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Meduduetso Tsumake-Tsiang
tsmmed001@myuct.ac.za

Adheesh Budree
University of Cape Town

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Developing an Integrative Theoretical Framework for Electronic Business Value Optimisation in Botswana

Research Paper

Meduduetso Tsumake-Tsiang
University of Cape Town
TSMMED001@myuct.ac.za

Adheesh Budree
University of Cape Town
adheesh.budree@uct.ac.za

ABSTRACT

Electronic business is a disruptive technological tool that has caused an immense shift in the job market across industries worldwide. For African economies to take advantage of digitisation and their digital gaps to be reduced, there needs to be wide adoption of internet technologies and equitable internet access. To support the digital transformation, digital frameworks need to be developed. These frameworks offer a blueprint or a guide on how organisations can implement technologies and innovation within their businesses. This paper focuses on investigating the development of such a framework within small and medium sized enterprises in an African context. It aims to provide a foundation and understanding of the theoretical insights required to develop a digital framework to guide e-business value optimisation in Botswana. This is a conceptual paper embedded in literature which advances and contributes to theories discussed in the paper in the context of e-business value in Botswana.

Keywords

E-business, e-business value optimisation, digitisation, theoretical framework, Botswana

INTRODUCTION

Developing economies often lag behind when it comes to technology adoption, digital innovations and digital transformation. According to Banga & te Velde (2018), African countries in particular have low rates of digitisation, indicating that they are yet to experience the full effects of the global surge in the use of digital technologies. Notwithstanding the factors that hinder these countries from fully embracing digitisation, for example lack of financing, poor infrastructure, lack of digital skills etc., it is important for them to be a part of this digitisation for economic development, growth and prosperity (Makhtar, 2017; Enaifoghe, 2021). For this to occur, organisations in these countries need to employ digital technologies and innovations in their operations to remain sustainable now and in the future (Asad &

Kashif, 2021). This is even more critical for small and medium sized enterprises (SMEs) in these countries as they contribute immensely to the growth and development of their economies (Khanda & Doss, 2018). Therefore, more studies that contribute to the development of digital frameworks that can be employed in SMEs of African countries for better decision making, interactions and collaboration as well as problem solving tools are necessary (Schwarz & Legner, 2020). Pfeiffer & Jarke (2017) also suggest that to support the digital environment and digital transformation, these frameworks are vital.

Electronic business (e-business) or digital business is defined as the diffusion of internet technologies within the business processes and with the external stakeholders (Cassidy, 2016). These internet technologies and e-business are considered to be disruptive technologies that have been accepted faster than any previous technology and have caused an immense shift in the job market across several industries worldwide (UNCTAD, 2017). Furthermore, for developing countries to take advantage of digitilisation and their digital gaps to be reduced, there needs to be wide adoption of internet technologies and available equitable internet access (Banga & te Velde, 2018). Therefore, considering the need for more frameworks that could guide SMEs to implement and utilise technologies and innovative solutions within their business processes and that could support the digital environment in these countries, it is important to provide a foundation and common understanding of the theoretical insights required for such a framework for e-business value optimisation. This paper does so by addressing the research question – How can a theoretical framework for e-business value optimisation be developed in Botswana?

This paper is structured as follows: The next section comprises of the literature review, in which the Botswana context is discussed followed by an overview of SMEs. This is followed by a section on optimising e-business value. The subsequent section offers a discussion on theories for optimising e-business value and a brief section to summarise them. Lastly a discussion on developing an integrative theoretical framework is then presented followed by the methodology, key findings and conclusion and future research directions.

THE BOTSWANA CONTEXT

Situated in the centre of Southern Africa, Botswana is an upper middle-income country with a population of approximately 2.3 million (SADC, 2020; United Nations, Department of Economic and Social Affairs, Population Division, 2019). It is a landlocked country surrounded by South Africa, Namibia, Zimbabwe and Zambia (UNDP, 2021). Since its independence in 1966, it went from being amongst the poorest countries in the world to having the fastest growing economies in the world and is amongst the best performing economies in Africa (Khanda & Doss, 2018; Tsumake & Kyobe, 2018). Whilst the country relied mostly on livestock and agriculture in its pre-colonisation years, much of its post-colonisation economic success was attributed to the discovery of diamonds, development of the mining sector, diamonds exports and revenues which cater for its small population (Molefe, 2020; UNDP, 2021). To date, Botswana continues to rely heavily on diamond mining, diamond exporting and revenues for economic growth and prosperity (Brou et al., 2020).

