in SMEs. The measurement items were anchored on a 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).
Technology paradox	Usage paradoxes is conceptualized as the existence of simultaneous opposite assumptions, conflicting conclusions derived by advantages or profits gained from adopting social media in SME.	For the construct of usage paradox adapted measurements from Johnson, Bardhi and Dunn (2008). Five of six proposed paradoxes are selected: efficiency/inefficiency, control/chaos, fulfill needs/create needs, competence/incompetence, freedom/enslavement.
Performance (Non-financial dimension)	Performance is conceptualised as SME ability to use social media to achieve the degree of fulfilment of managerial goals in business practices and their realized outputs by the end of a certain period (Porter 1991)	For the construct of performance (non-financial dimension) adapted measurements from Molla and Heeks (2007) in study to explore e-commerce benefits for businesses in a developing country. A 5-point Likert-type scale was used, ranging from 1 (strongly agree) to 5 (strongly disagree)
Performance (Financial dimension)	Performance is conceptualised as SME ability to use social media to achieve the degree of fulfilment of managerial goals in business practices and their realized outputs by the end of a certain period (Porter 1991)	For the construct of performance (financial dimension) adapted measurements from Gok and Peker (2015).

Table 22. Operationalization of study constructs

Construct & Definition	Items	Source	Operational measure (items)
Connectivity	To what extent do you agree with the following statements as they relate to your business: 1. Social media are highly integrated throughout the business activities 2. Social media are highly integrated within the firm 3. Adequate social media linkages exist with customers 4. Adequate social media linkages exist with suppliers	Fawcett et.al (2007)	4
Persistence	To what extent do you agree with the following statements: 1. Our business constantly creates content to start a discussion in social media. 2. Our business always give comment on previous chat on social media. 3. In our business, we frequently rewrite and reorganize previous social media content 4. In our business, we regularly integrate ideas that have been posted in social media onto existing content	Majchrzak, Wagner and Yates (2006)	4
Interaction	To what extent do you agree with the following statements: 1. Our business meets more customers interested in our products or services in social media 2. Our business often receives comments and feedback in social media 3. Our business always talks about general topic with others in social media 4. The information about business events, product and services is always available in social media	Park, Kee and Valenzuela (2009)	4
Visibility	To what extent do you agree with the following statements: 1. Our business is consistently appear in advertising and promotion social media. 2. In business, we frequently listed in search engine that redirect to our social media.	Dreze and Zufryden (2004)	5

	3. Our business is easily spotted in viral news or forwarded message. 4. Our business is always can be identified using location check-in and tagging in social media. 5. Our business is highly noticeable from photos, banners and video shared in social media.		
Intimacy	To what extent do you agree with the following statements as they relate to your business: 1. Social media provide a safe environment to transact private information. 2. Social media offer a reliable information from trusted users. 3. Recommendation in social media is highly valuable for our business. 4. Social media provides a platform for trusted business community.	Vitak (2012)	4
Flexibility	To what extent do you agree with the following statements: 1. Social media affords my business to offer a diverse products or services to market. 2. Social media affords my business to offer products/services for a particular customer. 3. Social media afford my business to support a broad demand of product/services. 4. Social media affords my business to re-organize to a different structure based on activity. 5. Social media affords my business to re-distribute resources to support business' strategies.	Zhaou and Wu (2010)	5
Collaboration	To what extent do you agree with the following statements: 1. Social media allows team members to produce higher-quality works. 2. Social media allows teams member to support new product or services development process more effectively. 3. Social media allows team members to establish work constantly with external entities (e.g customers, suppliers etc)	Marian, Barczak and Hultink (2014)	3

Mobility	To what extent do you agree with the following statements: 1. Social media affords my staff to work away from office more frequent. 2. Social media affords the staff to regularly fulfil their daily responsibility remotely. 3. Social media affords the staff to work more efficiently away from office.	Hoang et.al. (2008)	3
Top management support	To what extend do you agree with the following statements: 1. Top management actively participates in establishing a vision and formulating strategies for utilizing social media. 2. Top management communicates and encourage its support for the use of social media. 3. Top management is aware of the benefits and risk of these new technologies.	Chong and Chan (2012)	3
Business resources	To what extend do you agree with the following statements: 1. Our business uses social media because we have the technical experience with the technology. 2. Our business uses social media because we have the technical knowledge with the technology. 3. Our business uses social media because we have the skills, with the technology.	Chong and Chan (2012)	3
Investment	To what extend do you agree with the following statements: 1. Our business has high annual spending on hardware and software to support social media. 2. Our business has annual spending on maintaining social media. 3. Our business has high annual spending on personal to support social media. 4. Our business has high annual spending for training on social media.	Chong and Chan (2012)	4
Competitive pressure	To what extend do you agree with the following statements: 1. My business experience competitive pressure to implement social media.	Chong and Chan (2012)	3

	2. My business will have competitive disadvantage if we do not implement social media. 3. My business would have experienced a competitive disadvantage if social media had not been adopted.		
Customer pressure	To what extend do you agree with the following statements: 1. Our customers demand our business social media existence. 2. Our customers show great interest to our product/services when we use social media. 3. The fact that our business use social media is very appealing to our customers. 4. Our customers expect us to use social media.	Jelinek et.al (2006)	4
External technology support	To what extend do you agree with the following statements: 1. Consultants in the area are actively promoting social media. 2. Consultant are encouraging our business to adopts social media by providing us with training session. 3. Our business can obtain support easily from local consultant as we implement social media.	Infinedo (2011)	3
Technology paradox	*Dimension: Efficiency/inefficiency* Social media usage in our business had: 1. Save time on business processes 2. Lessen time to perform business activities 3. Reduced effort to manage staff online 4. Speed up business routine *Dimension : Control/chaos* To what extend do you agree with the following statements: 1. Social media manage secured access to our business private information. 2. Social media facilitate a complete business activity monitoring. 3. Social media has proper operating protocol. *Dimension: Freedom/enslavement*	Johnson, Bardhl and Dunn (2008)	17

	To what extend do you agree with the following statements: 1. Social media makes our business less dependent on individuals to help manage the business. 2. Social media do not require to be constantly checked for message, comment of feedback. 3. Social media do not need to be attended too often, *Dimension:* *Competence/incompetence* To what extend do you agree with the following statements: 1. Social media has definitely improved our business competency. 2. Social media has improved our business ability to manage marketing and customer relation. 3. Social media made the business task simpler to perform by staff. *Dimension : Fulfill/create need* 1. Out business does not need extra devise to operate social media. 2. Our business does not need additional technology so support social media. 3. Our business does not need additional staff to handle social media. 4. Our business does not need extra training to manage our social media.		
Performance (Non-financial dimension)	Social media usage in our business had: 1. Enhanced customers service 2. Increase customer loyalty and retention 3. Improved company image 4. Improved competitive position 5. Improved internal communication 6. Enables easier access to market information	Molla and Heeks (2007)	6

Performance (Financial dimension)	Social media usage in our business had: 1. Increased in sales transactions 2. Increased the business revenue. 3. Reduced the cost of operation. 4. Reduced the cost of advertising and promotion.	Gok and Peker (2015)	4

6.3 Data collection activities

Data collection included three main preparatory activities: sampling; addressing ethical considerations; and piloting. This section begins with the ethical considerations approval followed by the piloting procedure and later the survey distribution to the identified sample of respondents.

6.3.1 Ethical considerations

Ethical considerations are argued by Ritchie et al. (2013) as being the "heart of high-quality research". Thus, highlighting and outlining ethical issues are imperative in all types of survey, including online surveys (Bakla, Çekiç & Köksal, 2013; Buchanan & Hvizdak, 2009; Buchanan, 2004). It was, therefore, essential to ensure that this research complied with the principles of the ethical research and the ethical procedures of the university.

Ethics approval was therefore sought and obtained from the Ethics Committee at University of Glasgow before the commencement of data collection for this phase of the research. In broad terms, similar ethics guidelines and procedures to those outlined in conducting phase one of research were followed. A key consideration in relation to ensuring good ethical practice when conducting an online survey is to familiarise the respondents with the ethical principles and code of conduct followed in the research (Bakla, Çekiç & Köksal, 2013; Hewson & Buchanan, 2013; Kelley et al., 2003). One potential benefit of doing this is to help to establish trust with the respondents (Buchanan & Hvizdak, 2009). It is also vital to pay attention to core ethical issues such as obtaining informed consent from the potential respondents, and being clear in relation to privacy, confidentiality and anonymity concerns (Callegaro, Manfreda & Vehovar, 2015; Fielding, Lee & Blank, 2008; James & Busher, 2007).

Accordingly, in this study, the introductory part of the survey provided explicit information that guided the respondents in relation to the ethical principles and procedures adopted in this phase of the research and provided details about the general nature of the study. Also, it was explicitly made clear to potential respondents that their participation was voluntary and that they had the right to withdraw at any time with no consequences. Respondents were provided with the contact details of the researcher, in case further clarifications were required in relation to the research. The consent sheet included an explicit statement so that respondents could explicit indicate that they had read and understood the consent information.

Confidentiality and anonymity are two other important issues in the conduct of any research (Burns & Burns, 2008; Walford, 2005). In this study, respondents were assured that their identities, as well as their enterprises' information, would be kept confidential, that the anonymity of responses was guaranteed, and that their responses would be used only for research purposes.

Other ethical issues, such as the security of the collected data, data transmission and data storage, are major issues of concern relevant to online survey research for which careful consideration is required. It is, therefore, important to assure respondents that their responses are protected and will kept securely. In view of this, respondents were given brief information about how the collected data were to be stored and managed and they were invited to visit an online resource that provided more information on the security of the SurveyMonkey tool.

6.3.2 Piloting

The survey was pilot tested on a small number of participants to evaluate the properties of the scales. The pilot study was carried out during the period of 2 weeks. The researcher used two approaches to recruiting participants. First, the owner or manager were contacted via direct messages, where the researcher explained the purpose of the study and enquired about the possibility to email the survey URL. It is suggested that pilot studies should include samples with a minimum of 10 – 30 respondents (Hill, 1998, as cited in Johanson and Brooks, 2009). This piloting produced 22 surveys that were accepted for the initial data analysis concerned with

checking the scales. A small number of issues were identified during the pilot and the survey was refined to address them. The responses from the pilot study were excluded from the final sample for analysis.

Having described the piloting activity, the following section presents details of how the final the survey was distributed and explains strategies used to improve the response rate.

6.3.3 Questionnaire administration

The survey was launched online on 15th December 2017 and closed on 15th January 2018. For the main survey, a bilingual (English and Malay) email was sent to the 868 SME owner-managers which had been identified as constituting the valid sample, inviting the respondents to participate in the study. The invitation contained the unique URL link to the online survey instrument hosted on Survey Monkey. Along with the link, the introductory part of the survey was designed to provide respondents with sufficient information about the research and the code of conduct, which were essential in order for respondents to make an informed decision about participation.

In surveys, nonresponse is considered a source of possible bias, which increases with the size of the nonresponding group. Amstrong and Overton (1977) described three methods of estimation: comparisons with known values for the population, subjective estimates, and extrapolation. Results from a given survey can be compared with known values for the population, however as the known values come from a different source instrument, difference may occur (Wahlberg & Poom, 2015). Some suggest subjective estimates of nonresponse bias would be useful. It is not clear how one should obtain these subjective estimates of bias. In this study, followed extrapolation methods are based on the assumption that subjects who respond less readily are more like non-respondent.

Nonresponse bias was tested in 3 samples of participants who are the close contact to the researcher, creating an initial 100% response rate. Reminders emails were sent a week after the first wave to motivate participation and increase the response rate. The next 2 questionnaire waves were voluntary, and response rates were much

lower. No substantial differences were found in term of increase number of participants on the third wave. Out of 868 surveyed SMEs, 431 responses were received. However, the number of emails returned as having incorrect addresses was 198. Hence, 405 responses were included as valid responses for analysis, representing a 49.65% (405/800) response rate.

When compare with other studies related to SMEs in Malaysia, it is important to note that the sample size for the study is substantially higher. For instance, in study to understand social media marketing and online SMEs by Musa et.al (2016) conducted a survey and obtained only 100 responses. This present study's sample size is also higher than that of the study by Sulaiman et al. (2015) who obtained a sample of 259 SMEs.

6.3.4 Study sample

This section presents an analysis of the responses to the set of questions presented in the survey instrument. This type of analysis forms the basis of every quantitative study and provides a simple description of the basic features of the collected data (Trochim & Donnelly, 2001). For this study, this includes analyses of: owners/managers' demographic characteristics; SMEs' demographic characteristics; and general questions about social media usage in the surveyed SMEs. In respect of the demographic characteristics of the owner-managers of the SMEs that participated in this survey, the examined characteristics include gender, age and educational level. Table 23 presents a summary of these data.

Table 23. Summary of respondents' demographic

Demographics	Frequency	%
Gender		
Female	211	62.6
Male	126	37.4
Total	337	100.0
Respondents' age		
Below 25	18	5.3
25 to 34	150	44.5
35 to 44	119	35.3
45 to 54	45	13.4

55 to 64	5	1.5
65 and above	0	0.0
Total	377	100.0
Educational qualification		
No formal qualification	4	1.2
High School	62	18.4
Technical & Vocational Training	18	5.3
Professional qualification	34	10.1
Undergraduate	151	44.8
Postgraduate	40	11.9
Others	28	8.3
Total	377	100.0

Although women-owned SMEs in Malaysia only accounted for 20.6% and 33.6% in term of distribution of workers engaged by gender (Department of Statistic Malaysia, 2016), women are more engaged in online activities (such as social media and banking) for 73.9% as compared to men, 62.8% (Malaysian Communications and Multimedia Commission,2017).

In terms of age group, the results show that respondents aged 25 to 34 years old comprised more than half of the total respondents (44.5%), and those aged 35 and 44 years was the second largest age group (with 35.3%). The other three groups accounted for slightly less than 20% of the sample.

On the question of educational attainment, the data show that the educational level off those sampled is generally high. 44.8% of respondents held a first degree as their highest qualification and those with postgraduate qualifications accounted for 11.9%. About 18.4% of the respondents' finished high school level, which was also similar to the proportion of respondents with a vocational, vocational and professional qualification (15.49%). About 8.3% respondents possess other qualification such as diploma and advanced certifications. Only 1.2% do not have any academic qualification. Overall, the data show that more than three-quarters of respondents had a minimum of some kind of college-level qualification.

In addition to demographic information related to the SME owners/managers, the survey also explored demographic characteristics of the sampled SMEs, including their year of establishment, size (number of employees and annual sales), business area and the industry sector in which they operated. Table 24 presents the relevant summary data.

Given the definition of SMEs in Malaysia, the highest proportion (75.1%) of the sampled enterprises fell into the micro-business category (fewer than five employees), while the other two categories, small-enterprises on manufacturing (five to 74 employees) and medium-enterprises (75 to 199 employees) accounts for 19.0% and 6.0% of the sample, respectively.

Table 24. Profile SMEs in the sample

Measure	Frequency	%
SME Size		
Annual sales		
Less than RM300K	237	70.3
RM300K to RM3million	77	22.8
More than RM3million to RM15million	11	3.3
More than RM15million to RM50million	12	3.6
Total	337	100.0
Number of Employee		
Less than 5	253	75.1
5 to 74	64	19.0
75 to 199	20	6.0
Total	337	100.00
Year(s) of establishment		
Less than a year	50	14.80
1 to 3 years	118	35.00
More than 3 years to 5 years	59	17.50
More than 5 years	110	32.60
Total	337	100.00
Business Sector		
Services	269	79.8
Manufacturing	46	13.6
Agriculture	14	4.2
Construction	8	2.4

Total	337	100
Business Area		
Local	191	56.7
National	65	19.3
Regional	65	19.3
International	16	4.7
Total	337	100.0

This finding is consistent with recently released SME data from SMECorp which suggests that more 75% of registered (693,670 establishments) SMEs are micro-enterprises (Department of Statistic Malaysia, 2016). Among the participant enterprises, (0 – 1) year enterprises accounted for only a proportion (14.8%) of the total sampled enterprises while the vast majority were businesses that had been in business for more than a year (35.0%). Overall, enterprises that had been operating for more than five years accounted for 32.6% of the sample, while those which had been in business for one to three years and three to five years made up 35.0% and 17.5% of the sample, respectively.

As far as the make-up of the sample by industry sector is concerned, the survey results indicate that the sample comprised SMEs from manufacturing (13.6%), construction (2.4%), and the agriculture (4.2%). Most of the sampled enterprises were from service sector (79.8%).

Regarding business area, the survey reveals that 76.0% of the surveyed SMEs focussed their business activities inside the country, with 56.7% having a local scope and 19.3% a national scope. The final area of questions in the initial section of the survey addressed social media-related issues. The respondents were asked another two questions: the platforms adopted; and the purpose of their use of the adopted platforms.

In response to the first question, show that Facebook, Whatsapp and Instagram were the three most popular social media platforms adopted by the sampled SMEs in Malaysia (Table 25). A significant percentage of SMEs (89.9%) that were surveyed indicated that they had a presence on Facebook. Of the 337 SMEs that had adopted social media, nearly three-quarters of were found to use Whatsapp. Instagram was

the third most widely used platform used by SMEs, with nearly 56% of the sampled enterprises reporting that they made use of the application. 43 respondents mentioned other type of social media including classified websites and another online platform such as Lazada.com, Shopee and Mudah.com.

Table 25. Common social media platform

Platform	**Responses**		**Cases Percentage (%)**
	Frequency	**%**	
Facebook	303	29.5	89.9
Instagram	187	18.2	55.5
Twitter	25	2.4	7.4
Whatsapp	266	25.8	78.9
Telegram	65	6.3	19.3
Wechat	33	3.2	9.8
Blogs	44	4.3	13.1
LinkedIn	18	1.7	5.3
Google+	46	4.5	13.4
Others	43	4.1	12.76
Total	1030	100.0	

The second question asked to the adopting enterprises aimed to elicit information on the purposes of using social media platforms. Table 26 presents the breakdown of the reasons given by respondents. Attracting new customers were found to be the key reasons for using social media, with 78.2% of the respondents identifying these uses. This result suggests that SMEs consider social media as a tool for marketing, promotion and advertising through which to create awareness among consumers. Also, the results indicate a good awareness of the significance of social media to “reach new customers” and “to communicate with customers” (66.7% and 47.7%, respectively).

In contrast, a smaller percentage of adopters use social media for employee management and partners relations (only 19.6% and 25.2%, respectively). Interestingly, none of the group of SMEs that were in their first year of business

activity used social media to manage employees and they only used in for external communication with customers. It is interesting to note that a reasonable percentage of SMEs used social media to gain benefits from getting business referrals as well as to conduct market research, with 37.7% and 34.1% respectively.

Table 26. Purpose of social media use

Purpose of use	**Responses**		**Cases Percentage (%)**
	Frequency	**%**	
Employee management	66	2.7	19.6
Attract new customers	277	11.3	82.2
Increase customer awareness	187	7.6	55.5
Customer service activities	151	6.2	44.8
Receive customer feedback	200	8.2	59.3
Customer relations	199	8.1	59.1
Partners relations	85	3.5	25.2
Public relations	117	4.9	34.7
Business networking	194	7.9	57.6
Getting business referrals	127	5.2	37.7
Cultivate relationships	121	4.9	35.9
Interact with suppliers	100	4.1	29.7
Information sharing and search	152	6.2	45.1
Conduct market research	115	4.7	34.1
Communicate brand	112	4.6	33.2
Advertising and promotions	250	10.2	74.2
Total	2453	100	

6.4 Approach to data analysis

The main data analysis was split into several key stages, including data cleaning, factor analysis, assessment of the measurement model and hypothesis testing. First, data screening was performed to identify any potential issues with the data. This included checking the data for any missing values, univariate and multivariate outliers, and assessment of normality assumptions – specifically the shape of distribution by examining the skewness and kurtosis measures.

Second, the data was assessed with regards to its applicability for factor analysis. The researcher used several approaches to ensure the appropriateness of the data for the factor analysis. Finally, SEM was utilised first to assess the measurement model, and further to test the structural model and the proposed hypotheses. SEM and its application in this research are discussed in detail further in the next section.

6.4.1 Data screening

Data screening is an important step that needs to be taken prior to any data analysis, as it allows resolving potential issues with the data. It is necessary to ensure that there are no issues that will affect the following statistical analysis. Data screening was performed on the main study sample (N = 405). This section discusses the following issues with regards to the data screening: checking the data SPSS file for any possible errors, missing data, outliers, and normality assessment.

First, the researcher checked the SPSS data file for any possible errors associated with data input. This was followed by transforming any negatively worded items to avoid the negative correlation between the positively and negatively worded items and any subsequent problems with reliability (Nunnally, 1978; Kline, 2009).

The data screening process involved a number of steps including checking for errors and looking for the values that fall outside the range. Next, is to check Min/Max value for all variables. 91 cases were removed. The cases removed were the cases when respondent has stopped to continue the survey on the demographic section (e.g gender, education). These cases were from the second round of data collection, anonymous respondents, which the survey URL were forwarded by the secretary of

the business associations to their members. Thus, the identity of respondents were unable to be identified for sending a request to complete the survey. From 431 responses, 337 cases are usable for further analysis.

Missing Value Analysis was used to explore patterns of missing values in data and the result help to determine missing data technique that appropriate. SPSS help to identify the amount of missing data and percentage of missing values for each variable separately by using the Frequency option. Missing value analysis helps address several concerns caused by incomplete data. If cases with missing values are systematically different from cases without missing values, the results can be misleading. Also, missing data may reduce the precision of calculated statistics because there is less information than originally planned. Another concern is that the assumptions behind many statistical procedures are based on complete cases, and missing values can complicate the theory required.

In the case, more than 5% of missing values. It is important to understand three typologies of missing value to identify the reason of the missing values. Missing values are random that may occur because the subject accidentally did not answer some questions. For example, the subject may be tired and/or not paying attention and misses the question. The dataset was imported from Survey Monkey, the possible mistakes from data entries is eliminated.

Roderick J. A. Little Test is to determine if missing data is missing in a random or non-random pattern (systematic). It assists in deciding which technique may be most appropriate for replacing missing data depend on whether the data is missing in random or systematic. Little's chi-square statistic for testing whether values are missing completely at random (MCAR) is printed as a footnote to the EM matrices. For this test, the null hypothesis is that the data are missing completely at random, and the *p* value is significant at the 0.05 level. If the value is less than 0.05, the data are not missing completely at random. The data may be missing at random (MAR) or not missing at random (NMAR).

