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## Article

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# Investigating the factors fostering early-stage digital start-up survival during gestation in Nigeria market

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## ABSTRACT

The challenge of failure is a well-known issue for many founders of digital start-ups during market entry. Unfortunately, sub-Saharan Africa has experienced a particularly high rate of failure for digital start-ups during early-stage development. Between 2010 and 2018, an average of 54.20% of digital start-ups failed on the continent. Globally, the survival rate during early-stage development is only around 10% to 20%, which means that roughly 80% of digital start-ups fail during market entry. To address this issue, it's critical to investigate the factors that contribute to the few successes, especially in sub-Saharan Africa. This study focuses on the behaviour of Nigerian founders whose digital start-ups survived during market entry. The goal is to explore how these founders overcame the various complexities and uncertainties that come with entrepreneurial activities in the Nigerian market. The researcher conducted a qualitative case study research, using enactment theory and effectuation theory to investigate the underlying factors that drive the actions and practices of founders to the early-stage survival of digital start-ups in Nigeria.

## 1. Introduction

In the gestation of new digital businesses (hereafter referred to as digital start-ups), records of early-stage failure have remained high globally (Giardino, Bajwa, Wang, & Abrahamsson, 2015; Howarth, 2023; Page & Holmstrom, 2023; Ruby, 2023). Digital start-up gestation is a process of digital start-up development; involving all the activities between ideation and market entry, where founders conceive/create a new business idea, refine it, develop a product/service, and launch the same in the market for its first sale (Paternoster, Giardino, Unterkalmsteiner, Gorschek, & Abrahamsson, 2014). Failure occurs when a digital start-up undergoing gestation fails to sustain its entrepreneurial activities during entry into the market and eventually shuts down. However, survival occurs when a digital start-up proceeds beyond gestation to sustain the entrepreneurial activities that are capable of scaling and ultimately growing in a specific market. In practice, gestation is not an easy process, but a difficult period in the life of a new business; it is full of uncertainties, and concerns, continuously faced with alarming resistance to stakes, and characterized by a phase where risky decisions are continuously made (Concepcion & Sison, 2017; Geissinger, Laurell, Sandström, Eriksson, & Nykvist, 2019; Ghezzi & Cavallo, 2018; Paternoster et al., 2014). Hence, entrepreneurial actions to prevent early-stage failure, to ensure the survival of newly created digital start-ups

during market entry are continuously engaged by founders whose desire is to succeed (Zaheer, Breyer, Dumay, & Enjeti, 2019; Zhang, Zheng, & Ning, 2018). Although efforts are continuously made to improve the survival of digital start-ups, yet, empirical evidence in the literature has shown that the development of digital start-ups remains problematic (Reymen et al., 2015), as statistics show that the mortality rate remains high (Almakenzi, Bramantoro, & Rashideh, 2015; Cotterill, 2012; Giardino et al., 2015).

Most often, entrepreneurs' effort to turn innovative ideas into value that will drive economic returns is persistently marred by challenges of "uncertainty in the early phases of development, [which] creates unforeseen contingencies as conditions evolve" (Townsend, 2012, p. 151). These challenges have been observed to be overwhelming in the global south, especially in sub-Saharan African countries (Ajah, Ononiwu, & Nche, 2022), where diverse forms of constraints abound (Frontier Economics, 2018; Gómez, Manyá, & Fransen, 2023). The challenges include deficiency in skills and expertise, limited funding, poor digital infrastructure, inconsistency in government regulations and policies, high multiple taxes, and the problem of trust in the legitimacy of the new digital start-up (Gómez et al., 2023; Lixi et al., 2019; Vijaya, Jennifer, Razaq, Junaid, & Blessing, 2019). These constraints have remained a huge challenge as they continue to cause many digital start-ups to struggle for survival during entry into the African market. Today,

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statistics show that across different technology hubs where digital start-ups are incubated (Battistella, De Toni, & Pessot, 2017), about 44% of these new digital start-ups introduced to the market disappeared after a few years of entry to the market (Delmar & Shane, 2006). "Evidence suggests that about 90% of digital start-ups eventually fail" (Li, Zou, & Chan, 2022, p. 1). This set of views is the reality founders face and this is evident in sub-Saharan Africa where high failure of digital start-ups during the gestation is continuously recorded (Ajah & Ononiwu, 2021b). In fact, between 2010 and 2018 an average failure of 54.20% of digital start-ups was experienced in the African continent (Kendall, 2020). In another study, the outcome presents a breakdown of the order of ranking for the top nine countries in Africa that have experienced digital start-up failure. This includes Ethiopia and Rwanda who scored 75% to occupy the top two countries with the highest failure rate. Ghana has 73.91%, followed by Zimbabwe and the Democratic Republic of Congo with 66.67%. Tanzania has 62.5% to top Nigeria, which scored 61.07%. Kenya has 58.73%, followed by South Africa with a 54.39% failure rate (Onoja, 2020). Yet, more evidence on the global stage corroborates these records, with the evidence in literature emphasising a persistent failure of digital start-ups entering the market (Howarth, 2023; Onoja, 2020; Ruby, 2023), with records showing that digital start-up survival during gestation is estimated to be around 10% to 20% (Howarth, 2023; Ruby, 2023). Hence, "the majority of digital start-ups fail to scale, despite their potential to achieve growth" (Griva, Kotsopoulos, Karagiannaki, & Zamani, 2023, p. 1).

Therefore, the study seeks to investigate the behaviour of founders that guarantees the survival of digital start-ups during early-stage development and commercialization. The aim is to study to understand what the founders of digital start-ups who survived did differently at the early stages, and what can be learnt from them to guarantee the survival of new entrants. Hence, the outcome of the study will respond to calls for further studies to identify specific factors responsible for the survival of digital start-ups (Diakanastasi, Karagiannaki, & Pramadari, 2018; Long, Xie, Wei, Zheng, & Gao, 2022). Therefore, the researcher poses the research question (RQ): *What factors underlie the survival of early-stage digital start-ups' during entry into the Nigerian market?* Thus, by addressing this research question, founders and other stakeholders will gain new perspectives towards entrepreneurial actions that are necessary to guarantee survival during market entry. To do this, the researcher situated this study in a sub-Saharan African country, where diverse challenges mentioned earlier abound. Especially as the researcher discovered from the literature that there are limited empirical studies that focus on sub-Saharan African countries, even when an African story needs to be told. Therefore, the researcher situated the study in Nigeria's digital start-up ecosystem to guarantee the right context for the mentioned challenges.

Nigeria is a sub-Saharan African country that hosts a digital start-up ecosystem. The ecosystem is a community of interdependent and interactive actors who participate in digital entrepreneurship activities. The ecosystem is characterized by technology hubs, founders and co-founders, and other stakeholders who participate in the activities of digital entrepreneurship processes (Gómez et al., 2023). Secondly, Nigeria with an estimated population of over 200 million people possesses a huge market share in the region, however, Nigeria has corresponding challenges similar to other African countries (DigitalLagos, 2016; Gómez et al., 2023; OC&C, S. C., 2018). Thirdly, Nigeria ". . . is home to several high-growing digital companies that provide hopeful examples of its digital potential" (Lixi et al., 2019, p. 50). Presently, Nigeria's digital start-up ecosystem is an evolving one, with over 100 technology hubs (i.e. tech hubs) known as support organizations across Nigeria (David-West, Umukoro, & Onuoha, 2018; Lixi et al., 2019; Taura, Bolat, & Madichie, 2019). A recent study in Nigeria noted that the number of tech hubs and co-working spaces has risen to about 300 across the country, with Lagos having the largest number (i.e. Yabacon - Nigeria Silicon Valley) (Gómez et al., 2023). This is followed by Abuja, while a few tech hubs are scattered across other parts of the country

(Disrupt Africa, 2022). According to Disrupt Africa (2022, p. 44), examples of technology hubs include "Co-Creation Hub (CcHub), Vatebra Tech Hub, Wennovation Hub, 360 Creative Hub and Leadspace (all in Lagos); Aiiwon Innovation Hub, Ventures Park, and Work and Connect (all in Abuja); and LPI Innovation Hub (Ibadan)". In Nigeria, technology hubs (i.e. incubators, co-working spaces, and accelerators) are in two categories: government-owned and privately owned hubs. This study focuses only on private technology hubs because most government hubs in Nigeria are not functioning adequately. Even the private hubs that are active in Nigeria's ecosystem still face certain limitations. For instance, many private technology hubs "lack sustainable business models, experience difficulties recruiting qualified staff and experienced mentors, have no M&E systems, and consequently no evidence of results of their activities" (Lixi et al., 2019, p. 53). Howbeit, some private tech hubs are effective; they have recorded success through some of the digital start-ups they have nurtured to a viable state in the Nigerian market (Gómez et al., 2023). Thus, technology hubs provide networking resources and collaborations, and accommodate and incubate digital entrepreneurs to nurture and transform viable ideas to digital start-ups in the ecosystem (Gómez et al., 2023; Lixi et al., 2019; OC&C, S. C., 2018). However, evidence from grey literature suggests that the number of digital start-ups that scale through the challenges of gestation in Nigeria (e.g. Jumia, Konga, Yakata, Andela) remains few (Lixi et al., 2019), as many are forced to shut down operation (Nairametrics, 2020). Consequently, only a few digital start-ups successfully remain viable and active in the Nigerian market. This view corroborates other scholars' views who lamented the persistent failure of digital start-ups globally (Bajwa, Wang, Nguyen Duc, & Abrahamsson, 2016; Diakanastasi & Karagiannaki, 2016; Paternoster et al., 2014).

Therefore, this study draws its theoretical perspectives from the enactment theory and effectuation theory. The research design adopted is qualitative case study research to enable the researcher to explore the factors that underlie the survival of the few digital start-ups in the presence of overwhelming failure. The outcome of this study will help to advance theory, enhance scholars' understanding, enlighten policy-makers, and enlighten nascent entrepreneurs on specific behaviours necessary to guarantee the survival of digital start-ups in a resource-constrained and uncertain environment. The outcome of the investigation will add to existing literature, as it presents empirical evidence that is contextually rich and critical for the successful development of a viable digital start-up. Hence, the contribution this study offers includes the following: identifying different behavioural perspectives as factors underlying early-stage digital start-up survival. More importantly, some of the factors are very specific to the context of the investigation. For instance, the avoidance of problematic angel/seed investors in our context contradicts existing studies that had emphasized the benefit of acquiring financial resources through funding from angel/seed investors in developed and emerging economies (e.g. Gómez et al., 2023). This study presented a novel and new perspective on angel/seed investors' involvement in the gestation processes, the findings indicate that many angel/seed investors negatively impact digital start-ups, which leads to their failure. Hence, many founders who survived the early stage noted that they rejected funding from angel/seed investors. The structure of the remaining sections of the paper is as follows: section 2 presents the theoretical background to the study, and Section 3 discusses the methodology, data collection and analysis. Section 4 presents the findings of the investigation, while Section 5 presents the discussion. Section 6 presents Policy implications and recommendations, section 7 presents the limitations and further studies, and Section 8 presents the conclusion of the study.

