

Role of Mobile Technology on Business Opportunism and Performance of SMEs in Sri Lanka

Sri Lanka Journal of Social Sciences and Humanities
Volume 1 Issue 1, February 2021: 53-61
ISSN: 2773 692X (Online), 2773 6911 (Print)
Copyright: © 2021 The Author(s)
Published by Faculty of Social Sciences and
Languages, Sabaragamuwa University of Sri Lanka
Website: <https://www.sab.ac.lk/sljssh>



Ranatunga, R.V.S.P.K.^{1,*}, Priyanath, H.M.S.² and Megama, R.G.N.³

¹ Centre for Computer Studies, Sabaragamuwa University of Sri Lanka, Belihuloya, 70140, Sri Lanka.

² Department of Economics and Statistics, Sabaragamuwa University of Sri Lanka, Belihuloya, 70140, Sri Lanka.

³ Department of Computer Science, University of Sri Jayewardenepura, Nugegoda, 10250, Sri Lanka.

Received: 8 November, 2020, **Revised:** 30 December, 2020, **Accepted:** 26 January, 2021.

How to Cite this Article: Ranatunga, R.V.S.P.K., Priyanath, H.M.S., & Megama, R.G.N. (2021). Role of mobile technology on business opportunism and performance of SMEs in Sri Lanka. *Sri Lanka Journal of Social Sciences and Humanities*, 1(1), 53-61.

Abstract

The study empirically examined how the use of mobile technology affects the opportunism and business performance of Small and Medium-sized Enterprises (SMEs) in Sri Lanka. The Partial Least Squares-Structural Equation Modelling (PLS-SEM) was utilized to analyze the data that was collected from 400 SMEs by utilizing a structured questionnaire having face-to-face and telephony interviews. Results revealed that mobile technology generates a significant positive effect on business performance and, consequently, a negative effect on opportunism while opportunism makes a negative impact on the business performance of SMEs. Simultaneously, the study revealed that opportunism considerably interposes in the relationship between mobile technology and SME business performance. Finally, the study has made a strong recommendation to strengthen the use of mobile technology and its applications which highly relate to solving the issues faced by SMEs in the current imperfect market mechanism.

Keywords: Business Performance, Mobile Technology, Opportunism, SMEs

INTRODUCTION

Mobile technology is one of the prominent and leading technologies which rapidly changes communication between businesses and its latest enhancements have made virtual environments with prompt communication which allows the business stakeholders to abandon the traditional and information less business communication to more effortless information-rich communication (Bovee and Thill, 2015). Widespread adoption of mobile technology has also had significant effects on not only how businesses communicate but also changing the way they deal with suppliers, consumers, and other third parties involve with them (Bovee and Thill, 2015; Kenneth and Jane, 2013). Presently, these characteristics digging whole information sources all over the world and provide pieces of information that someone required easily and timely to their hand (Alghizzawi, 2019; Fischer and Smolnik, 2013; Taylor et al., 2017).

Information is a very essential resource for the business organization (Kenneth and Jane, 2013). According to Williamson (1979), the asymmetry of information creates a crucial problem for businesses such as Transaction Cost (TC) which essentially affects business performance. Humans are bounded rational due to the incapability of handling information (Simon, 1990). According to his generalization, this limitation is two folds. The former is cognitive attributes and the latter is language processing limitations. Therefore, an information-rich person can behave differently beyond the information less person. If someone uses this phenomenon to obtain additional benefits it is called opportunism. Thus, opportunism makes fear on businesses, and thereby, they always attempt to safeguard it by expending more cost in addition to the production cost and finally, it affects the performance and the survival in the market especially in the

SME sector (Carmel and Nicholson, 2005; Dyer and Chu, 2003; Ranatunga et al., 2020b). All these circumstances appeared since the scarcity of information.

As mentioned above, if mobile technology eliminates the information barriers among businesses then opportunism should be disappeared. According to the World Bank, the use of mobile phones in Sri Lanka is 142.65 per 100 inhabitants in 2018 and the total value is 24.4 Million with an average annual rate of 20.71% (World Bank, 2020). It is a considerable amount of using mobile technology by the population in Sri Lanka. Therefore, there is a high possibility to think that the use of mobile technology in the SME sector has also been increased, and simultaneously, information dissemination among the SME sector is also raised by mobile technology. This development could affect their level of faced opportunism and it should be decreased. Therefore, the business performance should be increased because they can behave under the reduced TC. However, this phenomenon has not been examined by the studies, especially in the Sri Lankan context.

According to Priyanath and Premarathne (2017b), if SMEs capable to collect and evaluate information, they would be able to reduce opportunism. Nevertheless, mobile technology can easily be used to end up the situation of scarcity of information around the stakeholders of SMEs (Alghizzawi, 2019; Fischer and Smolnik, 2013). This research has particularly identified a significant gap in this area of literature which is the lack of empirical studies for examining the use of mobile technology to disseminate information and its effect on opportunism and business performance of SMEs. Therefore, the major objective of this study is to understand

* Corresponding author: Tel.: +94 (71) 445 3394; Email: spkr@ccs.sab.ac.lk
<https://orcid.org/0000-0001-8348-0780>

the impact of using mobile technology on business performance and opportunism as well as the mediating effect of opportunism on the relationship between mobile technology and business performance of SMEs in Sri Lanka.