Figure 6. EM estimated statistic

EM Estimated Statistics

ADP1	ADP2	ADP3	ADP4	CNT1	CNT2	CNT3	CNT4
4.92	4.66	4.7745	4.8309	5.3603	5.5585	4.7584	4.9303

a. Little's MCAR test: Chi-Square = 2350.920, DF = 2426, Sig. = .860

In this analysis, researcher can accept the null hypothesis with the *p* value is significant at .860 and conclude that the data is missing randomly.

The methods for handling missing data generally fall under 3 categories (Buhi, Goodsons & Neilands, 2008): deletion, direct estimation and imputation. All methods have limitations. Deletion can reduce sample size substantially and diminish analysts' ability to find statistically significant effects. Besides the missing values is more than 5% thus this technique will not be selected.

Research suggests that mean substitution was the least effective and the EM algorithm produced estimates closest to those of the original variables (Musil et al., 2002). This also supported by Gold and Bentler (2009) results favored the expectation-maximization methods, regardless of sample size, proportion of data missing, and distributional characteristics of the data. Thus, EM algorithm were selected technique to handle the missing data.

The next step is to test the normality assumptions, in other words – that the data is normally distributed. Normality refers to 'a symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle, with smaller frequencies towards the extremes' (Pallant, 2005, p.53). The two measures of interest with regards to normality are skewness and kurtosis (Pallant, 2005; Tabachnick & Fidell, 2013). Skewness reflects "the symmetry of the distribution", while kurtosis refers to the "peakedness of distribution" (Tabachnick & Fidell, 2013, p. 113).

The null hypothesis is that the data is normally distributed, and the alternative hypothesis is that the data is not normally distributed. A non-significant result (sig value is more than 0.05) indicates normality. However, in this case, most of the variable have the Sig value of .000, suggesting the violation of the assumption of normality. With reasonably large samples, skewness will not "make a substantive difference in the analysis" (Tabachnick & Fidell, 2007). Kurtosis can result in an under-estimate of the variance, but this risk is also reduced with a large sample (200+ cases) (Tabachnick & Fidell, 2007). Thus Tabachnick & Fidell (2007) recommend inspecting the shape of the distribution using the histogram. After inspecting visually, the all the variables have a normal distribution. The results of normality assessment as estimated by the values of skewness and kurtosis; as well as further measures of mean and standard deviation are presented in Appendix I.

It is visible from the table in Appendix I that the levels of kurtosis do not > 7 in any of the variables, while skewness has a good indicator across all variables. These indicators have the skewness values slightly deviating from the [-1 to +1] range. The histograms show that all the variables are more or less normally distributed. Thereby, based on the findings of normality tests with regards to kurtosis and skewness values, which do not indicate strong violations of normality, it is decided not to take any data treatment.

The 5% Trimmed Mean give an indication of how much of the problem these outlying cases are likely to be. The 5% Trimmed Mean and Mean values for all variables are all similar. The value is not too much different from the remaining distribution (between -0.20 to 0.05), the cases in the files were retained (Pallant, 2013). Tabachnick & Fidell (2007) suggest changing the values to a less extreme value thus including the case in the analysis yet not allowing the score to distort the statistics.

6.4.2 Structural Equation Modeling (SEM)

SEM has been used in a variety of settings, including strategy management thought (Cool et al., 1989; Simonin, 1999), customer satisfaction studies (Fornell, 1992; Fornell et al., 1995) and intellectual capital (Bontis, 1998; Bontis et al., 2000). SEM techniques have made it possible for researchers to examine theory and measures

simultaneously (Fornell & Bookstein, 1982). That is, SEM techniques provide researchers with the flexibility to model relations among multiple endogenous and exogenous latent variables, and simultaneously to construct the relations between latent variables and manifest variables.

Gefen et al. (2000) found that PLS, LISREL, EQS and AMOS are the most commonly used SEM techniques. LISREL, EQS and AMOS belong to the covariance-based SEM techniques while PLS belongs to the component-based SEM technique. Covariance-based SEM techniques estimate path coefficients and loadings by minimizing the difference between observed and predicted variance–covariance matrices (Byrne, 1994; Joreskog & Sorbom, 1989). Meanwhile component-based SEM technique estimates parameters similar to the principal component with a multiple regression approach. Unlike the covariance-based SEM techniques, the familiarity with PLS is relatively low (Hulland, 1999).

The covariance-based SEM techniques differ from the component-based SEM techniques in the basic assumptions. A covariance-based SEM technique estimates parameters by reproducing a covariance matrix as closely as possible to the observed covariance matrix while covariance-based SEM technique assumes a parametric model in which the distribution of data must require multivariate normal distribution (Hsu, Chen & Hsieh, 2006). Covariance-based techniques can lose predictive accuracy because of the factor indeterminacy problem. As a result, a covariance-based SEM technique is mainly for theoretical testing in which parameter estimations are the main concern. Specifically, in situations where prior theory is strong, covariance-based SEM techniques are more appropriate for measuring a SEM (Fornell, 1982). In contrast to the covariance-based SEM techniques, a component-based SEM technique aims to minimize errors in all endogenous latent variables.

In general, a covariance-based SEM technique requires a relatively larger sample than a component-based SEM technique. Chin (1998) suggested that it is theoretically possible to use formative relations in the covariance-based SEM techniques, but it may have a variety of problems (e.g. identification problems). In terms of robustness, Bacon (1999) concluded that covariance-based techniques are

also robust against violations of statistical assumptions. Overall, the covariance-based SEM techniques can more accurately estimate path coefficients than the component-based SEM techniques.

Chin (1995) pointed out that even with distribution violation, the covariance-based SEM techniques can be quite robust and may possibly produce better estimates of the population parameters than PLS. SEM represents a collection of statistical methods, which "…uses various types of models to depict relationships among observed variables, with the same basic goal of providing a quantitative test of a theoretical model hypothesized by the researcher" (Schumacker & Lomax, p. 2010). SEM is used to estimate the causal relationship between variables (Hoyle, 2012). It is often discussed as being a confirmatory approach, as it requires the researchers to formulate the hypothesis and draw the relationships between the variables, thereby formulating the model (Kline, 2016). SEM allows the researcher to conduct reliability and validity tests. SEM has been widely applied and supported as a strong statistical tool in the marketing and consumer research (Baumgartner & Homburg, 1996; Steenkamp & Baumgartner, 2000).

SEM is a two-step technique, which includes testing a measurement model and a structural model (Khine, 2013). Prior to testing the hypothesized model, the researcher needs to estimate the measurement model. A measurement model is used to specify "…the relationship between observed variables and latent variables" (Khine, 2013, p. 6). The measurement model needs to be evaluated before testing the structural model, and this is done following several steps, which are discussed below. A measurement model can further show if the observed variables (or indicators of the construct) are strongly interrelated, or if there are indicators that are not strongly related to the rest, which may lead to the deletion of such indicators before testing the structural model (Khine, 2013).

First, the researcher needs to evaluate the model fit, assessing a number of model fit indices. Model fit shows the researcher if the overall measurement model is acceptable and valid, or how well "the data fit the model" (Khine, 2013, p. 14). Dagnino and Cinici (2016) suggest evaluating and reporting a number of fit indices, as some of them may be affected by the sample size, as well as the complexity of

the model. For this purpose, several indices are chosen to evaluate the goodness of fit of the model, including Chi-Square statistic (CMIN), CMIN/DF, RMSEA and CFI recommended by Kline (2005), and TLI further suggested by Hu and Bentler (1999). Chi-square (CMIN) compares the observed model to the predicted model, with lower values signalling good fit (Gravetter and Wallnau, 2011). Relative Chi-square (CMIN/DF) adjusts the Chi-square to the degrees of freedom to take into account model complexity, with values <2 advocated as a good fit, and values from 2 – 5 suggesting acceptable model fit (Kline, 1998). RMSEA (root mean square error of approximation) is one of the frequently reported and recommended model fit indices, which evaluates the "extent to which a model fits reasonably well in the population" (Brown, 2015). Here acceptable values should not exceed 0.08, whereas values < 0.05 are suggesting an even better fit (Westland, 2015). CFI (or comparative fit index) compares the proposed model to the null model (Bentler, 1992; Iacobucci, 2010), and is another frequently reported index, that is relatively not affected by sample size. Researchers discuss that values > 0.9 suggest acceptable model fit (Westland, 2015). Finally, Tucker-Lewis Index (TLI) is reported with recommended values > 0.9 indicative of good model fit (Hair et al., 1992; Hu and Bentler, 1999).

Finally**,** in addition to evaluating the estimates (or loadings) for all the indicators and the model fit indices, the researcher also needs to evaluate the reliability and validity of the measurement model. This is done by assessing the composite reliability and average variance extracted (AVE) for all the study constructs (Hair et al., 1992). This process is discussed in the next section. Following the assessment of validity and reliability of the measurement model and all of the study constructs the researcher can test the structural model. Structural model reports "the causal connections among the latent variables" (Blunch, 2008, p. 5), and allows the researcher to test the hypothesised relationships.

SEM is a confirmatory method providing a comprehensive means for assessing and modifying the measurement model of a latent construct. The procedure is called CFA. The method has the ability to assess the unidimensionality, validity and reliability of the measurement model (construct).

6.4.3 Confirmatory factor analysis

This section explains the method Maximum Likelihood estimation is used as a mode of estimation, as it constitutes a widely used and robust method that can also account for normality discrepancies (Byrne, 2010). An analysis of the correlation matrix between factors has then been conducted as the way to detect singularity or multicollinearity between factors.

With Confirmatory Factor Analysis (CFA), any item that does not fit the measurement model due to low factor loading should be removed from the model. CFA is performed for all latent constructs involved in a model. The researchers could run the CFA for every measurement model individually or using a pooled CFA. However, the pooled CFA procedure is more preferred. The assessment for each element is done as follow section.

i. Unidimensionality

Unidimensionality is achieved when the measuring items have acceptable factor loadings for the respective latent construct. In order to ensure unidimensionality of a measurement model, any item with a low factor loading should be deleted. For an already established item, the factor loading for an item should be 0.6 or higher.

The deletion should be made one item at a time with the lowest factor loading item to be deleted first. After an item is deleted, the researcher needs to run the new measurement model. The process continues until the unidimensionality requirement is achieved.

ii. Validity

Validity is the ability of instrument to measure what it supposed to be measured for a construct. Three types of validity required for each measurement model are (i) convergent validity, (ii) construct validity and (iii) discriminant validity.

Convergent validity is achieved when all items in a measurement model are statistically significant. The convergent validity could also be verified by computing the Average Variance Extracted (AVE) for every construct. The value of AVE should be 0.5 or higher to achieve the convergent validity. Construct validity,

meanwhile, is achieved when the Fitness Indexes for a construct achieved the required level. Discriminant validity is achieved when the measurement model is free from redundant items. AMOS will identify the pair of redundant items in the model in term of high Modification Indices (MI). The researcher could delete one of the items and run the model. The researcher could also set the correlated pair as "free parameter estimate". Another requirement for discriminant validity is the correlation between exogenous constructs should be less than 0.85.

iii. Reliability

Reliability is the extent of how reliable is the said measurement model in measuring the intended latent construct. The assessment for reliability for a measurement model could be made using the following criteria.

a. Internal reliability – This reliability is achieved when the Cronbach's Alpha coefficient is greater than 0.7 which calculated in SPSS.

b. Composite Reliability – The measure of reliability and internal consistency for a latent construct. A value of CR > 0.6 is required to achieve composite reliability for a construct. (CR is calculated using the given formula) in Table 26.

c. Average Variance Extracted – The average percentage of variation as explained by the measuring items for a construct. An AVE > 0.5 is required (AVE is calculated using the given formula).

Table 27. AVE and CR calculation formula

AVE= $\sum K^2 / n$	K = Factor loading of every item
CR = $(\sum K)^2 / [(\sum K)^2 + (\sum 1- K^2)]$	n = Number of items in a model

6.4.4 Evaluating model fitness

In SEM, there is several Fitness Indexes that reflect how fit is the model to the data at hand. However, there is no agreement among researchers which fitness indexes to use. Hair et al. (1995, 2010) and Holmes-Smith (2006) recommend the use of at least one fitness index from each category of model fit. There are three model fit

categories namely absolute fit, incremental fit, and parsimonious fit. The choice of index to choose from each category to report depends on which literature is being referred. The information concerning the model fit category, their level of acceptance, and comments are presented in Table 28.

Table 28. The fitness indexes and the level of acceptance

Name of category	Name of Index	Level of acceptance	Literature	Comments
Absolute fit	Chisq	P > 0.05	Wheaton et al. (1977)	Sensitive to sample size >200
	RMSEA	RMSEA < 0.08	Browne and Cudeck (1993)	Range 0.05 to 0.1 is acceptable
	GFI	GFI > 0.90	Joreskog and Sorbom (1984)	GFI = 0.95 is a good fit
Incremental fit	CFI	CFI > 0.90	Bentler (1990)	CFI = 0.95 is a good fit
	AGFI	AGFI > 0.90	Tanaka and Huba (1985)	AGFI = 0.95 is a good fit
	TLI	TLI > 0.90	Bentler and Bonett (1980)	TLI = 0.95 is a good fit
	NFI	NFI > 0.90	Bollen (1989)	NFI = 0.95 is a good fit
Parsimonious fit	Chisq/df	Chi square/ df < 5.0	Marsh and Hocevar (1985)	The value should be less than 5.0.

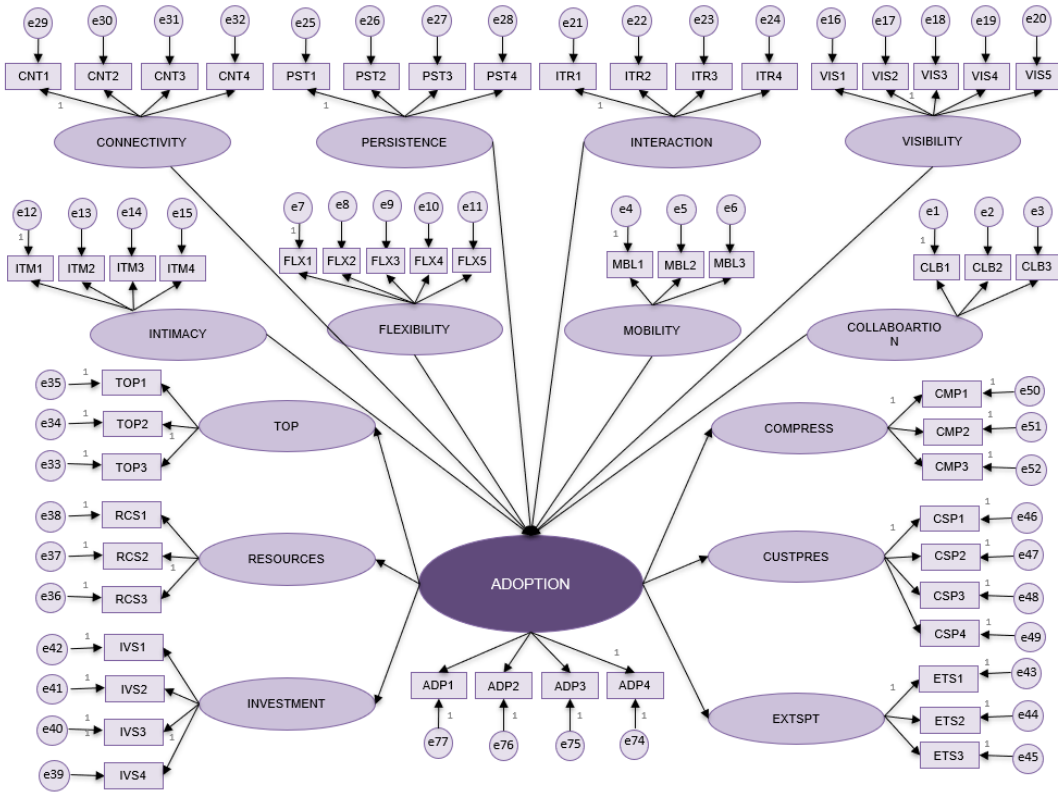
6.5 Hypotheses testing

Using the adapted measurement, the relationships with their antecedents and outcomes is tested in this chapter using SEM procedures. A CFA is computed first to assess the measurement model's reliability and validity, followed by statistics regarding the structural model.

6.5.1 Approach to hypothesis testing

The aim of the SEM detailed in this section is to test the set of hypotheses developed in the conceptual stages of this research. Figure 7 offers a reminder of the visual representation of the hypotheses.

Figure 7. Visual representation of the model



This section adopts a two-phase SEM analysis, focusing first on the measurement model to assess the factor structure, and then the structural model to test the hypothesised links between the variables and assess the fit of the full structural model with the data (Anderson & Gerbing, 1988).

For the measurement model, the logical series of steps as detailed in the scale development CFAs are applied: model identification, model estimation, goodness-of-fit evaluation and check of the parameter estimates. A CFA has been used to test the dimensionality of the scale and estimates the regression coefficients between the items and the latent constructs (Bagozzi, 1994). To achieve convergent validity, the regression coefficients must be statistically significant, and the model must show good fit values. Then, the SEM results are presented, and verification or rejection of the hypotheses examined.

6.5.2 Performing CFA for technology affordance construct

To overcome the problem of the large size of the model, it has been set to be estimated in a smaller model. Each model was estimated separately in five small model with one model was estimated using second order CFA.

Table 29. Approach in estimating model

Constructs	Estimation Approach
Technology Affordance Context	Second Order
Organization Context	First Order
Environment Context	First Order
Adoption Impact to Technology Paradoxes	First Order
Adoption Impact to Business Performance	First Order

All the assessment of measurement model is shown subsequently in this chapter, followed by structural model assessment. In this study, the researcher is estimating the Technology Affordance construct (main construct) on its eight sub-constructs namely Connectivity, Persistence, Interaction, Visibility, Intimacy, Mobility, Flexibility and Collaboration. The eight latent sub-constructs are measured using certain number of items. The researcher runs the CFA to validate the measurement models of the latent constructs for unidimensionality, validity, and reliability. The Second Order Construct is shown in Figure 8.

As shown in Table 30, all the fitness indexes for the constructs do not achieve the required level. When the factor loading was examined, there is no items below 0.6. Next the items redundancy was examined through inspecting the Modification Indexes (MI). The modification is suggested for every pair of error term when the correlation is high. The high correlation indicates that these two items are redundant or correlated.

Figure 8. Estimating the factor loading technology affordance construct

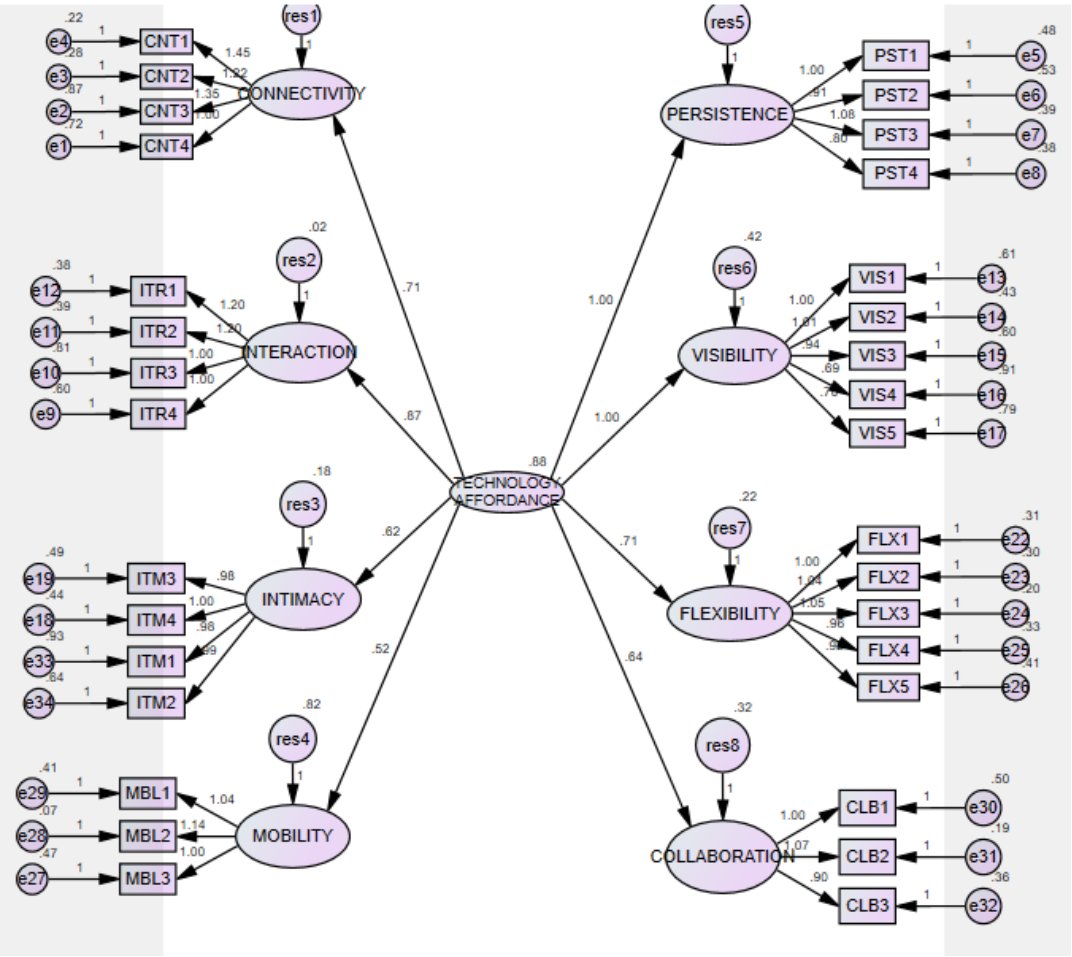


Table 30. The fitness indexes technology affordance measurement model

Name of category	Fitness Indexes	Index value
Parsimonious fit	Chisq/df	3.351
Incremental fit	CFI	.872
	NFI	.827
Absolute fit	GFI	.783
	RMSEA	.084

In order to implement the modification, the pair which has the highest MI was selected. Next, delete one item from the pair. In dealing with redundant items in the model, one should delete item that has a lower factor loading between the two items. Alternatively, the two correlated measurement errors of redundant items were set as ‘free parameter’. The new measurement model then been re-run.

