



Understanding mobile marketing adoption intention by South African SMEs: A multi-perspective framework



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ABSTRACT

This paper examines the key drivers of mobile marketing adoption intention by South African SMEs using a multi-perspective framework that combines elements in the technological, organisational and environmental contexts of the enterprises. Data was collected from a random sample of 205 SMEs from Gauteng, South Africa. Structural equation modelling was used to analyse the data. The results identified perceived relative advantage, perceived cost, top management support, employees' IT capability, and customer pressure as important drivers of mobile marketing adoption intention. Of these factors, top management support emerged as the strongest driver of adoption intention. The implications of these findings for mobile marketers and others interested in accelerating the adoption of mobile marketing among SMEs are highlighted.

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1. Introduction

Recent developments in Information Technologies (IT), particularly the use of mobile technologies in marketing (also known as mobile marketing), offer great opportunities for businesses to improve on their marketing capabilities. According to [Lamarre, Galarneau, and Harold Boeck \(2012\)](#), the fact that mobile marketing provides continuous access to consumers 'anytime' and 'anywhere' makes it the most dynamic, effective, and personal medium for marketing. [Leppäniemi and Karjaluo \(2008\)](#) noted that mobile marketing is fast becoming a crucial marketing communication tool. A study by the [e-marketer \(2014\)](#) reported that global mobile marketing expenditure in 2014 amounted to US\$ 17.96 billion. This figure is predicted to quadruple by the end of 2016. Consequently, it is abundantly clear that the use of mobile marketing is no longer a matter of choice but one of survival for both big and small businesses ([Earl & Feeny, 2012](#)).

Empirical evidence shows that SMEs cannot achieve competitiveness and remain profitable without the proper adoption of technology at the right market levels ([Harvie, 2010](#); [Lip-Sam & Hock-Eam, 2011](#); [Thurasamy, Mohamad, Omar, & Marimuthu,](#)

[2009](#)). Yet research has shown that there is a natural scepticism among SME owners that makes them tend to be over-cautious when it comes to the adoption and use of IT ([Levy & Powell, 2005](#)). [Castronovo & Huang \(2012\)](#) pointed out that the effective adoption and use of alternative marketing practices, such as mobile marketing, can be especially advantageous for SMEs, which often lack the necessary resources for employing traditional forms of marketing.

In spite of this, previous studies have provided a rather limited understanding of drivers of mobile marketing acceptance among SMEs particularly, in developing countries such as South Africa. Research into such drivers could potentially offer important managerial insights into how mobile marketing could be promoted effectively to SMEs, and thus lead to its accelerated acceptance by the SMEs. Given the tremendous practical relevance and the dearth of empirical studies, this study aims at developing and testing a multi-perspective framework of factors underlying mobile marketing adoption intention by SMEs in South Africa.

The study contributes to the literature in two main ways. First, from a conceptual perspective, this study develops a multi-perspective framework of various factors relevant to SMEs' intention to adopt mobile marketing. This enables researchers to gain a more comprehensive understanding of drivers of mobile marketing adoption intention by SMEs in the context of a developing country. Second, from an empirical perspective, this study contributes by testing the multi-perspective framework on a sample of SMEs from a developing country, South Africa. Most

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mobile marketing research has been conducted in developed countries; but empirical evidence suggests that there are considerable differences between developed and developing countries. These differences render efforts to generalise research findings from developed countries to developing countries' contexts problematic (Alam, Ali, & Jani, 2011; Park, Roman, Lee, & Chung, 2009). Thus this study makes a unique contribution to the literature on the mobile marketing technology adoption domain from the perspective of SMEs in a developing African country.

The rest of the paper is structured as follows: Section 2 provides a literature review on SMEs, mobile marketing, and theories of innovation adoption. Section 3 discusses the theoretical background, proposes a multi-perspective framework, and discusses underlying associations between factors in the hypothesised research framework. In Section 4, the methodology employed to obtain the data for testing the research framework is outlined. Section 5 presents and discusses the results of the statistical data analysis. Section 6 presents a discussion of the practical implications of the findings. Section 7 concludes the study by outlining the study's limitations, and recommendations for future research.

2. Literature review

2.1. Small medium-sized enterprises (SMEs)

The definition of what constitutes an SME is a contentious issue in the literature. Consequently, there is no single, universally-accepted definition for what constitutes a small enterprise (Gbandi & Amisshah, 2014; Donner & Escobari, 2010; Keskin & Şentürk, 2010; Ongori & Migiro, 2010). Different definitions have been propounded by different researchers and institutions working on SMEs. The boundaries of these definitions generally change in line with the size of the economic activities within the country and the level of development (Keskin & Şentürk, 2010).

In trying to define SMEs, some researchers use capital assets, while some have resorted to the use of labour skills and turnover levels. Still others have adopted the legal status of a firm, the method of production, and the ownership and industry of the enterprise in their attempt to define what constitutes a small enterprise (Gbandi & Amisshah, 2014; Abor & Quartey, 2010). The most commonly-used framework for defining what constitutes a SME in South Africa is found in the National Small Business Act 102 of 1996, which outlines five categories of small businesses in South Africa. The Act's definition of small businesses follows a similar approach to that of international organisations: it uses a combination of the number of employees, annual sales turnover, and gross assets excluding fixed property. In line with the South African definition, for this study a small business enterprise is classified as one with no more than 50 full-time employees, an annual turnover of less than ZAR 2 million, and gross assets of less than ZAR 10 million. A medium business enterprise is defined for this study as one employing less than 200 full-time employees, with an annual turnover of less than ZAR 30 million and a gross fixed asset value of less than ZAR 15 million.

A FinScope (2010) study notes that the South African SME sector has an estimated 5.6 million enterprises. According to the World Bank (2006), 97% of all private business participating in the South African economy are small enterprises, and a further 1% of active private businesses are medium enterprises. The South African SME sector is very diverse, and employs about 11.6 million members of the active workforce, excluding small business owners themselves (FinScope, 2010). Dalberg (2011) pointed out that South Africa is experiencing an unemployment crisis, with at least 25% of its population jobless, and with projections of unemployment rates increasing to 40% if the statistics include active adult cit-

izens who have given up hope of finding employment. To avert this crisis, much emphasis is placed on the development of a viable SME sector to stimulate economic growth and to reduce unemployment, inequality, and poverty. Nevertheless, the growth of South African SMEs is significantly stagnant, and is some way from creating the purposive wealth- and job-generating growth that the country needs (SBP Alert, 2013).

South African SMEs not only lack the internal skills to promote their products/services effectively and to canvass the customer-base they need to ensure their survival and sustainability; they also lack the necessary resources to outsource their marketing and promotion functions to external experts (Cant, 2012; Ngwenya, 2012). The key to overcoming this challenge is the adoption of affordable marketing practices with a targeted reach that provides good value for money.