## 2. Theoretical background

The high rate of failure in digital start-ups has driven many scholars to investigate different events across the early-stage development process of new ventures (Long et al., 2022). Also, the uncertainties ravaging

the environment and digital technology advancement, and the continuous resource constraint have compelled entrepreneurs to engage in sense-making processes and the logic of effectuation across entrepreneurial activities to mitigate the looming failure during market entry. Hence, this study builds on two theories, enactment theory (Mahling, 1993; Weick, 1988) and effectuation theory (Sarasvathy, 2001), which explain the actions and practices conducted by digital start-up founders to develop a digital start-up that can withstand early-stage threats to failure. The logic of effectuation is a process that involves continuous interaction between different actors, who share knowledge, expertise and other applicable resources they can access to drive actions born out of collective cognition, to make decisions that will create possible human aspirations as outcomes (Sarasvathy, 2001; Sarasvathy & Dew, 2008). Drawing from Sarasvathy (2001, p. 245) effectuation is described as a process that “take a set of means as given and focus on selecting between possible effects that can be created with that set of mean”. Such effects are desired goals that people aspire to achieve by making decisions drawn from human reasoning to engage a set of resources that are accessible to drive actions and practices that will deliver possible goal. While enactment theory is another epistemic tool that drives the psychological and philosophical framework guiding an individual active role as they interact with their immediate environment to shape rewarding actions and practices towards a target goal. Enactment theory explains how human engages sense-making through reasoning and evaluation of the series of actions they intend to pursue to guarantee flexible workflow towards achieving a particular set of aspiration (Weick, 1988). The theory encompasses steps that guarantees actions that overcomes encountered limitations and challenges emanating from the interaction between human and its environment (Mahling, 1993). Actions and practices are the behaviour of the founders, enacted to aid the development of a new digital start-up that is capable of surviving the challenges of the market, especially during entry to market.

Hence, this study follows Bhowmick (2010) to adopt enactment theory and effectuation theory to help explain how digital entrepreneurs engage one another for collective sense-making to drive strategic decisions that orchestrate actions and practices for guaranteed new digital start-ups' survival during gestation. The two theories were selected because both combined offer superior explanatory power, and multiple theories are usually combined to demonstrate theoretical impact, significant in the explanation of a phenomenon being investigated. A combination of theories offers a clear picture of the phenomenon under investigation, by complementing each other's limitations (Okhuysen & Bonardi, 2011). Therefore, the theories selected possess proximity to our investigative phenomenon, as they are partly concerned and involved in explaining the impacts of founders' actions and activities that evolve in a particular manner to cause digital start-up survival (Hassan & Lowry, 2015; Okhuysen & Bonardi, 2011; Truex, Holmström, & Keil, 2006). Secondly, the selected theories share and express common assumptions about human actions, and activities, describing factors that influence how their behaviour was driven by their continuous reasoning (Hassan & Lowry, 2015; Truex et al., 2006). However, certain aspects of their assumptions are incompatible, yet the compatible aspect of their assumptions provides a consolidated understanding of the investigated phenomenon (Okhuysen & Bonardi, 2011).

### 2.1. Digital start-up high mortality during market entry

The majority of digital start-ups introduced to the market do not survive (Griva et al., 2023), with more than 80% mortality, and only 18% chances of survival during market entry (Howarth, 2023; Ruby, 2023). Literature shows that digital start-up failure has lingered for decades, and survival continues to be far-reached (Giardino et al., 2015; Howarth, 2023; Ruby, 2023). With a high record of failure persistence in the market, especially in developing economies like Nigeria, entrepreneurs' quest to gain acceptance and viability in the market remains problematic (Ghezzi & Cavallo, 2018). A focus on the Nigerian market

shows some notable digital start-ups that did not survive during entry into the market; they include KuBitX, OIX, Efritin, Fero, Wiko, WeChat, and Easy Taxi (Nairametrics, 2020). In grey literature, a study noted, “[c]ountries like Ethiopia, Ghana, Zimbabwe, and Morocco, among others, with the highest numbers of start-up shutdowns were mainly tech start-ups that were not externally financed. Most of them died because they lack external support” (Onoja, 2020, p. website). Also, empirical studies have shown that the earlier-mentioned challenges or barriers constitute the threatening situations that lead to digital start-up failure during market entry in any given entrepreneurial ecosystem (David-West et al., 2018; Giardino et al., 2015). Therefore, a focus on our investigative context shows a high number of digital start-up failures, which has become a source of concern to digital entrepreneurs, investors, and even digital entrepreneurship scholars, as the challenges in the Nigeria market remain tough, rapidly changing, and complex with a high level of uncertainty (DigitalLagos, 2016). However, few digital start-ups survived the challenges during the gestation (e.g. Flutterwave, Andela, IrokoTV, Jobberman, Supermart, and Hotels. Ng) (Ajah & Ononiwu, 2021a; Obasemo, 2015), as many are forced to shut down by encountered challenges (InvoiceNG, n.d.; Adepoju, 2018; Kolawole, 2019; Nairametrics, 2020).

### 2.2. Enactment perspective to digital start-up survival during gestation

Enactment theory has been widely used in different fields of study to provide a background explanation of the flow of work characterized by actions and practices that influence the emergence of a given phenomenon of interest (e.g. Kouvas, Grefen, & Juan, 2010; Oliveira & Handfield, 2017). It is a theory that provides an explanation that is rich in describing digital entrepreneurs' sensemaking behaviour as they interact with the environment, to drive strategic decisions that guide specific entrepreneurship actions and practices. Founders' actions and practices towards survival during digital start-up gestation are enacted by the founders' cognitive behaviour, which is guided by their previous skills, expertise, and knowledge of the immediate environment to ensure the right outcome is achieved (Czarniawska, 2005; Langenberg & Wesseling, 2016; Mahling, 1993). Enactment theory describes how “[a] collective mind emerges as a capacity in an ongoing activity stream when activities among people are tied together as contributions that are subordinated to a joint system” (Oliveira & Handfield, 2017, p. 443). The joint system in this case is the digital technology that offers the collective participation of different entrepreneurship actors, who engage one another to develop a value for economic returns. For instance, enactment theory describes how digital entrepreneurs engage digital platform's boundary resources to develop and create innovative products/services, by taking advantage of such accessible resources to guarantee activities for survival. Such resources enable them to collaborate with other experienced actors to develop a digital start-up that is capable of surviving harsh environmental conditions. Most founders in a resource-constrained environment focus on digital platform ecosystems to drive collaboration and partnerships that can help them access critical resources, especially skills and expertise that are necessary for the survival and viability of a new venture being created. Access to resources, experiences, and skills are some critical tools that impact founders' ability to drive the survival of new ventures during market entry (Coleman, Cotei, & Farhat, 2013; Criaco, Minola, Migliorini, & Serarols-Tarre's, C., 2013; Mehrdad & Maryam, 2013). Therefore, enactment is “an active and creative moment in the ‘production process’ of gaining knowledge (and other resources needed for doing that produces expected outcome)” (Langenberg & Wesseling, 2016, p. 229).

To survive a tough context, digital entrepreneurs developing new digital start-ups focus on what they know and what they encounter in the context, reasoning through the experiences to make strategic decisions that can drive productive entrepreneurial processes. Where the processes are characterized by conscious deeds, actions and practices. The deeds, actions and practices are directed towards executing

different specific entrepreneurship tasks to create innovative products/services that can compete in the market to guarantee survival. For example, an earlier study by Fontana and Nesta (2009) considered founders' involvement in tasks that involves developing innovative products/services to be an important determinant for new venture survival, because innovative product attracts customers, which can keep a venture in the market. However, Hyytinen, Pajarinen, and Rouvinen (2015) investigated the impact of innovation on the survival of a new venture, and their findings suggest that pursuing innovation alone does not necessarily drive new venture survival, because other elements need to be considered to combat the uncertainties, complications, and problematic process of new venture development. In their word, "pursuing innovations at the start-up phase, i.e., launching an innovative and novel venture, involves greater uncertainty and complexity, both of which point toward a lower probability of survival" (Hyytinen et al., 2015, p. 568). This suggests that the survival of new ventures is beyond having innovative products, it requires investigating the interaction of multiple elements constituting the process of gestation of new ventures to guarantee survival (Long et al., 2022). According to Jianwen, Harold, and Chad (2009), nascent firms need to engage in aggressive steps in pursuing the acquisition and control of necessary resources needed to ensure survival during gestation. Resource limitations need to be mitigated, and founders need to build strategic alliances to ensure they possess dynamic capabilities that can withstand dynamic environmental barriers to succeed Wu (2007). Partnership is enacted to empower the founders with the critical resources needed to succeed. Corroborating this view, Shi, Xu, and Vessey (2015) posit that start-up entrepreneurs who can gather technical skills, expertise, and managerial abilities will enhance the survival of new digital start-ups in the face of challenges encountered during market entry. Consequently, in the event of scarce resources, the survival of new start-ups completely relies on the collaboration of the right people managing the start-ups, whose responsibility is to ensure that they adopt the right strategies and make the right decisions that are centred on cognitive abilities to conduct of right actions that are properly implemented (Carmin, Xiaofeng, & Pekka, 2014).

In digital entrepreneurship, dispersed participants interact through digital platforms that offer open communication (Elia, Margherita, & Passiante, 2020a; Recker & von Briel, 2019; Zaheer, Breyer, & Dumay, 2019). Open communication is a useful means derived from digital platforms to drive the socio-psychological sensemaking process of the participating digital entrepreneurs; thereby allowing the founding team to engage in a retrospective and prospective view of the value proposition and how it links to the environmental context needs (Langenberg & Wesseling, 2016). Such a sensemaking process guide and inform strategic decisions made and, as a result, influence the "foundation of the dynamic that determines the survival of [newly developed digital start-up]" (Langenberg & Wesseling, 2016, p. 226). Therefore, strategic business planning (Liao & Gartner, 2008; Long, Geng, & Shakeel, 2016; Wei, Long, Li, & Cheng, 2018), founders' cognition, imagination, expertise, and prior experiences (Baron, 2007; Kier & McMullen, 2018; Mai & Gu, 2012; Rasmussen, Mosey, & Wright, 2011), and founders' self-efficacy and high confidence (Drnovšek, Wincent, & Cardon, 2010; Maitlo, Pacho, Liu, Bhutto, & Xuhui, 2020; Townsend, Busenitz, & Arthurs, 2010; Trevelyan, 2009), are collective means that continuously drive a right sense-making process that leads to strategic decisions to enacts digital start-up that can survive a turbulent market (Atherton, 2007; Baker, Minerb, & Eesley, 2003; Diochon, Menzies, & Gasse, 2005; Gordon, 2012; Jones & Holt, 2008; Liao & Gartner, 2008; Townsend, 2012; Trevelyan, 2009). It is these decisions that propel entrepreneurs' behaviour to interpret existential situations and contingencies encountered to take necessary actions (Oliveira & Handfield, 2017). Therefore, having the right team to carry out tasks, affects the entrepreneurship situation, which guarantees the desired outcome (i.e. digital start-up survival) (Langenberg & Wesseling, 2016; Mahling, 1993). Another stream of study considers the impact of experiential learning engaged by

founders while conducting entrepreneurship activities. They refer to experiential learning as a critical factor that informs the founders' view on which action to take towards new venture survival, especially in a complex environment (e.g. Dencker, Gruber, & Shah, 2009; Krishna, 2018; Politis & Gabrielsson, 2007). Continuous learning about the market exposes the market forces and, as a result, informs the decisions of the founders to take steps that will keep the new venture safe in the market (Concepcion & Sison, 2017; Concepcion & Sison, 2018; Ghezzi & Cavallo, 2018; Kautz & Venable, 2011). Therefore, prior studies show that digital start-up survival is possible if founders engage in proper gestation management through the right utilization of internal resources, especially when they coordinate intelligence resources to drive strategic balance in the activities conducted (Almeida & Fernando, 2008; Aspelund, Berg-Utby, & Skjvedal, 2005; Ng, Macbeth, & Southern, 2014; Shi et al., 2015; Xiao & Ramsden, 2016; Yang, Bossink, & Peverelli, 2017). Consequently, the lack of adequate resources, the inability to understand market needs, and the problem of legitimacy will continue to cause many new ventures to struggle for existence (i.e. survival) in the market.

