# DETERMINANTS OF INTENTION TO ADOPT MOBILE COMMERCE BY SMALL HOSPITALITY FIRMS

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## ABSTRACT

*The study investigated the determinants of intention to adopt mobile commerce (m-commerce) by small, medium and micro enterprises (SMMEs) in the hospitality sector in South Africa. The study integrated the Diffusion of Innovation Theory (DOI) and the Technology Organisation Environment (TOE) framework to develop a predictive model of intention to adopt m-commerce. The study adopted the quantitative research design and the cross-sectional survey method was used for data collection from the participants. The Partial Least Square Structural Equation Modelling (PLS SEM) was used for data analysis. The findings indicated significant positive relationships between perceived benefits, compatibility, technological readiness, employee capability, customer pressure and top management support and intention to adopt m-commerce. Recommendations included the training of employees and top management support.*

**Keywords**: M-Commerce, Adoption, Diffusion of Innovation Theory, Technology Organization Environment Framework, Small Medium and Micro Enterprises, Hospitality.

## INTRODUCTION

Small and medium and micro enterprises (SMMEs) play an important role in the economies of countries around the world. SMMEs contribute to the gross domestic product (GDP) and are crucial to the efforts of governments worldwide to achieve a more inclusive growth (Organisation for Economic Co-operation and Development, 2017). In South Africa, the SMME sector accounts for 98.5% of all firms and contribute 28% of all jobs (Small Business Institute, 2018). In addition, the tourism industry (including the hospitality sector) accounted for 9.3% of South Africa's GDP and provided 1.5 million jobs in 2016 and is forecast to contribute 11.5% of the GDP and 2.4 million jobs by 2027 (World Travel and Tourism Council, 2016). The hospitality sector is challenged by many factors such as the rise of Airbnb and a culture of innovation is needed to unlock value (Steyn & Wood, 2018). One of the innovative solutions to unlock customer experience and value for the hospitality sector is mobile commerce (m-commerce). Facilitated by mobile devices, m-commerce allows browsing, searching and purchasing of goods and services online. Mobile applications are downloaded by users in order to conduct m-commerce related activities. Businesses can use m-commerce to increase market share, develop new revenue streams, reduce operational costs and increase profitability (Cao et al., 2015; Cullen & Kabanda, 2018). Between 2014 and 2018, the value of global m-commerce transactions increased by more than 900% (Atkinson, 2019). While the adoption rate of m-commerce is high in developed countries, its utilisation is low in developing countries (Chau et al., 2020). In addition, the prominence of m-commerce is minimal among SMMEs and the adoption rate of m-commerce by small firms in the hospitality sector is low in most developing countries (Alqatan et al., 2011; Rana et al., 2019). Therefore, it is important to understand the

determinants of intention to use m-commerce by small and medium sized hospitality firms in South Africa.

The theoretical frameworks to explain the intention to use mobile technology include the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM) (Njenga et al., 2016). According to Rahayu (2015) these theories tend to predict intention to adopt-m-commerce from the individual perspective. The Diffusion of Innovation Theory (DOI) and the Technology Organization Environment (TOE) framework are more applicable to organisations. In addition, Awiagah et al. (2016) and Chau & Deng (2018) argue all aspects of innovation acceptance cannot be explained by one single theory. Therefore, an integration of theories can offer a better understanding of the adoption of m-commerce in organisations as this leads to the confirmation of many different determinants. The aim of this study is to develop a predictive model for the intention to adopt m-commerce by SMMEs in the hospitality sector through the integration of the DOI and TOE. Although current research depicts the importance of m-commerce in organisations, managers are however not provided with frameworks on how to adopt the technology. While E-Commerce has stimulated extensive research, M-Commerce has not received adequate attention from researchers resulting in lack of information for SMMEs on how to adopt it (Rana et al., 2019). This research will provide insight on the factors that can influence the adoption of M-Commerce from the perspective of SMMEs in a developing country