2.2. Mobile marketing

Marketing is one business function that is widely considered to be one of the most promising and profitable services that can be effectively delivered through the mobile device (Guo, Zhao, Jin, & Zhang, 2010). In this respect, the mobile medium has been transformed into a vital marketing vehicle that enables firms to establish a universal electronic presence with their customers anytime, anywhere (Gao, Rohm, Sultan, & Pagani, 2013; Varnali & Toker, 2010; Shankar & Balasubramanian, 2009).

Mobile marketing is a set of marketing practices that use wireless mobile technologies and networks to create personalised and interactive communication between an organisation and its target audience, resulting in value creation for both parties (Maduku, 2016). Methods of mobile marketing include text messaging, integrated content, WAP sites, interactive voice response, geo-targeting, viral marketing, mobile broadcast advertising, cell phone sponsorships, and mobile telemarketing (Lamarre et al., 2012; Shankar, Venkatesh, Hofacker, & Naik, 2010). Text message (SMS) mobile marketing is the most basic and most common type of mobile marketing approach currently available (Hsu, 2014).

The benefits of mobile marketing include its unique potential for interactivity, which enables businesses to foster customer interaction and operational efficiency, potentially increasing the effectiveness and efficiency of their marketing communications campaigns (Ström et al., 2014). Mobile marketing is also a powerful tool that retailers can use to build brand relationships, resulting in brand awareness, brand attitude, associations, customer loyalty, and purchase intentions. Research shows that mobile marketing has the potential to increase customers' perceived service quality, perceived value, and satisfaction (Constantinou, Papazafeiropoulou, & Vendelø, 2009).

The affordability and targeted reach that often defines the mobile marketing medium suits SMEs well, especially when one takes into consideration the weak financial foundations, high costs of capital, and lack of marketing expertise that most of them face. SMEs can use mobile marketing to attract customers through the promotion of sales and specials and using contests and polling. Moreover, they can improve their credibility by crafting a professional image through the creation of efficient mobile web sites, responding to questions about their products and services, and conducting market research (Gilmore, Gallagher, & Henry, 2007; Kula & Tatoglu, 2003).

2.3. Theories on ICT innovation adoption

The use of mobile technology for marketing represents an innovative way of conducting business activities. An innovation is often thought of as an idea, product, programme, or technology that is novel to the adoption unit (Rogers, 2010). Fichman (1992) noted

that research on innovation adoption basically focuses on two aspects: (1) the characteristics of a specific innovation and the outcomes of its adoption and diffusion process; and (2) the locus of adoption—i.e., whether adoption is on an individual or organisational level. The present study focuses on the locus of adoption. According to Fichman (1992), individual level innovation adoption research analyses individual users' behavioural intention to use an innovation or the actual adoption behaviour. The innovation adoption research at the organisational level analyses innovation adoption by large aggregates, including enterprises, business units, agencies, or departments.

Over the years, various theories have been developed to study innovation adoption at the individual or organisational level. The prominent theories used to understand technology adoption at the individual level include: Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Innovation Diffusion Theory (IDT) (Rogers, 1962), and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003). At the organisational level of adoption, prominent theories used include: the Innovation Diffusion Theory (IDT) (Rogers, 1962), the Tri-Core Model (Swanson, 1994), and the Technology-organisation-environment (TOE) framework (Tornatzky and Fleischer, 1990). These theories present a collection of factors that influence individual- or organisational-level innovation adoption. Researchers (Hsu, Ray & Li-Hsieh, 2014; Oliveira & Martins, 2011) have identified the TOE as the most widely-used innovation adoption theory in organisational-level adoption studies.

3. Theoretical background, conceptual framework and hypotheses

The theoretical background of this study is anchored in the technology-organisation-environment (TOE) framework as mooted in Tornatzky and Fleischer's *The Processes of Technological Innovation* (1990). The TOE framework, which is a multi-perspective organisation-level innovation process, explains how the technological, organisational and environmental contexts influence the adoption and implementation of innovations (Baker, 2011).

The choice to use the TOE is supported by a number of factors. First, the TOE framework incorporates the environmental context, which is largely neglected by the Innovation Diffusion Theory (IDT). The inclusion of the environmental context therefore enables the former to explain intra-firm innovation adoption better than the latter (Oliveira & Martins, 2011). Moreover, Alshamaila, Papagiannidis, and Li (2013) pointed out that, compared with the IDT, the TOE has more robust empirical support and a firmer theoretical basis. Similarly, Rui (2007) emphasised that the TOE framework shores up the inherent limitation of the dominant technical perspective, and postulates a useful analytical tool to differentiate between the intrinsic characteristics of an innovation and drivers, capabilities and wider environmental circumstances of the adopting organisation. Lastly, the TOE framework has been successfully applied to study the adoption of a wide range of technologies at firm level, including cloud computing adoption in England (Alshamaila et al., 2013); electronic supply chain management systems in Taiwan (Lin, 2014); service-oriented architecture in South Africa (MacLennan & Van Belle, 2014); enterprise systems in North-west England (Ramdani and Kawalek, 2008); enterprise resource planning in Portugal (Ruivo, Oliveira, & Neto, 2014); and green innovation in China (Weng & Lin, 2011). It has also demonstrated empirical resilience in explaining the adoption of ICT innovations. Appendix A and B provides a summary of some studies

that utilised the TOE framework and showed the significant factors in each of the three contexts.

For the aforementioned reasons, this study uses the TOE framework as a theoretical basis to understand the mobile marketing adoption intention of South African SMEs.

According to the TOE, ICT innovation adoption at firm level is influenced by three broad contexts: technological, organisational, and environmental contexts.

3.1. Technological context

The technological context describes the internal and external technologies that are important to the firm, including those that are currently being used by the organisation and those that are presently available in the marketplace but not yet exploited by the firm (Baker, 2011). In the technology environment, the characteristics of an innovation also play a critical role in its adoption. These characteristics denote both the internal and the external benefits of the technology innovation to the firm, which could possibly lead to improving internal processes and productivity (Gu, Cao & Duan, 2012). The adoption decisions of most organisations are largely motivated by the perceived benefits that the technological innovation may add to the specific organisational setting of the adopting organisation (Gu et al., 2012; Teo, Lin & Lai, 2009; Rogers, 2010).