THEORETICAL BACKGROUND

Mobile Technology: Although mobile technology was a mystery two decades ago presently it has made a remarkable necessity to both the urban and rural areas of any country. It is a form of technology that is mostly used in cellular-based communication with related other aspects used as wireless communication. It uses many transmitters to send data simultaneously through the same channel called Code-division multiple access (CDMA) and now becomes a very sophisticated and efficient communication approach with diverse functionality in 4G networks (Taylor et al., 2017). Though this technology was first used for calls, SMS, and games presently the digital world mostly depends on it by implementing the internet and its functionalities through mobile technology (Alghizzawi, 2019; Taylor et al., 2017). Mobile technology creates an environment to obtain the correct information to the correct user at the correct time by providing facilities for personalization and localization of the contents (Fischer and Smolnik, 2013). Using mobile technology with internet connectivity users can gain vast areas of required information by downloading files, internet calls, video conferencing, entertainment, easily trace places on the earth using the Global Positioning System (GPS), etc. Therefore, businesses manipulate their businesses virtually even without seeing them in person and bankers hang on mobile technology on managing finances and stocks and presently, many business firms use mobile apps to increase their earnings by facilitating customer care and satisfaction (Keneth and Jane, 2013). These impressive successes of mobile technology which can be easily reached to the business are attributed to key features as ease of use without the higher cost of infrastructure, low-cost equipment, low-cost messaging ability, self-effacing nature, and any time of the day from anywhere in the world (Levi-Bliech et al., 2018). According to Alghizzawi (2019), the trend of using the internet has reached 4.1 Billion and 92% of them use mobile technology to access it.

Opportunism: The Transaction Cost Economics (TCE) which emphasized a more complete theory about the firms and markets which was begun by Coase (1937), outlines how the cost determines in a particular individual transaction and it includes two major factors such as human (behavioral) factors and environmental factors. Human factors consist of consequences of the characteristics of human decision-makers, in which bounded rationality (Simon 1990) and conversely, opportunism (Williamson 1993) is another. According to Williamson (1975), opportunism is self-interest-seeking with guile. More generally, researchers mentioned opportunism as incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse (Priyanath and Premaratne, 2017b). Two kinds of opportunism such as ex-ante which can establish by the principal business partner by providing imperfect information or misleading expose of information before the transaction and ex-post opportunism which occurs after a transaction due to the hidden activities of the principal business partner. According to Hobbs (1996), business parties behave opportunistically through hiding information or some business actions from opposition partners for increasing their earnings as well as benefits. If this nature leads to make risk on the suffering business partner

and avoid this situation they need to either do transaction by vertical integration or involve the third party like contracts, arbitrators, courts, etc. and again it raised more cost (Gray and Boehlje, 2005; Hobbs, 1996; Priyanath and Premaratne, 2017b; Yousuf, 2017).

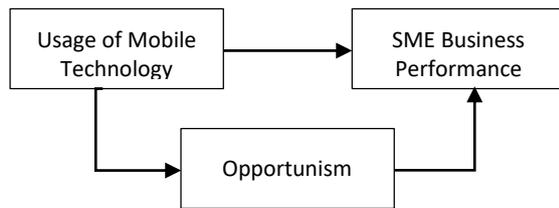
Business Performance: "Performance serves as a significant predictor in organizational commitment and retention" (Kim et al., 2004: 672–681). Performance is a final result of followed procedures which is evaluated against the standard or a benchmark (Khare et al., 2012). According to Nieman et al. (2003), SME performance is dependent on several factors such as survival in the market for more than two years, employing a staff of more than five and less than thirty by earning a profit, and develop the business in terms of infrastructure and growth and consequently, all these considered as the success of the SME. Researchers mostly explained growth and profitability factors which can be calculated quantitatively are the considerations for obtaining the business performance (Simpson et al., 2004). Therefore, frequently, most researchers used only the financial measures for estimating the performance (Richard et al., 2009). Conversely, non-financial aspects are also considered by some researchers to determine the performance (Walker and Brown, 2016).

Researchers argued that measuring the performance should contain significant explanatory power to predict the business achievements and should concern a wide range of aspects rather than the narrow path (Haber and Reichel, 2005; Simpson et al., 2004). Business performance particularly in the context of SMEs made more attention to overall performance rather than the traditional measures of only using financial performance (Saunila, 2016; Waśniewski, 2017). Two types of performance identified by Santos and Brito (2012) such as financial performance and strategic performance instead of standard operational performance. Waśniewski (2017) proposed another system for measuring the performance of SMEs which depended on the key success factors of the organization. Thereby, including all the consideration this research use not only the strategic factors but also the operational factors to evaluate SME business performance (Santos & Brito, 2012; Tarutè and Gatautis, 2014).

RESEARCH MODEL AND HYPOTHESES

Imperfect market behavior makes fail paths for SMEs and they cannot achieve the expected level of business performance especially in developing countries (Ranatunga et al., 2020b). Researchers stated that opportunism is one of a major issue which implies high cost and therefore, depicts low performance (Dyer and Chu, 2003; Priyanath 2017; Priyanath and Premaratne 2017a, 2017b). According to TCE the behavioral assumption of opportunism distributes through the asymmetry of information (Williamson 1985, 1993; Zhang, 2009). Therefore, the information asymmetry problem can be eliminated by providing adequate, reliable, and timely information to the SMEs which reduces the opportunism as well as the TC. Mobile technology provides the above-mentioned adequate, reliable, and timely information to reduce information asymmetry (Fischer and Smolnik, 2013). Therefore, certainly, it reduces the opportunism and increases the business performance of SMEs and thus, there should be a mediating effect of opportunism. Figure 01 conceptually established this rationale.