## LITERATURE REVIEW AND THE DEVELOPMENT OF HYPOTHESES

### Hospitality SMMEs

The United Nations World Tourism Organisation (2018) defines tourism as "a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes". Tourism related activities include accommodation, food and beverage services, recreation and entertainment, transportation and travel services. The hospitality industry is the largest segment of the tourism industry and includes hotels, motels, lodges, guest houses restaurants, pubs, and cafés (Department of Labour of South Africa, 2016). There are three enterprise classes for small businesses in South Africa. These are micro, small and medium and their quantitative definition focuses on the number of employees and total annual turnover. The SMMEs in the service sector including hospitality businesses can be defined as follows: micro enterprises (number of employees 0-10; total annual turnover less or equal to R5.0m), small (11-50 employees; turnover less or equal to R15m), medium (51-250 employees; turnover less or equal to R40m) (Government Gazette, 2019).

### M-Commerce

M-Commerce can be described as *"the use of mobile, wireless (handheld) devices to communicate and conduct transactions through public and private networks"* (Balasubramanian et al., 2002). Njenga et al. (2016) refer to m-commerce as the delivery of transactions over mobile devices for the exchange of goods and services between consumers, merchants and across organizations. Although m-commerce is often described as an extension of e-commerce, it is a distinct entity, as it provides a unique value proposition to businesses and customers (Jain et al., 2016). M-commerce provides benefits to businesses and consumers. Businesses can use m-

commerce to increase market share and increase profitability. Customers are able to conveniently shop for products and services anywhere at any time by using a personal device, provided an Internet connection is available (Rana et al., 2019). M-commerce can be used for business to business, business to customer, customer to business, business to government, government to business and government to citizen transactions (Alnaser et al., 2018).

## Theoretical Background

This study is based on the integration of DOI and TOE. The DOI was developed by Rodgers in 1962 and explains how a product gains momentum and spreads or diffuses over time through a specific social system or population. The result is that through diffusion, people adopt a new product. The crucial part of adoption is that an individual must perceive the product or service as new or innovative. The categories of adopters include innovators who want to be the first to use the innovation and early adopters who embrace change and enjoy leadership role in the change process. Other categories of adopters according to the DOI are early majority which are individuals that are not leaders but tend to adopt a new technology before an ordinary person. Late majority: these are individuals that are doing not easily embrace change and will adopt an innovation after the majority has tried it. Laggards: these are individuals that are very sceptical of change and difficult to convince to adopt a new technology. The factors that influence the different categories of adopters are (1) relative advantage- this refers to the extent to which an innovation or technology, product or service is perceived as better than the one that it replaces (2) compatibility: this describes the consistency of an innovation with the needs, experiences and value of the adopter. (3) Complexity: this refers to the degree that an innovation is difficulty to understand or use (4) triability: this refers to the degree that an innovation can be experimented with before the decision of an individual to adopt. (5) Observability: the level to which an innovation delivers real results. The TOE was developed by Tornatzky et al. (1990) and postulates that the drivers of the adoption of new technology by an organisation are dependent on three contexts. These are (1) the features of the technology: the internal and external technologies that are relevant to the organisation (2) the organisation readiness of the organisation: size, resources centralisation and formalisation of the organisation and (3) environmental conditions. Competitors, structure of the industry and the macroeconomic environment of the organisation (Tornatzky et al., 1990).

## Determinants of Intention to Adopt M-commerce Adoption by SMMEs

### Technological context

Chau & Deng (2018) point out that technological factors that can affect the intention to adopt m-commerce by SMMEs includes perceived benefits, perceived costs, perceived compatibility, perceived security risk and perceived complexity. According to Blaise et al. (2018), the benefits of electronic commerce adoption include lower marketing and distribution costs, increased market reach, reduced operational costs, improved customer service, better inventory control and improved profitability. SMMEs in the hospitality sector are able to use internet technologies to gather and diffuse information to local and international customers and improve their competitive position (Rana et al., 2019). Gitau & Nzuki (2014) describe perceived cost as the extent to which an individual thinks that using a technology is costly. Cost is involved by an organisation to set up and deliver m-commerce services. Cost includes the initial purchase

