

Association for Information Systems

AIS Electronic Library (AISeL)

CONF-IRM 2020 Proceedings

International Conference on Information
Resources Management (CONF-IRM)

5-2020

Growing in the Digital Economy: The Case of a Digital Enterprise in a Developing Country

Eric Ansong

Richard Boateng

Follow this and additional works at: <https://aisel.aisnet.org/confirm2020>

This material is brought to you by the International Conference on Information Resources Management (CONF-IRM) at AIS Electronic Library (AISeL). It has been accepted for inclusion in CONF-IRM 2020 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Growing in the Digital Economy: The Case of a Digital Enterprise in a Developing Country

Eric Ansong
University of Ghana
eansong003@st.ug.edu.gh

Richard Boateng
University of Ghana
richboateng@ug.edu.gh

Abstract

Africa has a higher business discontinuation rate of 13 percent when compared with that of Europe and the USA. This situation calls for a study that explores the strategic actions and growth of digital enterprises which are able to survive within the African context. Again, studies on Digital Business Strategy (DBS) which is a multidimensional concept focus on digital enterprises with formalised structures. Against this background, using a comprehensive DBS framework, this study explored the DBS evolution of a digital enterprise in a developing economy in the quest to survive and grow. Miles and Huberman's transcendental realism technique was adopted for the case analysis. Three major growth events were identified in the case. The digital business strategic actions of the enterprise were reviewed for each of the phases of growth. It was discovered that the survival of the digital enterprise, in the first stage of growth, depends largely on the entrepreneur's innovativeness, and the competence to govern the available resources to achieve competitive advantage. This research is arguably the first to explore the growth and survival of a digital enterprise using a multidimensional DBS framework. Lessons from the study are of practical importance to managers and executives of digital enterprises who are struggling to develop digital business strategic actions to survive and grow. This study is useful for entrepreneurs who wish to develop DBS to survive and thrive in the digital economy of an African country.

Keywords: Digital Business Strategy, Digital economy, Developing economy, Digital enterprise

Growing in the Digital Economy: The Case of a Digital Enterprise in a Developing Country

1. Introduction

Drnevich and Croson (2013) define business-level strategy to encompass two significant issues; Resources and Capabilities. These two constructs are mainly primary in the field of Information Systems, where the business sees Information Technology as a resource and hence builds capabilities around it to survive the competition. Thus, in the digital economy, enterprises develop specific strategies around digital technologies to survive and grow. This phenomenon is referred to as Digital Business Strategy. Digital Business Strategy (DBS) therefore refers to the fusion between Information Technology strategy and Business strategy.

There is an upsurge of literature on DBS, which has stressed on the role of Information Systems in transforming contemporary business processes (Grover & Kohli, 2013; Mithas, Tafti, & Mitchell, 2013). However, these studies tend to focus on firms with formalised structures and procedures for the implementation of their strategies. For instance, Mithas et al. (2013) researched on examining how the competitive industry environment shapes the nature of a firm's DBS. It was discovered that a firm's DBS is a product of its awareness and ability to respond to the competitive environment within the digital economy instead of merely optimising operations or reacting to some competitors.

In addition, most economic actors have great difficulties in clearly understanding the digital economy and are not always aware of the problems digital firms have to face (Jansson, 2011). This difficulty has been attributed to the particularities of digital technologies and the specific characteristics of the digital economy (Georgiadis et al., 2013). Academics and researchers are therefore encouraged to prepare for a future in which the digital economy will be a significant part of the whole economic and social activity of countries. Paradoxically research on expounding the strategic actions of firms in the digital economy has arguably been limited to Spain (Águila, Padilla, Serarols, & Veciana, 2003) and Indonesia (Aryanto & Christmastuti, 2011). Research to explore the strategic actions of a digital enterprise will be opportune in identifying the nature of competition in the digital economy.

In another breadth, most new enterprises are unable to survive beyond 42 months after they are established (Allen, Langowitz, Elam, & Dean, 2007; Boateng, 2016). This phenomenon has been observed to be prevalent in most developing economies. In Africa as a whole, only 13 percent of enterprises survive beyond 42 months after their establishment. Expressly, in Ghana and Uganda, 38 percent and 31 percent of firms survive beyond the 42-month survival threshold, respectively (Global Entrepreneurship Monitor (GEM), 2012). It can be concluded that Africa has a very high business discontinuation rate. The causes of this phenomenon have been attributed to the nature of ownership of these enterprises, managers with limited formal education and managers with limited access to market information (Mensah, 2004). Politicians, academics and other agencies have made calls for African governments to make efforts to avert the high business discontinuation rates. This situation calls for studies to explore the strategic actions of the firms which have survived beyond the 42-month survival threshold. This will allow for identifying the strategic actions enabling them to survival which will serve as lessons for budding and struggling digital enterprises.

The above research gaps call for a study that investigates the strategic actions of digital enterprises without formalised structures, in their quest to remain agile and grow. Thus, this

study explores the DBS evolution of a digital enterprise which has no formalised structures. This is significant in the context of a developing economy where this study is conducted. Hence, making the study novel and opening the discussion on the digital strategic actions of digital enterprises in their quest to survive.

