What is Digital Transformation? Investigating the metaphorical meaning of digital transformation and why it matters

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Abstract

Purpose:

This study used a visual research approach to investigate how small business entrepreneurs in Nigeria, a low-income country, perceive digital transformation. The study aims to improve and broaden the understanding of digital transformation by uncovering its metaphors. Making metaphorical sense of digital transformation will increase its knowledge among populations who are unfamiliar with digital technology concepts, as well as communicating and collaborating with them to develop future research and strategies on the subject of digital transformation. This study is significant because scholars have paid little attention to social imaginations of digital transformation depicted through metaphors. More so, when considered from a worldview of small businesses in low-income countries.

Design/Methodology/approach:

The uniqueness of the research objective motivated the use of social theory to frame the research approach, and picture elicitation techniques to drive data collection through in-depth interviews with 17 small business entrepreneurs and business owners in Nigeria. Data was analyzed using a content analysis procedure known as metaphor analysis.

Findings:

The study revealed three metaphors of *digital transformation*: a *drama, a war*, or a *pregnant elephant*. A triangulation of the metaphors with English lexicon, extant literature, and interview excerpts supported the war, and drama perceptions of digital transformation but opposed "*digital transformation* as a *pregnant elephant*".

Originality:

This is one of the first empirical studies to figuratively explain digital transformation, and its implications for literature and practise in small business entrepreneurship and Information Systems domains.

Practical implications

It argued that the social perception of digital transformation can improve the sustainable, purposeful, and successful execution of digital transformation strategies for small business digital transformation. As a result, this study pushes the boundaries of digital transformation, particularly for small business entrepreneurs in low-income countries.

Social implications

Metaphors pervade our daily lives, not only in our language and communications, but also in how we think and act; as such, they can play an important role in understanding and implementing *digital transformation*, a concept that has received little attention in the small business settings.

Keyword: Small business, digital transformation, metaphor, visual research, picture-elicitation, social theory

1. Introduction

Digital Transformation (DT) concepts have continued to receive attention across a wide spectrum of industries and sectors. Business organizations, irrespective of size and prospects, have continued to embrace transformation by applying digital technologies as an enabling tool for maximizing opportunities, managing threats, and coping with the socio-economic uncertainties of the COVID-19 pandemic and post-pandemic age (Fletcher and Griffiths, 2020; Winarsih, Indriastuti and Fuad, 2021). However, the social imaginations of DT and the knowledge of what inherently drives individuals who lead DT seems limited and sparsely covered in literature. More so, when considered from the context of Small Businesses (SBs) who are diverse, *naturally* ubiquitous, and tricky to generalize (Owoseni and Twinomurinzi, 2018). In spite the evasiveness of SBs, they account for more than 50% of economic activities across low-income and high-income countries (OECD, 2017). SBs in the context of this study are businesses with 2 to 15 employees.

Making sense of the social imaginations of DT has potential benefits, it can bridge the gaps between technology concepts and social constructs by enhancing DT communications (Hilton, Siami Namin and Jones, 2022), which in turn may improve the strategic, sustainable, purpose-driven, creative and successful deployment of digital technologies for transformation (Alves-Oliveira *et al.*, 2021). Consequently, the traditional qualitative data collection approaches, such

as structured interviews and group discussions do not go far enough in probing the deep-seated, social and instinctive mindsets of research participants (Knowles and Cole, 2008). To make up for this limitation, and in the context of SBs in a low-income country, a visual research approach through photo-elicitation seemed more appropriate (Hancock and Foster, 2020; Ramjaun, 2021). Photo-elicitation is frequently used in ethnographic studies and is more prevalent in branding and marketing fields, especially when seeking to understand the socially constructed consumers' mindset (Hancock and Foster, 2020). Similarly, the technique has been used in other domains such as healthcare, tourism education, fashion and computing (Venkatesh *et al.*, 2010; Hillman, Moyle and Weiler, 2018; Bessette and Paris, 2020; Jung *et al.*, 2021). When participants talked about the pictures they collected, they often use their imaginations, and create narratives that reveal what motivated the pictures; therefore, availing an opportunity to talk about the pictures would naturally trigger multi-dimensional expressions of specific scenario (Glaw *et al.*, 2017). Even if the situation is abstract, participants are able to express diverse information not only through words but also through facial expressions, gesticulations, and metaphors (Bessette and Paris, 2020).