Table 31. Fitness indexes technology affordance measurement model after deletion and modification

Name of category	Fitness Indexes	Index value	Comments
Parsimonious fit	Chisq/df	2.342	The required level is achieved
Incremental fit	CFI	.951	The required level is achieved
	NFI	.917	The required level is achieved
Absolute fit	GFI	.900	The required level is achieved
	RMSEA	.063	The required level is achieved

All fitness indexes have improved to the acceptable level after the suggested modifications are implemented to the model. Thus, no other modification is required and could proceed with further analysis.

Table 32. The standardized factor loading for each component

Sub-Construct		Construct	Std Factor Loading
VISIBILITY	<---	TECHNOLOGY_AFFORDANCE	.765
FLEXIBILITY	<---	TECHNOLOGY_AFFORDANCE	.807
COLLABORATION	<---	TECHNOLOGY_AFFORDANCE	.712
MOBILITY	<---	TECHNOLOGY_AFFORDANCE	**.472**
INTIMACY	<---	TECHNOLOGY_AFFORDANCE	.855
INTERACTION	<---	TECHNOLOGY_AFFORDANCE	.975
CONNECTIVITY	<---	TECHNOLOGY_AFFORDANCE	.833
PERSISTENCE	<---	TECHNOLOGY_AFFORDANCE	.888

The standardized factor loadings in Table 32 above are well above 0.6 for all components except for Mobility sub-construct. Thus, sub-construct namely Mobility should be dropped from the model. In other words, the Technology Affordance construct consists of these seven components. The deletion of Mobility sub-construct has also increase model fitness index. Below presents the unstandardized regression weight.

Figure 9. The regression weights of technology affordance on its sub-constructs

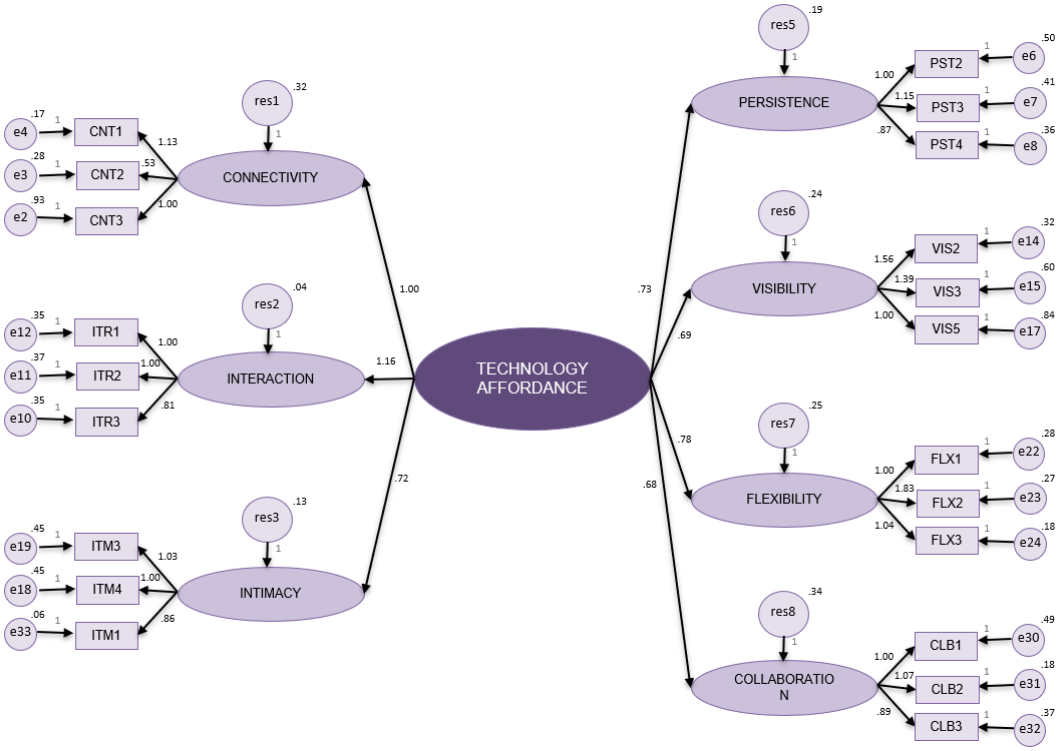


Table 33. The probability value technology affordance to the sub-constructs

Sub-Construct		Construct	Estimate	S.E	C.R	P	Results
VISIBILITY	<---	TECHNOLOGY_AFFORDANCE	.692	.071	9.794	***	Significant
FLEXIBILITY	<---	TECHNOLOGY_AFFORDANCE	.782	.062	12.629	***	Significant
COLLABORATION	<---	TECHNOLOGY_AFFORDANCE	.675	.066	10.286	***	Significant
INTIMACY	<---	TECHNOLOGY_AFFORDANCE	.717	.063	11.306	***	Significant
INTERACTION	<---	TECHNOLOGY_AFFORDANCE	1.159	.076	15.185	***	Significant
CONNECTIVITY	<---	TECHNOLOGY_AFFORDANCE	.999	.086	11.624	***	Significant
PERSISTENCE	<---	TECHNOLOGY_AFFORDANCE	1.000	Reference Point			

*** Indicate highly significant, p-value < 0.001

The probability values in Table 33 above indicate that the second order construct Technology Affordance has significant effects consists of all seven first order constructs.

Table 34. CFA results for the measurement model

Construct	Item	Factor Loading	Cronbach's Alpha (>0.7)	CR (> 0.7)	AVE (> 0.5)
CONNECTIVITY	CNT1	0.94	0.87	0.89	0.72
	CNT2	0.87			
	CNT3	0.73			
	CNT4	This item was deleted due to item redundancy			
PERSISTENCE	PST1	This item was deleted due to item redundancy			
	PST2	0.80	0.87	0.87	0.68
	PST3	0.87			
	PST4	0.81			
INTERACTION	ITR1	0.86	0.83	0.84	0.64
	ITR2	0.86			
	ITR3	0.66			
	ITR4	This item was deleted due to item redundancy			
VISIBILITY	VIS1	This item was deleted due to item redundancy			
	VIS2	0.90	0.84	0.83	0.63
	VIS3	0.81			
	VIS4	This item was deleted due to item redundancy			
	VIS5	0.64			
INTIMACY	ITM1	0.69			
	ITM2	This item was deleted due to item redundancy			
	ITM3	0.74	0.77	0.76	0.52
	ITM4	0.73			
FLEXIBILITY	FLX1	0.86	0.90	0.90	0.76
	FLX2	0.85			
	FLX3	0.90			
	FLX4	This item was deleted due to item redundancy			
	FLX5	This item was deleted due to item redundancy			
MOBILITY	MBL1	This item was deleted due to low factor loading			
	MBL2	This item was deleted due to low factor loading			
	MBL3	This item was deleted due to low factor loading			
COLLABORATION	CLB1	0.76	0.85	0.85	0.66
	CLB2	0.90			
	CLB3	0.77			
ADOPTION	ADP1	0.76	0.90	0.90	0.70
	ADP2	0.87			
	ADP3	0.88			
	ADP4	0.83			

6.5.3 Performing CFA for organization context construct

A measurement model of Organization Context constructs is presented in Figure 10.

Figure 10. The measurement model combining all latent organization context constructs simultaneously

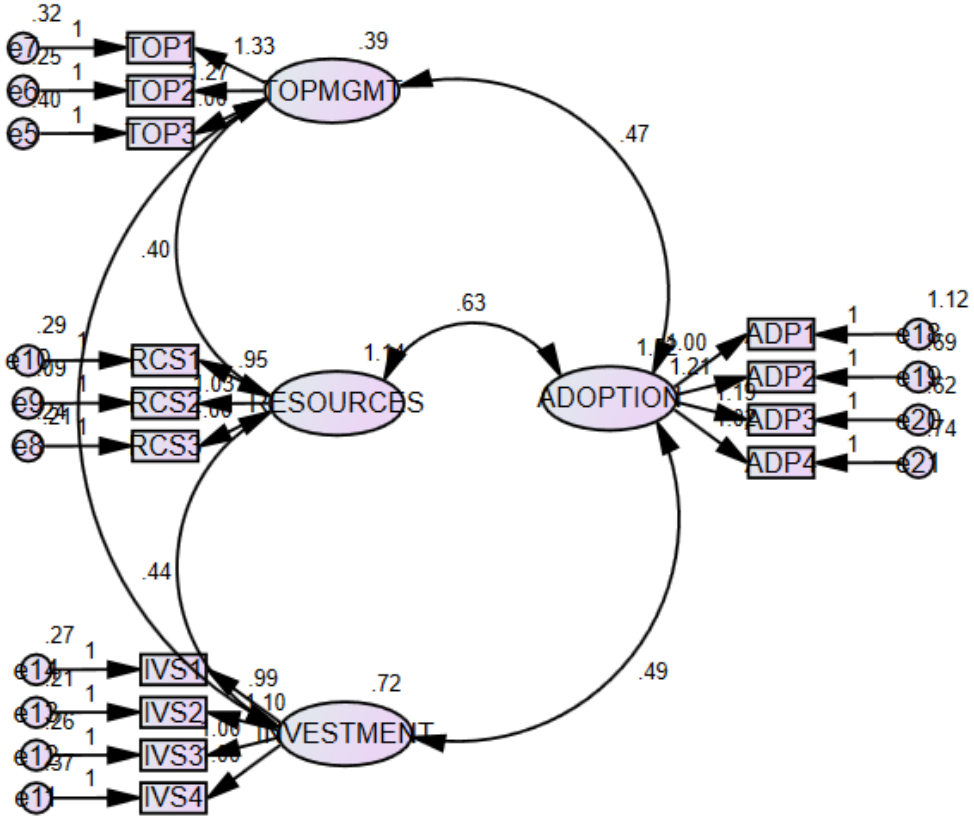


Table 35. Fitness indexes for organization context measurement model

Name of category	Fitness Indexes	Index value
Parsimonious fit	Chisq/df	4.453
Incremental fit	CFI	.934
	NFI	.917
Absolute fit	GFI	.881
	RMSEA	.101

As shown in Figure 10, some fitness indexes for the constructs do not achieve the required level. When the factor loading was examined, there were factor loadings that below 0.6. These items have caused the measurement model for the constructs to be poorly fit. Therefore, these items have to be deleted and run the new measurement. When the items redundancy was also being examined through inspecting the Modification Indexes (MI). In dealing with redundant items in the

model, two correlated measurement errors (e14 & e14) of redundant items were set as ‘free parameter’. The new measurement model then been re-run.

Figure 11. New factor loading after the items were modified

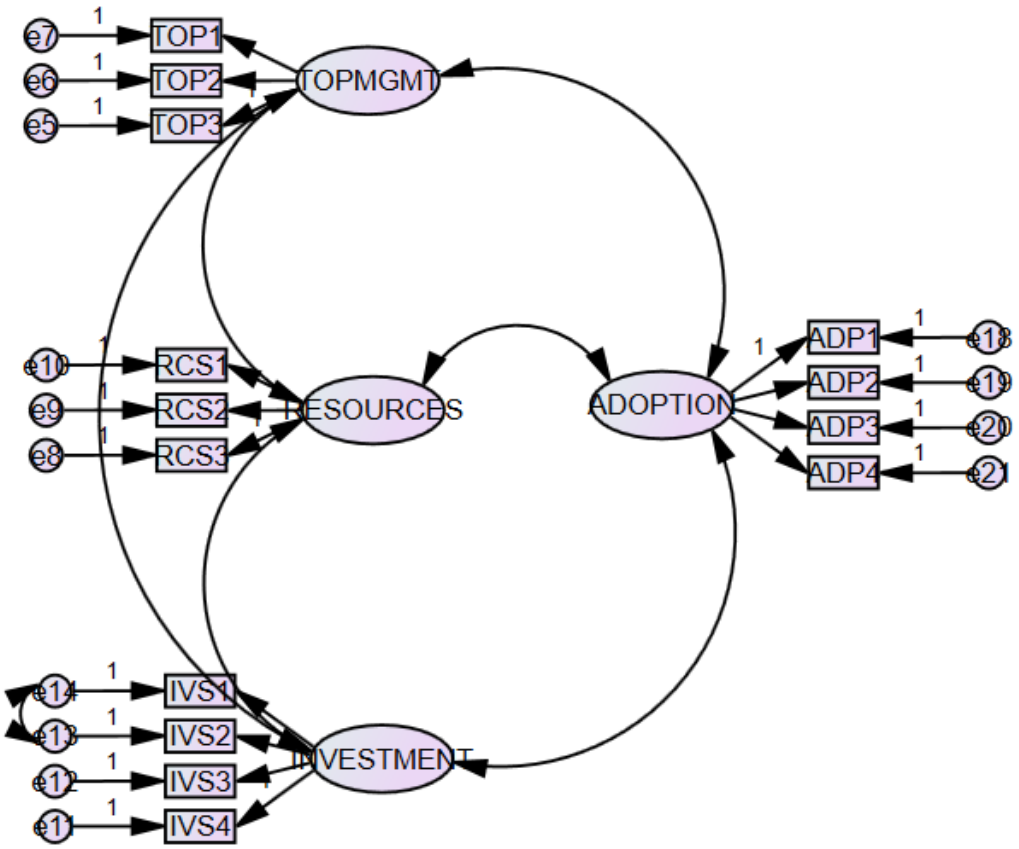


Table 36. Fitness indexes for organization context measurement model after modification

Name of category	Fitness Indexes	Index value	Comments
Parsimonious fit	Chisq/df	2.948	The required level is achieved
Incremental fit	CFI	.963	The required level is achieved
	NFI	.946	The required level is achieved
Absolute fit	GFI	.922	The required level is achieved
	RMSEA	.076	The required level is achieved

Table 37. CFA results for the measurement model after modification

Construct	Item	Factor Loading	Cronbach's Alpha (>0.7)	CR (> 0.7)	AVE (> 0.5)
TOP MANAGEMENT SUPPORT	TOP1	0.83	0.83	0.77	0.63
	TOP2	0.83			
	TOP3	0.71			
BUSINESS RESOURCES	RCS1	0.88	0.94	0.89	0.85
	RCS2	0.97			
	RCS3	0.91			
INVESTMENT	IVS1	0.85	0.92	0.92	0.73
	IVS2	0.90			
	IVS3	0.86			
	IVS4	0.81			
ADOPTION	ADP1	0.76	0.90	0.90	0.70
	ADP2	0.87			
	ADP3	0.88			
	ADP4	0.83			

The discriminant validity for all constructs is achieved when all SIC values are lower than AVE value.

Table 38. The discriminant validity index summary

Compare SIC and AVE	AVE	SIC1	SIC2	SIC3
ADOPTION	0.7005	0.22	0.23	0.37
TOP MANAGEMENT	0.6322	0.37	0.35	0.16
RESOURCES	0.8451	0.24	0.35	0.23
INVESTMENT	0.7311	0.22	0.16	0.24

6.5.4 Performing CFA for environment context constructs

A measurement model of Environment Context constructs is presented in Figure 12.

Figure 12. Measurement model combining all latent environment context constructs

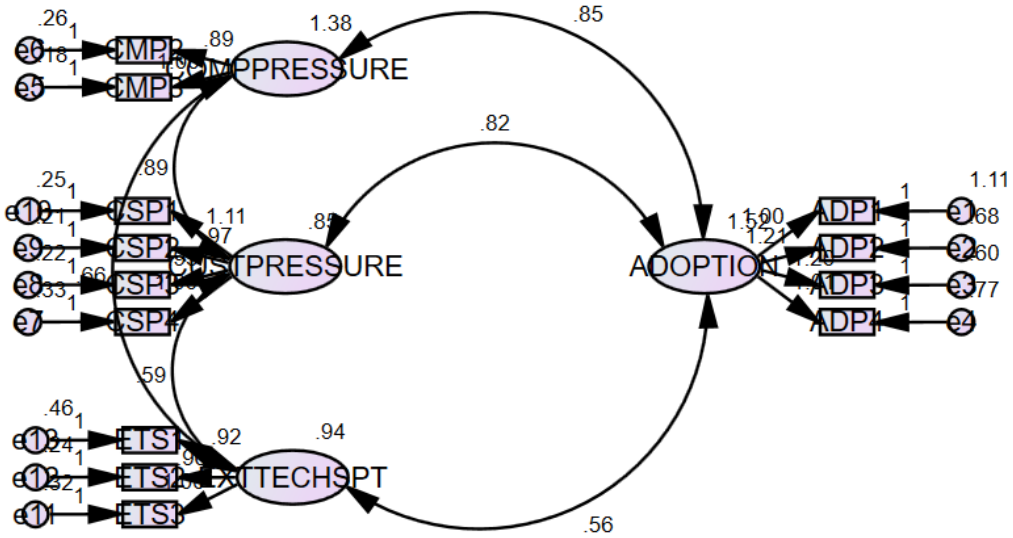


Table 39. Fitness indexes for environment context measurement model

Name of category	Fitness Indexes	Index value
Parsimonious fit	Chisq/df	5.391
Incremental fit	CFI	.932
	NFI	.919
Absolute fit	GFI	.879
	RMSEA	.114

As shown in Table 39, some fitness indexes for the constructs do not achieve the required level. When the factor loading was examined, there were factor loadings that below 0.6. These items have caused the measurement model for the constructs to be poorly fit. Therefore, these items have to be deleted and run the new measurement.

When the items redundancy was also being examined through inspecting the Modification Indexes (MI). In dealing with with redundant items in the model, one item was deleted and two correlated measurement errors of redundant items were set as ‘free parameter’. The new measurement model then been re-run.

Figure 13. Fitness indexes for environment context measurement model after modification

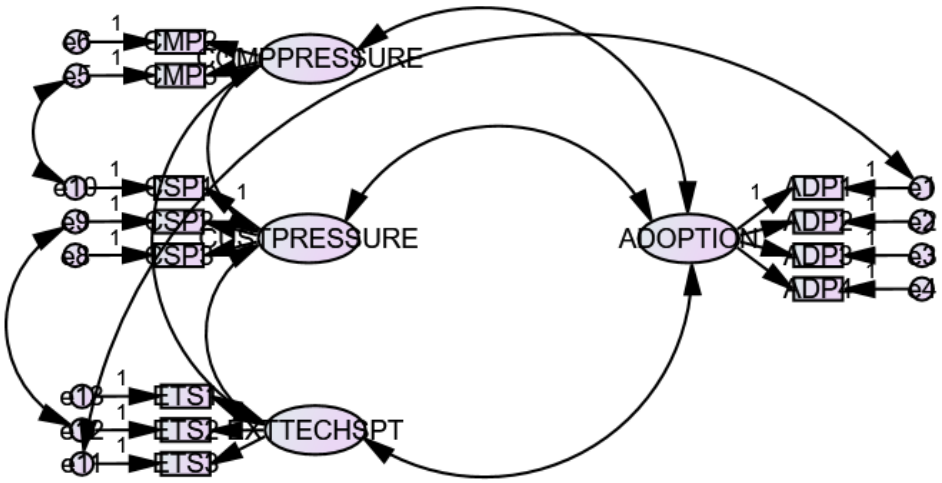


Table 40. Fitness indexes for environment context measurement model after modification

Name of category	**Fitness Indexes**	**Index value**	**Comments**
Parsimonious fit	Chisq/df	3.393	The required level is achieved
Incremental fit	CFI	.968	The required level is achieved
	NFI	.955	The required level is achieved
Absolute fit	GFI	.935	The required level is achieved
	RMSEA	.080	The required level is achieved

Table 41. CFA results for environment context measurement model

Construct	Item	Factor Loading	Cronbach's Alpha (>0.7)	CR (> 0.7)	AVE (> 0.5)
COMPETITIVE PRESSURE	CMP1	This item was deleted due to low factor loading			
	CMP2	0.90	0.92	0.92	0.85
	CMP3	0.94			
CUSTOMERS PRESSURE	CSP1	0.88	0.93	0.93	0.77
	CSP2	0.89			
	CSP3	0.88			
	CSP4	This item was deleted due to item redundancy			
EXTERNAL TECHNOLOGY SUPPORT	ETS1	0.79	0.88	0.82	0.72
	ETS2	0.88			
	ETS3	0.86			
ADOPTION	ADP1	0.76	0.90	0.90	0.70
	ADP2	0.87			
	ADP3	0.88			
	ADP4	0.83			

The discriminant validity for all constructs is achieved when all SIC values are lower than AVE value.

Table 42. Discriminant validity index summary

Compare SIC and AVE	AVE	SIC1	SIC2	SIC3
ADOPTION	0.6998	0.34	0.53	0.22
CUSTOMER PRESSURE	0.7739	0.53	0.68	0.43
COMPETITIVE PRESSURE	0.8469	0.33	0.68	0.34
EXTERNAL TECHNOLOGY SUPPORT	0.7177	0.22	0.33	0.43

6.5.5 Performing CFA for technology paradoxes construct

A measurement model of social media adoption impact to technology paradoxes is presented in Figure 14.