price of the hand set, usage cost, subscription, service and maintenance fees and this can be expensive for a small business. Sila (2015) and Yadav et al. (2016) find that perceived cost has a negative effect on m-commerce adoption. Compatibility describes the extent to which m-commerce is compatible with the value, culture, work practices and technology infrastructure that are already in existence in an organisation (Morteza et al., 2011). Compatibility also describes the extent to which an innovation meets the needs of end users and is another important factor that can influence the adoption of m-commerce by SMMEs (Zaied, 2012). Empirical studies by El-Gohary (2012) and Rakaya (2015) find a significant positive relationship between compatibility and electronic commerce adoption**.** Rana et al. (2019) point out that privacy and security issues can affect the adoption of m-commerce because businesses and clients are concerned that their financial transactions can be accessed by fraudulent third parties. Khoase & Ndayizigamiye (2018) point out those consumers are concerned about the security and reliability of online payments and confidentiality and protection of data. This can negatively affect the intention to use m-commerce. Rahayu (2015) and Chau & Deng (2018) find a significant negative relationship between privacy and security issues and the willingness of businesses to adopt m-commerce. Vagnani et al. (2019) define complexity as the extent to which an innovation is perceived to be difficult to understand and use. Based on complexity occasioned by low levels of technical and managerial skills, small businesses may perceive m-commerce as inapplicable to their business. The adoption of innovations needs employees and owners to possess necessary operational and technical competencies (Chau et al., 2020).

Based on the highlighted empirical evidence, the following hypotheses are proposed.

$H_1$ *There is a significant positive relationship between perceived benefits and intention to adopt m-commerce.*

$H_2$ *There is a significant negative relationship between perceived costs and intention to adopt m-commerce.*

$H_3$ *There is a significant positive relationship between perceived compatibility and intention to adopt m-commerce.*

$H_4$ *There is a significant negative relationship between perceived complexity and intention to adopt m-commerce.*

$H_5$ *There is a significant negative relationship between perceived privacy and security risk and intention to adopt m-commerce.*

## Organisational context

Organisational context can be described as the characteristics of an organisation that can affect the adoption of a new technology. In the perspective of m-commerce adoption, organisational context includes organisational readiness and employees' IT knowledge (Rahayu 2015; Chau & Deng, 2018). Technological readiness refers to the degree to which the technical skills and technology infrastructure of an organisation can support m-commerce adoption. Firms that do not possess the relevant IT skill and technology infrastructure may be unwilling to adopt m-commerce. Empirical findings by Ramdani et al. (2009) and Chau et al. (2020) support a significant positive relationship between technological readiness and employees' IT capability and electronic commerce adoption. The availability and commitment of financial resources can affect the adoption of m-commerce by SMMEs. However, many SMMEs are challenged by the

lack of adequate financial resources and have limited access to the debt and equity markets. Without sufficient financial resources, SMMEs cannot obtain both the hardware and software associated with the implementation of m-commerce (Jain et al., 2016). Consequently, it is hypothesised that:

$H_6$ *There is a significant positive relationship between technological readiness and intention to adopt m-commerce.*

$H_7$ *There is a significant positive relationship between perceived employees' IT knowledge and intention to adopt m-commerce.*

$H_8$ *There is a significant positive relationship between organisational financial resources and intention to adopt m-commerce*

## Environmental context

Environmental context refers to factors in a firm's external environment such as pressure from competitors, suppliers, government and customers that can influence m-commerce adoption (Chau & Deng, 2018). Ayegba et al. (2019) find that competition has a significant positive impact on adoption of electronic commerce by SMMEs in Nigeria. Alrawabdeh (2016) investigates the environmental factors that affect m-commerce adoption by telecommunication firms in Jordan. The results indicated that six environmental factors (regulatory environment, customer pressure, government pressure, support industry pressure, social pressure, and competitor pressure) positively affect the adoption of m-commerce. Consequently, the following hypotheses are proposed.