Despite its good economic growth, this has not successfully translated to job creation (Matandare, 2018). The diamond mining sector can only employ less than 5% of the Botswana workforce (Molefe, 2020). This poses a challenge of high unemployment in the country, also faced by many other developing countries. Moreover, over-reliance on the diamond mining sector, has led to a lack of economic diversification (Molefe, 2020). Therefore, as part of its transformational agenda, Botswana

intends to move from a minerals-led to a knowledge-based economy and from a middle-income country to a high-income country by 2036 (Vision 2036 Presidential Task Team, 2016; Dunn, 2021). This entails creating employment and having a stronger market outside of its borders to support its small internal market. Thus, several initiatives have been developed by the Botswana government to try and diversify the economy, encourage product exports that exclude diamonds and create jobs. Most of the initiatives focus on encouraging the growth and success of SMEs in this country as they are recognised to be major sources of employment and contributors to economies worldwide (Khanda & Doss, 2018). Additionally, to be a part of the global digital economy and encourage economic diversification and product exports, the country also heavily invests in ICT infrastructure and develops initiatives that encourage the diffusion of internet technologies (Tshukudu, 2019).

The development of an e-business value optimisation framework in Botswana could hence guide SMEs in the country to implement and utilise technologies and innovation within their business processes. This could thereby encourage product/service exports with external markets and create more employment opportunities, resulting in economic diversification and development, growth and prosperity.

Small and Medium sized enterprises (SMEs)

Different countries have different criteria to define a SME (OECD, 2013). Table 1 shows how a SME is defined in the context of Botswana.

Table 1

Criteria for a SME in Botswana (BICA, 2013)

Size category	Employment Levels	Annual Turnover (in Botswana Pula)
Micro Enterprises	Less than 6 workers	Less than P60 000
Small Enterprises	Less than 25 workers	Between P60 000 and P1 500 000
Medium Enterprises	Less than 100 workers	Between P1 500 000 and P5 000 000

Because of their fast growth, SMEs contribute immensely to the growth and development of most economies across the world, especially in developing countries. These enterprises as compared to larger enterprises play a vital role in a country's GDP, poverty alleviation and job creation as they are often significantly more in numbers (Chirau, 2014; Khanda & Doss, 2018). SMEs are highly adaptable to technical shifts, advancements in income distribution, changes in the market and new customer needs (Gherghina et al., 2020). Moreover, their organisational structures allow for decisions to be made faster.

OPTIMISATION OF E-BUSINESS VALUE

For SMEs in developing countries to determine their impact on the economy, they need to evaluate their performance (Malesios et al., 2018). Optimisation is defined as a performance-based decision-making process about an organisation's assets and processes, conducted in a cost-effective way, to get the best out of an objective purpose given certain constraints and measures (Saremi et al., 2017; Sashihara, 2011; Kelley, 2010; Veith et al., 2004). Despite their impact on the economies of countries worldwide, SMEs are often faced with many challenges that often result in them having a high failure rate (Gaetsewe, 2018). Therefore, it is important to consider these challenges e.g., financial constraints, lack of

involvement in collaboration and lack of digital skills etc., when taking this performance-based decision-making process so that SMEs can reduce their costs, maximise their profits and succeed in the economy.

E-Business value

By adopting and utilising e-business in business operations and processes, this results in an improvement of firm performance and firm competitiveness (Yoon, 2018; Subriadi & Kusuma Wardhani, 2022). It enhances information flow and effective partnerships and collaboration between the firm and its trading partners, increases efficiency and effectiveness of processes leading to cost reduction for both the customer and the firm, and increases value of the product and overall revenue creation (Popa et al., 2018; Popa et al., 2016; Zhu et al., 2015; Amit & Zott, 2001). Table 2 indicates the value perspectives that an organisation may consider when thinking of optimising e-business. It gives more detail on how value is created when e-business is adopted and assimilated in an organisation's value chain.