Figure 01: Relationships among ICT, bounded rationality and business performance of SMEs



Usage of Mobile technology and SME business performance: According to Donner and Escobari (2010), four categories of potential impacts on mobile technology on businesses such as increased availability of information in the network, the entry of new actors particularly buyers and sellers into markets, mobiles help enterprises cut out middlemen, and mobiles help individuals start new businesses have been identified. Mobile technology provides a higher value system which makes opportunities for new customers and suppliers into the market for increasing the earnings (Aker, 2008). Aker (2008) mentioned mobile technology declines the price dispersion by 21% and increases the profit by 29% of the SMEs. Jagun et al. (2008) stressed that mobile technology avoids the effect of middlemen on the business and the way of efficiency on routing around the buyers and suppliers and thereby increases the performance. Mobile technology improves than ever the communication on business functions such as purchasing, selling, delivery, inventory, and stock control, accounting not only within the business but also external to the business and therefore, increase the performance (Rashid and Elder, 2009). Organizations compressed their inefficient old hierarchical structures because of mobile technology and obtained more benefits and further, they enable to create a dynamic marketplace and helps to preserve the competitiveness, improve profitability and success (Akanbi, 2017; Tarutè & Gatautis, 2014). Therefore, the study predicts that:

H1: Usage of mobile technology positively relates to the SME Business Performance

Usage of mobile technology and opportunism: Unquestionably, mobile technology and its devices facilitate to implementation of the simplified business information exchange, making it easier to access a vast area of supplier and customer information as well as goods and services. As mentioned by Donner and Escobari (2010) the mobility, availability (anytime, anyplace), and personalization as important benefits of mobile technologies and their services. According to Krishnan (2014) and Sun and Wang (2012), Virtual Social Networks (VSN) encourages a new and a different form of the wide-area network through mobile technologies and establishes a simple communication environment for making effective relationships among partners and thus all these natures focused on avoiding the information asymmetry to reduce the bounded rationality of business partners which directly affects to reduce the opportunism. According to Carmel and Nicholson (2005) various uncertainties such as economic, political, technological, may face due to the opportunistic behavior by the large and small firms and they can reduce it using mobile communication. Zhang (2009) confirmed on their findings if there is a high technological practice that negatively affects the uncertainty and its capabilities positively impact the different types of performance. Priyanath and Butsala (2017) said that the ability to access information and network density negatively affects oppor-

portunism. Mobile technology directly facilitates access to information and conversely, it facilitates to advance of the network density of the business partners. Therefore, the usage of mobile technology has a negative effect on opportunism. Thus the study proposes that the:

H2: Usage of mobile technology negatively relates to the opportunism

Opportunism and SME business performance: As explained in the TCE information asymmetry generates opportunism. Those who have more information will mislead the other party since they have less information (Bellalaha and Aboura, 2006; Williamson, 1981). The risk of opportunism faced by the SMEs encourages to safeguard the transactions such as search markets and prices, make negotiation among the transaction details with exchange party, make agreements and get legal advice to agreements, monitoring the transaction while it is executing, to avoid such opportunism (Priyanath and Premarathne, 2017c). Consequently, the presence of opportunism leads to an increase in the TC and thus decreases the performance of SMEs. Thus the study predicts that the:

H3: Opportunism negatively relates to the SME business performance

Usage of mobile technology, opportunism, and SME business performance: Mobile technology establishes a more systematic way of doing business between both suppliers to business and customer to business and thereby increases the performance (Levi-Bliech et al., 2018). Conversely, mobile technology enhances the information flow between the businesses which directly affects to reduce information asymmetry and hence, opportunism. Further, effective communication improves organizational as well as employee performance especially in SMEs because most of the employees are semi-skilled such as agriculture-related businesses (Durowoju, 2017). Meanwhile, according to the establishment of hypothesis H2, mobile technology has a negative impact on opportunism since mobile technology directly helps to eradicate the major factors which are born opportunism. Consequently, the opportunism that reduces business performance is predicted by the H3 hypothesis. Therefore, it is reasonable to assume that:

H4: Opportunism has a mediating role in the relationship between the usage of mobile technology and the business performance of SMEs

METHODOLOGY

According to the concept established under the research problem, three pieces of theories are combined, and therefore, it is a deductive approach, and the method is quantitative. The study selected only the manufacturing SMEs and the survey method is used for the data collection on a unit of analysis as the SME owners. Department of Census and Statistics (DCS) has given definition for SMEs as 5 – 24 persons engaged for small industries and 25 – 199 persons engaged for medium enterprises. This definition provides 81,531 SMEs and it has been used as the study population. According to Kock and Hadaya (2018) and Ranatunga, Priyanath, and Meegama (2020b), the 'Inverse Square Root Method' was employed to obtain the minimum sample size. As mentioned by Kock and Hadaya (2018), a pilot survey has been conducted by using 110 sample size in order to calculate the minimum β value. The calculated minimum β value is 0.123 and it is applied to the computer program. The result was 397 and therefore, a 400 sample size is used for the research. Stratified sampling method utilized to select items

pertaining to all the manufacturing industrial divisions according to the ISIC category while the sample is populating on the percentage share of the SMEs distribution in each district and determine the number of SMEs to represent all the districts in Sri Lanka.