The relative advantage of mobile marketing can be defined as the anticipated benefits that SMEs can derive from adopting and using the mobile marketing platform. Thong and Yap (1995), cited in Gbobakhloo, Arias-Aranda & Benitez-Amando (2011), argued that the decision-makers/managers of SMEs are highly likely to adopt an innovation if they perceive that its benefits (over the existing ones) far outweigh the risks of its adoption. Researchers who have examined the relationship between relative advantages and intention to use innovations (Aboelmaged, 2010; Li, Trout, Brandybarry & Wang, 2011; Ramayah, Ling, Taghizadeh, & Rahman, 2016) suggest that relative advantage has a significant positive impact on behavioural intention to use an innovation.

For these reasons, relative advantage is included as one of the key drivers of mobile marketing adoption intention of SMEs in South Africa. Thus the following hypothesis is proposed:

H1. Perceived relative advantage of mobile marketing has a significant positive impact on SMEs' mobile marketing adoption intention.

An IT innovation is less likely to be adopted if it is perceived to be complicated and challenging to use (Alshamaila et al., 2013). For instance, if mobile marketing use is perceived to require considerable learning and effort, it is less likely that SMEs will adopt and make use of the mobile marketing platform.

The extent to which potential adopters perceive an innovation as easy to use also impacts on their behavioural intention towards its use. The linkage between complexity and behavioural intention to use an innovation has been widely established in the literature on individual-level innovation adoption (Agudo-Peregrina, Hernández-García & Pascual-Miguel, 2014; Gao, Waechter, & Bai, 2015; Ramirez-Correa, Rondan-Cataluña, & Arenas-Gaitán, 2015; Visinescu, Sidorova, Jones, & Prybutok, 2015). However, this relationship is seldom investigated in innovation adoption at the organisational level (Tsai, Lee & Wu, 2010). This study addresses this gap by investigating the link between perceived complexity and SMEs' intention to adopt mobile marketing for their operations. It proposes the following hypothesis:

H2. Perceived complexity of using mobile marketing has a significant negative impact on SMEs' mobile banking adoption intention

The cost involved in the adoption of technological innovations is another important technological factor that influences the

behavioural intention to use – and the subsequent adoption of – technological innovations, particularly within the SME sector (Tan, Chong, Lin, & Eze, 2009; Ramayah et al., 2016). The deployment of IT innovations in firms is usually accompanied by high start-up costs or exorbitant software or online packages (Ghobakhloo, Hong, Sabouri & Zulkifli, 2012). This situation compels SMEs to be cautious about spending capital, especially when it comes to IT innovations, as they perceive the cost of such technologies to be prohibitive (Ghobakhloo et al., 2012). In firm-level adoption of innovation, it has been argued that adoption costs impact negatively on behavioural intention to use an innovation (Madlberger, 2009; Ramayah et al., 2016). In her study of the antecedents of Radio Frequency Identification (RFID) adoption intention in supply chain among firms in Austria, Madlberger (2009) identified cost as one of the significant factors of the behavioural intention to adopt an innovation.

Based on the findings of past studies, the following hypothesis is proposed:

H3. Perceived cost has a significant negative impact on SMEs' mobile marketing adoption intention.

3.2. Organisational context

The organisational context denotes the characteristics of the firm (including the firm's size, degree of centralisation, degree of formalisation, and managerial structure) and the resources that the firm has (including human resources, amount of slack resources, and linkages among employees) (Tornatzky & Fleischer, 1990). In this study, the organisational context denotes various organisational conditions comprising top management support, adequate financial resources, and employee capability.

To foster innovation adoption within an organisation, top management leadership behaviour should be that which communicates the role of innovation within the organisation's overall strategy, emphasising the significance of creativity and innovation to subordinates, and rewarding innovative initiatives. The support of top management is also crucial for building a supportive environment and for providing adequate resources to aid the adoption of new technologies (Low, Chen, & Wu, 2011). Previous studies have emphasised that top management support is a key variable impacting on firms' behavioural intention to use an innovation (Ramayah et al., 2016; Tsai, Lai, & Hsu, 2013; Wang & Lai, 2014). On the basis of the preceding argument, it is proposed that:

H4. Top management support has a significant positive impact on SMEs' mobile marketing adoption intention.

Resource availability is another major determinant of technological innovation adoption in organisations (To & Ngai, 2006). Resource availability denotes the extent to which resources are readily available to the organisation to adopt a technological innovation. Tornatzky and Fleischer (1990) refer to this resource as 'organisational slack', which reflects the availability of resources, including adequate financial capital and human resources, and the ability to meet the demands made of them.

The importance of having adequate financial resources cannot be underestimated: they are central to technology adoption decisions (Kim & Garrison, 2010). Financial capital is needed to initiate and finance the on-going costs of technological innovation adoption. Having sufficient capital is important because it enables the organisation to minimise financial glitches during the adoption and implementation of technological innovations (Ismail, 2013). For these reasons, the following hypothesis is proposed:

H5. Perceived availability of financial resources has a significant positive impact on SMEs' mobile marketing adoption intention.

Having well-qualified human resources to manage the technological innovation to be adopted is equally important. The IT literature suggests that most businesses, especially those in the SME sector, suffer from a lack of internal IS experts, and face the consequent challenge of having to hire external IS consultants at prohibitive cost. The literature points out that a lack of suitably-qualified internal IT innovation experts has serious repercussions for IT sophistication in firms (Caldeira & Ward, 2003; Fisher & Howell, 2004; Ghobakhloo et al., 2012; Thong, 2003). So it is to be expected that the availability of competent staff with the requisite IT skills will stimulate SMEs' behavioural intention to use mobile marketing. Accordingly, it is hypothesised in this study that:

H6. Perceived employee IT capability has a significant positive impact on SMEs' mobile marketing adoption intention.

3.3. Environmental context

The environmental context in the TOE framework refers to the climate in which the organisation conducts its operations. Factors in this environment include the structure of the industry, the availability or non-availability of technology service providers, and the organisation's regulatory environment (Tornatzky & Fleischer, 1990).

Alshamaila et al. (2013) pointed out that the marketing activities of suppliers significantly influence innovation technology adoption decisions. Through the provision of technical support, a client's firm can develop technology innovation-related capabilities through the experiential training provided by its supplier. This service helps to ameliorate the perceived risk associated with the technology, thereby influencing the potential adopter's decision to adopt the technology (Weigelt & Sarkar, 2009). Al-Qirim (2005) noted that, if enterprises have a negative perception of technology vendors and are displeased with their services, this would act as a barrier to their adoption decisions. Thong (1999) found the availability of vendor support to be a key determinant of new innovation use. Consequently, this study proposes that:

H7. Perceived availability of vendor support has a significant positive impact on SMEs' mobile marketing adoption intention.