2. Literature Review

2.1 The Digital Enterprise in a Digital Economy

It has been asserted that the digital economy is an emerging phenomenon which has had a very significant impact on the annual growth rate of countries (World Economic Forum, 2015). Even though economics and politics have been the driving forces behind this new phenomenon, contributions from innovations in technology cannot be overemphasised (Heeks, 2017). Transformations in the economies of countries in the 1990s were mainly attributed to the Internet evolution. This evolution continued into the 2000s and the 2010s with the introduction of Information and Communication Technologies (ICTs) which has been the bedrock of economic transformations. These ICTs include but not limited to electronic devices with connected embedded sensors (the internet of things); and new digital models such as digital platforms, cloud computing and digital services. Others include new sophisticated end-user devices and gadgets such as smartphones, laptops, netbooks, 3D printers, among others. Also, there has been an increase in the usage of data through the application of concepts such as big data analytics and algorithms for decision making (Dahlman, Mealy, & Wermelinger, 2016).

Bukht and Heeks (2017), therefore define the digital economy to consists of all the economic output derived solely or mainly from digital technologies that also has a business model dependent upon digital goods and services. Based on the definition of the digital economy, a digital enterprise will necessarily be that business entity which operates within the digital economy. Rouse (2011) defines a digital enterprise to be "an organisation that uses technology as a competitive advantage in its internal and external operations." Taking the three scopes of the digital economy into consideration, as shown in Figure 2.2 above, a digital enterprise or firm must have a business model that primarily utilises digital technologies. The existence of the digital enterprise is dependent upon the availability of digital technologies. It must also be noted that the term digital enterprise has evolved over the years to include all business activities that incorporate digital technologies in their operations. Tonaton.com, who uses the internet for buying and selling goods and Uber, who also uses internet technology for ride-sharing activities are examples of digital enterprises.

2.2 Digital Business Strategy

The digital economy has redefined business strategy into a term referred to as "Digital Business Strategy." Mithas et al. (2013) see digital business strategy as moving beyond the business strategy to a stage where businesses engage in a category of Information Technology related activities. Bharadwaj et al. (2013) defined digital business strategy as "organisational strategy formulated and executed by leveraging digital resources to create differential value."

The review of the literature revealed different scopes in a firm's application of DBS. The corporate scope had been a significant issue in strategic management research (Wade & Hulland, 2004). The scope of a business refers to "the portfolio of products and businesses as well as activities that are carried out within its direct control and ownership" (Bharadwaj et al., 2013). The scope of a business contributes to its profitability. Similarly, the scope of the

DBS also impacts on the output of the enterprise. The review of DBS literature highlighted four major dimensions which fall under the scope of DBS. These include Coordination, Flexibility, Governance, and Competence (Bharadwaj et al., 2013).

2.2.1 Coordination Dimension of DBS

Coordination was highlighted to be one of the dimensions under the scope of DBS literature review. The survival of firms depends heavily on their ability to earn profit from their investments. Thus, the return on investment (ROI) should be higher. Firms are, therefore, supposed to be competitive in this regard. The performance of a firm in the industry is mostly dependent upon its ability to cooperate, collude or coordinate with rival firms which allow for preventing or limiting new competitors from entry and exerting authority over both customers and suppliers. Studies on DBS that viewed the strategy from the perspective of Coordination asserted that the exchange of rich information enabled by digital platforms both within and outside the firm allows for maximising returns and making the firm competitive (Choi, Raghu, Vinzé, & Dooley, 2017; Rai, Pavlou, Im, & Du, 2012).

2.2.2 Governance Dimension of DBS

Williamson (1999), who is a Business Strategy researcher, asserts that firms will be deemed to have a perfect governance structure when activities are effectively partitioned. In this way, activities which are performed outside of the firm are effectively separated from those within. Studies on digital technologies and Governance have focused on using IT in managing and monitoring supplier networks and the performance of contracts. For instance, earlier studies (e.g. Bøe, Gulbrandsen, & Sørebo, 2015; Chen & Kamal, 2016; Nwankpa, 2015) investigated the role of digital technologies on the cost of transactions. According to Bøe et al. (2015), the elements of transaction cost which include specification, search and contract negotiation does not address the problem of transactions risks and opportunism which have become one of the primary focus of strategic management research in the 21st century.

2.2.3 Competence Dimension of DBS

Competence as a dimension in the review of DBS literature places emphasis on the capabilities and the resources which the firm uses to capture and create value. According to Drnevich and Croson (2013), the firm acquires these capabilities and resources by consciously building them, through inheritance or chance. In the Competence-base perspective, the focus is mostly on the balance which exists between the creation of value and its capture. Thus, serving as the mechanism for determining the economic benefits of investments for the firm. Studies on the competence scope of DBS (e.g. Chuang & Lin, 2017; Mithas et al., 2013) highlight the significant role of digital technologies in the creation and capture of value which makes firms competitive in the industry. Mithas et al. (2013), for instance, explored the digital posture of firms in a competitive environment.

2.2.4 Flexibility Dimension of DBS

DBS literature on the flexibility dimension highlights the ability of businesses to respond quickly to changes that occur in both internal and external environments, which leads to an improvement in efficiency and effectiveness. Emphasising on the dynamic nature of the digital technologies which requires that products are quickly produced, Henfridsson, Mathiassen and Svahn (2014) assert that firms need to adopt a digital strategy which will enable them to be flexible and stay competitive. A significant advantage of Flexibility is the ability to adapt to new situations at minimal costs and being able to seize opportunities quickly.

3. Methodology

The conduct of this study was guided by the Critical Realism paradigm which has arguably been seen to provide researchers with the opportunity to view real-world problems from their underlying causal mechanisms (Mingers, Mutch, & Willcocks, 2013) instead of a situational analysis.