Table 2
E-Business Value Perspectives

Study	E-Business Value Perspective
Popa et al. (2018)	<ul style="list-style-type: none"> Effective partnerships between the firm and its trading partners. <ul style="list-style-type: none"> Enhanced information flow. Improved financial performance. Reduction of operational costs.
Popa et al. (2016)	<ul style="list-style-type: none"> Competitive advantage due to electronic innovations (e-innovations) in business processes, products and services. <p>Developed collaborative virtual teams due to enhanced information and knowledge distribution.</p>
Zhu et al. (2015)	<ul style="list-style-type: none"> Enhanced collaboration between suppliers and distributors/customers due to business process capabilities. Enhanced effective information sharing with supply chain partners. Improvement of procurement of direct and/or indirect materials. <ul style="list-style-type: none"> Prompt responses to customers' demands. <p>Provision of online value-added services (online procurement, online channel management and online customer service).</p>
Amit & Zott (2001)	<ul style="list-style-type: none"> The efficiency of transactions which leads to the provision of current information and the speediness and capability of information transmitted online. Reduction of transaction costs as customers search and trading costs are reduced. Complementaries of goods, processes, products, services or even technologies. <ul style="list-style-type: none"> Enhanced value of the core-products. Increased efficiency for customers due to the reduction of search costs an enriched decision-making process. <ul style="list-style-type: none"> The creation of revenue. Lock-in of customers and strategic partners leading to retained customers and strategic partners. <ul style="list-style-type: none"> Increases of business capacity. <p>Novelty.</p>

THEORIES FOR OPTIMISING E-BUSINESS VALUE

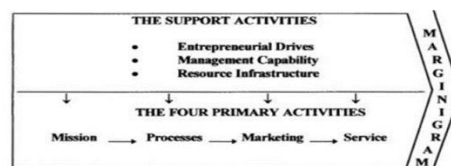
This section discusses the theories that could optimise e-business value. The theories provide theoretical insights and an understanding of how e-business value could be optimised. They lay the foundation for the development of the integrative theoretical framework.

The Value chain theory and Value system

Anggadwita et al. (2019) assert that for optimal performance and competitiveness, organisations need to consider a value chain analysis. As discussed by Feller et al. (2006), a value chain is a set of related and connected activities that work together to provide value that surpasses costs to the customer by converting business inputs into outputs. Value on the other hand is defined as the price that customers are prepared to pay for what the company offers. Having value adding activities in the value chain leads to competitive advantage and maximum profits (Fajsi & Moraca, 2017). The value chain which was developed by Porter (1985) focuses on the economic functions (costs and value) of business functions and value adding activities. A SME value chain was adapted by McLarty (2000), to fit the needs and characteristics of SMEs in both production and service delivery industries. This SME value chain is useful for decision making in SMEs and business development. It comprises of activities that have been revised and removed to fit to the context of SMEs and to make it more applicable to SME managers and the SME context.

Figure 1

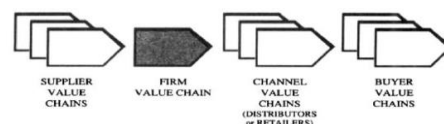
McLarty's (2000) SME value chain model



To complement McLarty's (2000) SME value chain analysis, a SME also needs to assess its value chain against its value system. A value system is the higher channels of activities that surround a company's value chain (Porter, 1985). This means that a value system is not only comprised of a company's internal value chain, but also its interactions with its external boundaries, or in other words, it is comprised of several linked value chains between firms (Fjeldstad & Snow, 2018). It is critical for SMEs to evaluate their performance using a value chain and value system approach. This is because the likelihood of their success is determined by the structure and features of the value chain and value system, and this enables them to assess themselves both at a firm and industry level (Zamora, 2016). Figure 2 shows a depiction of Porter's (1985) value system.

Figure 2

The Value System (Porter, 1985)



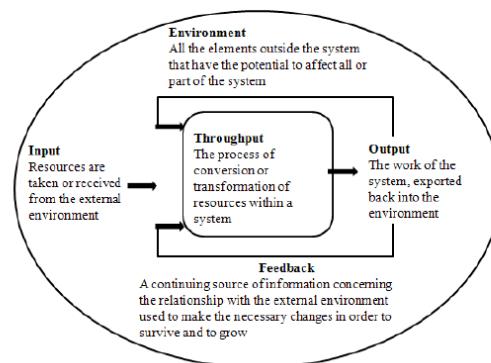
For SMEs to effectively evaluate their performance using a value chain and value system approach it is critical to understand the value system and every aspect of it, i.e., the supplier value chains, firm value chain, channel value chains and buyer value chains. Therefore, in addition to McLarty's (2000) SME value chain analysis which explains the firm value chain and evaluates its performance, the theories discussed below have been adopted to understand and evaluate the value system within an e-business environment. This is to ensure that e-business value optimisation is considered in every aspect of the SME value system and its entirety.