### 2.3. Effectuation logic perspective to digital start-up survival during gestation

Effectuation theory is another prominent theory of entrepreneurial action, especially when environmental uncertainty is experienced (e.g. Andersson & Fletcher, 2011; Baron, 2007; Guo, 2019; Matalamäki, 2017; Mauer, Nieschke, & Sarasvathy, 2021; Perry, Chandler, & Markova, 2012; Read & Sarasvathy, 2005). Effectuation theory describes how digital entrepreneurs take a set of means (e.g. available funds, crowdsourcing/crowdfunding platforms, individual expertise, mobile computing, cloud computing, social media, 3D printing, and data analytics) as given and focuses on selecting between possible effects/outcomes that could be created with that set of means (Sarasvathy, 2001). The effectuation principle is an "entrepreneurial logic ... a set of heuristics" (Nguyen-Duc, Kemell, & Abrahamsson, 2021, p. 3), for decision-making (Mauer et al., 2021), usually triggered by high resource constraints and environmental uncertainties (Sarasvathy, 2001). It describes decision-making processes engaged by entrepreneurs to influence digital entrepreneurial actions carried out (Arend, Sarooghi, & Burkemper, 2015; Fisher, 2012; Lehmann & Rosenkranz, 2017; Nguyen-Duc et al., 2021). It explains how resource constraints and uncertainties cause entrepreneurs to engage in reasoning that allows them to make decisions to take certain actions and practices for a possible outcome. It describes how founders orchestrated activities through mental modeling and imaginative processes that are driven by the prior knowledge, experience, and expertise of those involved to overcome uncertainties experienced (Arend et al., 2015; Lingelbach, Sriram, Mersha, & Saffu, 2015; Sarasvathy, 2001). However, digital start-up survival is critical, and the effectuation logic is a tool often adopted by many founders to mitigate the effect of environmental uncertainties during gestation. Effectual logic is an act that "allows a decision maker to change his or her goals and even shape and construct them over time, [by] making use of contingencies as they arise" (Sarasvathy, 2001, p. 247). Contingencies in this context are either challenges or unanticipated events that may become opportunities or could lead to failure. However, founders engage in effectual logic processes to mitigate or turn such challenges into profitable opportunities to drive their survival (Fisher, 2012; Roach, Ryman, & Makani, 2016). These opportunities are achieved by engaging in "imaginative rethinking of possibilities, continual transformations of target goals, and opportunities for novelty creation" (Arend et al., 2015, p. 633).

Having experienced resource limitations and uncertainties, effectual logic influences founders to choose between affordable loss and acceptable risk during decision-making, which they do by experimenting with different strategies to identify the best available means. Therefore, effectuation logic completely triggers the founder's ability to

engage appropriate measures, by leveraging and exploring available and accessible means (Chandler, DeTienne, McKelvie, & Mumford, 2011; Sarasvathy & Dew, 2008). For example, digital start-up founders usually take advantage of the blurred boundary provided by digital technology, to interact with stakeholders for their commitment, which enables them to gain access to critical resources (e.g. platform boundary resources) that will help mitigate challenges (Roach et al., 2016). Also, effectual logic drives entrepreneurial action (Arend et al., 2015; Fisher, 2012; Mauer et al., 2021), through the behaviour of digital start-up founders who engages imagination and creativity to develop innovative product/service that can compete and stay relevant in the market. To survive, digital start-up founders focus on “who they are, what they know, and whom they know” (Sarasvathy, 2001, p. 249), to overcome market forces, resource constraints and the challenges of uncertainties. In some contexts, especially in sub-Saharan Africa, founders subscribe to technology hubs to participate in accelerator and incubator programs (Gómez et al., 2023). Such programs provide training, mentorship privileges, access to digital infrastructures, and an open environment to equip nascent entrepreneurs for collaborations. This facilitates digital start-up survival through the activities conducted to develop and commercialize new products/services (David-West et al., 2018; Frontier Economics, 2018). Though the technology hub environment provides critical resources to guarantee digital start-up survival in the market (Chandler et al., 2011; Lingelbach et al., 2015; Read, Song, & Smit, 2009; Sarasvathy, 2001), there is a limited number of well-equipped accelerators and incubators with little or no support from the government in most sub-Saharan African countries (David-West et al., 2018). The lack of government support suggests why a high level of failure is continuously experienced. Many studies may have been conducted, however, the survival of new digital start-ups during gestation remains contextual and requires an understanding of what works, and what does not work in a specific context of interest. In literature only few studies in the past focused on emerging economies (Quinones, Nicholson, & Heeks, 2015), especially when sub-Saharan Africa is the context of interest. Hence, having a limited number of studies that focus on the sub-Saharan African context suggests that we know little about digital start-ups' performance, and how digital entrepreneurs struggle for their survival in the sub-Saharan African market (e.g. Taura et al., 2019).

### 3. Methodology

The focal phenomenon the researcher seeks to investigate is complex and contextual, continuously impacted by the socio-cultural environment where the entrepreneurial activities are being conducted (Fredriksen & Hadjerrouit, 2019; Page & Holmstrom, 2023). Hence, the researcher focuses on the founder's actions and practices that form a series of events that guarantee survival. To answer the research question mentioned in the earlier section, the researcher draws from other scholars (e.g. Chan & Mustafa, 2020) who consider exploratory case studies as the appropriate methodology for investigating entrepreneurial activities. Consequently, the appropriate methodology for the study is a qualitative case study research methodology (Bogner & Menz, 2009; Döringer, 2021; Libakova & Sertakova, 2015). A qualitative case study research guarantees “[an] empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context” (Yin, 2009, p. 18). This method of qualitative research “aims at exploring or collecting data about a specific field of interest” (Döringer, 2021, p. 265). Therefore, the researcher approaches this investigation by focusing on the knowledge and experiences of the digital start-up founders who engage in the development of digital start-ups in the investigative context. To understand the behaviour of the founders, the researcher guided the study by drawing from an interpretive paradigm, which has been widely adopted in qualitative research (e.g. Bogner & Menz, 2009; Boudreau & Robey, 2005; Döringer, 2021; Kim, Kim, & Lee, 2009; Levina & Vaast, 2008; Moe, Dingsøyr, & Dybå, 2010). This philosophical paradigm guides interpretations that will help in revealing the

actions and practices of the founders as they engage in activities that guarantee digital start-up survival. Following the interpretive perspectives in this study, the researcher adopts Klein and Myers (1999) set of principles of interpretive study, as the appropriate principle of interpretation for this investigation. Because the principle enables recursive probing, and reflection upon the founders' behaviour and activities within the investigative context using the data collected in the field. This approach enables the discovery of the critical factors that impact the behaviour of the founders during early-stage digital start-ups' survival in the investigated context. With this view, the researcher focuses on interviewing the founders as the primary method of data collection, to guarantee an in-depth insight needed for a better understanding of the phenomenon investigated (Gephart, 2004; Libakova & Sertakova, 2015; Walsham, 1995).

Therefore, the combination of an interpretive approach and case study methodology ensures the exposition of the actual nature of the real-life phenomenon investigated in our context, by revealing the underlying factors that influence the phenomenon (Bogner & Menz, 2009; Klein & Myers, 1999; Walsham, 1995). However, direct observation of the activities of founders in the field was conducted, and the study of archival documents was then conducted to validate and improve the interview data collected. In the analysis of the collected data, “[f]indings were developed gradually and empirically grounded in a problem-centred dialogue between the research interests on the one side and inductive reasoning of the empirical material on the other” (Döringer, 2021, p. 273). Proceeding with the study, the researcher then focused on viable digital start-ups in the market by selecting different founders recommended in Nigeria's digital start-up ecosystem for the interview. Each selected digital start-up represents a good example of an entity that has experienced the investigated phenomenon, therefore, their founders' and co-founders' actions and practices are then investigated, with their behaviour representing the unit of analysis for the study. To select the founders to be interviewed as respondents, the researcher adopted snowballing techniques (Döringer, 2021; Flyvbjerg, 2006; Ononiwu, 2015). Selected respondents should be capable of providing useful and adequate information required for in-depth analysis and knowledge development. Snowballing technique in this context is a process that involves identifying a founder who possesses the experiences of the investigated phenomenon, and whose digital start-up is active in the market. Such a founder is the first interviewee who was identified through the recommendation of the technology hub managers. Subsequently, the first interviewee introduces the researcher to other founders who possess similar experiences and are currently active with digital start-ups that are viable in the market. The researcher selected this technique because it directs the researcher to appropriate and capable respondents who are experienced in the phenomenon being investigated in our context. The process of identifying and selecting appropriate founders with the necessary experience continues until the researcher reaches the point of saturation of the collected data. The saturation point is the point where more data collected from the latest founder identified does not add to the already collected data. During sampling, the selection process did not present any form of challenges because the founders were interested in the study, and were willing to recommend other founders who possess similar experiences we seek. Therefore, we ended the interview process with twelve (12) respondents who were selected from the three technology hubs visited. This process is illustrated in Table 1 and Table 2.