The selected case for this study was Digix Enterprise (a pseudo name) which is a Ghanaian digital enterprise (based on the study's definition of a digital enterprise). That is, digital enterprise is that firm with a business model which primarily utilises digital technologies (Ansong & Boateng, 2019). Digix Enterprise has been in operation since 2011. According to the 2007 Global Entrepreneurship Monitor (GEM), most new enterprises are unable to survive beyond 42 months after they are established (Allen et al., 2007). This phenomenon has been observed to be prevalent in most developing economies. Digix Enterprise is therefore qualified to be selected as a case for this study considering its existence since 2011. A study of the enterprise's DBS over the period will thus be timely and insightful.

In conducting this study, data was collected from multiple sources. Creswell (2014) is of the view that case study research requires an intensive data collection, using various forms of data to offer an evaluation of the activities being studied. Three methods of data collection were used for the study: interviewing, observation of participants, and document analysis. The first interview, which lasted for forty-five minutes, was with the owner, who is also the manager of the enterprise. The enterprise's documents (financial records, receipts, company registration records, partnership records, agreements, etc.) were reviewed to ensure literal replication – whether the documents considerably confirmed information earlier collected through the interviews. Apart from the owner, one auxiliary staff of Digix (the administrator) was interviewed to find out any start-up-specific growth patterns and to confirm or disprove the patterns of behaviour identified in the earlier interview. This interview lasted for one hour. Also, two Digix enterprise's customers and a mentor were interviewed – each lasting for thirty minutes. The information obtained did not lead to any new pattern. Specific growth concepts were explored in-depth to enrich the understanding of the phenomena. Responses from interviewees were mainly audio-recorded in addition to taking notes. Data collection was discontinued because there was no new information to be obtained. The data collection was carried out from February 2018 to March 2018.

Data analysis begins as soon as data collection starts. This research adopted Miles and Huberman (1994) transcendental realism technique, which highlights three main components for analysis; data reduction, data display and drawing and verifying conclusions.

Table 1 presents a detailed plan on how Miles and Huberman's data analysis approach was utilised in this study.

Steps	Tasks	Outputs
Step 1: Coding of key events	<ol style="list-style-type: none"> 1. Identification of key events in the data collected 2. Establishment of a timeline of the major events 	Presentation of a chronology of key events of the case
Step 2: identification and typifying	<ol style="list-style-type: none"> 1. Identification of networks of social and technical components 2. Display of components and related data 	A set of components and associated data

components		
Step 3: Retrodution of mechanisms	<ol style="list-style-type: none"> 1. Investigation of the interplay between the micro and macro elements to explain outcomes 2. Identification and analysis of selected mechanisms through the assessment of their explanatory powers. 3. Definition of the mechanisms and development of measures to be used. 	Mechanisms developed for the various dimensions of the digital business strategy, including definitions.

Table 1: In-depth data analysis

4. Analysis of Findings

The following subsections present findings from Digix Enterprise. Its profile and digital business strategic actions are presented. These strategic actions are later discussed concerning the dimensions of the DBS framework.

4.1 Profile of Case Organisation

Digix is a Ghanaian digital enterprise that began in 2011 as an e-book publisher. Initially, the start-up published e-Journals for higher educational institutions through an online e-book platform. Thus, the company registered as a sole proprietorship in 2011 with the Registrar General’s Department of Ghana when the owner was doing his National Service (a period of compulsory service to the country; mostly after tertiary education) and then became a limited liability company in 2017. Figure 1 summarises Digix Enterprise's business activities, including the year the various events were introduced.

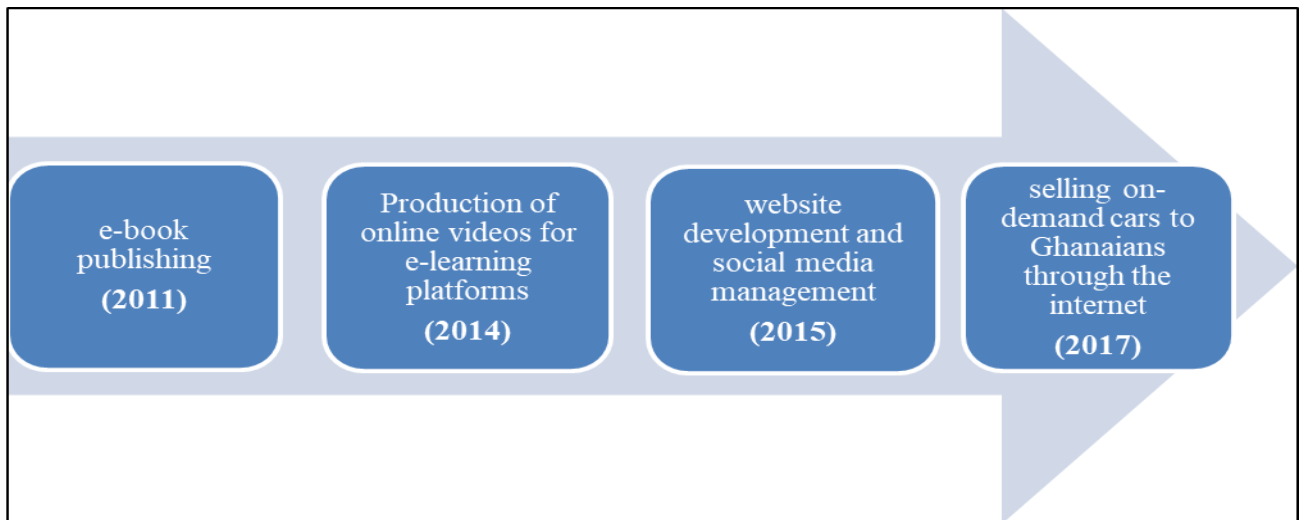


Figure 1: The evolution of Digix Enterprise’s business model
(Source: Authors’ construct)