Face-to-face and telephony interviews were conducted with owners/managers of SMEs to collect data. By using a systematically designed 7-point Likert scale questionnaire which is prepared on a two-step procedure utilizing a pool of items for each variable by reviewing the past literature and select items carefully according to the environment of Sri Lanka. A pilot survey covered the validity and reliability of the study, and it satisfied the questions are understood; whether the instructions are cleared; whether the order of the questions is appropriate and the questions are useful, etc. Partial Least Square - Structural Equation Modelling (PLS-SEM) is identified as the most useful analysis technique for multiple independent and dependent variables. The study followed standard techniques to evaluate the reliability and validity as well as the efficiency of the model examined by using the multi-collinearity issues, R^2 , effect size (f^2), and predictive relevance (Q^2). The SmartPLS (version 2) software is used to analyze the data.

Measures: Ten items have been utilized to operationalize the use of mobile technology for business activities in SMEs (Matlala et al., 2014). According to Priyanath (2017), two

major attributes of opportunism have been identified as buyer opportunism and supplier opportunism eight items have been utilized for determining the exaggeration of needs, sincerity in dealings, truthfulness in dealings, good faith bargaining, dishonesty in dealings, unfairness in dealing, cheating in dealing and breach of agreement engaged in by the exchange partner. SME business performance is mainly measured using two aspects such as financial and operational performance (Tarutė, and Gatautis, 2014; Santos & Brito, 2012). The financial performance measured as profitability, growth, market value, and conversely, strategic or operational performance indicated by customer satisfaction, employee satisfaction, environmental performance, and social performance. Cover the financial performance, profitability operationalizes by 05 items and the growth operationalizes by using another 05 items. Consequently, within the strategic or operational performance, customer satisfaction operationalizes by 07 items, employee satisfaction operationalizes by 05 items, environmental performance operationalizes by 04 items and social performance operationalize by another 02 items.

RESULT AND DISCUSSIONS

First, the measurement model is evaluated on reliability and validity as shown in table 01 which illustrated the six first-order constructs (Hair et al., 2012; Thatcher, 2010).

Table 01: Analysis of First-Order Constructs

Construct	Loading	t- Statistics	CR	AVE	α^*	
Business Performance Customer Satisfaction						
1	Customer feedback on production	0.937	57.091	0.971	0.828	0.965
	Changes of production on customer feedback	0.920	41.554			
	Customer request for new production	0.905	34.066			
	Growth of customers in each marketing area	0.888	41.952			
	Complaints on the production(s)	0.894	26.929			
	Frequency of returning items	0.886	30.479			
	Growth of popularity of the tradename	0.939	49.029			
Business Performance Employee Satisfaction						
2	Growth of Expenses on training programs	0.759	26.589	0.864	0.560	0.808
	Growth of providing gift and bonus for the employee	0.775	18.233			
	Decrement of resignation	0.700	9.635			
	Increment of employee salary	0.755	10.859			
	Increment of employee welfare	0.750	10.559			
Business Performance Growth						
3	Opening of a new factory	0.825	21.153	0.915	0.682	0.884
	Increment of the number of employees	0.828	25.212			
	Establishing new buildings	0.795	16.089			
	Establishing new Machines	0.858	32.647			
	Growth of investments	0.823	24.089			
Business Performance Profit						
4	Growth of monthly sales volume	0.968	126.045	0.970	0.869	0.962
	Growth of monthly income	0.926	59.015			
	Growth of profit	0.946	73.546			
	Decrement of sold product returning volume	0.909	40.559			
	Increment of stock movement	0.910	66.941			
Opportunism Buyer						
5	Provide actual information about the deal when negotiating the transaction.	0.956	114.271	0.976	0.834	0.971
	Genuinely act when negotiating the transaction.	0.853	29.165			
	Overstate the requirements that they want to form the transaction.	0.959	100.037			

	Reasonable bargaining requests from the buyers when negotiating the transactions.	0.960	145.106			
	Change the pre-agreed facts while executing the transaction.	0.938	102.588			
	Buyers are dishonest in transaction activates.	0.803	20.076			
	Buyers make unfair changes in the dealings while executing the transaction.	0.917	43.407			
	Buyers attempt to breach the established agreement.	0.905	35.727			
Opportunism Supplier						
	Give actual information about the deal when negotiating the transaction.	0.982	175.040			
	Make genuine when negotiating the transaction.	0.926	69.081			
	Overstate the requirements that they want to form the transaction.	0.910	52.679			
6	Reasonable bargaining requests from suppliers when negotiating the transactions.	0.940	72.041	0.983	0.877	0.980
	Suppliers change the pre-agreed facts while executing the transaction.	0.935	97.830			
	Suppliers are dishonest in transaction activates.	0.936	77.700			
	Do unfair changes in the dealings while executing the transaction.	0.944	69.747			
	Attempt to breach the established agreement.	0.918	43.879			

(n=400),

Source: Survey data, 2020.

The indicator reliability evaluates using factor loadings that are above the threshold value 0.7 in the statistical significance at 0.05 level. Cronbach's α and composite reliability of these six constructs also above the threshold value of 0.7 and hence the first-order constructs have been reached high reliability. Two validity test conducts and former includes

Average Variance Extracted (AVE) values exceeded the required 0.5 thresholds and obtained the convergent validity and it means that indicators reflect their latent constructs. Latter is discriminant validity and according to table 02, diagonal values that are indicated by bold letters of the square root of AVE values exceed the shared variance with other constructs (Fornell and Larcker, 1981).