#### 3.1. Data collection

The researcher engaged in an iterative data collection process with founders of digital start-ups in three technology hubs (i.e. CC-Hub, Next-Hub, and Hub-one) (Walsham, 1995). The technology hubs house many founders of digital start-ups, from which few founders were carefully and strategically selected based on their experiences. The selection process, which was carried out through recommendation, enabled a

**Table 1**  
Data Collection and Method of Analysis Adapted from [Mei Ling et al. \(2015\)](#).

Activity	Description	Steps Followed
Access to Empirical Situation	Gaining approval to engage the respondents in the field	A formal letter from my University was addressed to the technology hubs visited to secure approval to access and conduct the study in the tech hub environment ( <a href="#">Mei Ling et al., 2015</a> ; <a href="#">Ononiwu, 2015</a> ; <a href="#">Patton, 1990</a> ; <a href="#">Walsham, 1995, 2006</a> ), and approval was obtained.
Design of Data Collection	Data collection through the interview	The researcher adopted a semi-structured and open-ended approach as the primary method for data collection and was involved in the process of interviewing the recommended respondents by asking simple, broad, and open questions. While the respondents answered, field notes were taken along with the respondent-approved audio recording of the answers ( <a href="#">Walsham, 1995</a> ; <a href="#">Yazan, 2015</a> ; <a href="#">Yin &amp; Campbell, 2018</a> ).
	Data collection through direct observation	To improve and validate the data collected from the interview, the researcher engaged in direct observation of the founders' and co-founders' behaviour in the technology hubs, as they engaged with day-to-day activities in collaboration with other actors to take specific steps that will guarantee the survival of new digital start-up during market entry. Notes were taken, and necessary activities were recorded ( <a href="#">Walsham, 1995</a> ).
	Data collection through archival documents	For further validation, the researcher requested archival documents from the management of the technology hubs and, at the same time, the researcher surfed the internet for other relevant materials to further gather information and concepts that corroborated and elaborated the interview and observations data collected ( <a href="#">Yin, 1981</a> ).
Researcher's Choice of Respondents	Identifying suitable respondents	In collecting data for the investigation, the research question determined and directed the researcher's interest towards the selection of specific founders and co-founders of digital start-ups in the three technology hubs visited. These focal respondents were founders and co-founders who survived the challenges encountered in the early-stage development of a digital start-up. To identify such respondents, the researcher adopted the snowball technique ( <a href="#">Döringer, 2021</a> ;

**Table 1 (continued)**

Activity	Description	Steps Followed
		<a href="#">Flyvbjerg, 2006</a> ; <a href="#">Ononiwu, 2015</a> ). The researcher conducted the technique by approaching the management of the technology hubs visited, who then recommended the appropriate founder with the requisite experience to the researcher. Hence, the managers of the hubs directed the researcher to the first respondent who was interviewed. Subsequently, the researcher met with other respondents for more interviews through the recommendation of the previously interviewed respondent. However, at every meeting with the recommended respondent, a consent form written in English was given to them to sign for the approval of their consent to participate in the research. This process of selection, approval, and interview continued until the researcher achieved data saturation.
	Steps towards ensuring the representativeness of respondents	To ensure that the researcher had a fair representation of founders and co-founders who had different experiences that are relevant to the study, the researcher selected three technology hubs, which housed different digital start-ups that focused on different industries and were located in different places within the ecosystem ( <a href="#">Flyvbjerg, 2006</a> ; <a href="#">Ononiwu, 2015</a> ).
Recording of Data	Different representations of collected data	Interview data were audio-recorded and transcribed to English words which produced a total of 106 pages of document, and was validated by the participants. Observatory data gathered from observing the behaviour of the founders executing gestation tasks were recorded in the field notes. There were also pictures and video recordings because using a video camera was necessary at some point. Also, relevant data from the archival documents were retrieved and studied, and views were extracted and recorded in the field note ( <a href="#">Ononiwu, 2015</a> ; <a href="#">Smith &amp; Elger, 2014</a> ).
Coding and Analysis of Data	Application of NVivo software, and thematic analysis for data coding and analysis process	The researcher proceeded with data analysis by engaging the NVivo data analytic tool to conceptualize views arising from the coding of data, categorizing the coded data in groups of sub-themes and themes, which the researcher continued until the researcher identified

(continued on next page)

**Table 1** (continued)

Activity	Description	Steps Followed
		the overarching theme that represented the phenomenon being investigated (Nowell, Norris, White, & Moules, 2017; Wiltshire & Ronkainen, 2021).

**Table 2**

Sample Respondents of Digital Start-ups in the Empirical Situation.

S/N	Digital Start-ups	Digital Applications Developed (Digital Product/Service)	Interviewee Position	Number of Years On	Technology Hub
1	AA	Fintech Application	Founder	Three (3)	CC-Hub
2	BB	Advertising Application Platform.	Founder	Five (5)	CC-Hub
3	CC	Digital Marketing Application	Co-founder	Four (4)	CC-Hub
4	DD	Agrotech Application	Founder	Four (4)	CC-Hub
5	EE	Art Marketplace Application	Founder	Three (3)	CC-Hub
6	FF	E-commerce Application	Co-founder	Three (3)	Next-Hub
7	GG	Fintech Application	Co-founder	Three (3)	Next-Hub
8	HH	Prop-Tech Application	Founder	Two (2)	Hub-One
9	II	E-commerce Solution	Founder	Three (3)	CC-Hub
10	JJ	Digital Media Application	Co-founder	Four (4)	Hub-One
11	KK	Fintech Application	Founder	Four (4)	Hub-One
12	LL	Fintech Application	Co-founder	Three (3)	Hub-One

**Stage 2: Direct Observation of the Founding Team's Activities: Before Covid-19 Lockdown** – 06/01/2020 To 28/02/2020 & **After Covid-19 Lockdown** – 13/07/2020 To 18/12/2020

**Stage 3: Archival Document Review:** While conducting interviews and observations, the researcher made time to review the literature and note relevant data from available archival documents to aid and complement data collected through interviews and observations.

**Time Frame: Before Covid- 19 Lockdown:** - 06/01/2020 To 13/03/2020

**During Covid 19 Lockdown Via Zoom:** - 15/04/2020 To 08/06/2020

**After Covid 19 Lockdown:** - 13/07/2020 To 25/09/2020

**Follow-up Interviews for Clarification and Verification:** - 07/03/2021 To 18/09/2022

good spread of respondents from different industries and prevented the expenses involved in visiting all the technology hubs in Nigeria's digital start-up ecosystem. The researcher engaged with the recommended digital start-up founders and co-founders for several months across two (2) years. A semi-structured interview was adopted as the primary source of data (Walsham, 1995), and data was collected from twelve (12) respondents. Each of the interviews took an average of forty-five (45) minutes and the questions were open-ended. The nature of the questions encouraged the interviewees to speak in detail about their experiences, views, struggles, challenges encountered during gestation, and the series of actions taken to execute tasks that guaranteed their digital start-up survival (Walsham, 1995). To gather more information, the same questions were asked using different approaches, to re-emphasize views shared by the respondents. Some of the questions include:

*“What product/service are you offering to the market? Is your digital*

*start-up active in the market? Have you ever experienced failure in the past? How long has your product been in the market? How is the market responding to your product? What are the challenges experienced in the process of developing and commercializing the products/services? How did you keep your product/service attractive and competitive in the market? How did you survive the challenges of the market? How did you access the necessary resources needed for the development of a digital start-up? In the process of entry into the market, what experience is significant for you? Were you funded by an angel/seed investor? If no, why?”*

The interview proceeded with interviewees introducing and describing their digital start-up goals. They began by explaining how they discovered the opportunity to pursue entrepreneurship, the development process, team formation, fundraising and acquisitions, market experimentation, diverse challenges encountered, and struggles for survival during entry to the market. They also described how feedback from the conducted market experimentation of minimum viable product (MVP) influenced and improved product/service viability, survival, and customer attraction, as they focused on meeting market needs. The researcher interviewed the respondents at different times and dates, as convenient to the respondents. Subsequently, the researcher continued the interview, with earlier interviewed founders recommending more founders to the researcher until the researcher reached data saturation. The point of saturation occurred when the researcher observed that further interviews with more founders or co-founders did not add any new data to the data collected earlier. At this point, the researcher terminated further interviews.

Next, the researcher engaged in the observation of different founders and co-founders' day-to-day activities in the technology hubs visited, and even attended idea/product/service pitching/showcase events, where different founders are allowed to pitch their ideas/products/services to prospective investors that could help in the funding, and scaling/growth of the products/services (Walsham, 1995). The essence of direct observation is to complement and validate information gathered from the interview conducted. The researcher recorded events in real-time as they occurred in the context (Yin & Campbell, 2018). The researcher took note of the observed activities carried out by the founding teams by recording them in a field notebook. Furthermore, the researcher engaged in secondary data collection from several sources to further improve earlier data collected. The secondary sources included reports from industry experts, websites of technology hubs (e.g. CC-hub, Next hub, Hub-one), online news, and conference papers. In addition, the researcher expanded his view about the phenomenon investigated by reviewing top journals from different fields (e.g. strategic management, business management, business economics, technovation, entrepreneurship, economics, business research, organizational sciences, information systems, information technology and people, technological forecasting and social change) to enable easy identification and extraction of appropriate concepts and constructs that would aid conceptualization of view and actions of the founders to help provide a right understanding of the study (Walsham, 2006).

### 3.2. Summary of the field visitation, method of data collection, and analysis steps

Table 1 depicts data collection steps, timeline, and criteria adapted from the studies of Mei Ling, Pan, Ractham, and Kaewkitipong (2015) to guide the respondent selection during the researcher's visit to the field. Table 2, and Table 3 illustrate details of the respondents representing selected digital start-ups, and the interpretive principles followed in the analysis of the collected data respectively.

Drawing from the seven sets of principles of interpretive study (Klein & Myers, 1999), Table 3 depicts the steps the researcher took in the interpretation and analysis of the investigation.

**Table 3**  
Klein and Myers (1999) Principles of Interpretive Paradigm Adapted.

S/ N	Principle for Interpretive Field Study	Activities
1	The Fundamental Principle of the Hermeneutic Circle.	To gain an in-depth understanding of the phenomenon being investigated, the researcher focused on reflection to drive the right interpretation of the founding team's views, actions, and activities that influenced survival during the gestation of digital start-ups. The researcher recursively pondered on the decisions taken by founders from ideation to commercialization of the new digital start-up.
2	The Principle of Contextualization.	For readers' clarity on how digital start-ups survive in the investigative context, the researcher described the selected context as a dynamic, uncertain, and resource-constrained context; here, the founding team experiences limited resources, environmental uncertainties arising from unstable policies of the government, market forces, technology advancement, and other complexities during the gestation process.
3	The Principle of Interaction between the Researcher and the Respondents.	The researcher interacted with the founding team of digital start-ups in the field to develop insight and an in-depth understanding of the behaviours and activities of founders. Then, the researcher reflects on the data set collected from the respondents through interviews, observation, surfing web pages, and archival documents. However, for further clarity, the researcher engaged in questioning the respondents' assumptions and interpretations during the interaction. In addition, the researcher also questioned his assumptions and interpretations, as the researcher engaged with data from respondents. The conversations focus on the activities, tasks, unanticipated contingencies, prevailing challenges, and contradictions encountered during the gestation process.
4	The Principle of Abstraction and Generalization.	Here, some concepts from the literature reviewed help to conceptualize and corroborate the empirical data, as the researcher continues to study the conducted activities of the founding team. Patterns/concepts were discovered from the empirical data and they were validated by some concepts from the literature, while other new concepts emerged from the data collected from the empirical situation. All the coding, sub-themes, and themes represented the set of factors that influenced the activities of the founders and co-founders pursuing survival during commercialization.
5	The Principle of Dialogical Reasoning	At this stage, the researcher proceeded by re-reading the findings from the data set and engaged in cross-checking and comparison of the identified patterns/themes with the concepts from literature preconception guiding the investigation for confirmation and the possibility of any disconfirming ones.
6	The Principle of Multiple Interpretations	To guarantee the right interpretation, the researcher expressed sensitivity to possible contradictions that might arise from multiple interpretations of the concepts, as each respondent narrated

**Table 3 (continued)**

S/ N	Principle for Interpretive Field Study	Activities
7	The Principle of Suspicion	their actions, practices, and experiences encountered and the struggles they experienced for survival during digital start-up gestation. Finally, the researcher observed the data collected from all the respondents within the ecosystem to ensure that sensitivity to possible biases was cleared in the respondents' narratives. Thus, any identified ambiguous statements or views were clarified with the respondents by engaging them further through physical contact, phone calls, or email.