Systems Theory

Considering the value chain and the value system gives attention to how the internal value chain (organisation) interacts with its external value chains as this provides a holistic view of the company's performance (McKeown, 2015). Therefore, systems theory has been adopted in this study to depict this holistic view of the company's performance and provide understanding of the SME value system. Systems theory views an organisation as an open system that interacts with its external environment and responds and adapts to it to attain certain goals (Katz & Kahn, 1978). Instead of looking at an organisation as a stand-alone entity, it holistically looks at it as a part of a system that has interrelations with its external environment to grow and survive. Systems theory aims to provide an impartial and clear environment for decision making by providing an explicit framework that represents the business system and that makes it easier for such decision making to be made (Ramosaj, 2014). Within this open system, the organisation goes through repetitive cycles of input, throughput, output and feedback. The open system receives inputs from other systems, transforms it into output and releases this output to other systems. Feedback is then received from the environment. This view depicts an open system as a macro-level social system in which each of the internal parts of the system are interrelated with the external environment and the system cannot function if any of the parts are missing from it (Lai & Huili Lin, 2017). Figure 3 shows Katz & Kahn's (1978) open system model.

Figure 3

Open-system model (Katz & Kahn, 1978)



The e³-value ontology

The e³-value ontology is used to convey and examine the value viewpoint within e-business operations and the economy (Gordijn & Akkermans, 2001). It looks at economic value by showing which actors are involved in e-business operations of an organisation and how they are involved, in other words it shows which actors conduct business with each other (Perrelet et al., 2022). It is also used as a financial tool to analyse the feasibility of an e-business model, that is, if profits are being made or there is an increase in utility (Ionita et al., 2019). Because of its use as a financial tool, the ontology is considered to be quantitative in nature, where financial principles are attached to value exchanges and frequency rates are consumer need-based (Ionita et al., 2019). This allows for evaluation of costs and profits and comprises of the software that support this financial analysis. This makes the e³-value ontology most suitable in business development. The e³-value ontology has been adopted in this study to provide understanding of the value viewpoint of the SME value system. It considers the characteristics of economic value by

showing which actors are involved in the e-business operations of the SME and how they are involved and to evaluate the costs incurred by the SME and profits generated.

Diffusion of Innovation Theory (DOI)

It is important to understand the process and steps that SMEs take to adopt an innovation. DOI theory looks at how, why and at what speed innovative and new technologies are spread and communicated within a social system (Rogers, 1995). This theory has been adopted in this study to provide understanding of how innovation can be adopted and diffused starting from the supplier value chain of the value system. The supplier value chain, commonly known as the upstream value is the suppliers' value chains that offer input to the company's internal value chain (Porter, 1985). This upstream value focuses on activities conducted on the buy-side of the firm such as procurement and inbound logistics (Shkoukani et al., 2013). Thus, for e-business value optimisation it is important for SMEs to investigate how they can adopt e-business technologies and innovations starting from the buy-side of the firm which provides input to the SME value chain.

Rogers (1995) developed a two-phase model of the innovation process consisting of five stages. This is to ensure proper alignment of the adopted innovation with the organisational strategy and that the organisation gains optimal value from the innovation (Gomes & Osman, 2019). The first phase of the model is the initiation, which comprises of stages 1 - 2. According to Doyle et al. (2014), this is where the organisation makes the decision to adopt the innovation and prepares itself for the adoption. Adoption issues are also investigated at this phase and solutions to these issues identified. In stage 1, the organisation goes through agenda-setting, where the problem or need is identified in the organisation (Supriani et al., 2022). During this stage, research is conducted to determine which innovation would be most suitable because of the identified problem. Stage 2 consists of matching (Lundberg et al., 2019), which is where a suitable innovation is found that is a solution for the identified problem or need. During this stage further preparation is done by the organisation to map out how the innovation will be implemented.