Competitive pressure is the pressure in the enterprise environment that arises from the threat of losing competitive advantage (Wang & Cheung, 2004). Interestingly, the evidence points to the fact that competitive pressure may coerce firms into adopting technology, even when they do not see any benefit in doing so (Lin, 2014). In a model developed to ascertain the determinants of Electronic Data Interchange (EDI) adoption, Chwelos, Benbasat, and Dexter (2001) concluded that external pressure – including competitive pressure – is a significant antecedent of the intention to use EDI. In sum, pressure from competitors compels firms to develop a positive behavioural intention towards an innovation. Thus this research proposes that:

H8. Competitive pressure has a significant positive impact on SMEs' mobile marketing adoption intention.

Several characteristics of inter-organisational relationships, such as commitment, encouragement and coercion emanating from customers – in addition to trust and interdependence between an organisation and its customers – have been identified as playing a significant role in organisations' adoption of IT technologies (Rui, 2007). It has been demonstrated that satisfying the diverse needs and expectations of customers through the use of electronic services that facilitate better interactive communication with customers is a major driver of IT innovation adoption in businesses. Organisations are forced to adopt and use IT innovations because they believe that their customers expect them to do so. In a nutshell,

meeting customers' expectations may induce a positive adoption intention among SMEs. Thus:

H9. There is a significant positive relationship between customer pressure and SMEs' mobile marketing adoption intention.

4. Methodology

The following sections outline the details of the research methodology followed to test the hypotheses, including measurement, sampling and data collection.

4.1. Measurements

Ten constructs were measured in this study: perceived relative advantage, perceived complexity, perceived cost, perceived top management support, perceived availability of financial resources, perceived employee IT capability, perceived vendor support, perceived competitive pressure, perceived customer pressure, and adoption intention. These constructs were measured with multiple items, using a seven-point Likert-type scale with anchors ranging from 1 ('strongly disagree') to 7 ('strongly agree'). All the items were sourced from previously-validated scales from the innovation adoption literature, and adapted to relate to the mobile marketing adoption context. In line with the recommendation of Nunnally (1978), a minimum of three items were used per construct in order to ensure adequate reliability. The measurement items and the sources from which they were taken are presented in Appendix A and B.

4.2. Pretesting

The initial version of the research instrument was pre-tested with ten respondents sampled from the target population of this study. Each respondent was given a copy of the questionnaire by the researcher, and asked to provide feedback on the clarity of the instructions; the wording of the questions; the layout of the questionnaire; and the time taken to complete it. In general, the respondents stated that the questionnaire was clear and easy to complete. With this generally positive feedback, no further modifications were made to the questionnaire.

4.3. Sampling and data collection

The target population was defined as SME owners/decision-makers in the manufacturing, tourism, and wholesale and retail sectors located in the Gauteng Province of South Africa in 2015, when the data was collected. For good coverage the respondents were randomly selected from a Gauteng small business directory, a nationwide directory, and the telephone directory. The lists used were double-checked by the researcher in order to avoid duplications.

Since the population contains unique sub-groupings (small and medium enterprises), stratified probability sampling was used (Burns & Bush, 2010). The target population was grouped into strata based upon (1) a sector-based classification of the business enterprise into the manufacturing, tourism, and wholesale and retail sectors; (2) the size of the enterprise in accordance with the South African definition of SMEs: small enterprises and medium enterprises. Six possible strata, yielding a total of 967 SMEs in the three sectors, were identified.

In order to obtain a proportional representation of the population in the sample, the lists of all the SMEs in the sampling frame were first re-arranged in line with the six strata identified above. The list was then subjected to simple random sampling to select the sampling units for this study. In conducting the sim-

Table 1
The number of SMEs successfully selected in each chosen stratum.

Enterprise size/sector	Manufacturing sector	Tourism sector	Retail and whole-sale sector	Total
Small enterprises	95	190	195	480
Medium enterprises	80	90	180	350
Total	175	280	378	830

ple random sampling of small firms in the manufacturing sector, 95 random numbers were generated between 1 and 125 inclusive. Once the random numbers had been generated, the entire data file was sorted in the order of these numbers, and the first 95 SMEs in the sorted list were selected. The process was repeated for the remaining five strata. Table 1 provides an overview of the number of SMEs successfully selected in each stratum to form the overall sample.

Trained interviewers approached the selected and willing respondents (SME owners/decision makers) in their offices with a paper-based questionnaire. The respondents had the choice of completing the questionnaire by themselves or having the questions read out to them by the interviewer, who would then record their answers. The researcher believed that personal contact through the use of interviewers was necessary in order to ensure the successful completion of the questionnaires. Of the 830 SME owners/decision makers solicited to participate in the study, 511 usable responses were obtained – an effective response rate of 61.6% – from both adopters and non-adopters of mobile marketing. Since we were interested in understanding what would drive non-adopters to adopt mobile marketing in future, only the non-adopters (204) of mobile marketing were selected for further analysis.

5. Data analysis and results

The data analysis for the study was carried out using SPSS version 22 and AMOS Graphics version 22. SPSS was used to obtain the descriptive statistics of the sample. To examine the latent variables within their causal structure, structural equation modelling (SEM) using AMOS Graphics was used. The following sections present the results of the statistical analysis.

5.1. Descriptive statistics

The descriptive statistics of the sample are presented in Table 2. The descriptive statistics of the constructs are provided in Table 3. Results from the table indicate that – with the exception of the mean value for complexity, which is exactly equal to the midpoint (3.5) – all the other means are above the midpoint, and the standard deviations ranged between 1.547 and 2.021. This points to a narrow spread of the values around the mean. Moreover, the skewness values ranged from –0.134 to 0.389 and the kurtosis values ranged from –0.371 to –1.255. According to Kline (2005), skewness and kurtosis values should fall between 3 and 10 respectively for data to be considered normal. Following this recommendation, the data for this study were considered to be reasonably normal for further analysis.

The internal consistency of the measurement instrument was assessed using Cronbach's alpha. A Cronbach's alpha of above 0.7 was obtained for all the constructs, indicating a high internal consistency (Cronbach, 1946). This implies that correlation among the group of item responses measuring constructs used in this study was good (Andrew, Pedersen, & McEvoy, 2011).

Table 2
Sample characteristics.