Table 02: Discriminant Validity of First-Order Constructs

	<i>BPF_Growth</i>	<i>BPF_Profit</i>	<i>BPO_Cus</i>	<i>BPO_EMP</i>	<i>Buyer</i>	<i>Supplier</i>
BPF_Growth	0.826					
BPF_Profit	0.813	0.932				
BPO_Cus	0.810	0.904	0.910			
BPO_EMP	0.641	0.615	0.621	0.748		
Buyer	-0.592	-0.628	-0.619	-0.401	0.913	
Supplier	-0.626	-0.647	-0.639	-0.443	0.908	0.936

(n=400),

Source: Survey data, 2020.

The second-order constructs are been established by using the latent variable scores of the first-order constructs. Table 03 indicated that the three endogenous latent variables

such as business performance (BP), opportunism, and mobile technology (Mobe. Tech) established under the second-order level in order to evaluate the hierarchical mode

Table 03: Analysis of Second-Order Constructs

Construct	Loading	t- Statistics	CR	AVE	α^*
Business Performance					
Profit	0.877	31.746			
Growth	0.920	67.085			
Employee satisfaction	0.747	74.611			
1 Customer satisfaction	0.923	14.503	0.942	0.700	0.928
Policy on environmental protection	0.814	17.776			
Allocation of job opportunities for employees in less income group	0.755	13.516			
Conducting social activities	0.798	18.411			
Opportunism					
2 Buyer Opportunism	0.981	162.805	0.982	0.964	0.963
Supplier Opportunism	0.983	160.741			
Mobile Technology					
3 Use mobile phones for business purposes.	0.731	15.923	0.958	0.718	0.950

Use mobile devices to connect to the internet for business purposes.	0.846	28.616
uses voice or video call application over the internet (skype for business, WhatsApp for business, Viber) for business activities with mobile devices	0.841	24.209
uses social media like (Facebook, LinkedIn) for business activities especially, production and marketing with mobile devices	0.805	20.381
Employees can use the Internet and its services through mobile devices	0.912	54.321
Employees use internet messaging and e-mails through mobile devices for business purposes	0.856	27.062
Employees can do video conferencing with their mobile devices for business purposes	0.870	29.004
Use mobile devices for innovations by using knowledge of the internet	0.868	27.679
Use mobile devices for solving business problems by using the knowledge on the internet	0.884	33.659

(n=400),

Source: Survey data, 2020.

As depicted in table 03 all the factor loadings, Cronbach's α , and composite reliability exceed the threshold value of 0.7 at the significance level 0.05, and hence, the constructs obtain the reliability. According to table 04, the AVE values of

the constructs are above 0.5 and the square root of AVE values in the diagonal exceed the shared variance and both of the convergent and the discriminant validity of the constructs received and satisfied.

Table 04: Discriminant Validity of Second-Order Constructs

	<i>BP</i>	<i>Mob. Tech</i>	<i>Opportunism</i>
BP	0.837		
Mob. Tech	0.750	0.847	
Opportunism	-0.653	-0.721	0.982

(n=400), Source: Survey data, 2020.

The structural model has been assessed for collinearity issues according to the given guidance by Hair et al. (2014). Initially, collinearity issues have been examined and VIF values should be below 5. Both VIF values obtained 2.081, and hence the analysis does not depict any collinearity issues. Tolerance levels are 0.481 which exceeded the threshold value of 0.2. Therefore, multicollinearity issues between the independent constructs and the dependent constructs cannot be seen in the structural model.

The established three hypotheses between the relationships of variables mobile technology, opportunism, and SME business performance tests using path coefficients β value and

t-statistics provided by the PLS bootstrap process. Table 05 shows that mobile technology has a significant positive effect on SME business performance including $\beta = 0.591$ and t-statistics 4.685. Consequently, mobile technology has a significant negative influence on opportunism $\beta = -0.723$ and t-statistics 10.440. Finally, it shows opportunism has a negative effect on the SME business performance like $\beta = -0.230$ and t-statistics 1.687. Therefore, it is reasonable to accept H1, H2, and H3 hypotheses.

Table 05: Path Coefficient and Significance

Hypotheses	Relationship	Beta (Path)	T Statistics	Decision
H1	Mob. Tech -> BP	0.591***	4.685	Accept
H2	Mob. Tech -> Opportunism	-0.723***	10.440	Accept
H3	Opportunism -> BP	-0.230*	1.831	Accept

*P>0.1, **P>0.05, ***P>0.01

Source: Survey Data, 2020.

The study focused on another idea such as identifying the mediating effect of opportunism on the relationship between mobile technology and the SME business performance and it was previously made as hypothesis H4. Table 06 shows the calculation and the result which used the method given by Zhao et al. (2010) and Carrión et al. (2017).

According to their instructions, it has a complementary mediating effect and as mentioned by Hair et al. (2013), it has a partial mediating effect because the VAF value is 0.22 (22%) and it is between the range of 20% - 80% and thus, H4 is accepted.