The second phase is the implementation, which comprises of stages 3 - 5. Stage 3 of this phase consists of redefining/restructuring. Supriani et al. (2022) suggest that this is where adaptations are made to both the organisation and innovation so there is a good fit. The organisation may adapt its processes, structure or anything else that will allow the innovation to suit its needs, while the innovation is also adapted to the organisational context, settings and environment (Gomes & Osman, 2019). Once this stage is complete, the organisation then moves onto stage 4 which is the clarifying stage (Doyle et al., 2014). This is where deeper understanding of the innovation is determined, i.e., understanding its use in the organisation, in context to the identified problem/need and the perception of its characteristics formed by the members of the organisation. The last stage of this phase is the routinizing stage (Lundberg et al., 2019), where the innovation becomes fully integrated into the organisation and becomes a normal practice in the organisations processes and operations.

Transaction Cost Theory (TCT)

For a business to start creating value, transactions need to occur within its social system, business environment or value system. The transaction cost theory (TCT) has been adopted to provide understanding of transactions that occur within this business environment. The theory focuses on

explaining the channel value chains of the value system, that is the SME's distributors and/or retailers that enable electronic transactions to occur. TCT which originates from the field of economics, considers the firm to be a governance structure rather than a production function (Grover & Malhotra, 2003). It looks at the rules, procedures and guidelines that ensure that the flow of information, materials, goods or services is well coordinated in the value creation process of a social system, to reduce costs under certain environmental and behavioural conditions (Schmidt & Wagner, 2019). The theory focuses on the transaction, which is the exchange of information, goods and services in the phases of production, and has thus become popular within operations management and supply chain management.

TCT was originally conceptualised by Ronald Coase who postulated that market transactions comprise of costs that may be minimized if smooth operations occur within a firm (Coase, 1937). Years later, Ronald Coase asserted that coordinating an operation within a firm or bringing it out to the market mainly depended on relatively assessing the costs (and their nature) of carrying out the market transactions with the costs of carrying out the operations within the firm. Thus, Ronald Coase laid the theoretical foundations of the theory. It was later developed by Williamson who introduced key assumptions and constructs to the theory that provide an understanding of why and when transaction costs occur (Williamson, 1985). Over the years and with advancements in technology, the theory has been applied to several disciplines predominantly in the marketing discipline and been used and adapted in a variety of topics (Rindfleisch, 2019).

Social Presence Theory (SPT)

To provide value to the consumers and customers, SMEs need to understand consumers' behaviours. This is important for them to strategically employ marketing services and products that are valuable to the consumers and cut down on processes that do not add value to the consumer (Feller et al., 2006). Hence the social presence theory (SPT) has been employed to provide this understanding. The theory has been adopted in the study to understand the buyer value chains within an e-business environment. The SPT which originally explained the use of telecommunications was developed by Short, Williams & Christie (1976) to understand how the level of presence in a telecommunication channel affects the level of engagement on the channel. They posited that this engagement is determined by the channel itself and that the level of social presence is different in the various channels (Lowenthal, 2010). Thus, some communication channels such as videos will have a higher level of engagement than others. The two concepts developed by Short et al. (1976) were intimacy and immediacy. Intimacy is the closeness of actors involved in the engagement, whilst immediacy involves the distance between the actors communicating derived verbally or non-verbally and influenced by the communication channel (Osei-Frimpong & McLean, 2018). Both these concepts determine the frequency and promptness of social responses (Bickle, Hirudayaraj & Doyle, 2019). Hence, this theory is important in social contexts and very relevant in understanding behaviour in social media environments.

With the growth of technology, the theory has been applied in many other online contexts. Because electronic channels reduce one aspect of intimacy, which is traditional and face-to-face interaction, it is therefore important for businesses to increase other aspects of intimacy to maintain the balance in the social interaction (Bickle et al., 2019). Thus, to increase their social presence, SMEs should regularly engage with their consumers and employ more collaborative social media services where information about their services and products are explicitly shared and regularly updated. Bickle et al. (2019) further posit that social presence is important in building trust and connections with both potential electronic




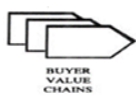
customers and already existing ones. By understanding that different social media have different levels of social presence, SMEs could increase their customer base and brand.