### 3.3. Data analysis

Having collected empirical data from the field, the researcher commenced data analysis by transcribing the collected interview audio data into written English. Next, the researcher engaged in the triangulation of the data collected from multiple means (i.e. interview, observation, archival documents, and online materials) to avoid any form of misconception from both the respondents and the researcher. To achieve the fourth interpretive principle adopted from Klein and Myers (1999), the researcher highlighted and coded similar descriptions of the actions of the founders, and used NVivo to categorize the codes to give a clear representation of each concept identified. The NVivo tool helps to simplify the thematic analysis, which analyses the coded data collected from the field, as indicated in Fig. 1. The entire process of analysis commenced by searching and studying through the data set obtained from interviews, observation, web documents, and archival documents to find and identify views that have common patterns of meaning to form the codes. Subsequently, the codes are grouped to form sub-themes, which are further grouped into themes. This process continued until an overarching theme was discovered, which represented the phenomenon being investigated (Braun & Clarke, 2006).

#### 3.3.1. Data coding process

The researcher commenced data coding by conducting an open coding process to generate a priori-described concept with the researcher searching for reoccurring phrases that represent a series of actions and practices conducted by founders for survival during gestation. An open coding process is carried out by analytically breaking down the collected data, representing interview statements or phrases with a conceptual label through constant comparison technique between the empirical data and adopted theories to create new insight about the phenomenon being investigated (Charmaz, 2006; Corbin & Strauss, 1990; Huber, Kude, & Dibbern, 2017). As a result, the interpretation of phrases relating to the actions and practices of digital start-up founders was grouped and represented by a related concept. In this study, the researcher breaks down statements in the transcribed data repeatedly to identify and interpret in parts the statements that are related and have meaning that can be represented collectively with a specific conceptual label. For instance, different statements describing actions orchestrated by founders to access funds and other resources that are critical to their survival were represented with a conceptual label as the researcher breakdown and related the collected data, further, the conceptual label is compared with concepts of the adopted theories for more appropriate conceptualization.

Therefore, several incidents and actions of different entrepreneurial events, practices, and activities were noted and reflected upon, to compare among them for similarities or differences, which eases the grouping of similar phrases to form sub-themes and themes that are further related. Subsequently, the researcher engages in axial coding to

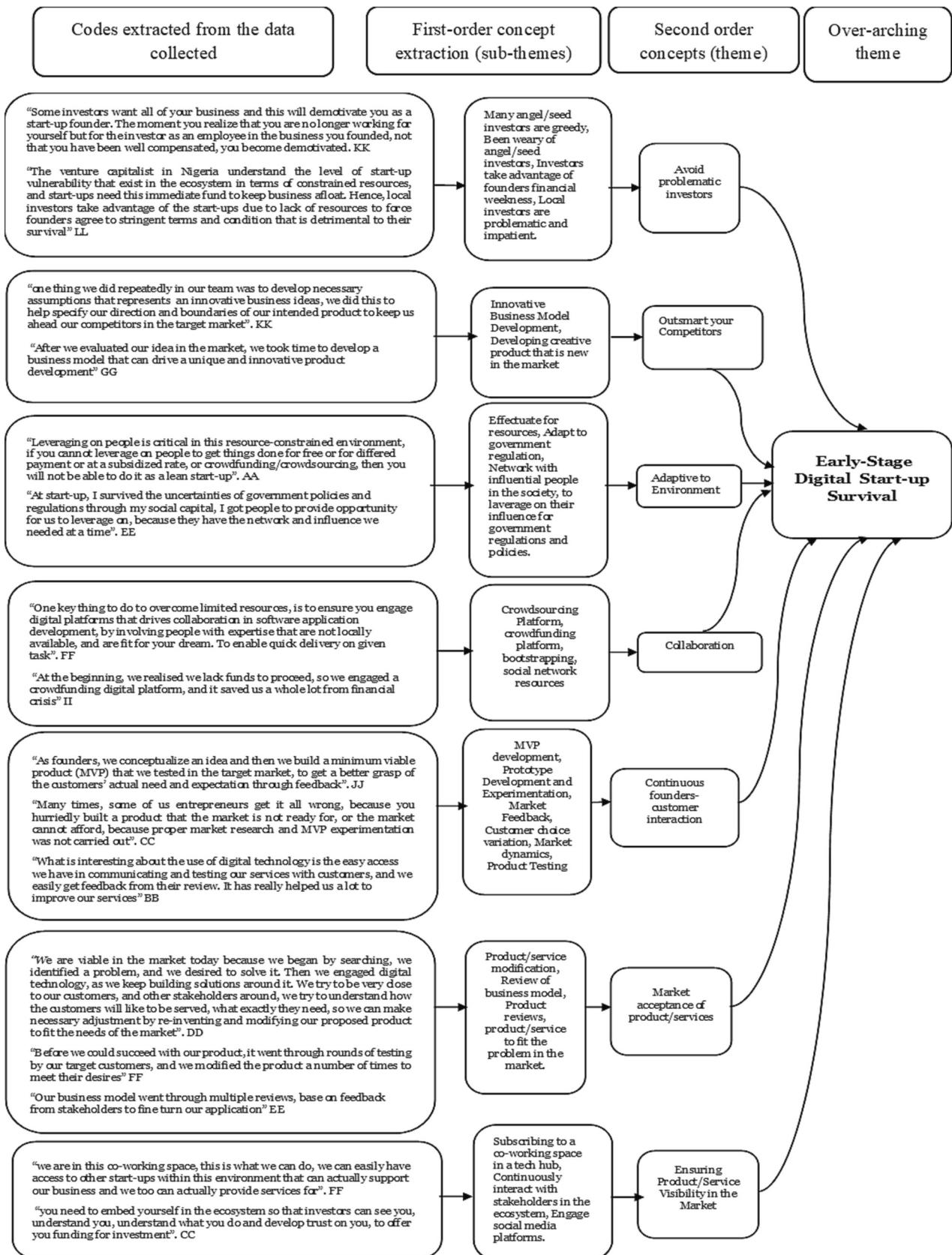


Fig. 1. Thematic coding and theme development process.

identify linkages and to further discover patterns among different groups of conceptual labels that are associated together, which are responsible for certain sets of actions and behaviours of the founders. Further, the researcher reflects upon the data and the developed codes for further comparison, and for the confirmation and disconfirmation of any conceptual label that is not properly coded or grouped into a theme. The researcher recursively followed this process of analysing the data described, to continue to extract codes, sub-themes, and themes. Finally, the researcher engages in selective coding to discover the overarching theme, the core category that represents the phenomenon being investigated. The coding process is illustrated in Fig. 1. To validate the codes, the researcher presented these codes to the respondents to confirm if the codes represented their views and experiences in the field, and then, the respondents affirmed that the codes represented their views and experiences.

#### 4. Findings

This section presented the result from the data analysis conducted; it reveals a clear pattern demonstrating the factors that drive founders' behaviour towards actualizing the survival of digital start-ups during gestation. The factors are in continuous interaction, which generated an appreciable flux that drives the behaviour of digital entrepreneurs to act in a manner that leads to the survival of digital start-ups in harsh circumstances. The identified factors are presented as themes, which include: collaboration, avoiding problematic investors, market acceptance of product/service, ensuring product/service visibility in the market, continuous founder-customer interaction, adaption to the environment, and outsmarting your competitors. The factors are discussed following, beginning with collaboration.

##### 4.1. Collaboration

Based on interviews with founders in the field, collaboration is considered a crucial factor for new digital start-ups to overcome challenges during their entry into the market. Collaboration involves the collective effort of different stakeholders, who contribute various resources towards a common goal. In this context, most founders collaborated with both internal and external stakeholders to gain access to essential resources. For instance, one of the interviewed founders CC, noted:

*"I think in this tough environment, attempting to do it alone might not be enough, aside from the fact that it is going to require a lot of resources, it will take a lot of time, and time to market might be slower. For me, I feel collaboration will go a long way in helping Nigeria start-ups deliver value faster and compete favourably, which is what we did at the beginning". (CC).*

Through collaborative efforts with other actors, the start-up founders successfully navigated environmental uncertainties stemming from inconsistent government regulations and policies. They recognized the value of digital technology as a means to crowdsource and crowdfund, tapping into diverse resources essential to their survival. By engaging in collaborative reasoning, they were able to share risks and make strategic decisions that effectively addressed the challenges impeding their entrepreneurial activities. Collaboration proved instrumental in expanding their team and attracting skilled individuals who fostered creativity and innovation, resulting in the development of unique and competitive digital start-up products and services. According to the founder of a fintech digital start-up, collaboration proved to be a critical factor in their survival. Due to high costs and scarce local resources, sourcing funds, skills, and expertise posed a challenge for them. However, leveraging crowdfunding and crowdsourcing platforms enabled them to access a community of people who supported them through funding and skills to develop innovative services. Similarly, the founder of a Prop-Tech Application in the real estate sector recognized crowdfunding as a collaborative mechanism that fosters the development of digital start-ups in Nigeria's digital start-up ecosystem. By tapping into a

community of contributors, they were able to secure the necessary funding to ensure their survival. This highlights the importance of founders being able to make informed decisions and take the necessary actions to access the right people and resources. Therefore, digital platforms that offer a community of actors and contributors willing to collaborate have become valuable tools to ensure the success of viable products and services that can compete in the market. For instance, another founder LL interviewed noted during the interview:

*"Idea synergy with others is important and must be engaged. For example, if you have built a solution that can help me solve part of my application problem, I don't have to rebuild that solution, I will just plug the already-made solution into my application that is undergoing development, by integrating my solution into it. Because we are limited in infrastructural and expertise resources". (LL).*

In our investigative context, it is evident that the founders' perspectives emphasize the significance of partnering with suitable individuals, both internal and external to the ecosystem. Such collaboration can provide digital start-up founders with access to valuable resources that may not be easily accessible within the ecosystem, empowering them to effectively address any challenges they may face.