Figure 14. Measurement model combining all latent environment context constructs

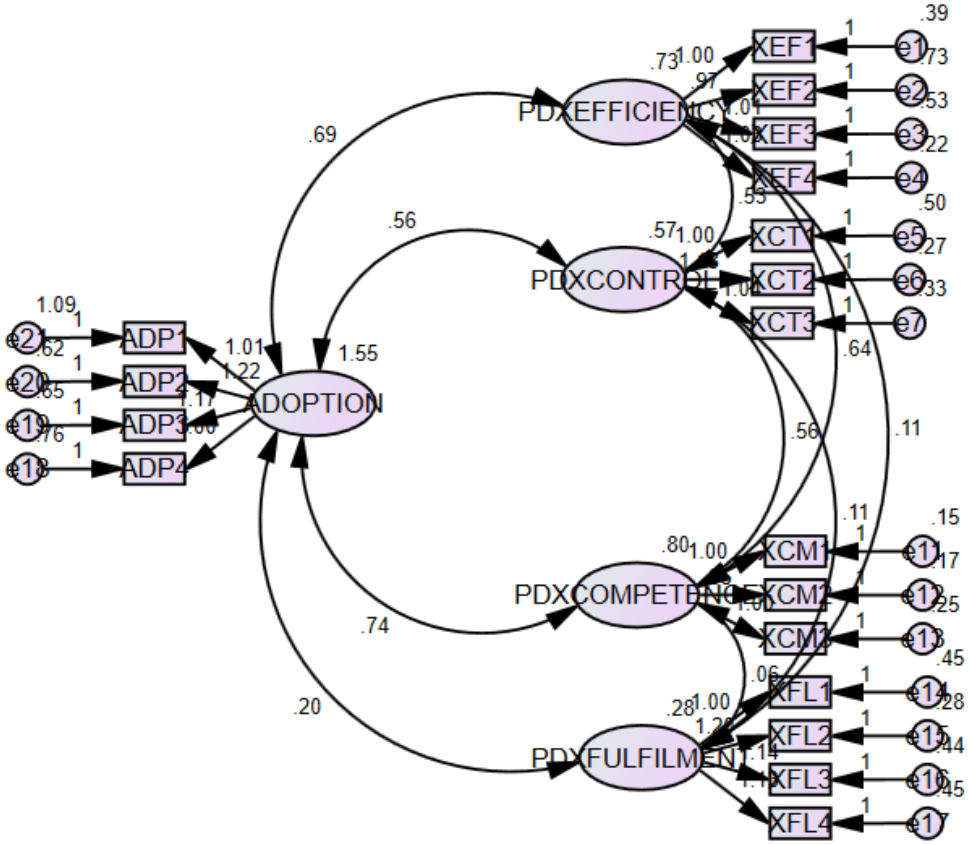


Table 43. Fitness indexes for technology paradoxes measurement model

Name of category	Fitness Indexes	Index value
Parsimonious fit	Chisq/df	4.636
Incremental fit	CFI	.893
	NFI	.968
Absolute fit	GFI	.838
	RMSEA	.105

As shown in Figure 43, some fitness indexes for the constructs do not achieve the required level. When the factor loading was examined, there were three factor loadings that below 0.6. These items have caused the measurement model for the constructs to be poorly fit. Therefore, these items have to be deleted and run the new measurement.

When the items redundancy was also being examined through inspecting the Modification Indexes (MI). In dealing with redundant items in the model, one item

was deleted and three correlated measurement errors of redundant items were set as 'free parameter'. The new measurement model then been re-run.

Figure 15. New factor loading after items were deleted and modified

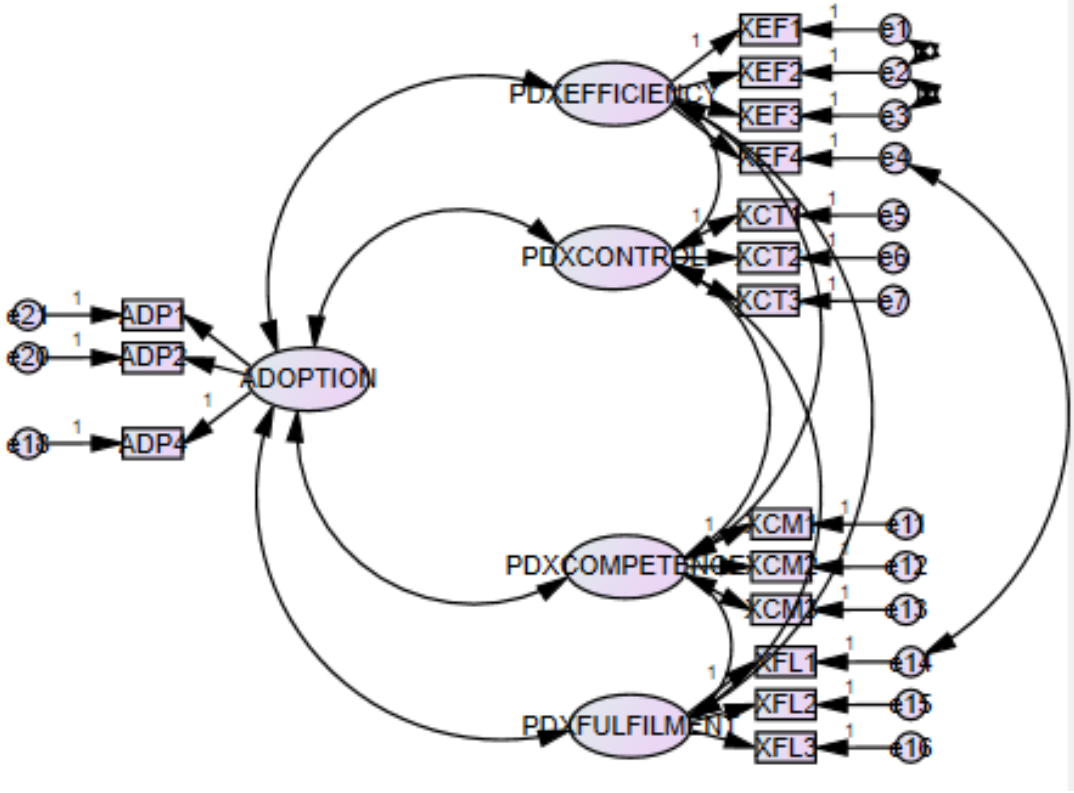


Table 44. Fitness indexes for technology paradoxes impact

Name of category	Fitness Indexes	Index value	Comments
Parsimonious fit	Chisq/df	2.871	The required level is achieved
Incremental fit	CFI	.948	The required level is achieved
	NFI	.923	The required level is achieved
Absolute fit	GFI	.903	The required level is achieved
	RMSEA	.075	The required level is achieved

Table 45. CFA results for measurement model after modification

Compare SIC and AVE	AVE	SIC1	SIC2
ADOPTION	0.7000	0.51	0.49
NONFINANCIAL_PERFORMANCE	0.7400	0.73	0.49
FINANCIAL_PERFORMANCE	0.8400	0.51	0.73

Table 46. Discriminant validity index summary

Construct	Item	Factor Loading	Cronbach's Alpha (>0.7)	CR (> 0.7)	AVE (> 0.5)
PARADOX (EFFICIENCY)	XEF1	0.79	0.92	0.93	0.74
	XEF2	0.61			
	XEF3	0.73			
	XEF4	0.92			
PARADOX (CONTROL)	XCT1	0.72	0.97	0.95	0.84
	XCT2	0.87			
	XCT3	0.80			
PARADOX (FREEDOM)	XFR1	This item was deleted due to low factor loading			
	XFR2	This item was deleted due to low factor loading			
	XFR3	This item was deleted due to low factor loading			
PARADOX (COMPETENCE)	XCM1	0.92	0.92		
	XCM2	0.90			
	XCM3	0.87			
PARADOX (FULFILLMENT)	XFL1	0.664	0.76		
	XFL2	0.885			
	XFL3	0.519			
	XFL4	0.483			
ADOPTION	ADP1	0.76	0.89	0.86	0.68
	ADP2	0.87			
	ADP3	This item was deleted due to item redundancy			
	ADP4	0.83			

The discriminant validity for all constructs is achieved when all SIC values are lower than AVE value.

6.5.6 Performing CFA for business performance construct

A measurement model of social media adoption impact to business performance is presented in Figure 16.

Figure 16. Measurement model combining all latent constructs simultaneously

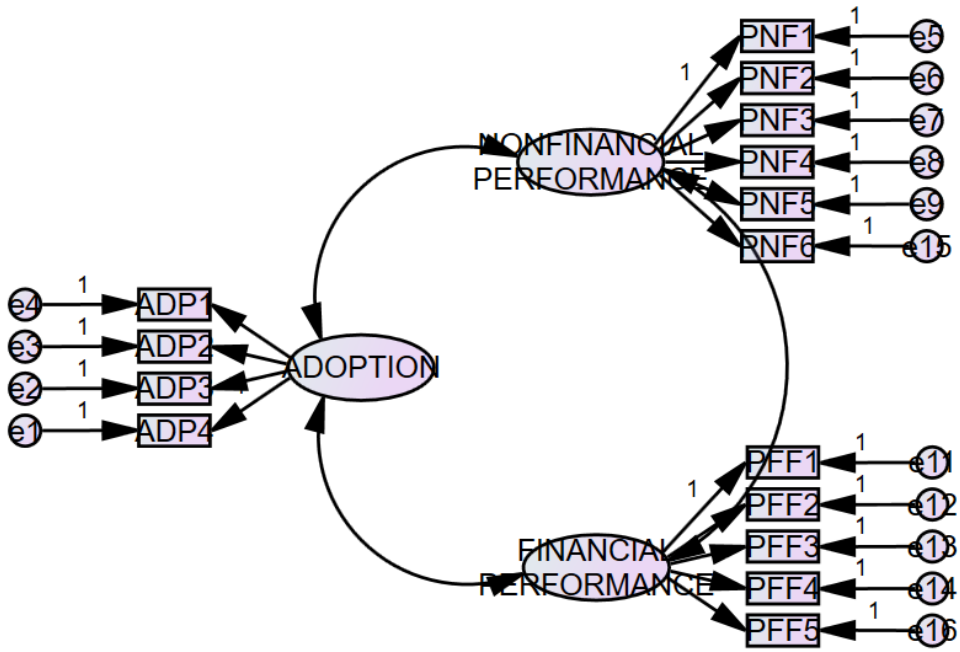


Table 47. Fitness indexes for technology paradoxes measurement model

Name of category	Fitness Indexes	Index value
Parsimonious fit	Chisq/df	4.814
Incremental fit	CFI	.937
	NFI	.922
Absolute fit	GFI	.868
	RMSEA	.107

As shown in Table 47, some fitness indexes for the constructs do not achieve the required level. When the factor loading was examined, there were factor loadings that below 0.6. These items have caused the measurement model for the constructs to be poorly fit. Therefore, these items have to be deleted and run the new measurement.

When the items redundancy was also being examined through inspecting the Modification Indexes (MI). In dealing with redundant items in the model, two items were deleted and four correlated measurement errors of redundant items were set as 'free parameter'. The new measurement model then been re-run.

Figure 17. New factor loading after the items were deleted and modified

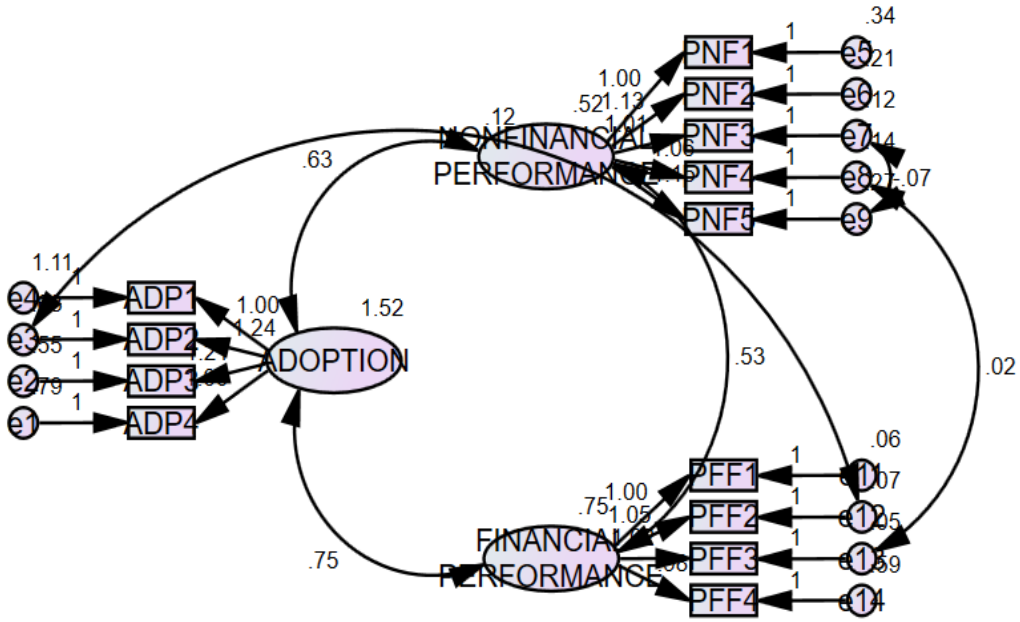


Table 48. Fitness indexes for technology paradoxes impact measurement model after modification

Name of category	Fitness Indexes	Index value	Comments
Parsimonious fit	Chisq/df	2.799	The required level is achieved
Incremental fit	CFI	.977	The required level is achieved
	NFI	.965	The required level is achieved
Absolute fit	GFI	.934	The required level is achieved
	RMSEA	.074	The required level is achieved

Table 49. CFA results for the measurement model

Construct	Item	Factor Loading	Cronbach's Alpha (>0.7)	CR (> 0.7)	AVE (> 0.5)
NON-FINANCIAL PERFORMANCE	PNF1	0.78	0.92	0.93	0.74
	PNF2	0.87			
	PNF3	0.90			
	PNF4	0.90			
	PNF5	0.85			
	PNF6	This item was deleted due to low factor loading			
FINANCIAL PERFORMANCE	PFF1	0.96	0.97	0.95	0.84
	PFF2	0.96			
	PFF3	0.97			
	PFF4	0.74			
	PFF5	This item was deleted due to low factor loading			
ADOPTION	ADP1	0.76	0.90	0.90	0.70
	ADP2	0.87			
	ADP3	0.88			
	ADP4	0.83			

The discriminant validity for all constructs is achieved when all SIC values are lower than AVE value.

Table 50. Discriminant validity index summary

Compare SIC and AVE	AVE	SIC1	SIC2
ADOPTION	0.7000	0.51	0.49
NONFINANCIAL_PERFORMANCE	0.7400	0.73	0.49
FINANCIAL_PERFORMANCE	0.8400	0.51	0.73

6.6 Findings and data analysis

This chapter addresses the data analysis in quantitative study of this research and presents the results of hypothesis testing using Structural Equation Modelling. Following the evaluation and estimation of the model, the results of hypotheses testing in line with the conceptual model are presented after the evaluation of the model parameters. The chapter closes with the summary of results.

6.6.1 Summary of hypothesis and model estimation

The final body of evidence concerns confirmatory data analysis of the stated research hypotheses. As outlined in previous chapter, the thesis addresses two sets of hypotheses. The first set examined factors associated with adoption and corresponds to RQ2. The second set of hypotheses confirms the impacts of adoption

and relates to RQ3. For the analytical purposes, the task of hypothesis testing concurrently addresses both sets of hypotheses through SEM model. The summary of research hypotheses is presented in next Table 51.

Table 51. Factors associated with adoption structural model result

Hypothesis		Estimates	C.R (t-value)	P (Significance)	Result
H1	Connectivity -> Adoption	0.129	1.109	0.267	Rejected
H2	Persistence -> Adoption	-0.247	-1.697	0.09	Rejected
H3	Interaction -> Adoption	1.212	3.718	***	Supported
H4	Visibility -> Adoption	0.138	1.552	0.121	Rejected
H5	Intimacy -> Adoption	-0.341	-2.034	0.042	Supported
H6	Flexibility -> Adoption	-0.207	-2.431	0.015	Supported
H7	Collaboration -> Adoption	0.152	2.054	0.04	Supported
H9	Top management support -> Adoption	0.446	6.098	***	Supported
H10	Business resources -> Adoption	0.089	1.403	0.161	Rejected
H11	Investment -> Adoption	0.274	4.808	***	Supported
H12	Competitive Pressure -> Adoption	0.003	0.039	0.969	Rejected
H13	Customer pressure -> Adoption	0.771	7.05	***	Supported
H14	External technology support -> Adoption	-0.061	-0.918	0.358	Rejected

The hypothesis testing involved SEM and employed model modification strategy. In this approach, an initial theoretically driven model is estimated, and this is followed by the model modification stage, where additional relationships may be added or removed based on the model properties and modification indices. This approach starts with the measurement model (CFA) and follows with the structural model (SEM). In this study, the CFA model has been estimated in Chapter 6, and the analysis presented here builds on that model. The process of estimation and evaluation of the structural model is presented in the next section.

6.6.2 Factors associated with adoption

To test the hypothesised relationships between the variables the measurement model (CFA) is transformed into the structural model (SEM). The CFA model is transformed into a structural model by drawing the causal paths from independent (*exogenous*) variables to the dependent (*endogenous*) variables. Independent variables are correlated, while error terms (ε) are added to all the dependent variables.

Based on the research hypotheses presented in the conceptual model, the initial model includes 13 exogenous constructs and 1 endogenous construct which are linked with 9 relationships capturing the research hypotheses. To test the structural model, AMOS software was used. Once the model had been drawn and the hypothesised relationships included in the model, it was estimated using the data set of 337 respondents. The structural model has been estimated using The Maximum Likelihood estimation. The model was tested into 5 smaller sub-model based on TOE framework.

To evaluate the model fit, each sub model fit indices and chi-square statistics were used. The chi-square statistics was evaluated first. Although the chi-square test is significant, it potentially signalling poor model fit. The chi-square test alone is not enough to evaluate the model fit, where the significance may indicate sensitivity to the sample size rather than inadequate model (Bagozzi & Yi, 1988). Consequently, a combination of comparative and absolute fit indices were also assessed to evaluate the model fit. Specifically, RMSEA and CFI to indicate good model fit. Table 52 presents the results of the initial structural model related to its fit parameters.

Table 52. Factors associated with adoption structural model fitness indices

Model fit indices	Values	Criteria
Technology affordance context		
CMIN	477.967	The < the better
CMIN/df	2.223	< 2 is ideal, 2-5 is acceptable
CFI	0.954	> 0.95 is good, >0.90 is acceptable
RMSEA	0.060	<0.08, <0.05 is ideal
Organization context		
CMIN	206.331	The < the better
CMIN/df	2.948	< 2 is ideal, 2-5 is acceptable
CFI	0.963	> 0.95 is good, >0.90 is acceptable
RMSEA	0.076	<0.08, <0.05 is ideal
Environment context		
CMIN	162.677	The < the better
CMIN/df	2.924	< 2 is ideal, 2-5 is acceptable
CFI	0.976	> 0.95 is good, >0.90 is acceptable
RMSEA	0.076	<0.08, <0.05 is ideal

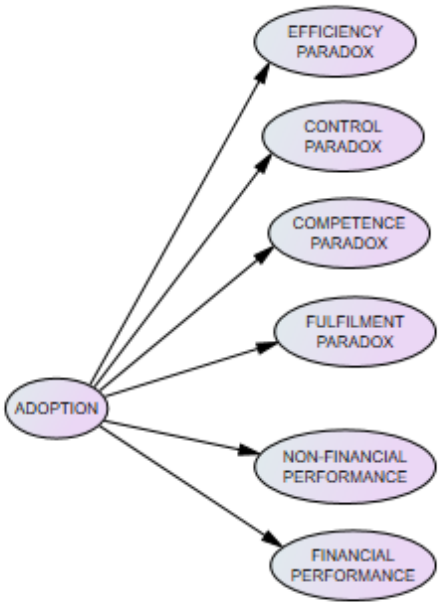
Overall, the initial SEM model is acceptable, and conclusions could be drawn. The tentative results of structural model testing indicate acceptance of 7 of the 13 hypothesized relationships tested at significance level $p < 0.05$. The results of the

structural model show the positive influence of 4 technology affordance factors on adoption – namely, interaction, intimacy, flexibility and collaboration. The positive effect of organization factors of the hypothesized outcomes, including top management support and investment is also supported. Finally, the model provides support for one positive relationship adoption on environment factors namely customer pressure.

6.6.3 The impacts of adoption

The purpose of this model was to test the relationship between adoption and technology paradoxes and business performance. The model includes 1 exogenous and 6 endogenous variables connected by 6 relationships. Similar to the previous model, Adoption is positioned in the centre of the model, being followed by 6 outcomes. The model reflecting the hypothesised relationships is presented in figure below.

Figure 18. The social media impact model



The modified model is estimated using the same data set (N = 337). Following the estimation of model, it is evaluated using a combination of the chi-square statistics and comparative and absolute fit indices. The results of the model evaluation with regards to its fit and the criteria applied in this research are presented in Table 53.

Overall, the model fit indices and the chi-square statistics show acceptable levels of model fit.

Table 53. The impact of adoption structural model fitness indices

Model fit indices	Values	Criteria
Technology paradoxes		
CMIN	242.082	The < the better
CMIN/df	2.774	< 2 is ideal, 2-5 is acceptable
CFI	0.930	> 0.95 is good, >0.90 is acceptable
RMSEA	0.070	<0.08, <0.05 is ideal
Business performance		
CMIN	165.145	The < the better
CMIN/df	2.776	< 2 is ideal, 2-5 is acceptable
CFI	0.977	> 0.95 is good, >0.90 is acceptable
RMSEA	0.070	<0.08, <0.05 is ideal

Following the evaluation of the model fit, the results of the hypothesis testing can be addressed.

Table 54. The impact of adoption structural model result

Hypothesis		Estimates	C.R (t-value)	P (Significance)	Result
H15a	Adoption -> Efficiency	0.289	9.77	***	Supported
H15b	Adoption -> Control	0.90	9.291	***	Supported
H15c	Adoption -> Competence	0.989	10.588	***	Supported
H15d	Adoption -> Fulfilment	0.914	4.013	***	Supported
H16a	Adoption -> Non-Financial Performance	0.714	11.808	***	Supported
H16b	Adoption -> Financial Performance	0.179	3.678	***	Supported

6.6.4 Result of hypothesis testing

The overall results of estimation of the final model using the (N = 337) samples are presented in Table 54.