Summary of theories

The theories discussed in this section provide an understanding of the value chain and its value system within a digital environment. Each of the theories is relevant to a certain aspect of the business environment and each have their limitations. Whilst systems theory provides an understanding of the business environment through its explicit framework, it lacks specifications and precise attributes (Harney, 2019). It provides a broad overview of the business environment and for it to be fully understood, it would need to be adapted to a specific research phenomena with specifications and attributes of the research context. McLarty's (2000) SME value chain model which is meant for decision making in SMEs focuses on adding value through business processes. The e³-value ontology (Gordijn & Akkermans, 2001) looks at economic value by focusing on the actors that conduct transactions in an economy, whilst the diffusion of innovation theory focuses on understanding how organisations decide to adopt an innovation and what steps they take to adopt it (Min et al., 2019). The transaction cost theory on the other hand, provides understanding of transactions that occur within the e-business environment and lastly, the social presence theory looks at understanding consumers' behaviours. Table 3 shows a summary of these theories and includes their focus areas, their relation to the value system, and their constructs and relationships. This is to provide further understanding of the theories and an appreciation of their contribution to the developed integrative theoretical framework in the following section.

Table 3

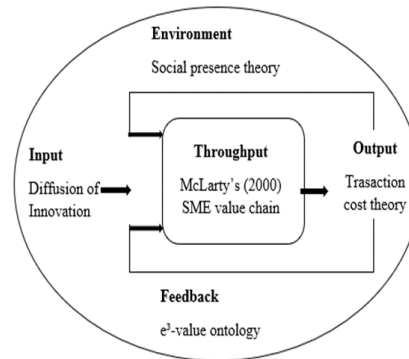
Table of theories and their relation to the value system

						
Theory	Systems theory (Katz & Kahn, 1978)	E ³ -value ontology (Gordijn & Akkermans, 2001)	Diffusion of Innovation theory (Rogers, 1995)	McLarty's (2000) SME value chain theory	Transaction cost theory (Coase, 1937)	Social presence theory (Shon et al., 1976)
Focus areas	What external interactions does the organisations have that ensure that it attains its goals? Which external interactions enable the organisation to successfully function?	Which actors are involved in the exchange of goods/services and how are they involved? Are profits being made or is there increase in utility?	How can innovation and new technologies be adopted and spread within a social system?	What activities add value to the organisation? Do the activities lead to competitive advantage and maximum profits?	What assets are required to enable transactions? How often do transactions occur? What risks could impact the occurrence of transactions?	How is the behaviour of our consumers towards our products/services? How can we build trust and connections with existing and potential consumers? What electronic marketing services can we employ to increase our customer base and brand?
Relation to value system	Provides a holistic view and understanding of the value system and its interrelations with its various value chains. Who is involved in the macro-level social system of the SME?	Explains the value viewpoint of the SME value system. Who is involved in conducting value in the SME and how? Is value being created by the SME?	Explains the interaction at the supplier value chain. How can innovation be adopted and diffused starting from the buy-side of the SME that offers input to it?	Explains the value chain. Which activities can the SME focus on that create value?	Explains the channel value chain. How can the SME ensure that transactions occur regularly and at minimal risk?	Explains the buyer value chains. Does the SME understand its consumers? How is the SME increasing its customer base and brand? How is the SME retaining its current consumers and getting new ones?
Constructs	Input Throughput Output Environment Feedback	Value Activity - how is profit derived? Actor - who is involved? Value Objects - what is being exchanged? Value Exchange - has the potential exchange occurred? Value Offering - what is being offered? Value Ports - how do consumers reach you? Value Interface- What interface is used to show your products?	Initiation: Stage 1 - agenda setting Stage 2 - matching. Implementation: Stage 3 - redefining /restructuring Stage 4 - clarifying Stage 5 - routinizing	Support Activities: Entrepreneurial Drive; Management Capabilities; Resource Infrastructure Primary Activities: Mission; Processes; Marketing; Service	Asset Specificity: The assets that enable a transaction. Frequency: The frequency and volume of transactions. Uncertainty: Unexpected changes in the conditions of the transaction.	Intimacy: The closeness of actors involved in the engagement. Immediacy: The distance between the actors communicating derived verbally or non-verbally and influenced by the communication channel.