Digix currently has seven employees which include; the owner, who is also the manager; a content validator who doubles as a marketer; an administrator who also serves as an assistant to the manager; and four part-time employees. The managing director has a master’s degree in Information Systems and is currently pursuing a PhD degree. The content validator holds a first degree in marketing, and the administrator has a masters' degree in communication and public relations. The part-time employees are pursuing masters' degrees in Management Information Systems, and they have varied undergraduate backgrounds in computer science,

business management, and e-commerce. The part-time employees assist in developing and managing websites, including Digix's website and the production of online videos. In addition to the part-time employees, Digix has strategic partnerships with two tertiary institutions, a business advisor, and MTN Foundation. The business advisor provides business insights and directions to the manager for considerations. The team is committed to influencing optimal revenue growth while exceeding the clients' expectations.

Communication between employees, clients, customers, and suppliers was carried out via email, social media, and mobile phone calls. It uses online technologies such as e-book pro, email, YouTube, moodle (e-learning platform), IAAI and Corpart (online automobile auction systems) to provide products and services to clients. Other IT infrastructure includes five i7 laptops, Vodafone internet modem, Surfline internet modem, and Adobe CC 2015 Suite. The manager uses his phone as the business' phone.

Digix started operations with a capital of US\$610.54. As of March 2018, the net profit of Digix was US\$32,765.53 with clients from academic institutions, hospitality, and the banking sector.

5. Discussion

Easton (2010) assert that the critical realist's perspective of causation is made up of four major components. These include; (1) The event (the outcome of the phenomenon of interest to the researcher); (2) the mechanisms (the way the events/things occur or act); (3) structures (the sets of internally related activities or practices); and (4) the conditions within which an event takes place.

Three major growth events were identified in the case. The initial digital business strategic actions characterise the first event – the Founding stage. The second event is the development stage, which is also characterised by digital business strategic actions aimed at delegating some business activities as it expands. The third event is also characterised by the digital business strategic actions geared towards coordinating the business activities as it matures.

The case firm is a digital enterprise consisting of a set of interacting entities (resources, people, processes, and others). Critical realism researchers, therefore, seek causal explanations – aimed at identifying the mechanisms connecting the entities to produce the events within some specific conditions. Thus, there could be the possibility of more than a single causal explanation to a single event. The objective of the Critical Realism researcher is, therefore, to identify and select the causal explanation suitable in the particular case under study. In this regard, condensation of data and display of data was carried out. This enabled for the identification of the critical combination of entities and conditions within the mechanisms which generated the particular events as postulated by Miles and Huberman (1994).

Four major dimensions of digital business strategy based on the review of digital business strategy literature are postulated. These dimensions are used to review the three major stages of growth of the digital firm. Table 2 summarises the key constructs (entities) and strategic actions (conditions) which underpin these stages of growth and the corresponding Digital business strategic actions.

Table 2: Key digital business strategic actions which underpin the survival of Digix enterprise

Dimension of DBS	Phase One: Founding stage	Phase Two: Developing stage	Phase Three: Maturity Stage
Flexibility	<p><i>The business model:</i> Digix adopted a simple business model which was agile enough to survive in the economy. Thus, the production of online versions of journals.</p> <p><i>Commitment to Business:</i> The owner showed commitment to the survival of the business.</p>	<p><i>Experience accumulation:</i> Digix acquired experience in the market. These experiences led to the expansion of the firm’s portfolio to include on-demand car marketing.</p> <p><i>Knowledge codification:</i> Digix began practising effective documentation of its activities at this stage.</p> <p><i>Knowledge articulation:</i> The owner of the firm acquired a broad spectrum of knowledge through pursuing a degree in Management Information Systems. This helped him to take some strategic decisions which contributed to the survival of the firm</p> <p><i>Opportunity Discovery:</i> The manager identified a need on the market to offer trust-enforced on-demand cars to prospective clients. This market gap and the business opportunity was identified and filled by Digix enterprise</p>	<p><i>Decentralisation:</i> Initially, all decisions and activities were performed by the owner of the firm. At the maturity stage of the business, others were assigned roles and responsibilities.</p> <p><i>Opportunity Discovery:</i> Digix was able to identify new business opportunities in Ghana’s digital economy. The firm started offering discounts to clients and providing free after-sales support to clients. This strategy has positioned Digix very well on the market.</p>
Governance	<p><i>Entrepreneurs’ ownership:</i> The owner of the business was actively involved in the operations of the company.</p> <p><i>Innovation level:</i> There was a high level of innovation in terms of providing an alternative means of publishing the journals</p>	<p><i>Age of the firm:</i> Over the years, Digix was able to augment its human resources with four National Service personnel. Again, some years of service provided some credibility for potential clients.</p> <p><i>Environment Variability:</i> Digix utilised the variabilities in the digital economy to its advantage. Digix benefited from the Government of Ghana’s incubator programme.</p>	<p><i>Venture capitalist’s knowledge:</i> The experience and expertise of the business advisor contributed to providing the needed strategic guidance to the firm.</p> <p><i>Environment Variability:</i> Changes in the environment which included the Government's implementation of Tax Identification Number (TIN) as a requirement for business operations such as clearing cars</p>