$H_9$ *There is a significant positive relationship between customer pressure and intention to adopt m-commerce.*

$H_{10}$ *There is a significant positive relationship between competitor pressure and intention to adopt m-commerce*

## Individual context

In the perspective of SMMEs, the inclusion of individual factors demonstrates the acknowledgement of the relationship between the entrepreneur/owner and their venture. The entrepreneur is at centre of his/her organisation and the full driver of all business decisions (Fatoki, 2018). Owners' readiness and support to adopt new ideas and technological innovations can positively influence the adoption of m-commerce. In addition, IT knowledge by the owner or manager can reduce uncertainty and increase the speed of m-commerce adoption (Morteza et al., 2011). Rahayu (2015) and Chau & Deng (2018) find that owner/manager IT knowledge positively impacts on the adoption of electronic commerce. Consequently, it is hypothesised that:

$H_{11}$ *There is a significant positive relationship between owner/manager support and intention to adopt m-commerce*

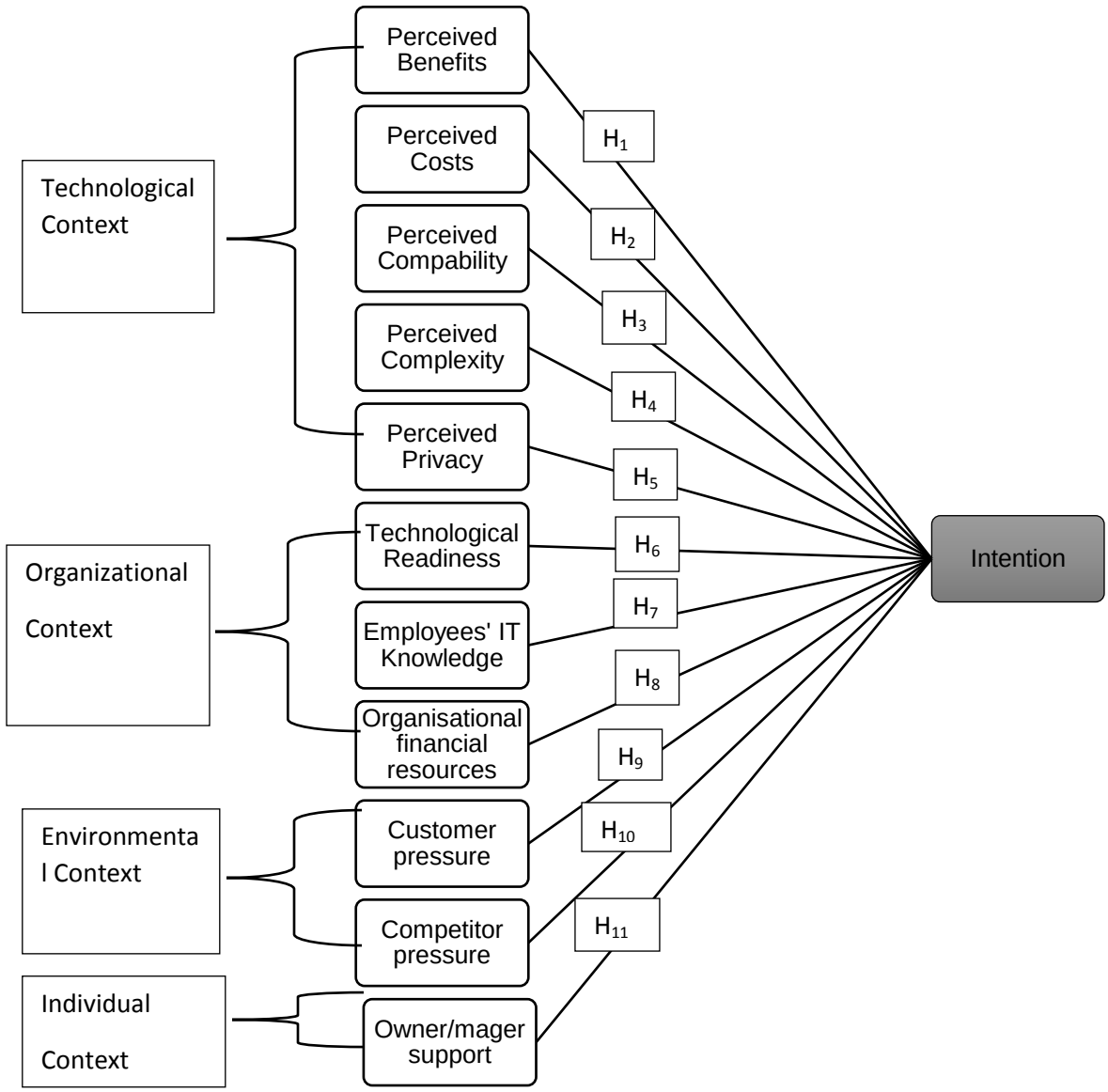


**FIGURE 1**
**CONCEPTUAL MODEL**

## RESEARCH METHODOLOGY

The study adopted the quantitative research method and the cross-sectional survey method was used to obtain data from SMMEs in the hospitality sector. The research was conducted in the Capricorn, Waterberg and Mopani District Municipalities in the Limpopo Province of South Africa. Because of the difficulty in obtaining a sampling frame of SMMEs in the study area, the convenience and snowball sampling methods were used to identify the survey participants. The self-administered questionnaire method was used to obtain data from the participants. The questionnaire was divided into two parts: demographic variables and determinants of intention to adopt m-commerce and were completed by owner or manager of SMMEs. Questionnaire items were adopted from previous studies with acceptable psychometric