##### 4.2. Avoid problematic investors

Many digital start-ups in the Nigerian ecosystem have failed due to a significant challenge in funding. Limited funds have caused these start-ups to make poor decisions and engage in unfavourable partnerships, ultimately leading to an early shutdown. In interviews with several founders, they lamented how the lack of funds caused them to partner with problematic angel/seed investors, resulting in failure or loss of their start-up to the investors. The study also revealed that many investors in the ecosystem are quick to ask for unrealistic returns on investment and have misaligned expectations, particularly regarding the timeline for expected returns. This haste has led to many founders being unable to meet these expectations, which ultimately fails their start-ups. Digital start-ups often face pressure from investors who are primarily interested in short-term gains. This puts constant pressure on the founders, which can lead to hasty decision-making and ultimately, failure. Inexperienced angel and seed investors can sometimes make things worse by interfering excessively in the start-up's activities. These types of investors often lack the flexibility to manage unexpected changes and insist on short-term returns on their investment, which puts undue pressure on the founders and contributes to the high failure rate of digital start-ups. Many founders have experienced these problems. Some have even had investors take advantage of their financial limitations to force them into unfavourable conditions that result in the investors having more control and stake in the start-up than they should. For instance, two of the interviewed founders, EE and II, lamented:

*"Angel/seed investors and even venture capitalists in Nigeria understand that funding is a big challenge to founders, and it makes founders vulnerable. However, start-ups need immediate funds to keep their new business active and afloat. So, local investors take advantage of the start-ups by forcing founders to agree to stringent terms and condition that is detrimental to their survival". (EE).*

*"Some investors usually present conditions that show that they want a major share of your start-up and this demotivates you as a start-up founder. The moment you agree, everything changes because over time you will realize that you are no longer working for yourself but for the investor, you become an employee in the business you founded, and then you become demotivated, which eventually leads to the business failure". (II).*

Many founders of digital start-ups have had bitter experiences that led to the failure of their businesses. As some of these founders shared, the demotivation caused by these experiences impacted their start-up's growth, eventually leading to a struggle for survival. To overcome funding challenges, most founders resort to bootstrapping techniques, crowdfunding, and collaboration within and outside their ecosystem to secure funds. To take advantage of the support available in technology

hubs, founders focus on technology hubs to guarantee their availability of resources. Additionally, founders have learned to be more careful when negotiating with investors, bargaining for favourable terms and the amount of share they are willing to give. Another founder LL insisted:

*“To succeed, you don't allow seed/angel investors to confuse you with the money they are willing to invest, you have to evaluate the impact of the money and the amount of share they are demanding before you make your decision”.* (LL).

It is crucial for founders to carefully investigate and evaluate potential investors before entering into any agreement with them. This approach will help founders avoid entering into unfavourable contracts that give more shares or power to investors while maintaining control of their start-ups. Seed/angel investors holding a high share can harm the operations and activities of the start-ups, especially if they lack the knowledge and experience required to make informed decisions and provide the necessary support in the specific industry of interest. This can make survival difficult and cause founders to lose interest and motivation to act effectively. Therefore, founders must take the necessary steps to ensure that they have the right investors on board.

#### 4.3. Market acceptance of products/services

According to the findings, the success of a new product/service during its commercialization depends on how well it is received by the market. Market acceptance, which refers to the willingness of customers within a specific market to support a new offering, is a crucial factor that drives creativity and innovation. The study suggests that market acceptance influences the behaviour of founders, who strive to create innovative products/services that attract the attention of potential customers and encourage them to adopt and purchase the new offering. During the interview, the founders emphasized the significance of identifying a problem that requires an innovative solution in the market. This is a critical aspect in developing a product/service that will be embraced and remunerated by customers. The founders stressed how this factor had played a pivotal role in ensuring their survival in the market. One of the founders shared his experience in the Nigerian market, where numerous products inundate the market but ultimately fail to thrive because they do not cater to the customers' needs. Hence, a new product/service needs to be centred around the market's needs. This can be accomplished by comprehending what the customers' needs and wants are, and what resonates with them. Founders are expected to engage with the market to decipher its requirements, by carefully evaluating and correlating them with the appropriate product or service. Based on our findings from the study, introducing a new product/service in our context requires a thorough understanding of the market's needs. This can only be achieved through an in-depth engagement with the target audience, which involves conducting an opportunity search in the market. Once a viable opportunity is identified, a product can be developed that addresses the market's existential problem and offers a unique benefit to customers. Following this approach will ensure product/service acceptance, viability, and relevance in the market. A founder GG emphasized:

*“To survive in the Nigerian market, you must focus on a known problem that is evident in the market, because our failed start-up in the past failed because we were busy developing a product that we thought the people would appreciate, and we did not investigate its impact and customer acceptance in the market, and then we struggled and eventually failed”.* (GG).

Therefore, conducting market research is a vital step for founders to ensure optimal timing in the development of relevant products/services. This search offers the chance to create a distinctive and competitive alternative to existing products/services. Moreover, it aids founders in identifying any obstacles that may jeopardize the survival of their new market offering. Thus, to thrive in today's market, digital start-up founders are advised to assess the market acceptance of their proposed product/service by conducting a comprehensive market survey and

evaluation to ensure that their offering meets the market's demands.

#### 4.4. Continuous founder-customer interaction

One of the key benefits of interacting with your target audience is understanding their specific needs. This is especially important for digital start-ups, as ongoing interaction with the market is essential for survival. In fact, in this research, the researcher found that many founders who successfully entered the market saw this as critical to the ongoing viability of their products/services. By engaging with customers in this way, founders can establish strong relationships with their target audience. To facilitate this interaction, many founders use prototype experimentation, which allows them to gather feedback from customers and gauge their satisfaction with new offerings. This process is often referred to as experimenting with the minimum viable product (MVP) and is a cornerstone of successful digital start-ups. Minimum Viable Products, or MVPs, are prototypes created with minimal resources to represent the actual product or service. These prototypes are rigorously tested in the market to maintain open communication with customers. The founders the researcher interviewed emphasized the significance of MVPs in the team's ongoing sense-making process. Feedback from customers is carefully evaluated and used to identify and address any issues with the new product/service. The team then implements modifications to make their market offerings unique and competitive enough to meet demand. For instance, some founders BB and EE noted:

*“We try to be very close to our customers by testing a prototype of our product in the market. We try to understand how they like to be served, what exactly they need, so we make the necessary adjustment, as we keep re-inventing our product to fit the market”.* (BB).

*“You can make a sample of your new product, depending on your resources, test it in the market, to get feedback from the customers, and to see how customers react to the product. It helps the founder's decisions because you are not building for yourself, you are building for them. So, with that, you will know where to react, when to push forward, where to push hard and how to get the product to be what the customer expected”.* (EE).

To survive the challenges of the Nigerian market, any founder must first develop a Minimum Viable Product (MVP). This MVP will facilitate communication between the founders and customers and is used for experimentation. Developing an MVP is cost-effective, as it requires only minimal investment to represent the intended digital products/services to be introduced to the market. The MVP plays a crucial role in promoting continuous interaction between founders and customers, which in turn enables the possibility of meeting specific market needs. Ultimately, the MVP is essential for the survival of new businesses in the Nigerian market. In the context of our research, the individual behind digital start-up II revealed that they employed social media platforms to engage with their intended audience regularly. This approach enabled them to gather valuable insights from the market, which they then leveraged to enhance their offerings and garner customer approval, ultimately leading to increased success. Our findings demonstrate that the process of MVP experimentation is pivotal in establishing a shared understanding between founders and customers regarding unmet market needs. Thus, by utilizing MVP, any gaps between a new product/service and the expectations of the customer base can be identified and addressed, ensuring that market demands are satisfied.

#### 4.5. Adaption to the environment

Thriving as a digital start-up founder in the Nigerian market demands a tremendous amount of effort due to its tough, dynamic, complex, and uncertain nature. Coping with the constant changes and uncertainties requires strategic skills to adapt. Adapting to the environment means embracing changes, building resilience, and maintaining flexibility in the face of evolving circumstances. To achieve this, founders must strategically make decisions that enable them to navigate through encountered challenges. This dynamic environment is

characterized by infrastructural deficiencies, unfavourable government regulations and policies, financial inadequacies, and limited expertise, which pose numerous challenges that digital entrepreneurs must confront in their entrepreneurial pursuits. The fintech space is a good example because it presents significant challenges for entrepreneurs, as demonstrated by GG's experience as noted by the co-founder of the digital start-up. Government regulations and policies can create barriers that make it difficult for new businesses to thrive. To succeed, founders must be resourceful in obtaining the necessary funds for licensing and sustaining their operations. The key to building a sustainable digital start-up that can withstand the market's volatility is to understand the industry's environmental structures and conditions. By carefully assessing the challenges presented by the environment, the founding team can identify potential solutions and make strategic decisions that adapt to the industry's context. Therefore, founders' continuous evaluation and reasoning are critical to the success of any digital start-up in the fintech space and other sectors. Here is how co-founder GG described their experience in the environment:

*"Every fintech has to pay so much to acquire a license in Nigeria, even when governing regulations and policies are inconsistent. The thing is, how will a young entrepreneur be able to raise a large amount of money for licensing? Most time the founders are discouraged and are under pressure to get an investor to fund such a license". (GG).*

Nigeria's digital entrepreneurs encounter a host of hurdles when launching their ventures, such as costly licenses and funding requirements. Yet, these resilient fintech founders persevere by seeking out favourable investors beyond the borders of Nigeria to finance their vision. Flutterwave is a prime example of a thriving digital start-up that has secured foreign investment. Moreover, entrepreneurs adopt a variety of strategies, ranging from bootstrapping to seeking support from government officials, to succeed in the industry. This approach mirrors that of other sectors that also attract digital entrepreneurs. Another co-founder, LL, noted:

*"Nigerians succeeding in digital entrepreneurship are resilient people, adaptable, willing to change with different regulations and policies, able to change with market forces. They are street smart and understand the Nigeria market, they know what is working and what does not work here. You have to persevere, play the long game, stick to your plan, don't always change your plans because of challenges, but modify them to adapt to the issues. A start-up is all about survival, stand your ground and execute your plan properly. You have to be a visionary person to get your team aligned". (LL).*

Nigeria's regulatory and policy-making framework is characterized by a lack of stability and continuity, resulting in abrupt changes. Such unpredictability has caused considerable uncertainty and instability in the digital entrepreneurship arena, resulting in the failure of numerous start-ups. The effects of these alterations have been consequential, making it imperative to tackle this issue for the sustained progress and prosperity of digital entrepreneurship in Nigeria. A founder, KK, lamented:

*"Honestly, in Nigeria, you can wake up tomorrow and something can happen. You can wake up and hear that the Security Exchange Commission has passed a new regulation. An example is what they did with treasury bills, providing a policy that no secondary buyers are allowed anymore. An entire business segment is dependent on that, some businesses are responsible for buying treasury bills on behalf of clients, hence, the policy has eliminated a whole line of business without consulting stakeholders involved". (KK).*

To succeed in a challenging environment, entrepreneurs must employ effectual reasoning to identify individuals who possess the ability to enact meaningful change. These individuals should have extensive societal connections and the capacity to leverage those relationships to aid the entrepreneurs. Consequently, entrepreneurs are continuously seeking support from stakeholders, both within and outside of their ecosystem of influence. Such support can manifest in various ways, such as assistance with infrastructure, funding, expertise, and advocacy for policy reforms that are arduous to accomplish independently.