Table 55. Overall results of hypothesis testing

Hypothesis		Estimates	C.R (t-value)	*P* (Significance)	Result
H1	Connectivity -> Adoption	0.129	1.109	0.267	Rejected
H2	Persistence -> Adoption	-0.247	-1.697	0.090	Rejected
H3	Interaction -> Adoption	1.212	3.718	***	Supported
H4	Visibility -> Adoption	0.138	1.552	0.121	Rejected
H5	Intimacy -> Adoption	-0.341	-2.034	0.042	Supported
H6	Flexibility -> Adoption	-0.207	-2.431	0.015	Supported
H7	Collaboration -> Adoption	0.152	2.054	0.040	Supported
H9	Top management support -> Adoption	0.446	6.098	***	Supported
H10	Business resources -> Adoption	0.089	1.403	0.161	Rejected
H11	Investment -> Adoption	0.274	4.808	***	Supported
H12	Competitive Pressure -> Adoption	0.003	0.039	0.969	Rejected
H13	Customer pressure -> Adoption	0.771	7.050	***	Supported
H14	External technology support -> Adoption	-0.061	-0.918	0.358	Rejected
H15a	Adoption -> Efficiency	0.289	9.770	***	Supported
H15b	Adoption -> Control	0.900	9.291	***	Supported
H15c	Adoption -> Competence	0.989	10.588	***	Supported
H15d	Adoption -> Fulfilment	0.914	4.013	***	Supported
H16a	Adoption -> Non-Financial Performance	0.714	11.808	***	Supported
H16b	Adoption -> Financial Performance	0.179	3.678	***	Supported

6.6.4.1 Technology affordance context (H1-H7)

As noted earlier, seven technology affordances were included in the SEM analysis to determine the actors that influence the adoption of social media by SMEs in Malaysia: connectivity; persistence; interaction; visibility; intimacy; flexibility and collaboration. More than half of the factors are significant, albeit including both positive and negative effects.

Out of the seven variables tested, four – interaction, intimacy, flexibility, and collaboration – were found to be significantly associated with the adoption of social media as each yielded a *p*-value of less than 0.05. However, the remaining three technological variables (connectivity, persistence and visibility) were found to be statistically insignificant in relation to the adoption decision. Each of the significant variables within the technology context will now be discussed.

For interaction, the results suggest that it is statistically significant at the level of 0.05 with the strongest relationship estimates at 1.212. The result indicates that interaction plays an important role in the decision of SMEs to adopt social media and its corresponding hypothesis (H3) was therefore accepted.

The results also provide support for the positive effect of intimacy (p = .042, < 0.05) on the prediction of social media adoption by SMEs. This finding support hypothesis H5, which suggests that social media affordance to initiate develop and maintain ongoing relationship is significant in the decision of SMEs to adopt them.
In addition, flexibility (p = .015, <.05) was found to strongly contribute positively to the decision of the SMEs to adopt social media. This finding, therefore, leads to the acceptance of hypothesis H6. Both intimacy and flexibility has weaker negative relationship to adoption estimates at -0.341 and -0.207 respectively.

The findings also indicate that the adoption of social media by SMEs in Malaysia is significantly impacted by one more technological affordance: collaboration. Collaboration (p = .040, < 0.05) had a positive and significant impact on the decision to adopt social media by the sampled SMEs, leading to the acceptance of hypothesis H7.
When it comes to connectivity, persistence and visibility the results provide no evidence of the significance of these factors in predicting social media adoption. In the case of this study, neither connectivity (p = 0.267, > 0.05) nor persistence (p = 0.090, > 0.05) nor visibility (p = .121, > 0.05) were found to be significant factors in SMEs' decision making when it came to the adoption of social media. Thus, the findings lend no support for hypotheses H1, H2 or H4.

6.6.4.2 Organization context (H9-H11)

Under the organisation context, the study attempted to explore the effect of three variables: top management support; business resources and investment. The results of the SEM analyses reveal that only one organisation context variable, business resources, was found not to have a notable effect on the adoption of social media by SMEs in Malaysia. The findings in relation to each of the three variables within the organisation context will now be presented.

Apparent finding is that both top management support and investment (p <0.05) emerged as a strong predictor that influences the adoption of social media by the Malaysian SMEs. This result lends support to the acceptance of the hypotheses (H9 & H11) corresponding to this factor.

Business resources yielded significance levels greater than 0.05, indicating lack of significance in terms of their impact on the social media adoption decision in the sampled SMEs. It can, therefore, be concluded that the findings of the study provide no support for hypothesis H10.

6.6.4.3 Environment context (H12-H14)

Three environment factors were tested in the SEM: competitive pressure, customer pressure and external technology support. Out of the three variables tested, only one – customer pressure were found to be significant in relation to the adoption of social media. The other two factors – external technology support and competitive pressure – returned no evidence of significant effect on the adoption decision.

For, customer pressure, the results show statistical significance (p<0.05), suggesting that customer pressure is an important attribute for predicting social media adoption by SMEs in Malaysia. This finding supports the acceptance of hypothesis H13.

As far as the competitive pressure and external technology support are concerned, the results shown no statistically significant association for either factor in relation to the social media adoption decision for the sampled SMEs. Both factors yielded p-values greater than 0.05 (p = 0.969 and p = 0.358, respectively). There was therefore no support for hypotheses H12 or H14, and both hypotheses were rejected.

6.6.4.4 Adoption impact to technology paradoxes (H15a-H15d)

To investigate the impacts of social media adoption to technology paradoxes, four constructs, namely, efficiency paradox, control paradox, competence paradox and fulfilment paradox has been estimated. All four constructs show statistical significance (p<0.05), suggesting that the social media adoption has positive impact to technology paradoxes. Thus, the findings lend to support for hypotheses H15a, H15b, H15c and H15d.

6.6.4.5 Adoption impact to business performance (H16a & H16b)

Finally, the impacts of social media adoption to business performance is estimated with two constructs, non-financial performance and financial performance. Both constructs show statistical significance ($p<0.05$), suggesting that the social media adoption has positive impact to business performance. Thus, the findings lend to support for hypotheses H16a and H16b.

6.7 Chapter summary

In summary, the results of the SEM provide evidence that seven – interaction, intimacy, flexibility, and collaboration from the technology context; top management support and investment from the organisation context; and customer pressure from the environment context – from the TOE framework had a statistically-significant relationship with the adoption of social media by the sampled SMEs. Of these seven factors, customer pressure was found to be the most strongly significant factor, having a effect on the adoption of social media by SMEs in Malaysia. While social media adoption also showed the positive impact on both technology paradoxes and business performance with impact on competence paradox is the highest affect.

Chapter 7: Discussion

7.1 Introduction

This chapter discusses the results of the study to answers the research questions posed at the beginning of the thesis. Specifically, this chapter analyses how the findings of the current research relate to the existing state of knowledge. To answer the identified research questions, the findings of all studies conducted in this research are scrutinised.

The chapter is divided into several sections, related to the three research questions, structured as follows: first, RQ1 is addressed, including the overview of measurement of technology adoption in the SME context. Next, RQ2 is answered, where the identified factors adoption is addressed. Finally, this is followed by the discussion of RQ3 related to the identified impact of adoption.

7.2 Discussion of research questions and hypotheses

7.2.1 RQ1: How social media has affected the changing nature of work, work practices and business environment in SMEs?

Even though continuous academic interest in the technology adoption in SMEs, there is still limited focus on technology affordance factors as a focal perspective, thus this study necessitating further investigation of its conceptual boundaries. Semi-structured interviews were set to answer the first research question, to explore and understand the current nature of social media technology in SMEs' practices in Malaysia.

This research paid a great attention to expectations from technology and scrutinize what technology are and how they work. This research questioned the technology and did not take the features and functionalities for granted, predictable nor has universal properties. The technology in this study was assumed that can perform as general function and not specific or has some predictable outcomes.

Regarding the SME uses of information technology, ‘‘the concept of technology affordance refers to an action potential, that is, to what an individual or organization with a particular purpose can do with a technology or information system’’ (Majchrzak & Markus, 2012). This can be demonstrated from the situatedness of social media in workplace such as affordance to allow users to see behaviour of co-workers. The conversations that they have with each other, the documents they posted, the comment they made and the content they liked are visible for anyone in the network to see. For example, the interviewees easily start imitating other users' action by opening social media accounts on the most popular social media websites, albeit without understanding their functionality, with the purpose to get together and to be reached anytime. The affordance of social transparency has also influenced the external parties such as clients and business partners where it can be noticed business that targeted a mass public group is likely to use social media as a channel to get more engagement with customer. Interviewees further described social media afforded them to doing business activity in unconventional way that breaks down its institutional process. It offers a remote business environments, human mobility and freedom of movement, while performing their routine tasks. This has supported previous research in organizational structure (Ellison et al., 2014; Majchrzak et al., 2013; Treem & Leonardi, 2012).

It is also become evident that social media provides a closer relationship among users when it stores a personalize information that can relate to the ongoing relationship with self-disclosure and trust. It affords an engaging online conversation, which expand users social and intellectual capital. By establishing a connection with someone in social media, the users can test the robustness of the social network and they can see whether targets will accept their request to be online friends. Previously Leonardi and Meyer (2015) have discussed on how informal organization can enhance the effectiveness of the formal organization which lead to a stronger tie with the colleague. Social media made the interaction simultaneously to achieve different tasks done in more purposely manner and not based on priority.

The third aspect that should be addressed is the ability of social media to create a platform whereby any employee may contribute and share their own content to all or most in the organization. Kaplan and Haenlein (2010) has earlier social media

affordance are an emergent property of the technology-organization system. The user-generated contents offer an employee to share their ideas, concerns and insight about work-related matters, while gaining a voice within their workplace. The business able to strengthen knowledge and information from people outside and incorporate their idea into business activities. When a business actively manages its social media presence, it succeeds in increasing user-generated content from employees rather than from outside users. From the interview showed that updating social media such as writing a comment, tagging emoji or emoticon can be easily remembered by other users. Clearly, social media affords ongoing interaction by recording and updating data that SMEs engage with "refreshed" communication which helps to keep a good long-lasting business relationship.

Throughout the quantitative study, the research lends an evidence that affordance approach provides a useful theoretical lens to understand social media. As such, an affordance is neither a property of the social media nor a characteristic of the SMEs, but rather an opportunity for SMEs action that exists at the intersection of these two entities (Leonardi, 2017). Affordance suggests that, although SMEs and social media technology interact directly with one another, they are distinct phenomena. Alone, neither SMEs nor social media is empirically important as described by Leonardi (2011) '..but when they become imbricated, interlocked in particular sequences, they together produce, sustain, or change either routines or technologies'' (p.24).

7.2.2 RQ2: What are the outcomes of technology affordance approach in SMEs to social media adoption model?

Another finding of is related on how do the research conceptualized technology. Conceptualising social media in the past literature shown a dominant deterministic view, where technologies as a tool of organising, social media is conceptualised as intangible technology. Deterministic information system approach determines the antecedents or factors that associate with technology adoption tends to implicitly acknowledge that technologies have generic properties.

Prior research has indicated the multiplicity of approaches to the operationalisation and measurement of technology adoption (e.g., Ainin et al., 2015, Parveen et al., 2015). Underlying the interest in multiple technology classes is a shared understanding that certain technologies have common universal functionalities and that these functionalities, though varying by technology class, are predictable and known (Morgan-Thomas, 2016).

Dominant adoption models of technology in SMEs continue to rely on expectations of its separateness and stability (Morgan-Thomas, 2016). This measurement has been widely accepted and applied in technology adoption model, when the determinants of the adoption was measured from the set of technology assumption (e.g., Tajudeen et al., 2018; Alsharji et al., 2019; Ahmad et al., 2019). Most technology adoption research takes positivist stance and consider system as one object and adapt model which the antecedents were from the process of syntheses from the previous literature. Thus, most of the technology is defined as narrow and tactical (Basole, 2008).

Despite widely accepted deterministic view on technology context, this research justified a relational view of technology affordances, which been understand as the relationship between material artefacts and their contexts of use, is an alternative approach to determine any emerging technologies adoption. This approach shows that between technology and SMES has converged on the materiality of technology as a fundamental theoretical concern. (Leonardi, 2014).

It challenges the way users see social media, what social media does in practice, which enacted functionalities that emerge when SMEs encounter social media in context (Faraj & Azad, 2012). This affordance approach has gave more attention on expectation from social media (Jones et al., 2011, 2014) and revolved around identifying contingencies that moderate the adoption and outcomes (Ahmad et al., 2019). Causality between business practice and digital object assume be going both ways, with technologies affecting practices and practices affecting technologies (Orlikowski & Scott, 2008). Technological capabilities enacted is always localized and subject to situational constraint (Orlikowski & Scott, 2008).

Connectivity affordance resonates well with existing research that identifies affordance of availability (Boase, 2008) as a multiplexity of communication in mobile media. The second technology affordance construct, ***persistence,*** supports research identifying "reviewability" (Clark & Brennan, 1991), "recordability" (Hancock, Toma & Ellison, 2007) or "permanence" (Whittaker, 2003) as accessible of information in the same form as the original display. This research accepts the view communicated by Erickson and Kellogg (2000) who noted persistent conversation may be searched, browsed, replayed, annotated, visualized, restructured and re-contextualized. Results from the interview shows that persistence construct also become the most significant affordance perceived by SME owner-managers.

Other than persistence, ***interaction*** affords SMEs to socialize and interact with others for business benefits emerged as a highest affordance perceived by the interviewees. Interaction affordance is deemed appropriate and in line with the concept of 'social interaction' (Whiting & Williams, 2013) as the main uses and gratification in social media. Interaction is also resonated by widely extensive studies in online consumer interaction (Dholakia, Bagozzi & Pearo, 2004; Abrantes et al., 2013).

Visibility meanwhile, is tied to the amount of effort the business must expend to locate information about the business. Visibility affordance construct is conceptualized as social media affords SME to make knowledge, preference and public presence of business easily and frequently seen by other that lead to perception of public as Young and Kent (2014) refer as public present that influence on business perception that has influence on buying preferences.

The next construct is ***mobility*** affordance which conceptualized as the ability of the social media to create mobile enterprise when employees can exist separately of the geographical constraints of office. Yoo (2010) explains that the integrated computer technology provides experiential computing to the user, in line with Brown and O'Hawa (2003) that defined mobility as a practice of using, managing and manipulating physical space. Even though mobility theme has emerged during the interview, the next quantitative survey has shown its low factor loading.

The next construct is ***intimacy*** which affords SME to initiate, develop and maintain ongoing relationship with self-disclosure and trust that enable users to enhance and maintain quality in those network relationships. This affordance is also referred as elements of control and harmony (Arnold, 2003), situation and person's emotional state (Sorensen & Gibson, 2008; Ljungberg & Sorensen, 2008). Intimacy has similarity to personalization affordance (Cousins & Robey, 2015). ***Flexibility*** meanwhile is an affordance that help SME to break down its constitutional process and explore new alternatives in business-related task and activities. Flexibility in SME is significant in time and place. The flexibility in in time is also supported by Sorensen (2011) that SME has advantage in sequence, duration and recurrence and temporal location. Hill et al. (2008) has also found that online platform offers alternative employment structures and sequencing such on temporary and project basis.

Finally, ***collaboration*** affordance helps SME to utilize social media to perform a complex interdependent and interactive works by having a mutual understanding and share resources towards a collective goal. The same finding by Kim et al. (2011) that social media create interdependent in the process of problem solving and group discussion making. Collaboration is an important element of technology affordance has effectively facilitated idea sharing, knowledge management and crowdsourcing (Kaplan & Heinlein, 2010; Wright & Zdinak, 2008).

The findings from the study also confirmed that technology adoption in SME is a multi-dimensional construct which encompasses on technology, organization and environment dimensions. It is supported by previous research in social media (e.g Ainin et al., 2015; Janice et al., 2014) and also has been applied in many technology adoption studies such as e-business (Ifinedo et al., 2014), e-commerce (Al-Qirim, 2007) and electronic data interchange (Kuan & Chau, 2002).

This study has shown a framework to explore the functional and relational aspect of affordance as possibilities for action to study the complex relationship between technology (social media) and actors (owners/managers). The systematically review on existing literature in social media research and semi-structured interviews has been employed, to uncover the effects of social media affordances and present a

comprehensive framework of these affordances effects and identify areas for further research. Affordance approach is fit with the current development of mobile technology, has affected the changing nature of work, work practices and work environment (Leonardi & Vaast, 2017). Moving away from technology deterministic perspective, a new affordance theoretical frame for viewing technology, an approach that offers the possibility of theoretical integration should contribute to put the integration in more balanced perspective.

This study connected technology adoption research to the research on change management and change leadership, in concern of change and the acceptance of work tasks, processes, and collaboration (Venezia, Allee & Schwabe, 2008). Affordance approach are well suited when the intention is to increase the knowledge and understanding of technology adoption and implementation in constantly changing and unexpected organizational contexts (Benbasat & Barki, 2007).

7.2.3 RQ3: What are the significant factors are associated with social media adoption and impacts to SMEs?

The third research question concerned the factors that associated with social media adoption and the impact. These relationships are further examined in quantitative e-survey. In this part of the study, semi-structured interview findings and theoretical insights from the literature review have been formalised into an empirical model and tested using the quantitative data. The results of the hypothesis testing related to social media adoption are presented in Table 55.

The findings include both supported and rejected hypotheses. Additionally, whereas the conceptual model provided in previous chapter included 16 main constructs, only 15 were tested in the empirical model discussed in the chapter. This was driven by the results of the measurement development and evaluation, which failed to provide support for factor analysis of the mobility construct. Consequently, the associated hypothesis (H7) was removed from the further analysis. All other relationship concern factors associated with social media adoption are discussed separately in the following sections.

Table 56. Results of hypothesis testing – factors associated with social media adoption

Hypotheses		Result (N=337)
H1	Connectivity -> Adoption	Rejected
H2	Persistence -> Adoption	Rejected
H3	Interaction -> Adoption	Supported
H4	Visibility -> Adoption	Rejected
H5	Intimacy -> Adoption	Supported
H6	Flexibility -> Adoption	Supported
H7	Collaboration -> Adoption	Supported
H9	Top management support -> Adoption	Supported
H10	Business resources -> Adoption	Rejected
H11	Investment -> Adoption	Supported
H14	Competitive Pressure -> Adoption	Rejected
H15	Customer pressure -> Adoption	Supported
H16	External technology support -> Adoption	Rejected

Technology affordance context

Form the total of eight technology affordance tested, only seven technology affordances were included in the SEM analysis to determine the actors that influence the adoption of social media by SMEs in Malaysia: connectivity; persistence; interaction; visibility; intimacy; flexibility and collaboration. Mobility has been dropped from the model of low factor loading. Form seven technology affordance tested, more than half of the factors are significant, albeit including both positive and negative effects.

Out of the seven variables tested, four – interaction, intimacy, flexibility, and collaboration – were found to be significantly associated with the adoption of social media as each yielded a *p*-value of less than 0.05. However, the remaining three technological variables (connectivity, persistence and visibility) were found to be statistically insignificant in relation to the adoption decision. Each of the significant variables within the technology context will now be discussed.

Interaction affordance emerged as the most prominent statistically significant at the level of 0.05 with the strongest relationship estimates at 1.212. The result indicates that interaction plays an important role in the decision of SMEs to adopt social media and its corresponding hypothesis (H3) was therefore accepted. This result is aligned with Study 1 which refer interaction that received high mentioned by the interviewee. The study result on interaction is also consistent with the previous studies which found the interaction has a strong effect on technology adoption (Aini et al., 2015; Lee & Kozar, 2012; Pituch & Lee, 2006). This result could be interpreted as that the interactivity nature of social media that enabled two-way communication between business and the stakeholders such as customers and suppliers has greatly influenced the SMEs to adopt it. This result is likely to be related to the perceived interactive nature of social media applications that support two-way of communication in term of socializing with users.

The results also provide support for the positive effect of intimacy on the prediction of social media adoption by SMEs. This finding support hypothesis H5, which suggests that social media affordance to initiate develop and maintain ongoing relationship is significant in the decision of SMEs to adopt them. This result is in a same direction as other studies (Ainin et al., 2015; Wu & Liu, 2007). This is supported that closer relationship is correlated with higher self-disclosure (Pearce & Sharp, 1973) and trust (Tang & Liu, 2015). When the customers become more self-disclosed, SME has started to recognize customer closer and started to develop trust. This finding is in-line with that of Allart (2015), suggesting that trust in technologies appear to be the most important factor in the adoption of ERP among SMEs in Thailand. Al-Hajri and Tatnall (2007) indicated that trust was one of the inhibiting factors to the adoption of internet technology. The possible interpretation for this result would be that social media service providers such as Facebook are well known all over the world and has a good reputation on user data protection, has convince the SMEs to foster an ongoing relationship with a single authorized individual, enabled user to uniquely identify the device and user account, the association and any business affiliation.

Next, flexibility affordance was also found strongly contribute positively to the decision of the SMEs to adopt social media. This finding, therefore, leads to the

acceptance of hypothesis H6. This finding was supported research by Lagrosen and Grunden (2014) posed SMEs could use social media which allow them not to restrict the core activities since the value of them is determined by their business value proposition, creativity and skilled ways. This also in line with Durkin, McGowan and McKeown (2013) explained that companies operate in a way that is organic and informal and has been established, business able to develop into relationship basis, break down its organizational process and found a new alternatives way in doing activities. The previous work is inconclusive, mainly the possible reason on the structure of organization in every SMEs which is unique from one to another. SMEs with a strong working culture who are working base on a rigid, standard operating procedure may have difficulty to embrace technology changes, while smaller SMEs and start-up found that flexibility is very important in adopting a new technology. This result shows that social media is easily being practice in SMEs for its simpler institutional structure as compared to larger business.

The findings also indicate that the adoption of social media by SMEs in Malaysia is significantly impacted by collaboration affordance. Collaboration had a positive and significant impact on the decision to adopt social media by the sampled SMEs, leading to the acceptance of hypothesis H7. This finding is supported by Kim et.al. (2011) explained that collaboration in social media enable more collaborative work, towards a shared goal in the process of decision making and problem solving. Working in virtual team has increases satisfaction and engagement among employees (Berry, 2006; Lawler & Finegold, 2000) and often outperform face-to-face team as far as decision making speed, decision quality and team collaboration (Berry, 2011; Markman, 2009). The significant of collaboration affordance is possibly due to their obvious advantages – easy to use, friendly, and non-discriminatory, allow the presence of everyone, regardless of age, incomes, language, geographical position, access terminal and operating system and allows the people with similar interests to find one another and meet easily. Virtual proximity becomes a substitute of physical proximity in case of standard discussion. The fact that social media contributes to the creation of positive network externalities and increase the informational business capital become more important (Georgescu & Popescul, 2015) to SMEs.