properties (Rahayu, 2015; Maduku et al., 2016; Chau & Deng, 2018). The Five point Likert scale was used to measure the determinants of intention to adopt m-commerce by SMMEs. The questionnaire was pre-tested in a pilot study of twenty SMMEs to improve face and content validity. Two academics in the areas of electronic commerce and digital marketing also helped to validate the questionnaire. The Partial Least Square Structural Equation modelling (PLS SEM) was used for data analysis (Figure 1).

## RESULTS

### Response Rate and Demographic Characteristics

Three hundred and twenty questionnaires were distributed to hotels, bread and breakfast, and lodges and one hundred and fifty-five questionnaires were returned. The response rate was 48.4% questionnaires were returned. The results indicate that the majority of the participants in the survey are male, between 31-40 of age, operating between 11 and 20 years, with post matric qualifications. The number of employees was used to determine the enterprise class. The results indicated that the majority of businesses that participated in the survey were small businesses with 11-50 employees.

### Structural Equation Modelling

#### The evaluation of the measurement model

The study followed the criteria by Hair et al. (2019) for the evaluation of the measurement model. These include the examination of factor loadings (>0.708), composite reliability (between 0.790 and 0.900), Cronbach's alpha (> 0.700) and the AVE (minimum 0.500). Also, the square roots of the AVEs should be greater than the correlations amongst variables as indicated by the Fornell and Larcker criterion. The results as indicated by Table 1 and 2 showed that all these requirements were met and the measurement model is satisfactory.