Dimension of DBS	Phase One: Founding stage	Phase Two: Developing stage	Phase Three: Maturity Stage
Competence	<p><i>Intellectual Resources:</i> the principal capital of the business at this stage was the intellectual skill of the owner.</p> <p><i>Technological Resources:</i> Technological resources available to Digix were the laptop, internet, and e-Book Pro software</p>	<p><i>Reputation:</i> The firm's association with the two educational institutions made them credible and trustworthy.</p> <p><i>Financial Resources:</i> Enough financial resources became available to the firm. The net profit of the firm increased from US\$3,257.90 in Phase One to US\$6,443.40 by the end of 2015.</p> <p><i>Human Resources:</i> Digix had three employees at this stage who included the owner, a content validator, and the administrator. This workforce provided the requisite expertise to enable the firm to survive.</p>	<p><i>Reputation:</i> The compliance with Government regulations, coupled with effective customer relationship management through social media, has created an excellent reputation for growth. Again, Digix leveraged on its affiliation with the MTN Foundation and other reputable educational institutions.</p> <p><i>Financial Resources:</i> At this stage, the increased profit margin of Digix was reinvested into the company, which supported its growth.</p> <p><i>Human Resources:</i> The workforce of Digix grew to seven employees; the owner, who is also the manager; a content validator who doubles as a marketer; an administrator who also serves as an assistant to the manager; and four part-time employees.</p> <p><i>Physical Resources:</i> Through the support of the Government of Ghana, Digix had free office space, internet access from MTN and office computer.</p>
Coordination	<p><i>Degree of product differentiation:</i> Digix was able to provide a different product which was the online/ softcopy journals.</p>	<p><i>Number and size of customers:</i> The customer-base of Digix grew exponentially at this stage. Some of the clients included educational institutions and other individual customers.</p>	<p><i>Vertical integration:</i> Digix was able to provide an integrated digital solution to clients, which included the production of lecture videos and the management of the e-learning platform. Again, Digix developed websites for clients in addition to the management of the client's social media platforms.</p> <p><i>Government support:</i> The incubator programme led to the provision of free office space, internet access from MTN, office computer, and business training for Digix enterprise.</p> <p>The Government's pro-business interventions such as the paperless port system for shipping cars to Ghana supported the on-demand car import business of the firm.</p>

5.1 Digital Business Strategy in Phase One

The creativity and commitment of the founder characterised the first stage in the growth of the digital enterprise. The most dominant dimension in the founding phase of the digital business is Governance. The focus of the governance dimension is the ability of the digital enterprise to allocate resources to create and capture value efficiently. The analysis of data revealed that, in the first phase of growth of the digital enterprise, the entrepreneur was actively involved in the operations. Again, the entrepreneur's high level of innovation contributed to the survival of the firm. This finding is corroborated by Liu et al. (2015), who postulated that the level of innovation of the founder influences the way resources are managed for the firm to remain competitive. Similarly, Glassman et al. (2015) identified business owner's strategic decisions such as internet filtering and monitoring systems to be effective ways of promoting better compliance which leads to employee empowerment and resource replenishment.

Another crucial digital business strategy dimension in the first phase of growth is competence. The significant capital of digital businesses in the first stage of growth is the intellectual skill of the owner(s) and some technological resources. Alden (2011) asserts that most digital enterprises rely heavily on the innovative skills and expertise of the owner(s) in the first stage of growth. Besides, Biberhofer et al. (2019), in their study, argued that the sustainability of firms is dependent upon the competencies and the more in-depth knowledge levels of the entrepreneur.

In terms of Flexibility, the output of the strategic action is the ability of the digital enterprise to be agile; adapt to the changing conditions in the industry. In the first phase of growth, the digital enterprise adopted a simple business model which was agile enough to survive in the economy. Besides, the commitment of the business owner also contributed to the survival of the business. This finding is not different from the globally influential digital enterprises such as Amazon, Facebook, Uber, and Airbnb – who started with highly committed entrepreneur(s) with a simple business model which involved a single product or service (Zaheer et al., 2018). A suggestive finding from this discussion is made;

Finding One: *The survival of the digital enterprise, in the first stage of growth, depends largely on the entrepreneur's innovativeness, and the competence to govern the available resources to achieve competitive advantage.*

5.2 Digital Business Strategy in Phase Two

The digital enterprise developed in the second phase of its growth. The delegation of tasks characterises this phase as the business expands and engages more workers and customers. The most dominant digital business strategy dimension in the second phase of growth is Flexibility. In the second phase of growth, the digital enterprise acquired some experience, which helped it to become agile and survive. This experience is mostly gained with the knowledge capital of the firm through knowledge codification and articulation (Sardo, Serrasqueiro, & Alves, 2018). Through this experience, the enterprise identifies opportunities within the market. For instance, Sia et al. (2013) discovered that managers acquired some experience, which helped them to cultivate leadership for digital transformation, after operating in the industry for some years. Again, in Smith's (2018) study on two young Scottish entrepreneurs, he discovered that through their ingenuity and creativity, these entrepreneurs were able to set up a hugely successful brewery in 2007 even in the face of the global recession.