#### 4.6. Outsmart your competitors

To gain an edge over your competitors, it is necessary to take action towards creating and shaping innovative products/services. This decision introduces fresh and disruptive ideas in the entrepreneurial process, which can help ensure the survival of a digital start-up during market entry. This factor has led founders to engage with the market realities and take steps to understand, make sense of, and make decisions based on what the market represents. After interacting with the market realities, the founding team discovered a unique opportunity that set them apart from other competitors. This enables them to outsmart their competitors in the target market. The founders disclosed that this factor is critical to their survival as it prompts them to study the market environment and competition, which informs them of the specific actions they need to take to create a unique product/service that is competitive. Additionally, the founders emphasized the importance of being customer-centric during the gestation period. They continuously communicated with their target customers to review their choices, ensuring the development of innovative products/services that would attract and retain customers to continuously utilize their products/services. In our context, the findings show that the early-stage survival of a digital start-up requires the founders to consistently respond to customers' needs by making quick decisions, implementing any modification on the market offering quickly, and at the same time responding to any identified threat from the competitors while capitalizing on the opportunity discovered. More importantly, the founders focused on continuous learning from customers' responses and engaged in continuous improvement of market offerings to enhance the creation of innovative products/services that would remain attractive to the target market. Therefore, creativity and innovation are critical to stimulating this factor since the founder's cognitive processing is continuously grounded in the existential situation of the market to help distinguish the new product/service from other products/services in the market. For example, the founder of CC digital start-up noted:

*"You need to be wary of your competitors, if you want to stay long in business, do not run a business for yourself but for the market. See what your competitors are doing, what you do not want is to allow a competitor to come out with a superior solution to yours and snatch your target market share". (CC).*

So, the findings reveal that founders of digital start-ups pay attention to what the competitors are doing, while they ensure that they are providing a unique offering to the market. By providing a product/service that is simple to use, easy to access, with features that can solve customers' needs easily. Offering such a product/service will grow traction, and make customers demand for your product/services for a long time in the market, without the thought of trying other competitors' products/services. Another founder who developed a digital start-up, JJ, expressed:

*"Succeeding in the market has to do with the start-up and what their unique offering is. This is what makes you different from every other person. Once you can identify your unique product, you will survive. For instance, in our case, our unique offering is our technology, we can come up with unique solutions for the problems facing the market and we are very quick at releasing our updates and modifications". (JJ).*

This suggests that survival entails keeping your products/services continuously relevant in the market. Hence, most founders interviewed emphasized that they engaged in continuous modification and upgrade of their products/services with new features to meet the current needs of the market. They continuously engaged with their customers to gather information on what they wanted and what had changed from the previous needs. The founder of a digital start-up, KK, elaborated on this view thus:

*"We continuously review our products to meet the current demand of our customers. As such, before our competitors catch up with us, we have released another brilliant feature and they are left wondering what is going on, so you have to be steps ahead". (KK).*

Therefore, surviving in the market is to continuously make sense of the current situation of the market needs and implement it in your market offering by enacting an attractive product/service that will keep you competitive.

4.7. Ensuring product/service visibility in the market

In the digital world, it is crucial for a start-up to make its product/service visible within the market. This visibility influences the survival of the start-up during the early stages. Product/service visibility refers to the availability and recognition of the product/service among the target audience in the market, leading to patronage and traction. The study shows that most founders interviewed focus on practices to keep their product/service visible in the market, which attracts the interest of potential customers. Therefore, identifying a target audience and creating a strong presence of the new product/service within that community directly impacts the survival of the digital start-up in the market. Start-up founders in our context have survived by leveraging digital and social media platforms to promote their products and services to their target customers. These platforms have enabled them to establish continuous communication with their customers, which is vital for gaining recognition and driving traction. To make their new digital start-ups stand out in the market, founders have deployed creativity and innovation to attract customers' interest. By doing so, their products/services are easily differentiated through unique features, making them more attractive to customers. The founders we interviewed emphasized the importance of targeting different channels or platforms to reach customers and present their products/services effectively. Identifying the right platform for visibility and accessibility, drives desired traction for the new products/services. One of the founders AA interviewed stated:

*“As a founder in our environment, you need to embed yourself in the market and within the ecosystem, so that customers can see you and understand your product, understand the benefit, and understand what your product can do to develop trust in your product, such that customers can patronize and investors can even offer you funding at a reasonable*

*condition”.* (AA).

Many entrepreneurs have failed in the Nigerian market because they often neglect the visibility of their products/services. Sometimes, they don't have the resources or know the right channels to drive the visibility of their offerings within their ecosystem. This results in their products/services being invisible to potential customers. Additionally, many customers in the target market lack digital presence or inclusion in their environment, which leads to some market offerings suffering from low patronage and stunted traction. As a result, founders must ensure that their products/services are brought to the target customers through different online media engagements, adverts and any other conventional media to increase visibility and improve their chances of success.

5. Discussion

This investigation focuses on the early-stage survival of digital start-ups during market entry in Nigeria. The digital start-ups investigated are situated in technology hubs in Nigeria's digital start-up ecosystem (e.g. Gómez et al., 2023). The outcome of this study reveals some interactive factors that impact the behaviour of digital entrepreneurs pursuing the survival of new digital start-ups as shown in Fig. 2.

The factors identified provide an answer to the research question the study sought to address, because the factors impacted the behaviour of entrepreneurs, and are responsible for the survival of digital start-ups in the investigative context. Fig. 2 depicts the factors, showing how their interaction drives the behaviour of founders who engage in the early-stage survival of digital start-ups during market entry. When launching a digital business, it's essential to consider the market conditions and structures because they play a crucial role in the survival of the business. Having analysed the interviews with successful digital start-up founders, we've gained insight into the processes they follow to thrive in a competitive and unpredictable market. These factors in Fig. 2 influence their decision-making and actions, as they strive to stay viable and competitive. To succeed, founders must identify opportunities that offer economic value and understand the needs and behaviours of their target customers. Therefore, evaluating a value proposition and existing

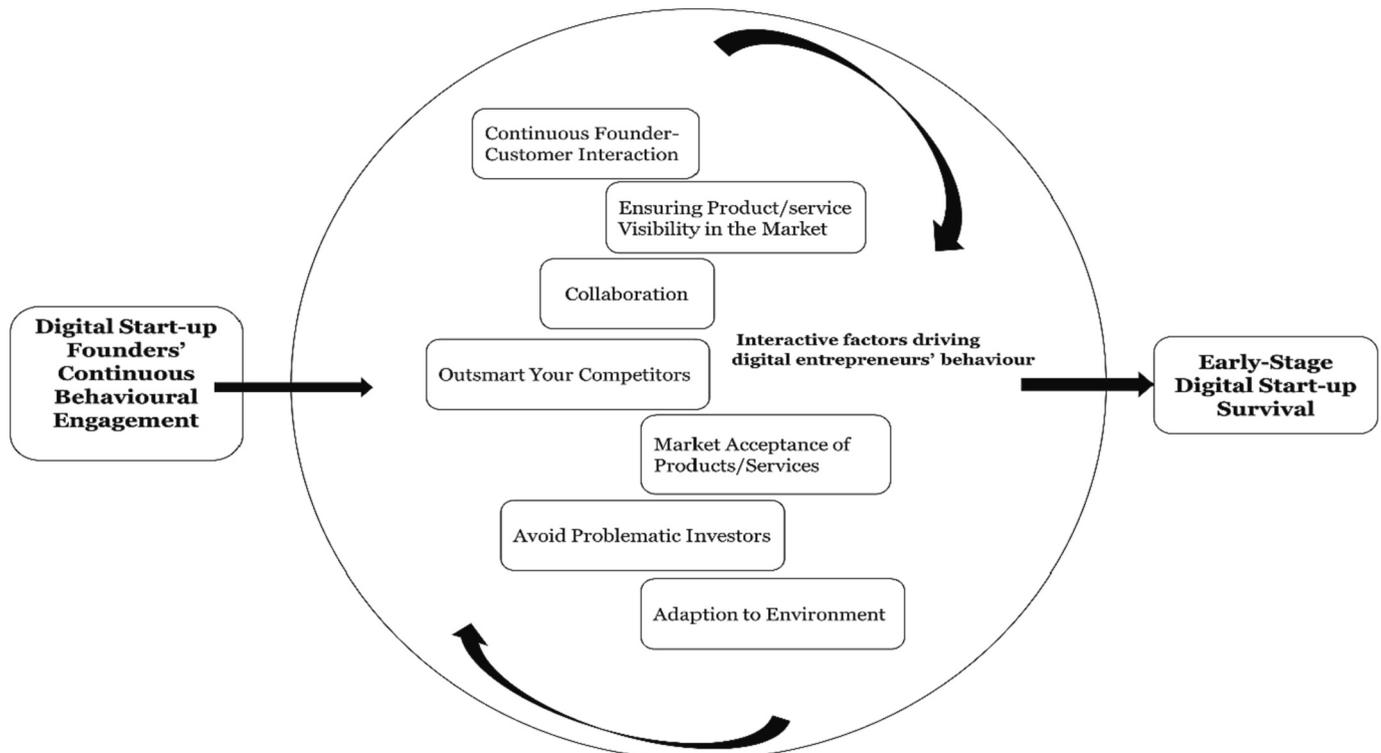


Fig. 2. Founders' continuous behaviour for early-stage digital start-up survival.

market forces is critical for early-stage survival. After reviewing the interviews with digital start-up founders, we discovered that a common challenge they face is limited resources, environmental complexities, and uncertainties in the market. To survive in such circumstances, founders continuously collaborate with other actors both within and outside their ecosystem. This enables them to coordinate productive entrepreneurial activities that guarantee their survival. This finding supports the outcome of some prior studies that considered open-source collaboration between digital entrepreneurs as a critical factor for survival (Ajah & Ononiwu, 2021; Elia, Margherita, & Passiante, 2020b; Lin & Maruping, 2022; Zhao, Barratt-Pugh, Standen, Redmond, & Suseno, 2021). Collaboration drives the crowdsourcing of knowledge, expertise, and experiences from different agents (Garrigos-Simon, Alizadeh Moghadam, Abdi, Pourmirali, & Abdi, 2021; Naudé & Liebrechts, 2020; Zhao et al., 2021). Also, the study supports collaborative dynamics and co-creation processes across distributed actors who engage in digital entrepreneurship platformization (Elia et al., 2020b; Gómez et al., 2023; Lin & Maruping, 2022). Similarly, the study supports the view that founders sometimes engage with a fundraising digital platform such as Kickstarter (Al-Mulla, Ari, & Koç, 2022; von Briel, Davidsson, & Recker, 2018; Wessel, Thies, & Benlian, 2017) to source, obtain, and access funds needed to drive the development of digital start-ups and to assure their survival (Delacroix, Parguel, & Benoit-Moreau, 2019; Fernandes, Ferreira, Veiga, Kraus, & Dabić, 2022; Fossen & Sorgner, 2021; Lin & Maruping, 2022; Nambisan, Wright, & Feldman, 2019; Naudé & Liebrechts, 2020). However, a unique finding from this study is that digital start-up founders in the Nigerian market prioritize foreign collaborators, particularly investors, due to the guaranteed access to resources under favourable terms and conditions.