**Table 1**
**THE MEASUREMENT MODEL**

| Construct | Measurement items | Item loading | Cronbach's alpha | Composite reliability | AVE |
|---|---|---|---|---|---|
| **Perceived benefits (PB**) Mean 4.75, SD 1.08 Will reduce marketing costs | PB1 | 0.822 | 0.802 | 0.879 | 0.596 |
| Increase customer loyalty and retention | PB2 | 0.749 | | | |
| Improve supplier relationship | PB3 | 0.752 | | | |
| Increase profitability | PB4 | 0.728 | | | |
| Increase productivity | PB5 | 0.805 | | | |
| **Perceived compatibility (PCo)** Mean 3.88, SD 1.16 Compatible with our IT infrastructure | PC1 | 0.808 | 0.712 | 0.861 | 0.675 |
| Compatible with our work structure | PC2 | 0.749 | | | |
| Compatible with our values and culture | PC3 | 0.900 | | | |
| **Perceived complexity (PCom)** Mean 2.52, SD 1.04 Mobile commerce will be too complex for our operations | PCo 1 | 0.864 | 0.784 | 0.850 | 0.654 |
| Mobile commerce will be too complex for our employees to use | PCo2 | 0.755 | | | |
| Mobile commerce will be too complex for our customers to use | PCo3 | 0.803 | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Perceived security risk (PSR**)<br>Mean 2.48, SD 1.08<br>Information submitted by our enterprise may be misused on the internet | PSR1 | 0.768 | 0.804 | 0.802 | 0.587 |
| Information submitted by our customers may be misused on the internet | PSR2 | 0.730 | | | |
| Mobile commerce is riskier than off line psychical commerce | PSR3 | 0.775 | | | |
| **Perceived Cost (PCt)**<br>Mean 3.60, SD, 1.21<br>The cost of the use of m-commerce will be high | PCt1 | 0.802 | 0.791 | 0.856 | 0.599 |
| The maintenance and support fees will be high | PCt2 | 0.816 | | | |
| Amount paid to service providers will be high | PCt3 | 0.748 | | | |
| The costs of m-commerce adoption will outweigh the benefits | PCt4 | 0.725 | | | |
| **Perceived financial resources (PFR)** Mean 3.55, SD, 1.08<br>Availability of financial resources to adopt m-commerce | PFR1 | 0.799 | 0.771 | 0.744 | 0.593 |
| Ability to allocate sufficient financial resources for m-commerce | PFR2 | 0.740 | | | |
| **Technological readiness (TR)**<br>Mean 3.82, SD, 1.14<br>Sufficient experience with network based applications | TR1 | 0.806 | 0.728 | 0.805 | 0.626 |
| Sufficient resources to implement m-commerce | TR2 | 0.748 | | | |
| We have high bandwidth connectivity to the internet | TR3 | 0.727 | | | |
| **Perceived customer pressure (PCR)**<br>Mean 3,95, SD 1.06<br>There is pressure from our customers to adopt m-commerce | PCP1 | 0.866 | 0.806 | 0.873 | 0.632 |
| Customers expect us to adopt mobile commerce | PCP2 | 0.826 | | | |
| Increased purchase of goods and services by consumers using mobile technology | PCP3 | 0.752 | | | |
| Adopting m-commerce will improve our relationship with customers | PCP4 | 0.729 | | | |
| **Perceived competitor pressure (PCPr)**<br>Mean 2.68, SD 1.09<br>Customers can easily switch from one company to the other without incurring cost | PCPr1 | 0.788 | | 0.864 | 0.614 |
| Rivalry among companies in our industry is high | PCPr2 | 0.746 | | | |
| Some of our competitors are already offering m-commerce | PCPr3 | 0.806 | | | |
| In the industry, most firms will eventually adopt m-commerce | PCPr4 | 0.791 | | | |
| **Perceived management support (PMS)**<br>Mean 4.20 SD 1.12<br>Owner is willing to support the adoption of m-commerce | PMS1 | 0.804 | | 0.846 | 0.549 |
| Owner is willing to provide financial support for adoption of m-commerce | PMS2 | 0.767 | | | |
| Owner is willing to provide support for the training of employees on m-commerce | PMS3 | 0.742 | | | |
| The owner is knowledgeable about mobile commerce and technology | PMS4 | 0.728 | | | |
| **Employees capability (EC)**<br>Mean 3.85, SD 1.01<br>Employees are knowledgeable about mobile commerce and technology | EC1 | 0.792 | | 0.738 | 0.585 |

| | | | | | |
|---|---|---|---|---|---|
| Employees can use mobile commerce to interact with customers and suppliers | EC2 | 0.736 | | | |
| **Intention (INT)**<br>Mean 3.42, SD 1.05<br>Intends to adopt m-commerce | INT1 | 0.880 | | 0.862 | 0.675 |
| Willing to adopt m-commerce | INT2 | 0.828 | | | |
| Plans to adopt m-commerce | INT3 | 0.755 | | | |