Another dominant dimension of digital business strategy in the developing phase of growth is competence. In the second phase of growth, the firm relied on its reputation, financial, and human resources to stay competitive and survive. Enough financial and human resources became available to the digital enterprise in the second phase of growth. In explaining this phenomenon, Chuang and Lin (2017) argue that the ability of the digital enterprise to combine human, business and technological resources effectively helps it to achieve profitability and continue its growth. This assertion is also corroborated by Trkman (2010), who identified the success factors for businesses to be the effective management of all resources. A suggestive finding from this discussion is made;

Finding two: *A successful digital enterprise is the one whose growth is a joint effort between a Business Manager and change agents who are both the middle management and the employees performing their assigned tasks in the process.*

5.3 Digital Business Strategy in Phase Three

The third phase of growth is the maturity stage. This stage is characterised by expansion, delegation and Coordination. The most significant dimension of digital business strategy in this phase is Coordination. In the third phase of growth, the digital enterprise vertically integrated its products and services. The digital enterprise offered a package of services and products which are complementary to each other. In the case of the digital enterprise in this study, it offered lecture video production and the management of the e-learning platform as a package. In addition, the digital enterprise was able to manage its relationship with external entities such as the regulatory bodies and suppliers. Zhao and Xia (2014) argue that the ability of the organisation to work with trading partners determines its market readiness.

Another significant digital business strategy dimension in the third phase is Flexibility. The third phase of growth is characterised by decentralisation and delegation. Initially, all decisions and activities were performed by the owner of the digital enterprise. At the maturity stage of the business, employees are assigned roles and responsibilities. This assertion is not different from the finding of Zaheer et al. (2018). They discovered that one of the strategies for the survival of digital enterprises was a "lean start-up" (one or two initial employees). Functions are centralised initially, but as the firm grows, other personnel are employed, and tasks are decentralised. Also, the firm continues to discover new opportunities as it grows in the third phase.

Competence is another significant digital business strategy dimension in the third phase. The third phase of growth is also characterised by the ability of the firm to manage the available resources, which include financial, human, physical, and IT resources. In terms of human resources, the digital enterprise grows and employs personnel to take up roles in the business. Again, the firm reinvests its profits, which allows an increased financial resource to be available. Nevo and Wade (2010), for instance, conducted a study on identifying a firm IT assets which played strategic roles for competitive advantage. It was discovered that these IT assets could only be used to achieve strategic benefits when other organisational resources are available and combined with them, leading to the creation of IT-enabled resources. Dawson et al. (2016) assert that it is very crucial for the whole team to approach innovation as a unit to succeed in the digital economy. A finding from this discussion is thus made.

Finding three: *The growth of the digital enterprise at the maturity stage is mostly initiated with the knowledge capital which consists of the knowledge-based and human-oriented activities which contribute to innovations leading to value creation and enhancement of*

competitiveness.

Figure 2 elaborates the significant digital business strategy dimensions at the various stages of growth.

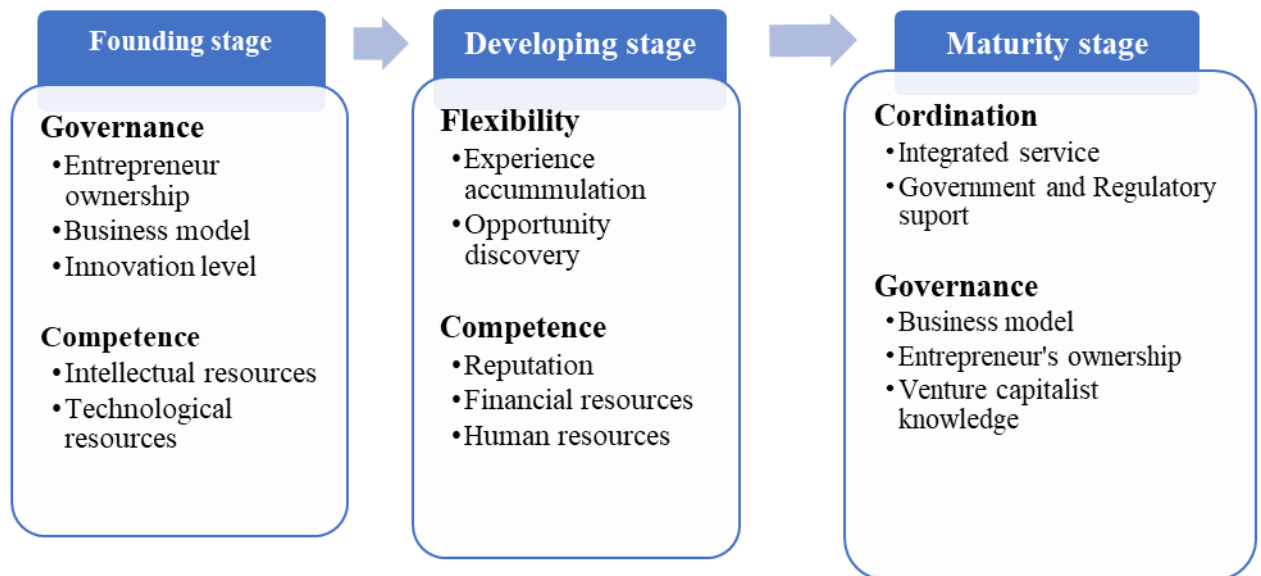


Figure 2: Digital business strategy Framework
(Source: Authors' construct)

6. Conclusions

Three major growth events were identified in the case. The first event, which is the founding stage, was characterised by the initial digital business strategic actions. The second event was the development stage, which was also characterised by digital business strategic actions aimed at delegating some business activities as it develops. The third event was also characterised by the digital business strategic actions geared towards coordinating the business activities as it matured.