Three other hypotheses are rejected. The first rejected hypothesis tried to investigate whether of the connectivity affordance affected the adoption of social media in SMEs. While finding from qualitative study indicated connectivity is among the most mentioned technology affordance by the interviewees, the quantitative study results showed that no significant relationship existed between the both. This result is supported by Moorcroft (2008) revealed that despite of connectivity may offer process improvements to SMEs, it may at the same time social media tools can also create regulatory, disclosure and legal risks and waste people's time. With an evidence regarding the importance and benefits of social media, the legal related issue making SMEs became more confused as to whether to use them (Parveen et.al. 2015). One possible reason for this is because the nature of advanced technology which social media embedded within connected devices and become a part of the technology itself and has become a common affordance to any social media. It has been installed which support with integration making workers available at time and places (Palen, 2002) by having a continuous contact (Katz & Aakhus, 2002), between individual within their social network and has not become new phenomenon in mobile technology among users.

Persistence affordance hypothesis is also being rejected since the result has also revealed that no significant relationship existed between the both affordance and adoption. This result is supported by research on the use of wikis that revealed the individuals are reluctant to share works that when audiences can view material by strategically timing when they contribute (Danis & Singer, 2008; Giordano, 2007). Grudin and Poole (2010) found that users took advantage of the ability to control contributions and commented that users "created content to share information opportunistically". Survey also indicated that high social media use such as blog was not required for organizational member to perceive value from the information available (Jackson et al, 2007). This result supported by low response from interviewee ins qualitative study that shows significant impact of persistence affordance in SMEs practice. The interviewees did not find any significant effect of persistence content in social media that can be reused and reanalysed to make it more useful or robust.

This third rejected hypothesis tried to investigate whether of the visibility affordance affected the adoption of social media in SMEs. The results showed that no significant relationship existed between both. This result supported by Richardson, Choong and Parker (2016) that social media itself is more than the use of online media to create viral news or word-of-mouth effects and must be strategically leveraging an optimal social media mix to satisfy objectives to maximize social equity. Reyneka, Pitt and Berthon (2012) has similar finding that there is no relationship between brand and the social media visibility indicators. There can be possible explanations on for this relationship. Most of social media also offering paid advertising opportunity to SMEs to promote their services and product. While social media is a free online platform, the limitation to SMEs reluctant to pay extra cost even though knowing the fact paid advertisement will get instant visibility. The same situation on SMEs visibility on search engine where frequently not listed in search engine. Less attention was given to SMEs who lack of skill to produce a good content, rarely spotted in viral news of forwarded message. Although SMEs practice location check-in and tagging, it is insufficient to make an impact and increase the visibility.

Organization context

In the organisation context, the study attempted to explore the effect of three variables: top management support; business resources and investment. The results of the SEM analyses reveal that only one organisation context variable, business resources, was found not to have a notable effect on the adoption of social media by SMEs in Malaysia. The findings in relation to each of the three variables within the organisation context will now be presented.

Apparent finding is that both top management support and investment (p <0.05) emerged as a strong predictor that influences the adoption of social media by the Malaysian SMEs. This result lends support to the acceptance of the hypotheses (H9 & H11) corresponding to this factor. The results confirmed that there was a significant positive relationship between top management support and the adoption of social media in SME. The results were accordance with many studies confirming that top management support is a key enabler of adoption (e.g., Tajudeen et al., 2018; Alsharji et al., 2018; Durkin, McGowan & McKeown, 2013; Matikiti &

Mpinganjira, 2018, Spencer & Galvin, 2012; Humphreys & Wilken, 2015). This also the same direction finding by Agnihotri et al. (2012) revealed that top management realizing desired strategic goals by providing direction, encouragement and feedback. Nonetheless, Langrosen and Grunden (2014) found that activities social media normally had been started by an enthusiast having personal interest in social media and consequently further organize the activities and divide responsibilities among other people.

This can be explained by the responsibility of top management who positively willing towards the use of social media, were expected to encourage and support social media-based innovation. Moreover, top management ought to make available adequate resources such as enough fund, time and human talent for the launch and implementation of social media initiative, create a yearly plan (Langrosen & Grunden, 2014) for business benefits.

Investment was investigated to prove weather it related to the adoption of social media. Prior studies relate business to annual technology investment which include annual investment on hardware, software, maintenance, personal and training (Chari, Devaraj & David, 2008; Kobelsky et al., 2008). The results confirmed that there was a significant positive relationship between investment and the adoption of social media in SME. The significance of investment is closely associated with the amount of investment required to adopt a certain technology. In other words, technologies that require substantial investment are a risky venture for SMEs (Thong, 1999), given that SMEs are constrained by their financial resources. As a result, the adoption of many previous technologies required SME to take risks as they required significant changes to existing organisational spending. In the case of social media, that is free to use, require substantial investment in term of annual spending on personnel and training to support social media in SME's practice. As a result, their adoption may be increase significantly to existing organisational spending and annual budget.

However, business resources yielded significance levels greater than 0.05, indicating lack of significance in terms of their impact on the social media adoption decision in the sampled SMEs. Business resources to SMEs are mainly offer several

challenges, lack resources such as expertise, technical technology experience and knowledge and skilled manpower. This study found that business resources is insignificant, supported by previous studies in various issues on business resources limitation such as social media low cost of implementation (Parveen et al., 2015; Kim et al., 2011), social media initiation started by an enthusiast within organization media tasks and responsibilities distributed among staff (Langrosen & Grunden, 2014) and collaborative knowledge to initiate social media in SME (Kim et al., 2011). These researches shown that limited business resources were a reason to stop SME to utilise social media for business benefits. Durkin, McGowan and McKeown (2013) argued that Irish companies in their study still need advice and support on inadequate competency in social media appreciation, knowledge and capabilities. However, these influences may have lessened the importance of having previous technology experience and knowledge supported by SMEs practice technology based on 'try and error' approach, this may suggest that social media does not require SMEs to have experience in using previous technologies. The results of the study also revealed that the relationship between attitude towards social media and level of social media practice is influenced by technical knowledge (know-how). This means that even if the top management supports social media practice, the availability of skilled personnel who have knowledge of how to implement social media effectively will determine the extent to which the organisation practices social media.

Environment context

Three environment factors were tested in the SEM: competitive pressure, customer pressure and external technology support. Out of the three variables tested, only one customer pressure was found to be significant in relation to the adoption of social media. The other two factors – external technology support and competitive pressure – returned no evidence of significant effect on the adoption decision.

For customer pressure, the results show statistical significance, suggesting that customer pressure is an important attribute for predicting social media adoption by SMEs in Malaysia. Customer pressure includes customer demand from SME to adopt social media, to exist on social media and SME's found that the existence is very appealing to the customers.

Many previous studies found that customer pressure were positive and had a significant effect on social media adoption (Marshall et al., 2012; Durkin et al., 2013; Schaup & Belanger. 2014) found that customer pressure was the most influential factor of social media adoption. This finding supports those obtained by recent researchers (see, for example, Ahmad et al., 2018; Tajudeen et al., 2018) indicating that SMEs are more likely to adopt new technologies if their customers are users of those technologies, or as a response to satisfy a demand from their customers. It also supports the finding of a study by Durkin, McGowan and McKeown (2013) who indicated that the decision to adopt social media among Irish SMEs was driven by the level of demand from their customers in the form of "enquiries" or "mentions".

One possible explanation for the significance of customer pressure in this study is that the sampled SMEs comes from Malaysia where many exhibitions are held that offer SMEs the chance to interact with potential customers. In addition, the demographic of young respondent, may contribute to higher levels of customer pressure. Since the adoption and use of social media among the younger, technology savvy generation is gaining popularity (Martins et al., 2014), they are likely to play a role in demanding that businesses, including SMEs, adopt social media, too. In addition, the significance of customer pressure may be attributed to the nature of the technology, as argued by Martins et al. (2014), which is built upon collaborative and 'social' features through which users' develop and maintain relationships. Thus, it is likely that SMEs that receive greater pressure and demand from their customers in this area will tend to be those that adopt social media in their businesses.

Surprisingly, this research found that competitive pressure was not a factor in relation to the social media adoption decision for the sampled SMEs. This result is somewhat consistent with Alshamaila (2018), however there is significant number of studies found opposite result that competitive pressure have a positive influence on social media adoption (e.g Matikiti & Mpinganjira, 2018; Jabeen, 2017). One possible reason for this result is because the different social media practice among SMEs. For example, if social media is being use in strategic way, it will become SMEs strength as compared with competitors. And for the same reason, if any wrong disclosure of information in social media, it will become a new treat and compromise SMEs trade secret.

The lack of significance of competitive pressure is also likely to the fact that the focus of many SMEs is to survive in the business environment rather than to grow and compete with large enterprises. Thus, adopting social media may not be perceived by SME owners/managers as a reason for competition, but rather a necessity for survival. Several researchers (e.g., Wymer & Regan (2005); Diochon & Wright (2003)) have argued that recognising and valuing the strategic importance of new technology by adopters increases as a result of usage. Social media may not yet be considered by the sampled SMEs as a strategic necessity for competing in the marketplace as the significance of these tools in offering a competitive advantage may still be unclear.

As far as the external technology support are concerned, the results shown no statistically significant association in relation to the social media adoption decision for the sampled SMEs. This is in line with studies that relate social media as less complicated and less costly due to its wide diffusion and technological advances (Kim et al., 2011). Thus, many SMEs have opened social media site such as Facebook or blogs by solicitation for comments. Social media platforms are less complex and more affordable technologies for smaller businesses when compared with more sophisticated and expensive technologies (e.g., e-commerce, cloud computing, ERP, and websites); this has enabled SME to become more independent to practice social media. Arguably, external technology support has been found to be significantly related to the adoption of many ICTs in SME (e.g., Ifinedo, 2011; Scupola, 2003; Mehrtens, Cragg & Mills, 2011) with the main reason of the increase in the sophistication of technology to leads to an increase in SMEs' needs for external support (Abdullah, Wahab & Shamsuddin, 2013) such as consultancy agents.

A possible explanation for the lack of significant relationship between external technology support and the adoption is the cost effectiveness of social media, which most of the application is available and accessible online and free without have to spend a high amount of social media initiative cost. With limited resources, SMEs are still able to start using social media with minimum help from external parties. This also make possible with the internal resources SMEs has, for example and

individual or enthusiast who can initiate the social media effort internally without have to engage with external consultant.

This study's findings highlight the importance of seven technology affordance which are significant in relation to the social media adoption decision: connectivity; persistence; intimacy; interaction; visibility; flexibility and collaboration. The empirical analysis of this study suggests that the size of the enterprise does not prevent SMEs from utilising social media as these technologies do not require high initial investment, which may not be affordable by SMEs, when compared with many previous technologies. This, therefore, implies that SMEs should not perceive business size as an obstacle to adopt social media technologies in their premises.

Another implication arising from the environment perspective is the influence of the industry in the adoption decision. SME owner-managers should realise that these platforms are not specific to certain industries. Rather, they are useful to different types of industry, implying that SMEs should not perceive the type of the industry in which they operate as an obstacle to adopting social media technologies.

7.3 Discussion on the impacts of social media adoption

This study also investigated the impact of social media adoption on business performance. It also being notice from the previous literature and finding of exploratory interview, the adoption has also demonstrated an evidence of technology paradoxes as an impact of the adoption. From the literature and finding from the interview, both technology paradoxes and business performance have been identified as and impact of social media adoption.

Table 57. Results of hypothesis testing – the impacts of social media adoption

Hypotheses		Result (N=337)
H15a	Social media adoption -> Efficiency paradox	Supported
H15b	Social media adoption -> Control paradox	Supported
H15d	Social media adoption -> Competency paradox	Supported
H15e	Social media adoption -> Fulfilment paradox	Supported
H16a	Social media adoption -> Non-financial performance	Supported
H16b	Social media adoption -> Financial performance	Supported

The impact of social media adoption to technology paradoxes

The technology paradox is the notion that social media activities may produce either positive or negative impact to users' practice. To investigate the impact of social media adoption to technology paradoxes, five constructs namely; efficiency paradox, control paradox, competency paradox, fulfilment paradox and freedom paradox have been estimates. Four constructs show statistically significance, suggesting that the social media adoption has positive impact on technology paradoxes. The findings lend to support for hypotheses H16a, H16b, H16d and H16e.

The efficiency paradox is concerned with the notion that social media reduces the time and effort required to perform a task and not consume more time and effort than if the task were performed manually. The results show statistical significance, suggesting that social media practice has achieved high degree of efficiency, offering substantive value proposition and suitable ease of use, more reliable and dependable channel for conducting business activities. The control paradox is concerned with the notion that social media facilitate regulation and order, and not creating any upheaval. The results also show a positive impact, suggesting that social media adoption offer an amount of influence and ability to managing activities that suitable with business practice to meet their specific needs. Another important notion is competency paradox when social media adoption makes business feel more intelligent and effective. The study found a positive relationship, suggesting that social media adoption achieved a level of competency, offering the

capability to add new abilities and to improve business existing abilities. The last paradox is fulfilment that concerned with the SME experience both business solution to a need. The results indicate the evidence suggesting that social media adoption achieved high degree of fulfilment, an impression on how well social media services or utilities meets business needs.

These findings have several important points of discussion for research and practice. First, the study represents an important attempt to open the black box of SMEs' situation on social media technology paradox and their technology adoption behaviour. A large number of studies have suggested ideas regarding user perception with technology paradox related issues (e.g., Chae & Yeum, 2010; Jarvenpaa & Lang, 2005). However, these studies rarely tried to objectively measure the users' perception and their relationship. This study adapted a measurement and confirmed its reliability and validity. Thus, opening an efficient way for researcher to examine SMEs' situation and act related social media adoption. The positive result from this research is probably exist when once the social media has been adopted in certain period of time. When the respondents have at least tried to practice social media in SMEs, thus they become more aware and making an informed and more matured decision. The findings of this study also showed that the perception on the paradoxes could be changed as users' experiences with social technology becoming mature.

Overall, this study is one of the very first attempts to empirically measure social media technology paradoxes. It is important sheds some light in the causes of SMEs environment for further investigation and the potential outcomes.

The impact of social media adoption to business performance

The impact of social media adoption to business performance is estimated using two dimensions, non-financial performance and financial performance. Both dimensions show statistical significance, suggesting that the social media adoption has positive impact to business performance. Thus, the findings lend to support for hypothesis H16a and H16b.

In this study, found that non-financial performance is significant impact to the social media adoption decision for the sampled SMEs. This result is consistent with Ainin et al., (2015) that found social media adoption has a positive influence on non-financial performance such as customers relations and improved performance accessibility. Many empirical studies on ICT adoption in SMEs have provided evidence of significant links between technology and positive business impacts in different businesses areas such as performance; growth; expansion; and new products (Consoli, 2012). This significant positive result may be caused by the affordance by putting technology at the core of business processes. By doing so, this approach offers SMEs many non-financial benefits, such as enhancing survival (Olise et al., 2014; Oni & Papazafeiropoulou, 2014), increasing global collaboration (Ross and Blumenstein, 2015), forming new relationships with partners and customers (Grandon & Pearson, 2004; Stockdale & Standing, 2004) and enhancing image (Levenburg, Schwarz & Motwani, 2015), improving performance (Manochehri, Al-Esmail & Ashrafi, 2012)

Financial performance was investigated to prove the impact it related to the adoption of social media. Prior studies found out that social media adoption can increase sales (Kwok & Yu, 2013), sales transaction and cost reduction (Ainin et al., 2015). The results confirmed that there was a significant positive relationship between social media adoption and the financial performance. While most of interviewees mentioned that it is difficult to measure financial return to social media, Parveen et al. (2015) explained that social media adoption impact not only on direct monetary value, but activities that lead to create more sales and profit to SMEs such as reaching new customer prospect, lower the cost of marketing, getting referrals, receive customer feedback, revenue generation and better communication with customers. This significant result is possibly contributed by the younger generation users whom not only measure the financial aspect, but also the value and advantages of social media as a whole towards generating more sales. These users accept new indicator of financial gain such as partnering with social media influencers to boost sales, viral contents, generating more leads and traffic to website and establish brand as a thought leader which eventually can be leveraged to increase sales and reduce cost.

7.4 Chapter summary

This chapter was dedicated to answering the three research questions stated at the beginning of this research. For this purpose, the results of the studies were interpreted and related to the existing literature. The correspondence and deviations from the existing research were explained.

Results of the exploratory interviews with SME owners/managers see to support findings in a stream of existing research which acknowledges that technology dimension may be conceptualised in relational view technology affordance approach as the relationship between material social media and their contexts of practice in SMEs. The study has confirmed that technology adoption in SME is a multi-dimensional construct which encompasses on technology, organization and environment (TOE) dimensions and this multidimensional nature may be captured empirically.

The study has identified 16 factors associated with social media adoption in SMEs in 3 main contexts – technology, organization and environment. Only four of the technology affordances were confirmed as having a positive impact on social media adoption, whereas three was insignificant. As such, answering the organization context, social media adoption in SME was driven by top management support and investment, however business resources have a diminishing effect on social media adoption. Customer pressure were important in facilitating the environment to encourage SMEs to adopt social media, while competitive pressure and external technology support were not significantly related to social media adoption.

Finally, social media adoption has a significant positive effect on two outcome variables – technology paradoxes and business performance. This is indicated in the findings of quantitative study.

Chapter 8: Conclusion

8.1 Introduction

In this final chapter, the aim is to present an overall summary of the research effort. The importance of this chapter lies in presenting the contributions of the research; exploring its implications, highlighting its limitations and proposing avenues for future work.

The chapter is divided into five sections. First, the key theoretical contributions are presented. This is followed by the overview of the methodological contributions. Next, the managerial implications and recommendations for marketing practice are presented. Finally, the chapter addresses the existing limitations of the current research. Future research directions are also outlined.

8.2 Theoretical contributions

This study provides several contributions to social media and technology adoption research by answering three research objectives. These concern the conceptualization of social media in SMEs practices, technology affordance context in technology adoption model, and the factors that associated with adoption.

Firstly, to understand the social media nature in Malaysian SMEs, this study has evolved to a different set of assumption. The main ontological assumption in this study is that technologies such as social media are not separate entities that affect business practices; instead, when used, they are intrinsic to these practices being tightly bounded with actions and behaviors (Leonardi, 2011; Orlikowski & Scott, 2015). The technology-in-practice assumption that technologies are not universal but always conditioned by local use (Faraj & Azad, 2012). The technologies are never finished but always morphing (Kallinikos et al., 2013). These understanding of practice and these assumptions both increases the relative importance of practice in relation to technology and changes the implications of practice for technology use. In case of this study, it sought to extend the limited body of academic knowledge in the technology-in-practice in SMEs, mainly in respect to social media

technologies. It can be, therefore, said that this study serves as a starting point for researchers to carry out and continue other social media adoption research.

Secondly, given the nature of affordance, the study has adopted this perspective when studying social media uses that assumed technology as more fluid and changing, with capabilities that can be added after their introduction (Lyytinen & Yoo, 2002). SMEs have transformed social media usage in ways that had not originally anticipated. From the qualitive study, the situatedness of social media in workplace become an important focus to see how the technology has affected the changing nature of work, work practices and business environment. From the literature, there have been renewed calls for revising the relationship between digital technologies and business practices (Zammuto et al., 2007) and this research has moved beyond the simple deterministic link between technological possibilities and business practice (Leonardi, 2011; Orlikowski, 2007; Orlikowski & Scott, 2008, 2014). This study closing the gap between the expectations concerning technological opportunities and the limited evidence of their occurrence in business practice (Orlikowski & Scott, 2008). It also shows that technology research in business practice need more continuous research and boost the academic interest in technology (Yoo et al., 2012; Zammuto et al., 2007). This is, thereby encouraging academics, particularly those interested to study the adoption of new technologies in SMEs, to pay attention to the potential practice of the affordance on new emerging technology.

Thirdly, this study contributes to enhancing our understanding about the factors influencing the adoption of social media technology in SMEs. In this respect, the study has modified the TOE model by applying technology affordance in technology context and combine with organizational and external environment context. The technology affordance was identified from the qualitative study evidences. It has posited that interaction; intimacy; flexibility; and collaboration have afforded technology adoption. It can be therefore said that this study has provided an improved understanding of the factors that influence the adoption of social media in SMEs. Additionally, connectivity, mobility, visibility and persistence had not been identified as affordance to social media adoption.

Further, the study adds to the existing body of knowledge and has enhanced our understanding of the importance of the three contexts in the adoption of a specific technology, social media, in the SME context. Unlike many previous studies, this study has contributed to a model that takes into account different technological view. The developed model stresses the importance of technology affordance context, offers insights into the role of organisational factors in the adoption decision, and highlights the significance of technological factors in SMEs' decisions to adopt new technology.

Overall, this study reinforces the importance of the TOE model as a generic theory for understanding the adoption of technology in the SME context. It supports the conclusions of many previous studies (such as Alshamaila (2013); Ahmad, Abu Bakar and Ahmad (2018), 2013; Tajudeen, Jaafar and Ainin (2018); and Parveen et al., 2017) concerning the fact that TOE offers a solid theoretical basis to study the adoption of various technologies and has garnered consistent empirical support.

Major part of technology adoption studies on SMEs have generally focused in the developed countries. This study extended the knowledge of technology adoption in business setting to SMEs in the developing countries. As such, this study would help researchers to gain a better insight into the adoption of new technologies in a less researched context.

This study would enable the researchers to have a better understanding of social media adoption among SMEs in the SEA region as this group of countries share similar cultural and economic conditions (Akaaboune & Sandra, 2016). It would also allow the researchers to compare the adoption trends between developing and developed countries contexts and compare it with the majority of literature that address these issues in many developed countries.

8.3 Methodological contributions

The technology affordance perspective has revived research agenda by offering new methodological lenses for viewing the business–technology nexus (Jung & Lyytinen, 2013; Mazmanian et al., 2013; Scott & Orlikowski, 2014). Underlying

this research approach is a rationale which posits that an SME should change to meet the technology. The perspective holds that although the interplay between the context of practice and technology matters, this research has paid equal attention to technology and the context when addressing the situated use (Orlikowski & Scott, 2008). It shows that the context is not a background issue, a nuisance, noise, or impediment (Jung & Lyytinen, 2013), instead, the context of practice is co-constitutive of technology operation and is critical to the understanding of why something may or may not work (Leonardi, 2011).

In term of the choice of research designs, this research relied on methods that enable the in-depth exploration of practices through interviews, observations, or texts. The study also drew on data from a range of quantitative techniques to test the hypotheses. It has expanded the methodological approach by revealed a homogeneity in research approaches adopted to study the role that these new technologies play in the business process. The majority of published studies employed survey methodologies and claimed into innovation theories. The use of such an inductive approach is understandable and certainly warranted given the novelty of the phenomenon under study. Consequently, not much known about the way that social media are incorporated into business practice. Thus, it makes sense to uncover the affordances and constraints that these new technologies are having within organizations.