**Table 2**
**DISCRIMINANT VALIDITY**

| Construct | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INT | **0.822** | | | | | | | | | | | |
| PB | 0.608 | **0.772** | | | | | | | | | | |
| PC | 0.322 | 0.296 | **0.822** | | | | | | | | | |
| PCo | 0.328 | 0.409 | 0 | 0.341 | **0.809** | | | | | | | |
| PSR | 0.383 | 0.348 | 0.301 | 0.399 | 0.766 | | | | | | | |
| PCt | -0.107 | 0.111 | 0.206 | -0.309 | 0.222 | **0.774** | | | | | | |
| PFR | 0.408 | 0.427 | 0.539 | 0.602 | 0.303 | 0.509 | **0.77** | | | | | |
| TR | 0.306 | 0.369 | -0.128 | 0.22 | 0.406 | 0.224 | 0.309 | **0.791** | | | | |
| PCP | 0.404 | 0.574 | 0.422 | 0.608 | 0.522 | 0.494 | 0.528 | 0.601 | **0.794** | | | |
| PCPr | 0.301 | 0.204 | 0.399 | 0.502 | 0.399 | 0.502 | 0.555 | 0.517 | 0.582 | **0.784** | | |
| PMS | 0.488 | 0.392 | 0.272 | 0.308 | 0.322 | 0.292 | 0.301 | 0.22 | 0.296 | 0.319 | **0.741** | |
| EC | 0.502 | 0.508 | 0.429 | 0.4 | 0.566 | 0.399 | 0.508 | 0.286 | 0.408 | 0.501 | 0.566 | **0.763** |

Note: Diagonals in bold signify the square root of the AVE while the other figures depict the correlations.

## Structural Model Assessment

Hair et al. (2019) point out that the structural model assessment included the analysis of the common method bias, the $R^{2,}$ the $Q^2$ and the evaluation of the path coefficients. The variance inflation factors (VIFs). The VIFs for the constructs of the study ranged from 1.408 to 2.501 suggesting that that the model is free of CMD. The $R^2$ obtained by the study was shows the The extended model explained 56.2%. The goodness of fit test (GOF) 0.522 suggests that the empirical data satisfactorily fits the model and has a good predictive power in comparison to baseline values. The predictive relevance of the model ($Q^2$). Using the cross validated communality was 0.61 is indicative of a predictive model. The effect size, $f^2$, ranged from 0.031 to 0.172 suggests that the effect sizes of different endogenous constructs on the exogenous constructs range small to medium effect sizes. The standardised root mean square residual (SRMR) 0.01 indicates a good model fit. The results of the path coefficients and T-statistics using the bootstrapping technique are depicted in Table 3.

**Table 3**
**PATH COEFFICIENT AND T-STATISTICS**

| Hypothesis | Hypothesised path | Standardised Beta | T-statistics | Decision |
|---|---|---|---|---|
| H1 | Benefits→Intention | 0.261 | 3..201* | Accepted |
| H2 | Cost→Intention | -0.108 | 3.022** | Accepted |
| H3 | Comptatibility→Intention | 0.139 | 2.300** | Accepted |
| H4 | Complexity→Intention | 0.047 | 1.088 | Rejected |
| H5 | Security→Intention | 0.038 | 1.001 | Rejected |
| H6 | Readiness→Intention | 0.199 | 2.460** | Accepted |
| H7 | Employee→Intention | 0.182 | 2.388** | Accepted |
| H8 | Finance→Intention | 0.191 | 2.429** | Accepted |
| H9 | Customer→Intention | 0.147 | 3.001** | Accepted |

| | | | | |
|---|---|---|---|---|
| H10 | Competitor→Intention | 0.039 | 0.096 | Rejected |
| H11 | Management→Intention | 0.208 | 3.608* | Accepted |