This study examined the strategic actions of a digital enterprise in an attempt to develop a framework for digital business strategy. Knowledge about the nature of the digital economy of Ghana and the survival strategies of digital enterprises was limited in the literature. The handful of studies that attempted to map the digital economy of countries were conducted in either Spain (del Aguila, Padilla, Serarols, & Veciana, 2003) or Indonesia (Aryanto & Christmastuti, 2011). Other identified mapping studies were industry reports from practitioners such as the digital economy report of 2019 by the United Nations Conference on Trade and Development (UNCTAD) and the KPMG (2019) report on Taxation in the digital economy. This highlights the paucity of research on the digital economy of developing countries in academia. This research provided a review of the dimensions of the strategic actions of a Ghanaian digital enterprise in the quest to survive. This knowledge is arguably novel in the context of a developing country. It provides a stepping stone for future studies to explore other aspects of the digital economy in terms of challenges and opportunities digital enterprises face.

6.1 Implications of the Study

This research is arguably the first to view DBS from four dimensions on the growth and survival of a digital enterprise in a developing economy. This study, thus, serves as a stepping stone for future research on DBS from a developing economy perspective.

This research has implications for managers of digital enterprises, policymakers, and regulators of the digital economy. Specifically, this study is of practical importance to managers and executives of digital enterprises who are struggling to develop digital business strategic actions to survive. A Global Entrepreneurship Monitor report indicates that Africa has a higher business discontinuation rate. Thus, most new businesses in Africa do not survive beyond 42 months after their establishment as postulated by Allen et al. (2007). This study, therefore, is useful to entrepreneurs who wish to develop DBS to survive and grow.

The findings of the study also inform policymakers of the increasing need for programmes and interventions that seek to support the survival of digital enterprises. Such interventions, as highlighted by the study, include incubator programmes for start-ups and business-friendly government policies.

7. References

- Águila, A. R. del, Padilla, A., Serarols, C., & Veciana, J. M. (2003). Digital economy and management in Spain. *Internet Research: Electronic Networking Applications and Policy*, 13(1), 6–16. <https://doi.org/10.1108/10662240310458332>
- Alden, E. (2011). Primum Non Nocere: the impact of Dodd-Frank on Silicon Valley. *Berkeley Business Law Journal*, 8(2), 107–127.
- Allen, E., Langowitz, N., Elam, A. E., & Dean, M. (2007). The Global Entrepreneurship Monitor (GEM) 2007 Report on Women and Entrepreneurship Executive summary. Retrieved May 7, 2016, from www.gemconsortium.org.
- Ansong, E., & Boateng, R. (2019). Surviving in the digital era—business models of digital enterprises in a developing economy. *Digital Policy, Regulation and Governance*, 21(2), 164–178. Retrieved from <https://doi.org/10.1108/DPRG-08-2018-0046>
- Aryanto, V. D. W., & Chrismastuti, A. A. (2011). Model for Digital Economy in Indonesia. *International Journal of Innovation in the Digital Economy (IJIDE)*, 2(2), 39–55.
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482.
- Biberhofer, P., Lintner, C., Bernhardt, J., & Rieckmann, M. (2019). Facilitating work performance of sustainability-driven entrepreneurs through higher education: The relevance of competencies, values, worldviews and opportunities. *The International Journal of Entrepreneurship and Innovation*, 20(1), 21–38.
- Boateng, R. (2016). Mobiles and Micro-entrepreneurship - Evidence from Ghana. *Vodafone SIM Report - SIM Research: Inequality and Access to Communications – Ghana*.
- Børø, T., Gulbrandsen, B., & Sørø, Ø. (2015). How to stimulate the continued use of ICT in higher education: Integrating information systems continuance theory and agency theory. *Computers in Human Behavior*, 50, 375–384.
- Bukht, R., & Heeks, R. (2017). *Defining, Conceptualising and Measuring the Digital Economy* (No. 68). Retrieved from <http://www.gdi.manchester.ac.uk/research/publications/working-papers/di/>