Sample characteristics		Frequency	Percent (%)
Form of enterprise ownership	Sole proprietor	34	16.7
	Partnership	22	10.8
	Close corporation	44	21.6
	Private company	104	51.0
Sector of enterprises' operation	Manufacturing	62	30.2
	Tourism	71	34.6
	Wholesale and retail	72	35.1
Number of full-time employees	1–9	161	78.5
	10–49	36	17.6
	50–200	8	3.9
Approximate annual sales revenue (in ZAR)	Less than 5 m	167	82.3
	5 m or more but less than 20 m	28	13.8
	20 or more but less than 200 m	8	3.9
Gender	Male	143	71.5
	Female	57	28.5
Age	18–30	39	19.0
	31–40	68	33.2
	41–50	59	28.8
	51–60	31	15.1
	60+	8	3.9
Level of education	Below high school	19	9.3
	High school	69	33.8
	College	63	30.9
	diploma/degree		
	University	34	16.7
	diploma/degree		
	Honours	13	6.4
Master's degree	6	2.9	
Doctorate	0	0	
Position of respondent in the enterprise	Owner	103	50.2
	Director	45	22.0
	Manager	57	27.8

5.2. SEM analysis

The model estimation was carried out in AMOS Graphics, making use of the maximum likelihood (ML) approach. Consistent with the two-step approach recommended by Anderson and Gerbing (1988), this study first analysed measurement for its validity. This step was followed by the analysis of the structural equation model to test the relationships hypothesised in the research model.

Table 3
Descriptive statistics for constructs.

Construct	Item	Mean	SD	Skewness	Kurtosis	Cronbach's alpha
Relative advantage	4	4.47	2.056	−0.374	−1.255	0.978
Complexity	4	3.50	1.746	0.064	−1.039	0.927
Cost	4	3.90	1.579	−0.270	−0.488	0.956
Top management	4	4.08	2.021	0.061	−1.194	0.984
Financial resources	4	4.06	1.547	−0.134	−0.588	0.855
Employee capability	4	4.80	1.741	−0.446	−0.654	0.979
Vendor support	4	3.08	1.645	0.448	−0.517	0.963
Competitive pressure	3	3.77	1.830	0.114	−0.991	0.896
Customer pressure	4	3.41	1.582	0.389	−0.371	0.881
Adoption intention	3	3.87	2.017	0.288	−1.174	0.971

Table 4
Results of the measurement model.

Construct	Items	Factor loading	AVE	CR
Relative advantage	RA1	0.984	0.914	0.977
	RA2	0.976		
	RA3	0.973		
	RA4	0.984		
Complexity	CX1	0.829	0.763	0.928
	CX2	0.879		
	CX3	0.919		
	CX4	0.844		
Cost	CT1	0.811	0.843	0.955
	CT2	0.988		
	CT3	0.896		
	CT4	0.943		
Top management	TM1	1.003	0.929	0.981
	TM2	0.982		
	TM3	0.948		
	TM4	0.910		
Financial resource	FR1	0.952	0.842	0.592
	FR2	0.976		
	FR3	0.619		
	FR4	0.534		
Employee capability	EC1	0.930	0.916	0.978
	EC2	0.982		
	EC3	0.989		
	EC4	0.889		
Vendor support	VS1	0.764	0.862	0.961
	VS2	0.924		
	VS3	0.976		
	VS4	0.941		
Competitive pressure	CP1	0.840	0.872	0.953
	CP2	0.916		
	CP3	0.956		
Customer pressure	CU1	1.019	0.650	0.881
	CU2	0.638		
	CU3	0.585		
	CU4	0.905		
Adoption intention	AI1	0.976	0.918	0.971
	AI2	0.976		
	AI3	0.850		

5.2.1. Measurement model analysis

The validity of the measurement model was established on the basis of item reliability, convergent validity, and discriminant validity. The reliability of individual items was confirmed by observing the standardised factor loadings of each item. A factor loading higher than 0.5 is regarded as an acceptable threshold for item reliability (Hair et al., 2010). From the results presented in Table 4, all the factors loading are above 0.5, providing evidence of their reliability. The average variance extracted (AVE) should be greater than 0.5 in order to ensure that variance captured by the construct is greater than the measurement error (Fornell & Larcker, 1981). All the AVEs computed for this study were above 0.60, indicating that

construct validity is achieved. Moreover, results for the composite reliability in all cases are above the 0.70 requirement, providing evidence that the model satisfies the requirements for reliability.

Furthermore, discriminant validity was examined for each indicator. An indicator is said to have achieved discriminant validity if the square root of its AVE is greater than each correlation coefficient with other constructs (Fornell & Larcker, 1981). The results presented in Table 5 satisfy this requirement, and thus demonstrate that adequate discriminant validity has been achieved.

5.2.2. Structural model analysis

The first test of the structural model was the estimation of the goodness-of-fit of the hypothesised research model. In line with the recommendation of Hair et al. (2010), the χ^2/df , CFI, TLI, and the RMSEA were used to measure the goodness-of-fit of the structural model proposed for this study. Generally, the χ^2/df ratio should not exceed 5 for good-fitting models (Bentler, 1989). The result obtained for the hypothesised model of this study was 1.850 ($\chi^2 = 33.293$, $df = 18$). The CFI and TLI exceeding 0.90 are indicative of good model fit (Hair et al., 2010; Jöreskog & Sörbom, 1984). The TLI and CFI computed for the hypothesised research model were 0.972 and 0.930 respectively, indicating a good fit. With regard to the RMSEA, values of below 0.08 indicate acceptable model fit. The RSEA value obtained for the research model is 0.065; thus the hypothesised research model fits very well with the data.

Upon obtaining a good fit for the hypothesised model, the path significance of each association in the conceptual research framework and the variance obtained (R^2) were estimated. The standardised regression coefficients and the path significance are shown in Fig. 2.

Five of the nine hypothesised paths were significant, while four were not significant. Relative advantage was significantly and positively ($\beta = 0.15$, $p < 0.001$) related with mobile marketing adoption intention. Thus H1 is supported. The results further show that perceived cost was significantly and negatively ($\beta = -0.16$, $p < 0.001$) associated with mobile marketing adoption intention, providing support for H3. The results also found that top management support was significantly and positively ($\beta = 0.15$, $p < 0.001$) related to mobile marketing adoption intention. H4 is thus supported. Similarly, employee capability ($\beta = 0.11$, $p < 0.05$) and customer pressure ($\beta = 0.20$, $p < 0.001$) were all positively associated with mobile marketing adoption intention. Thus support was obtained for H6 and H9. All these significant factors together explained 58% of the variance in adoption intention, with perceived top management support being the stronger predictors of mobile marketing adoption intention.

6. Discussion and implications

The aim of this paper was to identify the drivers of mobile marketing adoption intention by South African SMEs. In achieving this goal, a multi-perspective framework that considered factors in the technological, organisational and environmental factors was integrated to propose a theoretical framework of mobile marketing adoption intention. A field survey of randomly selected SME owners/decision-makers was used to validate the hypothesised research model. The implications of these findings are discussed in the paragraphs that follow.