This study has successfully used a two-phase research design, sequential exploratory mixed methods approach, to study technology social media adoption in SME context by exploring the phenomena of interest through qualitative method, semi-structured interviews, which was then followed by quantitative method, survey, Therefore, it hopes that IS researchers are encouraged to employ various research methods to produce a richer and reliable results (Mingers, 2001) and offer an insightful perspective on new emerging technology in business context.

8.4 Managerial implications

The study's empirical findings could also have useful implications for SMEs. There are two general implications arising from the empirical findings. The most obvious is the development of a model that can be used by Malaysian SMEs to evaluate the technological, organisational and environmental conditions under which social

media technologies are adopted. SME owner-managers could make use of the TOE-based model developed in this study to assess the conditions under which social media may be adopted. This research also helps to increase awareness of the different factors influencing the decision to adopt these technologies. The model may also serve as a point of reference for other SMEs that are interested in considering social media adoption in the foreseeable future by raising awareness of which factors influence the adoption of these technologies in the SME setting.

In broad terms, the findings highlight the importance of five technology affordance which are significant in relation to the social media adoption decision: interaction; intimacy; flexibility; and collaboration. SMEs should therefore consider experimenting with different social media platforms to help them understand the potential of social media before making a formal decision to adopt.

The empirical analysis of this study supports that investment does not prevent SMEs from utilising social media as these technologies do not require high initial investment, it is available for free. which make it affordable by SMEs, when compared with many previous technologies (e.g., e-commerce and Enterprise Resource Planning (ERP) Systems). This, therefore, implies that SMEs should able to take this advantage of technology to compete with large enterprises.

This research also highlights the importance of top management support on SMEs' decisions to adopt social media. SME owner-managers with a full support to the business can overcome the technical learning barrier to the business. This could help SMEs to overcome the perceived lack of time with regards to adopting and using social media and may help SME owner-managers to allocate time to adopt and employ social media to interact with their customers. Another way to support this goal is to assign clear responsibility to a dedicated staff member in the enterprise to manage its social media profiles. Finally, SME owner-managers could seek to identify the resources to respond to customers as well as to evaluate the best platforms to use rather than dividing their efforts across different platforms.

It is also imperative for SME owner-managers to respond to demand from their customers. Customers' widespread use of social media appears to be an important

indication of the readiness of this important segment to interact with SMEs via social media platforms. Customers should be seen as important actors that drive SMEs to adopt social media platforms. This suggests that pressure received from customers may drive the adoption of social media technologies and that SMEs should therefore recognise the power of interacting with customers, as suggested by Chatzithomas *et al*. (2014). From a managerial standpoint customer pressure is the only factor were found to play an important role in the adoption decision, suggesting that SMEs should identify and evaluate the demand from these customer side.

The study's findings also highlight the impact of social media to technology paradoxes. The manager should indicate that adoption will give the business efficiency, more control, competent and fulfilment toward using the technology. The empirical findings related to the impact of the adoption to business performance. The finding suggests that SMEs that operate using social media enable to enjoy a level of improvement in non-financial business performance. While other research outcome may result no significant improvement in business financial performance, in context of this research SMEs are enjoying direct financial performance on social media adoption.

8.5 Policy maker implications

Having considered the implications of the study's finding to SMEs, this section presents implications for policy makers. SMIDEC is the main government player/policy maker responsible for the development of SMEs in Malaysia. One of its objectives, made clear the responsibility of SMIDEC to support innovation and the use of modern technologies among Malaysian SMEs (SMIDEC, 2017). In line with this objective, and given the implications of the study's findings, it is important for SMIDEC to benefit from the findings of this study to promote and enhance the adoption of social media among SMEs in Malaysia.

General implications are those broadly associated with the findings related to the research model and the descriptive analysis. The most significant implication in this category is associated with the development of a robust TOE-based model of factors influencing social media adoption among Malaysian SMEs. The model can help

SMIDEC to formulate strategies to increase its understanding of why some SMEs in the Malaysia private sector adopt social media while others with similar characteristics, operating in the same market and facing similar market conditions do not/have not yet.

If SMIDEC were to make use of this finding to promote social media adoption, it could help to increase the use of social media in Malaysia SMEs and put other SMEs in a better position effectively to adopt these technologies. In addition, in terms of addressing skills gaps, SMIDEC could coordinate and develop partnerships with the emerging social media consultancy agencies to accelerate the adoption of social media among SMEs and develop strategies for applying best practices with regards to social media adoption.

8.6 Limitation and future research directions

The study has successfully achieved its aims and objectives and answered the research questions that were identified. However, it is important to interpret the findings considering the study's limitations, which will be discussed in this section. Current research accepts several limitations which could be improved in the future studies.

The first limitation concerns the selection of the sample frame for the second phase of this research. The likelihood of including cases that are representative of the whole population was not known. However, efforts were made to ensure a careful assessment of the study's sample. Specifically, it uses convenience sampling to collect the quantitative data. Despite the growing acceptance of Survey Monkey as a reliable technique, the adoption of convenience sampling reduces the generalisability of the findings. Future research should replicate this study in a naturalistic setting, directly recruiting participants from SMEs.

Futhermore, this study used a sample with a possible geographical bias as it focused on SMEs located in geographical area of major cities in Malaysia this introduces difficulties in generalizing the results to other SMEs in the remaining state of Malaysia. The decision to confine the sample of SMEs to one geographical area was

taken because fewer details were available and lack of respondent access in the other geographical areas of the country. Nevertheless, considering the similar cultural and economic conditions faced by SMEs throughout the country, it is believed that the impact of restricting the choice of the investigated SMEs to only those located in the capital was limited.

Additionally, this study considered the adoption of social media in several industries rather than confining the research to a single industry sector. Although studying adoption in different industries could cause issues of generalizability, it is believed that taking this approach enabled the researcher to gain a holistic perspective with respect to adoption in various industries as well as to reduce the bias of limiting the study to one industry. In doing so, this study offers an initial step towards understanding social media adoption in a single industry context that could be taken forward in future work. It is widely recognised that each industry has its own characteristics and requirements which make them unique with respect to various issues, including adoption. In particular, it has been argued that certain social media platforms/applications are, to some extent, sector-dependent.

The current study has also uncovered an unexpected negative relationship between the mobility and adoption, which is in contradiction with research that discusses mobility as an adoption factor for social media usage (Sorensen et al., 2013). Additionally, semi-structured interviews have illustrated that mobility members were conscious about how ubiquitous computing has enable the technology accessibility in different setting other than business office. This negative relationship on other factors such as competitive pressure, investment and external technology support are another exciting avenue for further investigation.

The next limitation in this theme is related to the choice of social media platforms/applications included in the study. This study considered the adoption of social media applications in general, rather than studying a single platform, such as Facebook, Twitter or Instagram. At the outset and owing to the lack of studies and information on the common social media platforms with which businesses engage, a set of platforms/applications were identified in the first phase of research. Thus, in the second phase of this research these identified platforms/applications were

included to ensure wide participation as this study included SMEs across several industries. In its findings, the study does not, therefore, differentiate the factors that influence the adoption of each of these platforms/applications.

In both phases of the present research, data were collected from a single source for each SME, the SME owner-manager, as he/she represented the key decision maker in the enterprise. This approach to data collection is the common practice in the majority of the technology adoption literature addressing SMEs. SME owner-managers were chosen as the primary source of data collection owing to their dominant role with regards to the adoption of technology in their enterprises. However, the reliance on a single source of information may lead to some factors not being raised and thus their impact being not considered. Taking into account the view of additional 'actors' with the enterprises may have raised others issues and provided further information that might, in turn, have provide other insights into the adoption issues.

This study was limited to the views of one person in each enterprise, the owner-manager. Future research could seek the views of other stakeholders, including employees, suppliers, customers and government units in charge of innovation adoption. This may offer deeper insights into the factors affecting social media adoption and lead to an improved understanding of the adoption decision in SMEs.

Having identified the key limitations of the work, further study recommendations for future research including those to address the identified limitations. While this study has met the aim and objectives initially set out, there is a need for further empirical research to build on the research findings and to address the limitations.
The first concerns the replication of the study in other parts of Malaysia. Given that the research has examined the adoption of social media among SMEs in main cities in Malaysia, future research is needed to replicate the study in other regions of the country to help to assess the generalizability of the results and to understand potential differences between SMEs in rural and urban areas.

For future research in this area would suggest to carry out cross-national/cross-regional studies. Conducting cross-national/cross-regional studies would deepen

our knowledge about adoption in SME settings, offering opportunities to more deeply consider the role of cultural differences in adoption decisions. Further studies that compare SMEs in developed and developing countries may also reveal different adoption behaviours.

It will also interesting for future research in this area would be to aim to replicate this study in large-sized enterprises (LEs), using the same theoretical lens and methodology that was employed in the study reported in this thesis, in order to seek useful insights into differences across organisations of varying size

Having noted that the TOE-based model developed in this study may have been impacted by the context in which the study took place, as well as being influenced by the technology considered, future studies may be needed to gain a better understanding of these impacts and influences. For example, studies using an alternative approach, such as grounded theory, may provide further insights into the impact of the context and provide further opportunities to understand the influences of social media.

8.7 Chapter summary

This study has contributed to the understanding as well as to the limited knowledge on social media adoption, as it has examined the adoption of these technologies using a mixed method approach, in a highly important type of businesses, SMEs, in a context with limited studies, namely developing countries context.

This study has employed a mixed method approach in order to have a better understanding of the technological, organisational and environmental factors that influence the adoption of social media by SMEs. As these new technologies are gaining popularity and wide acceptance among businesses, it is believed the research into the adoption and implementation of these technologies will become increasingly important. It can be said, therefore, that this study is a step in that direction as it had an exploratory objective to generate a comprehensive picture about social media adoption among SMEs in Malaysia.

APPENDICES

Appendix A: Definitions and descriptions of social media

Author(s)	Definition / Description
Kaplan and Haenlein, 2010	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'
Schaupp & Belanger, 2013	Social media creates value for SMEs in regard to internal operations, marketing, customer services, and sales which are very important factors in case of small and medium sized enterprises
Majchrzak, Faraj, Kane and Azad, 2013.	We use the term social media to refer to a group of Internet-based technologies that allows users to easily create, edit, evaluate and/or link to content or to other creators of content
Kane , Alavi, Labianca and Borgatti, 2014	Social media networks possesses four essential features, such that users (1) have a unique user profile that is constructed by the user, by members of their network, and by the platform; (2) access digital content through, and protect it from, various search mechanisms provided by the platform; (3) can articulate a list of other users with whom they share a relational connection; and (4) view and traverse their connections and those made by others on the platform.
Scott and Orlikowski, 2014	Social media websites are characterized by the active engagement and online contributions of large numbers of people across time and space. Such websites depend predominantly on what is known as user-generated content, provided through members ongoing and often informal contributions.
Atanassova and Clark, 2015	Social media enables two-way real time communication, tacit information dissemination, engagement with this information, and relationship building.
Parven, Jaafar and Ainin, 2016	Social media enables open communication, which helps organizations to understand customer needs and motivates them to respond proactively and efficiently to those needs.
Zhang, Guo, Hu, & Liu, 2017	Social media allows the users, without any need to physical presence, to communicate and generate content
Humaid and Ibrahim, 2019	Social media enables and supports information sharing, communicating, and collaboration that allows businesses to accelerate their work by working in global markets.

Appendix B : Previous research methods on social media studies

Main Author(s)	Region	Research Objectives	Approach	Method
Kim, Lee, and Lee (2011)	US	Analyse Web 2.0 usage	Qualitative	Secondary data
Michaelidou et al. (2011)	UK	Usage, barriers and measurement of social media marketing	Quantitative	Questionnaires
Barnes et.al (2012)	UK	Investigate the benefits of Web 2.0 and characterize the type	Qualitative	Case study Semi structured interview
Durkin & McGowan (2012)	Europe	Exploring social media adoption in small to medium-sized enterprises in Ireland	Qualitative	Case study Action research
Marshall et.al (2012)	US and UK	The impact of social media and related technology on the selling environment	Qualitative	Focus group Semi structured interview
Witzig, Spencer, and Galvin (2012)	US	To determine the extent of Linked In usage compared to business organization	Qualitative	Secondary data
Fosso and Carter (2014)	Australia, US, UK	Social media usage and impact to SMEs	Quantitative	Questionnaires
Schaupp (2014)	US	The antecedent and value of social media for small businesses	Qual → Quan	Semi structured interview Questionnaires
Janice (2014)	Malaysia	Analyzing the use of Web 2.0 for brand awareness and competitive advantage	Quantitative	Questionnaires

Stefan & Grunden (2014)	Sweden	To investigate social media marketing in the wellness industry	Qualitative	Semi structured interview
Paniagua and Sapena (2014)	US	Business Performance and social media	Qualitative	Secondary data
Gu and Ye (2014)	China	Measuring the influence of online management responses on customer satisfaction	Qualitative	Secondary data
Humphreys and Wilken (2015)	US	The privacy tension of small business using social media	Qualitative	Group interview
Sulaiman et.al (2015)	Malaysia	Factors influencing the use of social media by SMEs and its performance outcomes	Quantitative	937 questionnaires and 259 response
Parveen *et.al.* (2016)	Malaysia	Social media usage and organizational performance	Qualitative	Semi structured interview
Effing and Spil (2016)	Netherland	The social strategy cone : Towards a framework for evaluating social media strategies	Qualitative	Case study and interview

Appendix C: Differences between the affordance perspective and others

Major perspectives on technology adoption	Examples of theoretical approaches	Limitation of these theoretical approaches to social media studies in SMEs context
Deterministic school This is characterized either by ‘‘hard line determinism—the belief that certain effects inevitably follow from the introduction of technology’’or by ‘‘more moderate contingency views, which argue that situational factors interact with technology to cause outcomes’’ (DeSanctis and Poole, 1994, p. 123)	**Task-technology ‘‘fit’’ (Jarvenpaa, 1989)** Task-technology fit theory posits that for technology to have a positive effect on individual performance, the capabilities of the technology should match the tasks that the user must perform. In the tourism context, the capabilities of social media should match the tourism service provider’s strategies to engage customers (Jarvenpaa, 1989)	**Concerns** Technology is seen as immutable but social media are flexible tools. Tourism service organizations that might have assumed fixed and immutable technology now must consider the possibility that social media is dynamically changing as a basis for organizational functioning, thus triggering consequent changes in organizational functioning. (Yoo et al., 2012)
Institutional school Technology is seen as ‘‘an opportunity for change, rather than as a causal agent of change,’’ wherein ‘‘people generate social constructions of technology’’ and ‘‘the creation, design, and use of advanced technologies are inextricably bound up with the form and direction of the social order’’ (DeSanctis and Poole, 1994, p. 124)	**Structuration theory (Giddens, 1979)** Structuration theory suggests that people draw upon norms and communication processes to shape their interactions with technology. In the context of social media use to engage customers, this means that there is not only a social structure of traditions, institutions, moral codes, and established ways of acting but also that these can be changed when people begin to ignore, replace, or reproduce them differently (Giddens, 1979)	**Concerns** Structuration theory might be unable to fully account for the fluid and flexible interchanges between social media and tourist organization behaviors because of privileged human behavior and the discounted technological capacity for action of those who produce and use the media.
Social technology school (integrative perspectives) This school of thought advocates ‘‘softline’’ determinism, or the view	**Adaptive structuration theory (AST) (DeSanctis and Poole, 1994)** This perspective considers ‘‘the mutual influence of technology and social processes’’ (DeSanctis and	**Concerns** Although adaptive structuration theory considers the mutual influence of technology and

that technology has structures in its own right, but that social practices moderate the effects of these structures on behavior	Poole, 1994, p. 125) It also attributes human qualities such as ‘‘intent’’ and ‘‘values’’ to artifacts	social processes, structural features are conceptualized as technology properties, rather than an opportunity for action at the intersection of technology and tourism organizations. This means that in this theory the notion of appropriation refers to actual uses of social media rather than the potential uses
Ecological psychology (Gibson, 1979) ‘‘Ecological psychologists believed that animals and people directly ‘pick up’ rich information from the objects in their environment. In this conception, animals and people perceive, not the properties of objects, but rather the ‘affordances’ of objects, defined as ‘‘the acts or behaviors that are afforded or permitted by an object, place, or event’’ (Michaels and Carello, 1981, p. 17)	**Technology affordance (Hutchby, 2001**) The affordance lens suggests that ‘‘technologies can be understood as artifacts which may be both shaped by and shaping of the practices human use in interaction with, around and through them’’ (Hutchby, 2001, p.444)	**In favor** As relational concepts, affordances facilitate the tourism service provider’s understanding that what an individual or tourism organization with particular capabilities and purposes can or cannot do with social media might be very different from what a different individual or organization can do with the same technology. Thus, the appropriation concept refers to potential uses of social media.

Source : Cabiddu et.al (2014)

Appendix D: Semi structured interview protocol

Section 1 : General Information		
a.	Background of participant	
b.	Background of business	• Business establishment • Type of industry • The business position in industry • Founders, strategic partners and competitors • Business performance indicator
Section 2 : Familiarization with social media		
a.	Technology selection	• How do you define social media? • What are the social media being used?
b.	Management and human resource	• How long has been using social media (when, why, who)? • Motivation / purpose of using social media • What are the outcome expected? • How do you design social media strategy (any specific approach)? • Who has responsibility to social media (updating, reply to comments)? • Do you have any budget for social media? • Any dedicated staff to manage social media (staff qualification, salary)? • Any external party assist in initiate or implement social media?
Section 3 : Social media usage and impact to business		
a.	• How do you judge a successful social media initiative? • Any measurement of social media? Any tracking metrics? • What social media add to your business? Which area? • What improvement social media brought to your business?	

Appendix E. Interview excerpt

Interview	Type of Social Media Used	Activities	Social media features	Affordance / Impact	Selected excerpt
SME17	SNS : Facebook Whatsapp Instagram YouTube	Advertising & Branding	- Status updates - Share images and video - Write useful content - Share content with friends	Affordance: • Interaction Impacts: Usage Paradoxes	"..to introduce the business. Promotions. Facebook helps a lot. For branding, it makes me to know something that unknown. It's the brand. When people share (the content), eventually I will aware (about the brand), get familiar with the name and logo."
SME16	SNS: Facebook Whatsapp	Human Resource Advertising & Branding Business Relations Sales & Marketing	- Status updates - Discussion in group - Share information in group - Consistent updates - Get customer handphone numbers -Content publishing consisting of text, images or videos - 'List of friends' or connection	Affordance: • Intimacy • Persistence • Collaboration Impacts: Usage Paradoxes	"Social media for recruitment. Put all the recruitments in one Whatsapp group, to get them registered" "Social media is a connecting tool for work purpose. Has limitation. Social media is for update identity card, forms, payslip and claim. More on technical assistance. To close sales I have to develop reputation first. By asking their wellbeing for example."

			- Birthday reminder - Tagging location or person in status updates -'About' and personal profiles - Facebook/Whatsapp call - FB Page and group		"Social media is use for internal communication. Even one consultant in a group, eventually there will be other 2 or 3 groups followed. Depending to his personal touch." "When I get into community, in 3 to 4 years. For prospecting and service, we have to keep in touch (with customers). From they were still young, single, married and then have kids. Later the kids need education plan, medical card. Or maybe he (the customers) moving somewhere else, the (insurance) policy need to be revised."
SME15	SNS: Facebook Instagram Whatsapp	Sales & Marketing Advertising & Branding Business Relations	- Internal group discussion - Send latest update to Whatsapp group - Send promotion details to groups - Discussion with customers in groups -Status update	Affordance: • Visibility • Interaction Impact: Performance	"Engagement, to increase credibility, create sales lead. When we organize seminar, we use social media to introduce." "Other than sales and marketing, we use Whatsapp to create a discussion to increase our productivity. All process can be speed up. No need face-to-face. Problems can be solved using Facebook and Whatsapp."

SME14	SNS : Blog FB LinkedIn Twitter Skype Facebook	Business relations Human resource Advertising & branding	- Facebook group - Create group for internal discussion, assign job - Facebook page for promotion and information sharing - Facebook chat and messenger -Update event and expo informations.	Affordance: • Collaboration • Visibility • Persistence Impact: Performance	"Since 2009, I am the head of co-operation work, I advocate social media for my team. We have about 100 plus members, Some of the members or founders literate in IT. Some teacher in IT, so we are using Facebook to reach out, to get people aware what we are offering." "When we organize program, my partners is in Kedah. Our team are from everywhere. Not only in town. We are not in building where everybody is in there. If we have a program, we assigned (the job) online. We use social media both for internal and external use. "We encourage usage of social media to sell tickets. We sell workshop and event ticket, even sell a space for expo. (Sell) 10 lots of expo space through social media. We give details about the exposition, the diagram, we use social media a lot to reach out." "We use a lot Yahoo Messenger, but now move to Facebook messenger. Still in one to one and small group. Now we use Skype, Linked, a lot of internet

					communication tools. Twitter and Instagram. A lot of our targeted community using it. We also toying with Weibo, Line, KakaoTalk but obviously, particularly Malay, they are on Facebook. Twitter is less. Facebook and Instagram mostly."
SME13	SNS: Facebook Whatsapp Blog	Business relations Advertising & branding	-Publishing content consisting text, video or images in blog. - Status updates - Information sharing - Updating training module in blog	Affordance: • Persistence • Visibility Impacts : Usage Paradoxes	"In the industry, social media become an attraction. More agents use social media, Facebook and blog to get customer referrals. In the blog, they write and update about module, training information and updates. But in Facebook, is more to advertisement. For example, we advertise a trip to London. Or when we organize a 'recruitment drive' to a place. Inviting people to workshop"
SME12	SNS: Facebook YouTube Whatsapp Blog	Advertising & branding	- Facebook page updates - Using Facebook Ads. - Able to control location, age, sex of the advertisement using FB Ads	Affordance: • Persistence • Visibility • Intimacy Impacts : Usage Paradoxes	"Currently, we use Facebook Page. This week. Then we can control the location, age, sex so forth (of the target Facebook viewer). We will focus to them. Then there is Facebook technical analysis. We use Instagram, Facebook page, blog. Not a paid advertisement. We have tried it in Bangi and Sabah

			- Learn some advertisement technical sales analysis using Facebook - Facebook Like booster - Whatsapp chat to close sale - Chatting record, reverse chronological that provide timeline - Upload video on YouTube		but, not much changes in sales. In Facebook Ads has like booster." "We receive an input from friends, and we try. When we look in detail, Whatsapp is better in close sales. However, marketing is happening is Facebook." "We use YouTube. There are customers call us directly. But we have to do it (upload video) frequently. It is a trend nowadays when people use video. We have doing it for sometimes, there are viewers, more than 1000." "We want to have communication with customer and we are slow if we are using (Facebook) Page. It is different with Whatsapp. We chat with customer, and started be friends. They even call me 'Sis' (sister)."
SME11	SNS: Facebook Instagram YouTube	Business relations	- Facebook status went viral (being shared beyond control)	Affordance: • Persistence • Visibility	"Initially, it was by accident. When I created Durian Monkey (game application), I uploaded it to Google Play. I didn't know that my friends started to share this game. Among friends share it. There is

		Advertising & branding Marketing & sales Research	- Put up video capture in YouTube - Share screen captured in Facebook - Tagging name	• Intimacy Flexibility • Connectivity Impact: Performance	a rating. Initially, only 5 people downloaded it, after months, thousands! Then I decided to create more games. There are 6 games now just within few month." "She asked me to develop flight simulator. It took me 8 months to complete. My name started to viral. More people asking me for my company's Facebook Page. Since then I started one, there is SME11 Facebook Page. Since then I decided to promo it by screen and video capture of games developed. Put it up on YouTube, share at Facebook. I also have Twitter and people start to promote Instagram." "We initially started at home. After the success of the project, we were offered and incubator by MaGic at Cyberjaya. After hit by stroke (disease), I can't go back to my previous work. I need to do something remotely from home. […] During that time I can't do programming, half of my body paralyzed, my hand cramped. But I slowly recover."