Table 06: Analysis of the mediate effect of Opportunism

Path	Direct effect model		Indirect effect ^s		S _e ^d	t-stat ^e	Total effect ^s	VAF	Type of mediation
	β^a	t-stat	<i>axb</i>	(SD)	(<i>axb</i>)/ S _e	(<i>axb</i>) + c	<i>axb</i> / (<i>axb</i>)+c		
Mob. Tech → BP (c)	0.591	4.685	0.166	0.126	1.320	0.757	0.220	Complementary	
Mob. Tech → Opportunism (a)	-0.723	10.44							
Opportunism → BP (b)	-0.23	1.831							

Source: Survey Data, 2020.

Following the steps given by Hair et al. (2014), the correlation between independent and dependent variables considered is the next step. The model having R² business performance and opportunism as 0.598, 0.522 respectively, which are considered as moderate. The effect size and the predictive relevance of opportunism as well as mobile technology on all dimensions according to Cohen (1988) and Chin (1998) examined as the last two steps. The result is shown that the large explanatory power given by such variables indicating a small effect size of opportunism (0.05), a large effect size of mobile technology (0.41), and large predictive relevance (0.510).

Mobile technology amplifies the information gain of the business stakeholders and eliminates the barriers which make many circumstances to achieve the target performance of the businesses (Donner and Escobari, 2010; Levi-Bliech et al., 2018). Although it dramatically reduces information asymmetry researchers do not attempt to examine its effect on opportunism that is one of the leading factors of reducing the business performance of SMEs especially in the COVID-19 environment. Therefore, this research is a unique effort as well as it is a necessity for the current phenomena in the world. The study predicts mobile technology positively affects SME business performance. The result proved it and found a significant effect as a 59.1% contribution to enhance the business performance of SMEs. This result proved the obtained outcome of other researches conducted in developing countries on technological changes of SMEs. According to Durowoju (2017), it is found that technological changes affect 56.6% to increase SME business performance. As well as Alaba (2020) revealed that there was a 64.5% positive correlation between mobile technology and SME business performance. Conversely, how do this performance can be obtained by SMEs? According to the theoretical explanation, it is obvious that mobile technology reduces information asymmetry on one hand and thereby reduces the extra cost on other hand. Because mobile technology reduces opportunism also. This study directly found it in which mobile technology decreases 72.3% of the opportunism of an SME. Priyanath and Premarathna (2017c) also explored that interpersonal trust reduces 73.6% of the opportunism of small-scale industries (SEs) of Sri Lanka. Mobile technology mainly affects to generate interpersonal trust among SMEs. Priyanath and Premarathna (2017b) also mentioned that Social Capital such as structural, relational, and cognitive have a negative impact on the opportunism of SEs of Sri Lanka. This study proves it also since mobile technology enhances such social capital because it facilitates the

creation of informal links, interpersonal trust, as well as relational qualities which finally aim to reduce the asymmetry and increase the quality of information. The findings revealed that the nature of opportunism makes a low negative impact on the SME business performance including a 23.0% negative effect. It is reasonable to identify that the high influence of mobile technology has affected to reduce the opportunism and thereby it has a low impact on the SME business performance. Another unique finding of this study can exhibit as what is the mediating effect of opportunism on the relationship between mobile technology and SME business performance? The above result analysis provides the answer and opportunism contains a complementary mediating effect on the mentioned relationship and its gravity is 22.0%.

CONCLUSIONS

SMEs are making less business performance due to various reasons. It is worth identifying these reasons from different perspectives including the combination of novel communication technologies and a cost-based approach. The study mainly argued that mobile technology improves business performance by accelerating communications. Because it decreases the information asymmetry and increases the decision-making power on the information as well as reduces the opportunism which directly reduces the transaction cost of SMEs and thereby increases the business performance. Working hypotheses have been established under the above concept and attempt to test empirically in the domain of Sri Lankan SMEs. The results exposed that mobile technology used in SMEs makes a significant positive impact on business performance as well as negatively influenced opportunism. Simultaneously, the study uniquely found that opportunism negatively impacts the business performance of SMEs in Sri Lanka. Conversely, the study distinctively exposes the result as opportunism plays a foremost role in the relationship between ICT usage and the business performance of SMEs. According to findings, while mobile technology is making the 59.1% positive effect the opportunism impels it by 22.0%. It is rational to understand, World Bank said the use of mobile phones in Sri Lanka is 142.65 per 100 inhabitants in 2018 is heavily affected to obtain this kind of properties to the SMEs in Sri Lanka.

A number of contributions have been provided by this research. First, it delivered a unique combined model using theoretical bases of mobile technology, opportunism, and business performance which help to identify how mobile technology makes an impact on opportunism and business

performance in the SME environment. It is an exclusive contribution and has not been empirically studied by previous researchers. Therefore, the combination of technology and a cost-based approach to measuring business performance especially, in the SME sector provides an avenue for the implementation of theories practically. Second, both mobile technology and business performance have been quantified by this study covering all the available attributes that have not been considered extensively in the past researchers in the context of SME. Thus, future researchers may practice it to operationalize their attributes. Third, the mediate effect of opportunism between the relationship of mobile technology and SME business performance has not been studied in the past literature. Therefore, this research reserved that opportunity to present it to the research world firstly.

The study recommends policymakers to enhance the existing mobile technology-related aspects such as cheaper telecommunication facilities and make easiness of use for business purposes. Government and private sector organizations that provide telecommunication facilities can implement services such as mobile applications, mobile data services to enhance the connections between SMEs and the market without barriers to avoid information asymmetry and it accelerates the establishment of information-rich SMEs network in Sri Lanka.