6.1. Technological context

Of the three technological factors hypothesised as drivers of the intention to adopt mobile marketing in Fig. 1, the results revealed that the intention to adopt mobile marketing is driven positively by relative advantage, and negatively by perceived complexity. The positive relationship between relative advantage and

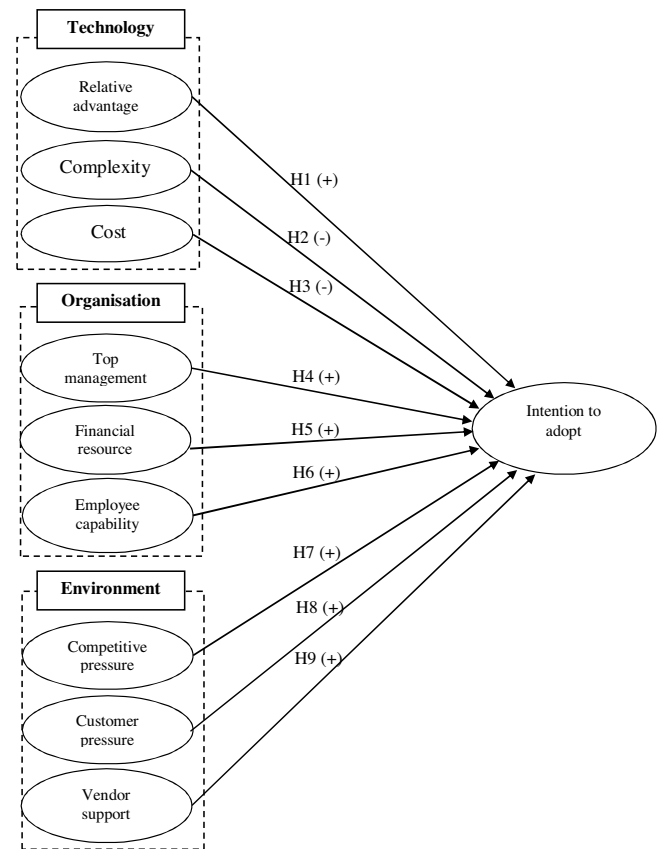


Fig. 1. Hypothesised research framework.

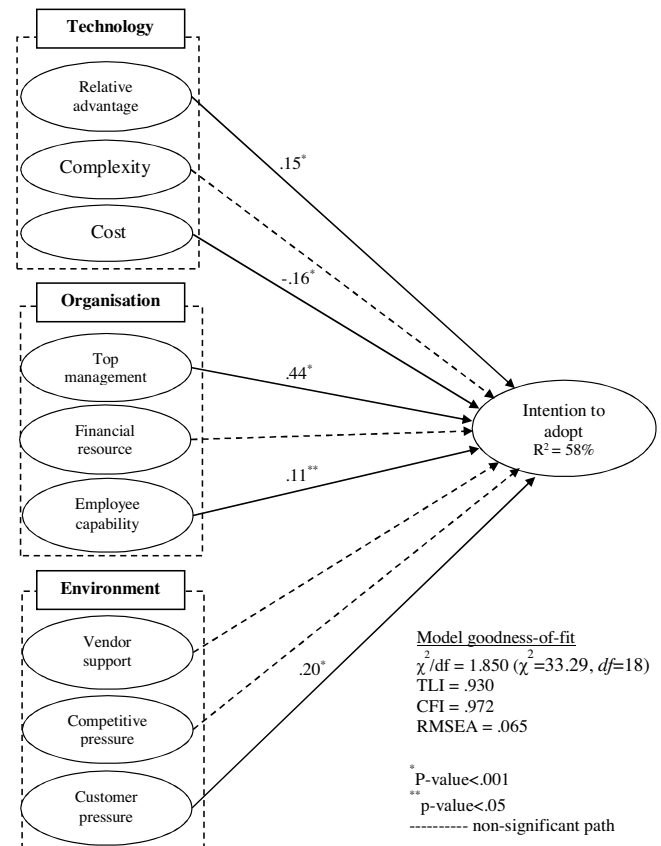


Fig. 2. Result of drivers of mobile marketing adoption intention.

adoption intention indicates that respondents who have overall positive perceptions of the benefits of mobile marketing are likely to have a positive intention to adopt mobile marketing. The relative advantage-intention link has hitherto been validated in the literature on firm-level innovation adoption (Aboelmaged, 2010; Li, Troutt, Brandyberry & Wang, 2011; Ramayah et al., 2016). Its revalidation in an SME mobile marketing adoption context in a developing country further confirms the robustness of this relationship. This finding therefore suggests that perceived relative advantage is an important driver of SMEs' intention to adopt mobile marketing.

Consequently, mobile marketing innovation developers need to increase their efforts to develop mobile marketing systems that provide ample functionalities that are capable of addressing the most common marketing challenges that SMEs face. However, creating mobile marketing systems that provide ample marketing opportunities for SMEs is not enough to create a positive adoption intention or to garner the rapid adoption of the mobile marketing innovation. Marketers of the innovation should endeavour to communicate the benefits of the innovation to key decision-makers of SMEs, especially non-adopting SMEs, clearly and adequately.

The results show that there is no significant positive relationship between perceived complexity and mobile marketing adoption intention. This suggests that SMEs are not influenced by the complexity of mobile marketing in their adoption intention. This finding is inconsistent with the earlier finding of Tsai et al. (2013), who found a significant positive relationship between perceived complexity and RFID adoption intention among Taiwanese retail chains. A plausible reason for the insignificant relationship in this study may be attributed to the respondents' familiarity with the mobile medium, which may have increased their self-efficacy in its use, thereby eliminating the importance of complexity in determining behavioural intention. Vasseur and Kemp (2015) pointed out that familiarity with an innovation diminishes its perceived level of complexity.

Still on technological drivers, the results also indicate that there is a significant negative relationship between perceived cost and behavioural intention to use mobile marketing. This means that, if respondents perceive the cost associated with the adoption of mobile marketing to be high, they are less likely to adopt it. This finding is consistent with prior studies (Madlberger, 2009; Ramayah et al., 2016) that have resiliently established a negative association between perceived cost and technology adoption. Developers and marketers can overcome this challenge by emphasising the utility of innovation for successful marketing activities. Once potential adopters realise the benefits of mobile marketing adoption relative to its costs, the cost may cease to be a barrier to its adoption.

6.2. Organisational context

This study underscores the importance of support from top management as a key driver of mobile marketing adoption intention. This finding is consistent with prior studies of Ramayah et al. (2016) and Tsai et al. (2013), who found a positive relationship between top management support and behavioural intention to adopt innovations among enterprises in Malaysia and Taiwan respectively. This finding suggests that SMEs have a positive behavioural intention to use mobile marketing when top management support is strong. All daily management and future investment decisions of the SMEs are directed by them. It was therefore not surprising that the behavioural intention to use mobile marketing would come with top management support. Top management should thus be convinced that the benefits of the mobile marketing innovation far outweigh its costs. If top management became more knowledgeable about the innovation and its benefits, they would be more like to develop a positive adoption intention and also support its adoption.