Note: *p<0.01; **p<0.05

Tables 3 depict the results of hypothesis testing. Technological context: The results ($\beta$=0.261, T=3.201, p<.0.01), ($\beta$=0.139, T=2.300, p<0.05), show significant positive relationships between perceived benefits and compatibility and intention to adopt mobile commerce. Hypotheses one and three are accepted. The results ($\beta$=-0.108, T=3.022, p<0.05) indicate a significant negative relationship between cost and intention. Hypothesis two is accepted. The results ($\beta$ =0.047, T= 1.008, p>0.05) and ($\beta$=0.38, T=1.001, p>0.05) indicate insignificant relationships between complexity and security risk and intention. Hypotheses four and five are rejected. Organisational context: The results ($\beta$ =-0.199, T=2.460, p<0.05), ($\beta$=-0.182, T=2.388, p<0.05) and ($\beta$=-0.191, T=2.429, p<0.05) indicate significant positive relationships between technological readiness, employee IT knowledge and availability of financial resources and intention to adopt m-commerce. Hypotheses six, seven and eight are accepted. Environmental context: The results ($\beta$ =0.147, T=3.001, p<0.05) show a significant positive relationship between customer pressure and intention. Hypothesis nine is accepted. The results ($\beta$=0.039, T=0.096, p>0.05) indicate an insignificant relationship between competitor pressure and intention. Hypothesis ten is rejected. Individual context: Management support. The results ($\beta$=0.208, T=3.608, p<0.05) support a significant positive relationship between management support and intention. Hypothesis eleven is accepted.

## DISCUSSION

The study examined the determinants of the intention to adopt adopt m-commerce by SMMEs in the hospitality sector in South Africa through the integration of the DOI and TOE. The study investigated four contexts: technological organisations, environmental and individual. The results indicated significant positive relationships between perceived benefits and perceived compatibility and intention to adopt m-commerce. The results are consistent with previous empirical studies. Rana et al. (2019) and Blaise et al. (2018) point out that the benefits of electronic commerce adoption include lower marketing and distribution costs, increased market reach, reduced operational costs, improved customer service, better inventory control and improved profitability. The study found a significant negative relationship between perceived cost and intention to adopt m-commerce. The results are consistent with the findings of Yadav et al. (2016) and Rind et al. (2017) that perceived cost is one of the constraints of m-commerce adoption by businesses. The findings indicated that perceived complexity and security risks do not significantly affect the intention to adopt m-commerce. An explanation for these findings is that most small business owners are comfortable with the use of handsets and also the increasing level of familiarity with m-commerce by businesses. In addition, despite the increasing level of cybercrime, many transactions are now safely conducted online. The findings are consistent with Maduka et al. (2016) that perceived complexity does not significantly impact on the adoption of mobile technology by SMEs. The findings indicated significant positive relationships between technological readiness, employees' IT capability and availability of financial resources and intention to adopt m-commerce. The results are consistent with the findings of Rahayu (2015) and Chau & Deng (2018) that organisational factors positively affect the adoption of m-commerce by firms. The findings indicated significant positive relationship between perceived customer pressure and intention. Empirical studies by Rahayu (2015) and Chau et al. (2020)

obtained similar findings. The effect of perceived competitor pressure is insignificant. The findings are consistent with the results of Maduka et al. (2016) but inconsistent with Alrawabdeh (2016) and Ayegba et al. (2019). The findings indicate a significant positive relationship between top management support and the intention to adopt m-commerce. Empirical studies by Morteza et al. (2011), Rahayu (2015) and Chau & Deng (2018) obtained similar findings.

## CONCLUSION

The study investigated the determinants of intention to adopt m-commerce by SMMEs in the hospitality sector by integrating the DOI and TOE. Theoretically, the study developed a predictive model for the adoption of m-commerce by small businesses in the hospitality context from the perspective of a developing country. Practically, the findings indicate that technological factors especially perceived benefits; cost and compatibility affect the intention to adopt m-commerce. Therefore, it is important for developers to provide apps that offer many benefits but not too costly to SMMEs. Organisational factors especially technological readiness, access to finance and employee capability also affect m-commerce adoption. SMMEs should also put in place mobile commerce policies, employee training and management support that will improve their readiness. Improving access to finance through government support and loans from commercial banks will help to improve the adoption rate of m-commerce by SMMEs. Perceived customer pressure can be managed by SMMEs through awareness campaign of the existence of m-commerce and the use of such innovation to provide superior, service to customers. The study has some limitations and also proposes some areas for further study. The study focused on the predictors of intention and not actual adoption. Intention does not always predict adoption. Additional studies on the moderating effect of demographic variables (gender, age and level of education) can help to improve the generalisability of the research findings to subgroups.

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