DEVELOPING AN INTEGRATIVE THEORETICAL FRAMEWORK

Figure 4

The developed integrative theoretical framework



Having shown the importance of each theory to the study, the integrative theoretical framework above (figure 4), has been developed to bring the theories together. Systems theory is used as the theoretical glue and backbone holding the theories together as it provides a holistic understanding of the business environment through its explicit framework. This theory has been used to depict the e-business SME value system as it also views the organisation as a macro-level social system in which each of the internal parts of the system are interrelated with the external environment. The input construct is represented by the diffusion of innovation theory (Rogers, 1995), which has been employed in this study to investigate the adoption of e-business technologies and innovation starting from the supplier value chain or the buy-side of the firm which provides input into the SME value chain from the external environment. Throughput which transforms resources within a system from input to output, is explained by McLarty's (2000) SME value chain theory which shows the processes that take place in transforming raw materials to finished products. Output, which exports the work produced by the system back into the environment is represented by the transaction cost theory employed to explain the channel value chains of the value system which enable online transactions to occur.

To represent the environment in the system, which is the elements outside of the system, the social presence theory (Short et al., 1976) has been employed to understand the online buyer value chains that have an impact on the system. Lastly, the feedback which is the continuous source of information that concerns the relationship of the internal system with the external environment is represented by the e³-value ontology (Gordijn & Akkermans, 2001), which is employed in this study to explain the concept of value in the value system. The developed framework offers a more comprehensive understanding of the theoretical underpinnings required to appreciate e-business value optimisation. Additionally, it provides a blueprint to guide the implementation and utilisation of technologies and innovation in Botswana SMEs and could support their digital environment.

METHODOLOGY

The aim of this paper was to provide an answer to the research question - How can a theoretical framework for e-business value optimisation be developed in Botswana? To understand this question, literature relating to the research topic was sought from mainly the Google Scholar online database. Because of the small population of Botswana, the research focuses on any SME in Botswana that

employs any form of e-business and does not focus on any specific SME target market. To understand how the SME e-business environment can be evaluated, the authors adopted a value chain and value analysis approach. The focus of this is for SMEs to evaluate their performance at both a firm and industry level. This view laid the foundation that informed the selected theories. These theories were discussed in depth to provide understanding and knowledge of how e-business value can be optimised in the Botswana SME business environment.

KEY FINDINGS

The choice of theories was informed by the value chain and value system approach. To understand the value system, systems theory was employed in the study to provide a holistic view of the business environment. The e³-value ontology was adopted to explain the value concept in the value system. To understand innovation diffusion starting from the input of the organisation, the diffusion of innovation (DOI) theory was adopted to explain the supplier value chain in the value system, whilst McLarty's (2000) SME value chain was employed to explain the firm value chain. The transaction cost theory (TCT) was employed to explain the channel value chain in the value system, and lastly the social presence theory (SPT) was adopted to explain the buyer value chains in the value system. To bring the theories together, systems theory was used as the glue that integrated them together. This resulted in the developed integrative theoretical framework. The framework provides a blueprint to guide the implementation and utilisation of technologies and innovation in Botswana SMEs and could support their digital environment.

CONCLUSION AND FUTURE RESEARCH DIRECTIONS

As part of Botswana's vision 2036 transformational agenda, moving towards a knowledge-based economy will require SMEs to be able to export their goods and services to markets outside of their borders and be part of the global digital economy. This would encourage job creation, economic growth and diversification and could help move towards a high-income country. Therefore, digital and theoretical frameworks such as the developed integrative theoretical framework in this paper are required to guide SMEs in implementing technologies and innovative ideas that could help them to export their goods and services to external markets.

Although the study focuses on Botswana, the developed framework could be applied in other African countries as its core theoretical foundations are on e-business value optimisation. This paper contributes to theory and advances McLarty's (2000) SME value chain, systems theory, the e³-value ontology, the diffusion of innovation (DOI) theory, the transaction cost theory (TCT) and the social presence theory (SPT) in the context of e-business value optimisation in an African economy.

This paper is part of an ongoing research. The presented integrative theoretical framework is a high-level framework that focuses on theory integration. In proceeding with the research, the authors intend to elaborate more on the theories discussed and explain them in terms of their relationships and constructs. This will be followed by the development of a conceptual model that depicts these relationships with hypotheses to be tested and analysed. Drawing further insights and findings from the model in the context of e-business value optimisation in Botswana SMEs.

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