It was surprising to find in this study that the availability of financial resources had no significant effect on intention to adopt mobile marketing among the SMEs. This suggests that the financial resource capabilities of SMEs are not central to their mobile marketing adoption intentions. This finding is inconsistent with prior research (Ismail, 2013; Kim & Garrison, 2010), which has found financial resource slack to be a key driver of technology adoption. A possible explanation for this discrepancy may lie in the fact the surveyed SMEs do not fully appreciate the value that mobile marketing holds for their enterprises, and instead perceive the innovation as another cost burden on their finances without corresponding benefits for their marketing operations.

This study shows that employee capability is another important driver of intention to adopt mobile marketing among SMEs. However, this finding contradicts those of earlier researchers (Ramayah et al., 2016; Chong, 2004; Wang & Lai, 2014). For instance, in their study examining website continuance intention among Malaysian SMEs, Ramayah et al. (2016) found that employees' IT knowledge is not a critical determinant of their behavioural intention. Nevertheless, it is reasonable to assume that higher levels of confidence among employees about their ability to cope with the nuances of mobile marketing use would be associated with a higher likelihood of SMEs' intention to use mobile marketing. Prior studies emphasised that, in most organisations, lower levels of employees' capability to use an innovation will serve as an impediment to enterprises' behavioural intention to use the technology (Ghobakhloo et al., 2012). Consequently, as a form of pull strategy, vendors can organise workshops to expose SMEs' employees to the benefits and show them how to use mobile marketing facilities. With the knowledge of the benefits and use of the system, the employees will urge or lure their decision-makers into developing a positive intention towards the adoption of mobile marketing.

Table 5
Discriminant validity.

	1	2	3	4	5	6	7	8	9	10	
1	Employee capability	0.957									
2	Relative advantage	0.411	0.956								
3	Complexity	-0.325	-0.534	0.874							
4	Cost	-0.272	-0.416	0.495	0.918						
5	Top management	0.411	0.547	-0.391	-0.434	0.964					
6	Financial resources	0.455	0.399	-0.426	-0.403	0.549	0.769				
7	Competitive pressure	0.195	0.289	-0.240	-0.191	0.325	0.261	0.934			
8	Customer pressure	0.239	0.458	-0.174	-0.168	0.308	0.231	0.152	0.806		
9	Vendor support	0.146	0.150	-0.142	-0.101	0.224	0.260	0.351	0.189	0.928	
10	Adoption intention	0.459	0.662	-0.484	-0.499	0.691	0.509	0.423	0.411	0.269	0.958

Diagonal elements are square root of AVE, others are correlation coefficients.

6.3. Environment context

The effect of the availability of vendor support on intention to adopt mobile marketing was found to be insignificant. Thus the lack of external support from technology vendors would not impact on SMEs' intention to adopt mobile marketing. However, this finding contradicts those of prior research by [Thong \(2001\)](#), who identified external technical support from vendors as a key determinant of information systems adoption among Singaporean small businesses. A possible reason for this study's contrary finding may stem from the reasonably high employee capability (mean = 4.80) in handling mobile marketing use. External technical support is mostly relied upon when the knowledge base within an organisation about the use of an innovation is low. Thus external support would not be regarded as a critical determinant of mobile marketing use intention if the employees were deemed to have the necessary skills and knowledge to use the technology.

The impact of competitive pressure on SMEs' mobile marketing adoption intention is not significant. This implies that SMEs are not simply compelled by the competitive pressure in their business environment to develop a positive intention towards mobile marketing adoption. This finding is inconsistent with those of previous studies ([Chwelos et al., 2001](#); [Lin, 2014:86](#); [Wang & Cheung, 2004](#)) that have established a positive association between competitive pressure and firm-level innovation adoption. The insignificant role that competitive pressure plays in forming a positive intention towards mobile adoption among the SMEs may simply reflect the absence of rivalrous competition in the industry of their operations; or it may be that the enterprises are impervious to the influence of competitive pressure on their decisions. It could also be that enterprises emphasise other factors to guide their adoption decision, rather than merely yielding to pressure from competitors in their business environment.

Finally, perceived customer pressure is found in this study to impact positively on SMEs' intention to adopt mobile marketing. Customer pressure is thus another important driver of intention to adopt mobile marketing among South African SMEs. This finding corresponds with the prior literature that identified customer pressure as one of the reasons that SMEs use innovations ([Gareeb & Naicker, 2015](#); [Khalifa & Davison, 2006](#)). One of the main reasons for enterprise success lies in their ability to delight their customers. In an effort to do so, organisations look for novel ways to conduct their operations, including the use of modern innovations. The lure of providing superior customer services to their clients by adopting and using mobile marketing platforms can be used by marketers of mobile marketing as a motivation to induce a positive intention towards SMEs' adoption of mobile marketing.

7. Limitations and recommendations for future research

Although this study contributes to identifying the drivers of mobile marketing adoption by South African SMEs using a multi-perspective framework, there are some limitations that provide scope for future research. First, the data for the study was only sourced from SMEs in Gauteng, one of nine provinces in South Africa, and – as the economic capital of South Africa – largely urban. As a result, the findings of this study may not apply to SMEs operating in rural or less economically-active regions of the country. Future studies covering more economically-diverse geographical areas should thus be conducted to increase the generalisability of the results across the country.

Second, the data obtained is cross-sectional in nature, and not longitudinal. The relationships posited in the conceptual model were inferred rather than proven. Future study should obtain longitudinal data in order to examine causal links more explicitly.

Third, although our results identified perceived cost as a key driver of mobile marketing adoption intention among SMEs, their financial resource position was not a significant driver of adoption intention. These results were not only interesting but unexpected. Further study is therefore recommended to ascertain empirically the underlying reasons behind these findings.

Finally, the study only examined the drivers of mobile marketing adoption intention. It would be interesting to ascertain how these drivers affect the actual adoption of mobile marketing, and the resultant impact on the performance of SMEs.

8. Conclusion

This study proposed and empirically tested a multi-perspective framework to explain the drivers of mobile marketing adoption intention by non-adopting SMEs in South Africa. The results of the study suggest that the proposed framework possesses substantial explanatory power to explain adoption intention. The study revealed that the most important drivers of mobile marketing adoption intention are perceived relative advantage, perceived cost, perceived top management support, perceived employee IT capability, and perceived customer pressure. Of these significant factors, perceived top management support exerts the strongest influence on the intention of SMEs' decision-makers/managers to adopt mobile marketing. The findings of this study do not only offer important insights to practitioners, but also contribute to the literature on mobile marketing adoption from the perspective of a developing country that is largely under researched.