					"For marketing, for promotion, for influence and for me myself. It is sometimes people in a group of business, looking for game developer. Somebody will tag my name. So popularity and existence. I don't use other outside (offline) marketing other than social media. Entirely on social media." "I like to test and experiment. If it doesn't work, I will stop. I will use the free (application). I am very open, not because being influence by others who are using the applications. It's on business strategy. To put on my personal Facebook, I feel it is not professional. You will notice, SME11 Facebook Page is all about product. Mostly, what is there is a totally business (content)."
SME10	SNS: Facebook Blogs Whatsapp	Advertising & branding Business relations	- Location tagging -Name tagging - Share location - Group discussion - Send information to group	Affordance: • Intimacy • Visibility • Interaction Impacts : Usage Paradoxes	"We have Facebook. Less on Instagram. Most important in business for more than 16 years, is word-of-mouth. From primary school until end of secondary school. In our registration from, we have put column to know how the customers get to know us. Most of them wrote through recommendation. We can have flyers, banner, billboard as offline

					strategy, but the most effective is recommendation." "There is Whatsapp group created by parents. In the group, they discuss and talk about our services. It is a good respond."
SME9	SNS: Facebook	Advertising & branding	- Status update - Name tagging - Facebook check-in - Geo-tagging and map	Affordance: • Visibility Impacts : Usage Paradoxes Performance	"I use Facebook to make announcement and promotion. Until today, we just update what we are doing here, what service available. Other than Facebook, not yet. Now I manage it by myself. I have SME9 Page. People can check-in and tag. It is in the map."
SME8	SNS: Facebook Instagram Twitter Wechat Blog	Advertising & branding Business relations	- Location tagging - Name tagging - Facebook check-in - Content publishing consisting of text, images and video - Share content among blog communities	Affordance: • Intimacy • Visibility • Collaboration • Flexibility	"There were many people who help us. Sabah Tourism, in-flight magazine. The owner of Breeze magazine has a good networking and business contact with bloggers. So, we sent a letter of invitation, calling for bloggers. Treat them with free food. They took photos and wrote up an article, posted it in their blogs. It was a hit!"

				Impacts : Usage Paradoxes	"Since he has 170 thousand Facebook followers, we give it a try (paid review). Our first experience, the Facebook post went viral. Our sales increased, (product) sold out. But it is just temporary, one time shot." "As for us, we outsource certain part of job. We appoint Jesselton. He will do the marketing for social media. He is has been doing this.
SME7	SNS: Facebook Instagram Blogs	Advertising & branding Business relations Research	- Content publishing consisting of text, images and video - Share content - Name tagging - Facebook user data by region - Visible in search engine	Affordance: • Persistence • Visibility • Intimacy • Mobility • Collaboration Impacts : Usage Paradoxes	"We have our own benchmark. For example, for now not all people like Facebook and started to share to Instagram. We are get used like this. We are not the same like others. We want influence, lifestyle and bring positive story. To compare with other is difficult. This is digital media. […] All search engine we have in control." "We see first how it goes. Study first. Depend to the user. We need to understand this the market and audience. Try and look for Facebook data. Look for the most active region. Malaysia and Indonesia are

					active. In a few minutes, hundred and thousand use Facebook. It is not the same culture as US or another region. The bad side, it created another type of war. A war of perception." "SME07 going to Indonesian market. Pretty much as the same as Malaysian market. Maybe in certain thing is better. Writing for example. They are being expressive in writing" "They are quite open expressing themselves. [..] That's why the game is different. Social media in Malaysia and Indonesia are friendly. You can be friend even you have never met." "6 of us. We started just to have fun, nothing serious. But when I joined them, I started to enjoy it. I like. SME07 started to move on seriously. When there is a serious person, it can be a start-up company. Step by step." "We were start-up. All of us, willing to join a business minded person. To give back something to society. I like to bring positive stories. I'm happy

					doing it. In a way, I have manged to find a new things, found new friends."
SME6	SNS: Facebook Instagram Blog	Advertising & branding	- Customers clicked Like - Using Facebook Ads - Allow to use own brand / company name as social media account user. - Facebook search engine - Private message to user	Affordance: • Interaction • Persistence • Visibility Impacts : Usage Paradoxes Performance	"For me, the easiest way to get users by using Facebook. There are customer who are too lazy to use Google, they used Facebook search instead. There are customer who searched for us, and our Facebook Page will be displayed. From 5th to 9th month, the number of Like is very encouraging. It reached 3,000 likes in 3 to 4 month. So I can see the easiest way to use Facebook Ads. But for now, I don't spend (more) money there (FB Ads), but it help indicate that people come my shop not only from Google search result. If you use Google, other company (competitors) listing will also be displayed." "I'm using social media by following what the customers are using. Instagram for example. But when I was started, somebody else already use my name. Account name. PET Bottle Malaysia. But he

					use PET-Bottle. So I have to act quickly. Then I restart our Instagram." "I have been thinking to use Blogspot or Wordpress. But the name (brand) is not professional enough. I want to give an impression that my business is well established." "Honestly, my initial intention to use social media is just to let others know my product existence. That is the reason I don't write up a lot. It's more to let other know what I have. To tell them we have shop (outlet). Some of seller in Facebook, don't even have a shop. That the reason, some customer always ask us to send them message privately. We don't want our customer think we are the same (have no shop). Just to ensure customers know we do have physical shop and not only available online. To pull customers to the shop."
SME5	SNS: Facebook Instagram	Advertising & branding	- Status update - Share photos, images	Affordance: • Connectivity • Visibility	"Social media help in terms of awareness of product to customers. Started to have demand from Tawau. From Sandakan. It also increase HafizAmira brand.

			- Working from remote area	Impacts : Usage Paradoxes Performance	When we push (update) in Facebook status, that we will be at the exposition, people were coming. Even some ask, 'HafizAmira' is not joining the exposition?"
SME4	SNS : Facebook, Wechat Whatsapp Instagram Blogs	Advertising & branding Business relations	- Content publishing consisting text and images. - Product catalogue and display - Whatsapp chat to close sale	Affordance: • Visibility • Persistence • Interaction Impact: Performance	"Just to view products. When the prospect customers like what he/she saw, they will come to my shop. Whatsapp is for images sharing. But when they intend to purchase, they will come to shop, take some sample home. The brand will increase. When I update status in Facebook, there are many Likes, they viewed, and soon will call and come to my shop. For promotion. Initially for marketing, but people only view and like. "When people use it, we want to use it too… We have to follow something new or we will be left behind. Offline will decrease. More people buy online. Lazada, 11street."
SME3	SNS: Facebook	Advertising & branding	- Facebook Ads - Facebook Live video	Affordance: • Visibility	"Just recently we use Facebook. My sister doing it. She is using Facebook Boost for Like. And it helps people get to know this place. Every time, there is

				Impacts : Usage Paradoxes	always new updates. Now we use Live, helps to update.”
SME2	SNS: Facebook Whatsapp	Advertising & branding Business relations Human resource	- Status update - Chatting - Share information with public users - Facebook messenger - Name tagging - Location tagging - Facebook business review and rating - Facebook check in	Affordance: • Persistence • Interaction • Collaboration • Intimacy Impacts : Usage Paradoxes Performance	“The clinics have Facebook Page. Started few years ago. I don’t put too much time in social media, but it has a lot of potential. It is time consuming. I don’t have enough time. Once in a while, I put up a status, most of it actually, to expend the business. To give them information, so they aware the current situation.” “Facebook main purpose is to educate. Every time we organize a program, Whatsapp is use when people asked me a question. We entertain their questions. Facebook for promotion. Education, promotion. Announcement, activities and product review.” “Facebook messenger. They do ask about how to contact certain things, medicine, they do send us message.”

					"Between colleagues, doctors Whatsapp. They asked about status, update of clinic or patient.That;s good. But to be honest, the brand of the clinic become popular, higher rating. Or what patient post (in social media). When people tag, share location. When they come, they check-in. Feeling safe. We can't measure direct impact."
SME1	SNS: Facebook Instagram Whatsapp	Advertising & branding	- Monitor advertisement budget and expenses - Status update - Share update - Group chatting and discussion -Upload and share travel package photo	Affordance: • Intimacy • Visibility • Persistence • Collaboration • Interaction • Flexibility • Mobility	"At one point, customers will ask us about our Facebook page or website. The demand from the customers themselves required us to be in social media. It will develop trust. They want to know what is our progress. In website we can't afford to update frequently, but in Facebook Page and Instagram we can always share any updates." "Social media is for promotion. Facebook and Instagram. The feedback is excellent." "Promotion for travel package. When we started the advertisement, we have put up our telephone number. We will follow up in Whatsapp. There will be staff to handle. Whenever we have trip, the

					whole members will be put in one Whatsapp group. Instagram is for travel package promotion too." "We have appointed Sufian. He taught us on how to follow up how to cut the cost and setting for budget. In monitoring, the budget and sales. We pay him. He has experience. But he has lot other commitment (in job). He is not only with us. He is not permanent staff." "Permanent staff is 15. Including tour guide is 30 altogether. Tour guides are not permanent (staff), they are part timers, base on job." "Office in Ipoh. But we operate more to online. We have representative in regions. South, North, Central. We have 5 representatives for 5 regions. Sabah and Sarawak and East Coast."

Appendix F. Organising framework for social media research

		Activities			
Level of analysis		**Designs & features**	**Strategies & tactics**	**Management & Organisation**	**Measurement & value**
	Users & society	How do users interact with social media features? How does feature design affect their use, interaction with one another, satisfaction, and ability to derive value from social media?	How can users optimize their use of social media? Which objectives do users pursue in using social media? How can they create relationships, curate information, broaden their reach, and maximize their influence?	How do users organize within communities and social media? How does community Organisation emerge? What are the effects of community organisation and management on user contribution, participation, satisfaction, etc.	What are the benefits and costs of social media? How can we measure consumer surplus generated by social media? What is the non monetary value that social media create (e.g. equality, health, violence, civic engagement)?
	Platforms & intermediaries	How do platforms and intermediaries design social media features? How do specific features and designs help platforms attract users, create engagement, enable and constrain user behaviour, and increase revenue?	How can platforms maximize their influence and revenue? What are the Product development, pricing, partnership, marketing, and acquisition strategies that achieve the best results? Should platforms be open or closed, standardized or ad hoc?	How should platform operators organize internally? How should platforms create, manage, and instil culture within their ecosystems? Which skills, talent, or human resources should platform operators develop? How should platforms create incentives to guide social media activities?	What is the value added by platforms? What are sensible valuations for platforms? How can we measure the value of platform ecosystem partners and ecosystems? How can value be allocated across the ecosystem to optimize incentives?

	Firms & Industries	How should firms interact with specific platform features to maximize their benefit? What features should firms design into their home-grown social media initiatives?	What types of social media initiatives work best for what firms? How should firms interact with public social media? What combinations of home-grown and public social media initiatives should firms pursue? How should firms respond to social media crises?	How should Companies organise, govern, fund, and evolve their social media capabilities? What skill and culture changes are needed to best adapt to a social world? Which skills, talent, or human resources should firms develop? How should firms create incentives to guide social media activities?	How do we measure the short- and longterm bottom line and intermediate outcomes of social media for firms? How do social media add value to firms? What industry-wide efficiencies have been (can be) attained via social media?

Source : Aral, Dellarocas & Godes, (2013)

Appendix G: Technology acceptance theories/models comparison

Theory/Model	Constructs (Independent Variables)	Moderators
1. DOI	1. Advantage 2. Compatibility 3. Complexity 4. Trialability 5. Observability	None
2.TRA	1. Attitude toward behavior 2. Subjective norm	1.Experience 2. Voluntariness
3.TAM2	1. Perceived usefulness 2. Perceived ease of use 3. Subjective norm	1.Experience 2. Voluntariness
4. TAM	1. Perceived usefulness 2. Perceived ease of use 3. Subjective norm	1. Gender 2. Experience
5. TPB	1. Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control	1. Gender 2. Experience
6. UTAUT	1.Performance expectancy 2. Effort expectancy 3. Social influence 4.Facilitating conditions	1. Gender 2. Age 3. Experience 4.Voluntariness

Source: Venkatesh*et al.* 2003; Kripanont 2007, Dulle, Minishi-Majanja and Coloete2010

Appendix H. Final survey instrument

University of Glasgow

Social Media Adoption in Small and Medium Enterprises
Pengambilan Media Sosial dalam Perniagaan Kecil dan Sederhana

1. Participant Information Statement
Penyataan Maklumat Peserta

Dear CEO/manager,

The purpose of the study is to learn more about the factors that influence the SME's decision to adopt social media platform and the impact of adoption.

The company and you are part of a representative sample that operating in Malaysia. Your kind participation to answer the questionnaire is critical to the study. Responses are anonymous and all information provided will be strictly confidential and purely for academic purpose only.

I would like to thank you in advance to participate in this survey. The survey will take approximately 15 minutes to be completed. If you have any questions about this study or questionnaire please contact me using the information as below.

Ketua Pegawai Eksekutif / Pengurus yang dihormati,

Tujuan kajian ini adalah untuk mengetahui lebih lanjut mengenai faktor-faktor yang mempengaruhi keputusan PKS untuk menerima platform media sosial dan kesan penggunaan.

Perniagaan anda adalah sebahagian daripada sampel yang beroperasi di Malaysia. Penyertaan anda untuk menjawab soal selidik adalah penting untuk kajian ini. Semua maklumat adalah sulit dan identiti dirahsiakan. Ia semata-mata bagi tujuan akademik sahaja.

Saya ingin ucapkan terima kasih terlebih dahulu kerana turut serta dalam tinjauan ini. Kajiselidik ini akan mengambil masa sekitar 15 minit untuk dijawab. Jika anda mempunyai sebarang soalan mengenai kajian ini atau skajiselidik ini, saya boleh dihubungi dengan dengan melalui maklumat di bawah:

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* 1. What is your gender?
Nyatakan jantina anda?

- Female
  Perempuan
- Male
  Lelaki

* 2. To which age group do you belong?
Nyatakan kumpulan umur anda?

- Below 25
  Bawah 25
- 25 to 34
  25 hingga 34
- 35 to 44
  35 hingga 44
- 45 to 54
  45 hingga 54
- 55 to 64
  55 hingga 64
- 65 and above
  65 ke atas

* 3. Please indicate your highest education qualification.
Nyatakan kelayakan pendidikan tertinggi anda.

- No formal qualification
  Tiada pendidikan formal
- High school
  Sekolah tinggi
- Technical & vocational training
  Latihan teknikal & vokasional
- Other (please specify)
  Lain-lain (sila nyatakan)
- Professional qualification
  Kelayakan profesional
- Undergraduate
  Sarjana muda
- Postgraduate
  Pascasiswazah

University of Glasgow

Social Media Adoption in Small and Medium Enterprises
Pengambilan Media Sosial dalam Perniagaan Kecil dan Sederhana

2. Busines General Information
Maklumat Umum Perniagaan

* escribe your business sector.
takan sektor perniagaan anda.

- Services
  Perkhidmatan
- Construction
  Pembinaan
- Manufacturing
  Pembuatan
- Mining & Quarrying
  Pelombongan & Pengkuarian
- Agriculture
  Pertanian

* 5 r(s) of establishment. /
penubuhan

- Less than a year
  Kurang dari setahun
- 1 to 3 years
  1 hingga 3 tahun
- 3 to 5 years
  3 hingga 5 tahun
- More than 5 years
  Lebih dari 5 tahun

* proximate annual sales figure of your business.
aran jumlah jualan tahunan perniagaan anda.

- Less than RM300,000
  Kurang dari RM300,000
- RM15 million to RM50 million
  RM15 juta hingga RM50 juta
- RM300,001 to RM3 million
  RM300,001 hingga RM3 juta
- More than RM50 million
  Lebih dari RM50 juta
- RM3 million to RM15 million
  RM3 juta hingga RM15 juta

* 7. The total number of employees.
Jumlah pekerja

- Less than 5
  Kurang dari 5
- 6 to 74
  6 hingga 74
- 75 to 199
  75 hingga 199
- More than 200
  Lebih dari 200

8. Business market area.
Kawasan pemasaran perniagaan.

- Local
  Tempatan
- State / Regional
  Negeri / Wilayah
- National
  Kebangsaan
- International
  Antarabangsa

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Social Media Adoption in Small and Medium Enterprises
Pengambilan Media Sosial dalam Perniagaan Kecil dan Sederhana

3. Social Media Adoption
Adopsi Media Sosial

* 9. Please indicate which of the following platforms the business has presence in? (you can choose more than one option)
Sila nyatakan platform yang digunakan oleh perniagaan ? (anda boleh memilih lebih dari satu pilihan)

- [ ] Facebook
- [ ] Instagram
- [ ] Twitter
- [ ] Whatsapp
- [ ] Telegram
- [ ] Other (please specify) / *Lain-lain (sila nyatakan)*
- [ ] Wechat
- [ ] Blogs
- [ ] LinkedIn
- [ ] Google+
- [ ] Others (please specify) / *Lain-lain (sila nyatakan)*

* 10. Purpose of adopting social media in the business. (you can choose more than one option)
Tujuan memilih media sosial dalam perniagaan (anda boleh memilih lebih dari satu pilihan)

- [ ] Employee management
  Pengurusan pekerja
- [ ] Business networking
  Rangkaian perniagaan
- [ ] Attract new customers
  Menarik pelanggan baru
- [ ] Getting business referrals
  Mendapatkan rujukan perniagaan
- [ ] Increase customers awareness
  Meningkatkan kesedaran pelanggan
- [ ] Cultivate relationships
  Memupuk perhubungan
- [ ] Customer service activities
  Aktiviti perkhidmatan pelanggan
- [ ] Interact with suppliers
  Interaksi bersama pembekal
- [ ] To receive customers feedback
  Untuk menerima maklumbalas pelanggan
- [ ] Information sharing and search
  Perkongsian maklumat dan carian
- [ ] Customer relations
  Perhubungan pelanggan
- [ ] Conduct market research
  Menjalankan kajian pasaran
- [ ] Partners relations
  Perhubungan rakan kongsi
- [ ] Communicate brand
  Komunikasi jenama
- [ ] Public relations
  Perhubungan awam
- [ ] Advertising & promotion
  Pengiklanan & promosi
- [ ] Others (please specify)
  Lain-lain *(sila nyatakan)*

* To what extent do you agree with the following statements as they relate to your business:
Sejauh mana anda bersetuju dengan penyataan dibawah yang berkaitan dengan perniagaan anda:

	Strongly Disagree *Sangat Tidak Setuju*	Disagree *Tidak Setuju*	Somewhat Disagree *Agak Tidak Setuju*	Neutral *Neutral*	Somewhat Agree *Agak Setuju*	Agree *Setuju*	Strongly Agree *Sangat Setuju*
11.1 : We consider our business as a frequent user of social media. *Kami menganggap perniagaan kami sebagai pengguna media sosial tegar.*	○	○	○	○	○	○	○
11.2 : Our business uses the capabilities of social media to the fullest. *Perniagaan kami menggunakan keupayaan media sosial sepenuhnya.*	○	○	○	○	○	○	○
11.3 : Our business uses our social media for most of our business activities task. *Perniagaan kami menggunakan media sosial dalam sebahagian besar tugas aktiviti perniagaan.*	○	○	○	○	○	○	○
11.4 : Our business using many social media concurrently which work well together. *Perniagaan kami menggunakan banyak media sosial serentak yang bekerja secara serasi.*	○	○	○	○	○	○	○

Appendix I. Normality assessment

Items	Mean	Std. Deviation	Skewness	Kurtosis
Connectivity	20.6668	4.19146	-.429	-.273
Persistence	19.7439	4.14986	-.428	-.130
Interaction	20.2596	3.93899	-.428	-.281
Visibility	22.3114	5.30828	-.082	-.101
Intimacy	18.6000	3.28357	-.024	-.117
Flexibility	26.8518	4.24905	-.313	-.237
Collaboration	15.0909	2.64316	.061	-.043
Mobility	14.4586	3.40617	-.258	.232
Top Management Support	16.2979	2.46069	-.064	-.641
Business Resources	14.1871	3.29397	-.103	-.005
Investment	14.2174	3.63214	-.110	-.593
Competitive Pressure	14.5242	3.26007	-.412	.421
Customer Pressure	21.4044	3.85349	-.303	-.564
External Technology Support	14.3296	2.95783	-.105	.230

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