This research uses mobile technology with the opportunism that has not been operationalized in the past literature especially, regarding SMEs and it is a noticeable starting point. However, the mobile technology use of the country can be varied and future researchers can adjust the items accordingly. This research employed a comparatively small sample considering the population. Further researchers can extend the study with a larger sample size to avoid the far-reaching consequences of generalization problems. The generalization of the research findings is restricted to Sri Lanka and it may not be valid in the context of other countries because the technological face and business performances can vary according to the different cultural and socio-economic conditions. Therefore, future researches are proposed to enhance this study in another region of the world with the different cultural and socio-economic background to know how empirical evidence differ from Sri Lanka.

REFERENCES

- Akanbi, T. A. (2017). Effect of Information and Communication Technology Adoption on Non-Financial Performance of Quoted Manufacturing Industries in Nigeria. *International Journal of Accounting and Financial Reporting*, 7(2), 336 – 345.
- Alaba, O. V. (2020). Technological Advancement Strategy and Performance of Listed Construction Company in Nigeria. *International Journal of Trend in Scientific Research and Development (ijtsrd)*, 4(5), 1080-1088.
- Alghizzawi, M. (2019). The role of digital marketing in consumer behavior. *International Journal of Information Technology and Language Studies*, 3(1), 24-31.
- Bellalaha, M. and Aboura, S. (2006). The Effect of asymmetric information and transaction costs on asset pricing: Theory and Tests. *International Journal of Business*, 11(2), 219-236.
- Bovee, C. L. and Thill, J. V. (2015). *Business Communication Today*, Pearson Education.
- Carmel, E. and Nicholson, B. (2005). Small firms and offshore software outsourcing: high transaction costs and their mitigation. *Journal of Global Information Management*, 13(3), 33-54.
- Carrión, G. C., Nitzl, C. and Roldán, J. L. (2017), *Mediation analyses in partial least squares structural equation modeling: guidelines and empirical examples*, In Partial Least Squares Path Modeling, 173–195. https://doi.org/10.1007/978-3-319-64069-3_8
- Chin, W. W. (1988). The Partial Least Squares Approach to Structural Equation Modeling. *Advances in Hospitality and Leisure*, 8(2), 295-336.
- Coase, R. H. (1937). The Nature of the Firm. *Economica*, 4, 386–405.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd Ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Durowoju, S. T. (2017). Impact of technological change on small and medium enterprises performance in Lagos State, Nigeria. *Economic and Environmental Studies*, 17(4), 743-756.
- Dyer, J. H. and Chu, W. J. (2003). The role of trustworthiness in reducing transaction costs and improving business performance: empirical evidence from the United States, Japan, and Korea. *Organization Science*, 14(1), 57-68.
- Fischer, N. and Smolnik, S. (2013). *Two Sides of a Single Coin: Assessing the Net Effect of Organizational Mobile IS/IT Use*, International Conference on Mobile Business. 26, Available at: <https://aisel.aisnet.org/icmb2013/26> (accessed 14 October 2020).
- Fornell, C. and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.
- Gray, A. W. and Boehlje, M. (2005). Risk Sharing and Transactions Costs in Producer-Processor. *Supply Chain Management*, 20(4), 281-286.
- Haber, S. and Reichel, A. (2005). Identifying performance measures of small ventures: The case of the tourism industry. *Journal of Small Business Management*, 43(3), 257-287.
- Hair, J. F., Sarstedt, M., Ringle, C. M. and Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433. Doi: 10.1007/s11747-011-0261-6
- Hair, J. F., Hult, G. T. M., Ringle, C. M. and Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*, Sage, Thousand Oaks.
- Hair, J. F., Hult, G. T. M., Ringle, C. M. and Sarstedt, M. (2014). *A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, California: SAGE Publications.
- Hobbs, J. E. (1996). A transaction cost approach to supply chain management. *Supply Chain Management*, 1(2), 15-27.
- Kneth, C. L. and Jane, P. L. (2013). *Management Information Systems: Managing the Digital Firm* (12th Ed.), Prentice Hall.
- Kim, B. H., Park, H. S., Kim, H. J., Kim, G. T., Chang, I. S., Lee, J. and Phung, N. T. (2004). Enrichment of microbial community generating electricity using a fuel-cell-type electrochemical cell. *Applied Micro- Biotechnology*, 63, 672–681
- Khare, A., Saxsena, A. and Teewari, P. (2012). Supply chain performance measures for gaining competitive advantage: A review. *Journal of Management and Strategy*, 3(2), 25-32.
- Krishnan, S. (2014). *Moderating effects of uncertainty avoidance on ICT infrastructure, human capital, and virtual social networks diffusion*, Thirty-Fifth International Conference on Information Systems (ICIS) (14 - 17 Dec), Auckland, New Zealand.
- Levi-Blicch, M., Naveh, G., Pliskin, N. and Fink, L. (2018). Mobile technology and business process performance: The mediating role of collaborative supply-chain capabilities. *Information Systems Management*, 35(4), 308–329. <https://doi.org/10.1080/10580530.2018.1503803>
- Matlala, R., Shambare, R. and Lebambo, M. (2014). How South African spaza shop owners utilize mobile communication technologies to run their businesses. *European Scientific Journal*, 10(25), 180- 195.
- Nieman, G., Hough, J. and Nieuwenhuizen, C. (2003). *Entrepreneurship: A South African perspective*, Van Schaik, Pretoria, South Africa.
- Priyanath, H. M. S. and Butsala, W. K. A. (2017). Information, opportunism and business performance: a case of small businesses managed by women entrepreneurs in Sri Lanka. *Asian Journal of Multidisciplinary Studies*, 5(11), 230 - 239.
- Priyanath, H. M. S. and Premarathne, S. P. (2017a). Power of social capital on mitigating transaction cost of small enterprises in Sri Lanka: An empirical investigation. *International Journal of Arts and Commerce*, 6(4), 17 -35.
- Priyanath, H. M. S. and Premarathne, S. P. (2017b). Effect of information access through social capital on mitigating business opportunism of small enterprises in Sri Lanka. *Colombo Business Journal*, 8(2), 42 -67.