During the study, the researcher interviewed several founders of digital start-ups who emphasized the importance of adapting to the environment when developing a new business. This is because the environment continuously affects customers' needs and wants, especially when their disposable income is low, as is the case in this context. As a result, the environment affects customers' spending power, and many customers struggle to meet their daily needs. So, market offerings should be developed within the affordable cost of the target customers to prevent low patronage. Also, to make informed decisions as contingencies arise, founders should adapt to the environment. This is particularly crucial when faced with new regulations and policies that may affect digital start-ups. We discovered that in Nigeria, many founders encountered difficulties due to government policies that restrict new digital start-up activities. These policies included limitations on crowdfunding, the ban on cryptocurrencies, and the prohibition of bikes for goods delivery, used by logistic digital start-ups. Consequently, many new digital start-ups were forced to shut down. Therefore, to survive, founders in our context must continuously monitor government regulations, pay attention to any policy changes, and take necessary steps to navigate the effects of such policy changes to prevent potential shut-downs. Yet, to understand the needs of the market, the study recommends that founders engage with their surroundings. By doing so, they can consistently develop strategies to keep their products appealing to customers. Founders must monitor current market trends and make timely adjustments to ensure the long-term success of their product/service. To stay ahead of their competitors, founders must create offerings that are superior, easy to use, and accessible to their target customers. Hence, continuous interaction with target customers is necessary for survival in the Nigerian market, as it enables founders to gather useful information about customers' desires and expectations. This insight can then inform the development of market-offering prototypes. This finding corroborates the findings of prior studies that had emphasized that continuous interaction with customers is critical because it helps in clarifying any form of founder-customer views mismatch over the new products/services being introduced to the market (Edison, Smørsgård, Wang, & Abrahamsson, 2018; Nguyen-Duc & Abrahamsson, 2016). Also, the findings confirm the views of another

group of studies that hold that digital entrepreneurs follow a lean start-up approach/agile methodology as a principle to guide and drive the survival of entrepreneurial actions and practices during the development and experimentation of digital products/services (Edison et al., 2018; Ghezzi, 2019; Ghezzi & Cavallo, 2018, 2020).

One of the most crucial factors to take into consideration is whether the market is willing to accept new products/services. According to the findings of this study, digital start-ups that successfully entered the market were heavily influenced by this factor. The founders of these start-ups experimented with a prototype of their value proposition in the market to gauge its acceptance by the target customers. This allowed them to continuously receive feedback, which they then evaluated to identify any necessary modifications. These modifications were then implemented to ensure that the product or service was suitable for the market. Products and services only gain acceptance when they provide solutions to the unmet needs of the market. Therefore, this study's findings firmly establish the lack of problem-solution fit as the primary reason for failure, which can be attributed to the lack of market acceptance for new products and services entering the market. Most often, such failure is caused by insufficient market research and a lack of information about the specific needs of the market (Tripathi, Oivo, Liukkonen, & Markkula, 2019). Therefore, to avoid failure, it is crucial for digital start-up founders to ensure that their products/services are suitable for the market, by experimenting with the product/service and gathering feedback from target customers to understand their perceptions and feelings towards it. Then the feedback is used to improve or change the product/service to keep the start-up viable in the competitive market. This finding also corroborates another past study which emphasizes that experimenting with a prototype promotes co-creation between founders and customers (Tuunanen, Lumivalo, Vartiainen, Zhang, & Myers, 2023), and influences the possibility of meeting specific market needs. Therefore, gathering relevant information from feedback received from the market influences the right intelligence that informs the right decision (Sadeghiani, Shokouhyar, & Ahmadi, 2022). Consequently, this approach assures acceptance, validity, and customer traction, and mitigates any possible product/service failure in the target market (Concepcion & Sison, 2017; Ganesaraman, 2018; Nguyen-Duc et al., 2021). It's great to have the target market approve the new product/service of the founders, but the outcome of this research has found that visibility in the market is just as important. Unfortunately, the investigative context lacks adequate digital infrastructure, and many potential customers are not technologically inclined, which makes it difficult to reach a significant segment of the market. The interviewed founders have suggested that entrepreneurs who want to succeed should create strategies and channels to increase the visibility of their product/service through traditional media, social media, websites, and email campaigns. It is important to focus particularly on the digitally inclusive segment of the market to attract a high level of interest and ultimately build a strong customer base.

During the investigation, it was discovered that the success of digital start-ups is heavily dependent on the founders' ability to innovate to outsmart their competitors. This involves conducting thorough market research and studying competitors' products, improving their own product's features and performance, and keeping prices reasonable. Nigeria is an emerging economy with a large population of low-income earners. Thus, start-up founders face a market where many people struggle to afford basic necessities and only a small segment of the population can access digital products. To succeed, digital start-up founders must consider the purchasing power of their target customers and create affordable products. This strategy can give them an advantage over their competitors by keeping customers drawn to their products. One of the biggest challenges faced by digital start-up founders is securing the necessary funds. Unfortunately, some seed and angel investors may take advantage of these entrepreneurs by offering tough conditions during negotiations, making it difficult for the founders to benefit from their own companies. As a result, many founders have been

left empty-handed. The successful founders in this study avoided problematic investors by not compromising on their financial needs and refusing to accept stringent conditions. This trend has negatively impacted many digital start-ups and demotivated countless founders. Instead, successful founders focused on engaging financial bootstrapping, crowdsourcing, and crowdfunding practices to secure the expertise and funding required for the survival of their digital start-ups. Finally, a fascinating discovery from our research shows that Nigerian entrepreneurs tend to steer clear of angel and seed investors, whereas their counterparts in developed economies often seek their aid for financial assistance. Unlike in the global north, where these investors offer minimal interest over an extended period, angel and seed investors in the global south are often viewed as predatory lenders who demand high interest in a short amount of time. Therefore, it's recommended that entrepreneurs looking to succeed and maintain their new digital start-ups avoid problematic angel and seed investors and instead explore more accessible funding options.

## 6. Policy implications and recommendations

One of the critical issues identified in this study is the lack of government support in our context. The study shows that government interventions, such as funding, favourable regulations and policies, provision of digital infrastructure, and support programs, will be instrumental in ensuring the survival of digital start-ups in Nigeria. The study explains how unfavourable government decisions and regulations through policies and laws have created uncertainties that have consistently affected digital start-ups' survival. To change this narrative, the Nigerian government must develop a good regulatory framework that reduces new business uncertainties, and also invest in digital infrastructures to drive digital technology affordances that can impact entrepreneurship activities. Nigeria must provide and promote conducive government policies, and avoid inconsistent policy conditions to minimize uncertainties, also, the government must develop policies that will protect digital entrepreneurs from angel/seed investors within the ecosystem. Further, the government need to engage in radical reforms through programs that will enhance digital skill acquisition, and digital literacy, to drive youth empowerment, skill acquisition, and growth in expertise locally to influence digital entrepreneurship. This approach will create a smooth and appreciable impact on the survival of new digital start-ups, resulting in growth in Nigeria's digital economy.

To ensure the success of new digital start-ups in Nigeria, the government should invest in the foundational elements of digital technology, and engage in public-private partnerships to provide funding for these start-ups. The government must enhance the business climate to attract new investment opportunities from both local and foreign investors. The government should also focus on improving digital connectivity by investing in fixed broadband services throughout the country. To encourage growth in the digital economy, the government should avoid multiple taxation and fiscal incoherence, and support tech-savvy youths interested in digital entrepreneurship by offering funding and tax incentives to digital entrepreneurs. The goal is to drive the growth of viable digital start-ups in Nigeria's ecosystem. The insight gained from founders' experiences with problematic angel/seed investors is disheartening. The insight indicates that early-stage investors often hinder the efforts of entrepreneurs, and therefore, need to alter their approach and investment conditions to better support founders. While early-stage investors are crucial in providing financial backing to nascent entrepreneurs in developed economies, the founders interviewed did not share positive experiences with the angel/seed investors. This study recommends that early-stage investors prioritize long-term investment returns, they must learn to adapt to changes that arise during the entrepreneurial process and be ready to offer equitable funding conditions for early-stage digital start-ups.

## 7. Limitations and further studies

This study's results are specific to the digital start-up ecosystem in Nigeria and may not be directly transferable to other sub-Saharan African nations. Variations in economic, regulatory, and cultural factors could result in differing outcomes in other regions. The study was restricted to the perspectives of founders and co-founders as a result of using a snowball sampling technique. To gain a more comprehensive understanding of the ecosystem, insights from other ecosystem players, such as angel/seed investors or support service providers, should be considered in future research. Due to resource constraints, the study focused just on technology hubs located in Lagos Yabacon. Future research may broaden the sample to include technology hubs in other Nigerian states for a more diverse perspective. Comparative research between Nigeria and developed economies like the USA, UK, and China could be conducted to investigate how digital start-up survival factors vary in developing and developed economic contexts. This may uncover unique difficulties and opportunities in each situation. Furthermore, further research should explore how government interventions can positively influence digital start-up survival in sub-Saharan African countries. The effectiveness of various policies, funding initiatives, and regulatory frameworks should be assessed. Also, the role of platform boundary resources should be examined as crucial tools for digital start-up survival in resource-limited settings. Additionally, it is critical to investigate how start-ups leverage platform ecosystems to overcome limitations. Finally, the study's findings should be validated by testing them in other sub-Saharan African countries, and analytical generalization should be used to assess the applicability of the findings across comparable contexts.

## 8. Conclusion

This study aimed to explore the factors that determine the survival of early-stage digital start-ups that enter the Nigerian market. The research question was "What factors underlie the survival of new digital start-ups entering the Nigerian market?" The researcher conducted a thorough study to examine the behaviour of digital start-up founders who either have experience or have successfully launched viable products/services in the market. The research aimed to identify key factors that influence the behaviour of these founders and how they sustain their products/services in the market. The results, which were discussed in the earlier section, provide valuable and insightful information for both scholars and practitioners on how confident founders can navigate the challenges and environmental uncertainties during the process of launching a new digital start-up. The study highlights the ever-changing nature of the Nigerian market, including competition, uncertainties, and government regulations and policies. It shows that digital entrepreneurs must adapt to their environment to navigate challenges caused by limited funding, infrastructural deficiencies, and unstable regulations. As a result, the study provides valuable insights to anyone looking to invest in the Nigerian market. It offers a contextual perspective on how digital start-ups can survive in sub-Saharan Africa, specifically in Nigeria. The study emphasizes the importance of founders understanding the market's needs, customers' behaviour, and the existing competition before engaging in new market offering development. Also, the study highlights that founders need to be wary of the angel/seed investors whom they intend to approach for investment, to prevent problematic investors. By identifying critical contextual factors, the study contributes to the existing knowledge and helps digital entrepreneurs take specific actions and practices to ensure their start-ups' survival. In practice, digital entrepreneurs must address these challenges by implementing the actions and practices discovered in the study's findings.

## Declaration of Competing Interest

I Emmanuel Okoro Ajah, hereby declare that the disclosed

information in this manuscript are correct and that no other situation of real, potential or apparent conflict of interest is known to me.

## Data availability

The data that has been used is confidential.

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