Appendix A. Some relevant studies making use of the TOE

Author(s)	Innovation and context	Methods of analysis	Technology	Organisation	Environment
Cao, Jones, and Sheng (2014)	Radio Frequency Identification (RFID) Healthcare industry in the USA	Axial coding Triangulation	Comparative advantages* Compatibility* Security and privacy protection* 'Jittering' effects on information accuracy* Mobile size* Mobile battery life*	Organisational culture* Organisational structure* Management support* Financial commitment*	Compliance with legislation (e.g. HIPAA)* Patient's privacy expectation* External pressure*
Lai, Lin, and Tseng (2014)	Radio Frequency Identification (RFID) Hospitals in Taiwan	t-test Confirmatory factor analysis (CFA)	Cost* Perceived benefits Ubiquity* Complexity Compatibility* Security and privacy risk*	Top management Support* Hospital scale* Financial readiness* Technological readiness User support	Government policies* External support Market uncertainty
Oliveira et al. (2014)	Cloud computing Firms in the manufacturing and service industries in Portugal	SEM	Relative advantage* Complexity* Compatibility* Technology readiness*	Top management support* Firm size*	Competitive pressure Regulatory environment
Ruivo et al. (2014)	Enterprise Resource Planning (ERP) SME sector in Portugal	SEM	Compatibility* Complexity* Efficiency*	Training* Best practices*	Competitive pressure*
Yeh (2014)	E-business Large enterprises in Taiwan	SEM	IT maturity* IT infrastructure* <i>Note: *Significant factors.</i>	IT human resource* Top management support*	Partnership quality* Competitive pressure*
Alshamaila et al. (2013)	Cloud computing SMEs in North-east England	Triangulation	Relative advantage* Uncertainty* Geo-restriction* Compatibility* Complexity* Trailability*	Size* Top management support* Innovativeness* Prior IT experience*	Market scope* Supplier computing support* Competitive pressure Industry*
Borgman, Bahli, Heier, and Schewski (2013)	Cloud computing Cross country (Germany, Benelux, Italy and USA)	Descriptive statistics Mann–Whitney <i>U</i> test	Relative advantage* Technology complexity Technology compatibility	Firm size Top management support* IT expertise of users	Competition intensity Regulatory environment
MacLennan and Van Belle (2013)	Service-oriented architecture (SOA) Architects in South African organisations	Factor analysis Regression analysis	Use of standards and platforms* Complexity Compatibility* Cost Technology Implementation concerns Relative advantage	Organisation size Industry Perceived risks Human and financial resources* Top management support* Governance and strategy* Organisational change Implementation challenges Intra-organisational benefits, Inter-organisational benefits	Vendor direct influence Vendor support for integration and development tools* Industry pressure IT media influence
Ramdani and Kawalek (2008)	Enterprise applications SMEs in North-west England	Partial Least Squares (PLS) technique	Relative advantage* Compatibility* Complexity* Trailability* Observability*	Top management support* Organisational readiness* ICT experience Size*	Industry* Market scope* Competitive pressure* External support

Appendix B. Measurement items

Construct	Items	Source
Perceived relative advantage	Mobile marketing would enable our enterprise to market our products/services in a better way.	Ghobakhloo, Arias-Aranda, and Benitez-Amado (2011); Lian, Yen and Wang (2014)
	Mobile marketing would enable our enterprise to communicate with our customers effectively. We would be able to reach our customers timeously with mobile marketing campaigns. Mobile marketing would assist us to develop better relationships with our customers.	
Perceived Complexity	The use of mobile marketing would require a lot of mental effort	Ghobakhloo et al. (2011); Lian et al. (2014)
	The use of mobile marketing would be frustrating Mobile marketing would be too complex for our marketing activities The skills needed to use mobile marketing would be too complex for employees of our enterprise	
Perceived cost	The costs involved in the adoption of mobile marketing would be far greater than the expected benefits	Lai et al. (2014); Lian et al. (2014)
	The cost of maintaining mobile marketing would be very high for our enterprises The cost involved in providing support systems for mobile marketing would be too high The amount of money invested in training employees to use mobile marketing would be very high	
Top management support	Top management would provide resources necessary for the adoption of mobile marketing	Borgman et al. (2014); Lian et al. (2014);
	Top management would provide necessary support for the adoption of mobile marketing Top management would support the use of mobile marketing Top managers would be enthusiastic about adopting mobile marketing	
Perceived availability of financial support	Our enterprise would have the financial resources for adopting mobile marketing	Lai et al. (2014) Ifinedo (2011)
	Our marketing budgets would be significant enough to support the adoption of mobile marketing It would be easy to obtain financial support for mobile marketing adoption from local banks and/or other financial institutions Our enterprise would take mobile marketing more seriously because of the adequate financial support we receive from local banks	
Perceived employee capability	Our employees would be capable of learning new mobile marketing related technology easily Our employees would be capable of using mobile marketing to solve our marketing problems easily Our employees would be capable of using mobile marketing to interact with our customers Our employees would be capable of providing new ideas on mobile marketing use for our enterprise	Lin and Ho (2011)
Perceived vendor support	Vendors actively market the use of mobile marketing	Ghobakhloo, Arias-Aranda, and Benitez-Amado (2011); Al-Qirim (2007)
	There would be adequate technical support for mobile marketing provided by vendors Training for mobile marketing is would be adequately provided by vendors and other training service providers Mobile marketing vendors are encouraging our enterprise to adopt mobile marketing by providing us with free training sessions	
Perceived competitive pressure	Our choice to adopt mobile marketing would be strongly influenced by what competitors in the industry are doing	Ifinedo (2011); Ghobakhloo, Arias-Aranda, and Benitez-Amado (2011)
	Our enterprise is under pressure from competitors to adopt to mobile marketing Our enterprise has would adopt mobile marketing in response to what competitors are doing	
Perceived customer pressure	Many of our customers would expect our enterprise to adopt mobile marketing	Wu and Lee (2005); Wu, Mahajan and Balasubramanian (2003)
	Our customers would demand that we establish relationships with them using mobile marketing Our relationship with our major customers would suffer if we did not adopt mobile marketing Our customers consider would consider us to be forward thinking by adopting marketing	
Adoption intention	Our enterprise intends to adopt mobile marketing	Mishra, Akman, and Mishra (2014)
	Our enterprise intends to start using mobile marketing regularly in the future Our enterprise would highly recommend mobile for other enterprises to adopt	

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