- Priyanath, H. M. S. and Premarathne, S. P. (2017c). The effect of interpersonal trust on transaction costs of owner-managed small enterprises in Sri Lanka. *Sri Lanka Journal of Economic Research*, 5(1), 1–29.
- Priyanath, H. M. S. (2017). Effect of network structure on transaction cost of small enterprises in Sri Lanka: An empirical study. *Journal of Small Business and Entrepreneurship Development*, 5(1), 19–34.
- Ranatunga, R. V. S. P. K., Priyanath, H. M. S. and Megama, R. G. N. (2020a). Methods and rules-of-thumb in the determination of minimum sample size when applying structural equation modelling: A review. *Journal of Social Science Research*, 15(2), 102–109. Doi.org/10.24297/jssr.v15i.8670
- Ranatunga, R. V. S. P. K., Priyanath, H. M. S. and Megama, R. G. N. (2020b). Digital literacy, business uncertainty, and economic performance: An empirical study of small businesses in Sri Lanka. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 50–76.
- Rashid, A. T. and Elder, L. (2009). Mobile phones and development: An analysis of IDRC supported projects. *The Electronic Journal on Information Systems in Developing Countries*, 36, 1–16.
- Richard, P. J., Devinney, T. M., Yip G. S. and Johnson, G. (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35(3), 718–771. DOI: 10.1177/0149206308330560
- Santos, J. B. and Brito, L. A. L. (2012). Toward a Subjective Measurement Model for Firm Performance. *BAR - Brazilian Administration Review*, 9(SPE), 95–117. DOI: 10.1590/S1807-76922012000500007
- Saunila, M. (2016). Performance measurement approach for innovation capability in SMEs. *International Journal of Productivity and Performance Management*, 65(2), 162–176.
- Simon, H. A. (1990). *Bounded Rationality*, In: Eatwell J., Milgate M., Newman P. (eds) *Utility and Probability*. The New Palgrave. Palgrave Macmillan, London. Doi.org/10.1007/978-1-349-20568-4_5
- Simpson, M., Tuck, N. and Bellamy, S. (2004). Small business success factors: the role of education and training. *Education and Training*, 46(8/9), 481–491.
- Sun, J. and Wang, Y. (2012). *Global diffusion of virtual social networks: A pyramid model*. In proceedings of the conference on Information systems applied research, S. Hunsinger (ed.), New Orleans, Louisiana, USA, 1–7.
- Tarutè, A. and Gatautis, R. (2014). ICT impact on SMEs performance. *Procedia- Social and Behavioral Sciences*, 110(2014), 1218 – 1225.
- Taylor, K. H., Takeuchi, L. and Stevens, R. (2018). Mapping the daily media round: novel methods for understanding families' mobile technology use, Learning. *Media and Technology*. 43(1), 1–15. Doi:10.1080/17439884.2017.1391286. ISSN 1743-9884
- Thatcher, R. W. (2010). Validity and Reliability of Quantitative Electroencephalography, *Journal of Neurotherapy: Investigations in Neuro-modulation. Neurofeedback and Applied Neuroscience*, 14 (2), 122–152. DOI:10.1080/10874201003773500
- Walker, E. A. and Brown, A. (2016). What success factors are important to small business owners? *International Small Business Journal*, 22(6), 577–594.
- Waśniewski, P. (2017). A performance measurement system for small enterprises – a case study. *Zeszyty Teoretyczne Rachunkowości*, 93(149), 211–233.
- Williamson, O. E. (1975). Markets and hierarchies: some elementary considerations. *American Economic Review*, 63(2), 316–325.
- Williamson, O. E. (1979). Transaction costs economics: the governance of contractual relations. *Journal of Law and Economics*, 22(2), 233–261.
- Williamson, O. E. (1981). The economics of organization: transaction costs approach. *American Journal of Social Sciences*, 87(3), 548–577.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism*, Free Press, New York.
- Williamson, O. E. (1993). Calculativeness, trust, and economic organization. *Journal of Law and Economics*. 34(2), 453–500.
- World Bank, (2020). *Mobile cellular subscriptions (per 100 people)*, International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database, The World Bank Group, Available at: <http://data.worldbank.org/indicator/IT.CEL.SETS.P2> (accessed 02 October 2020).
- Yousuf, A. (2017). Transaction costs: A conceptual framework, *International Journal of Engineering and Management Sciences (IJEMS)*, 2(3), 131–139. Doi.org/10.21791/IJEMS.2017.3.13
- Zhang, A. (2009). Corruption as a determinant of transaction governance structure. *Strategic Outsourcing: An International Journal*, 2(1), 27–36.
- Zhao, X., Lynch, J. G., Jr. and Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. Doi.org/10.1086/651257.