- Chen, W., & Kamal, F. (2016). The impact of information and communication technology adoption on multinational firm boundary decisions. *Journal of International Business Studies*, 47(5), 563–576.
- Choi, B., Raghu, T. S., Vinzé, A., & Dooley, K. J. (2017). Effectiveness of standards consortia: Social network perspectives. *Information Systems Frontiers*, 1–12.
- Chuang, S. H., & Lin, H. N. (2017). Performance implications of information-value offering in e-service systems: Examining the resource-based perspective and innovation strategy. *Journal of Strategic Information Systems*, 26(1), 22–38. <https://doi.org/10.1016/j.jsis.2016.09.001>
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Retrieved from <https://books.google.com.gh/books?id=PViMtOnJ1LcC>
- Dahlman, C., Mealy, S., & Wermelinger, M. (2016). *Harnessing the Digital Economy for Developing Countries*. Paris: OECD.
- Dawson, G. S., Denford, J. S., & Desouza, K. C. (2016). Governing innovation in US state government: An ecosystem perspective. *The Journal of Strategic Information Systems*, 25(4), 299–318.
- del Aguila, A. R., Padilla, A., Serarols, C., & Veciana, J. M. (2003). Digital economy and management in Spain. *Internet Research*, 13(1), 6–16.
- Drnevich, P. L., & Croson, D. C. (2013). Information Technology and business-level strategy: Toward an integrated theoretical perspective. *MIS Quarterly*, 37(2), 483–509.
- Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management*, 39(1), 118–128.
- Georgiadis, C. K., Stiakakis, E., Ravindran, A. R., Nevo, S., Wade, M. R., Henfridsson, O., ... Schirmer, I. (2013). Transparency Strategy: Competing with Information in a Digital World. *MIS Quarterly*, 14(1), 637–642. <https://doi.org/10.1057/jit.2013.30>
- Glassman, J., Prosch, M., & Shao, B. B. M. (2015). To monitor or not to monitor: Effectiveness of a cyberloafing countermeasure. *Information & Management*, 52(2), 170–182.
- Global Entrepreneurship Monitor (GEM). (2012). GEM 2012 Global Report. Retrieved January 21, 2019, from <https://www.gemconsortium.org/report>
- Grover, V., & Kohli, R. (2013). Revealing Your Hand: Caveats in Implementing Digital Business Strategy. *MIS Quarterly*, 37(2), 655–663.
- Heeks, R. (2017). *Information and Communication Technology for Development*. Abingdon, UK: Routledge.
- Henfridsson, O., Mathiassen, L., & Svahn, F. (2014). Managing technological change in the digital age: The role of architectural frames. *Journal of Information Technology*, 29(1), 27–43. <https://doi.org/10.1057/jit.2013.30>
- Jansson, J. (2011). Emerging (internet) industry and agglomeration: Internet entrepreneurs coping with uncertainty. *Entrepreneurship and Regional Development*, 23(7–8), 499–521. Retrieved from <http://dx.doi.org/10.1080/08985620903505987>
- KPMG. (2019). Taxation of the Digitalized Economy. Retrieved September 14, 2019, from Digital Economy website: <https://home.kpmg/xx/en/home/insights/2019/06/tnf-digital-economy0.html>
- Liu, J., Kauffman, R. J., & Ma, D. (2015). Competition, cooperation, and regulation: Understanding the evolution of the mobile payments technology ecosystem. *Electronic Commerce Research and Applications*, 14(5), 372–391.
- Mensah, S. (2004). *A Review of SME Financing Schemes in Ghana. Paper Presented at the UNIDO Regional Workshop of Financing Small and Medium Scale Enterprises*. Accra, Ghana.

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. California: Sage Publications.
- Mingers, J., Mutch, A., & Willcocks, L. (2013). Introduction [special issue: Critical realism in information systems research]. *MIS Quarterly*, 37(3), 795–802.
- Mithas, S., Tafti, A., & Mitchell, W. (2013). How a Firm's Competitive Environment and Digital Strategic Posture Influence Digital Business Strategy. *MIS Quarterly*, 37(2), 511–536. <https://doi.org/10.1257/jel.50.4.1051>
- Nevo, S., & Wade, M. R. (2010). The formation and value of IT-enabled resources: antecedents and consequences of synergistic relationships. *Mis Quarterly*, 163–183.
- Nwankpa, J. K. (2015). ERP system usage and benefit: A model of antecedents and outcomes. *Computers in Human Behavior*, 45, 335–344.
- Rai, A., Pavlou, P. A., Im, G., & Du, S. (2012). Interfirm IT capability profiles and communications for cocreating relational value: evidence from the logistics industry. *MIS Quarterly*, 36(1), 233–262.
- Rouse, M. (2011). Digital Enterprise. Retrieved May 3, 2018, from <https://searchcio.techtarget.com/definition/Digital-enterprise>
- Sardo, F., Serrasqueiro, Z., & Alves, H. (2018). On the relationship between intellectual capital and financial performance: A panel data analysis on SME hotels. *International Journal of Hospitality Management*, 75, 67–74.
- Smith, R. (2018). The rise of the underdogs: situating and storying 'entrepreneurial leadership in the BrewDog business story. In R. T. Harrison & C. M. Leitch (Eds.), *Research Handbook on Entrepreneurship and Leadership* (pp. 403–430). Northampton: Edward Elgar Publishing.
- Trkman, P. (2010). The critical success factors of business process management. *International Journal of Information Management*, 30(2), 125–134.
- United Nations Conference on Trade and Development (UNCTAD). (2019). Digital Economy report 2019. Retrieved September 14, 2019, from Digital Economy report 2019 website: <https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2466>
- Wade, M., & Hulland, J. (2004). The resource-based view and information systems research: Review, extension, and suggestions for future research. *MIS Quarterly*, 28(1), 107–142.
- Williamson, O. E. (1999). Strategy research: governance and competence perspectives. *Strategic Management Journal*, 1087–1108.
- World Economic Forum. (2015). The Global Competitiveness Report 2015. Retrieved August 4, 2018, from The Global Competitive Report website: <http://www.weforum.org/reports/global-competitiveness-report-2015>
- Zaheer, H., Breyer, Y., Dumay, J., & Enjeti, M. (2018). Straight from the horse's mouth: Founder's perspective on achieving 'traction' in digital start-ups. *Computers in Human Behavior*, (2018), 1–13.
- Zhao, K., & Xia, M. (2014). Forming interoperability through interorganizational systems standards. *Journal of Management Information Systems*, 30(4), 269–298.