In recent years, researchers have explored the use of metaphors as tools for making sense of how people frame and communicate social realities (Venkatesh *et al.*, 2010; Redden, 2017; Reuver, Sørensen and Basole, 2018). In its simple form, metaphors associate two dispersing domains. For instance, *Love is Fire* associates love with fire and socially reconstructs the meaning of love as a *thing* that could be tangible or intangible, harmful or helpful, depending on the lover's worldview and social experience. Literarily, love is not fire, love is an abstract mental concept. Fire on the other hand, is a perceivable material object that could be felt, seen or touched. More people would have seen or feel fire more than they have experienced love; therefore, thinking of love from a fire mental model helps to visualize and explain unfamiliar concepts (Reuver, Sørensen and Basole, 2018). Upon this backdrop, visualizing and explaining DT using metaphoric expressions presents opportunities for communicating DT to wider audiences and enhancing its acceptance and impacts.

The objective of this paper is to answer the research questions - *what metaphors illustrate digital transformation as seen through the eyes of small business entrepreneurs in Nigeria*? *How do these metaphors help to broaden our understanding of digital transformation?* In answering the questions, the paper described in detail the photo-elicitation technique used to

investigate underlying and figurative views of DT. It also reflected on the research procedure through reflexivity and discussed the implications of the metaphors for DT practises in small business and low-income country situations. The remainder of this paper is sectioned as follows: an overview of social theory relative to DT; literature on DT and SBs; description of the visual research procedure; presentation of findings; discussions; implications of findings and conclusions.

2. Social theory and digital transformation

DT in a nutshell is a buzzword (Ossewaarde, 2019), and this perception resonates in practice because DT has many definitions and few weak theories that frame and explain the definitions (Markus and Rowe, 2021). Vial, (2019) through a systematic review of 282 DT-related work identified 23 definitions of DT; and the study in summary suggests DT is how people use digital technologies for digitalization, and in the process, enhance important competencies such as, productivity, creativity, innovation, processes, operations, sales, communication, and services. These competencies mean different things to different people in their unique social world, making it increasingly difficult to have a shared understanding of DT; and this gap in *socio-techno* communications highlights the importance and relevance of social theory, particularly for this study. Social theory orchestrates peoples' mindsets and helps them to understand and explain the social world around them, it puts forward the inclinations that their actions and beliefs are influenced partly by social structures. Moreover, the use of digital technology permeates all aspects of life today, from the use of digital gadgets and handheld devices to software apps such as social media, payment solutions, heath, wellness, and fitness solutions, it is increasingly becoming impossible to explain technology concepts without relating them to social imaginations and constructs.

In this study, social theory serves as a lens to extract implicit meaning of digital transformation of SBs in Nigeria, the figurative expressions or metaphors that conveys such meaning in a way that resonates socially and scientifically. The systematic mapping of correspondences between two domains of experience, in this case, digital transformation concepts and SB owners social constructs is known as conceptual metaphor (Zoltán, 2006). The use of metaphors to clarify communication in social settings exists in literature; Jensen, Bearman and Boud (2021) used metaphors to unveil the knowledge of feedback and its role in remote teaching and learning environment through conceptual metaphor theory, which is a dimension

of social theory (Brown, 1976). Metaphors may be poetic and linguistically appealing, but that is not its primary objective in social theory, instead, the goal of metaphor is to conceptualize and discern abstract concept in a familiar, simpler, and relatable manner (Brown, 1976).

A literature search showed scholars have used metaphors to make sense of what people think of digital technologies; for example, the perceptions of people about Artificial Intelligence (AI), robotics and cybersecurity were extracted through metaphors in (Alves-Oliveira *et al.*, 2021; Demir and Güraksın, 2022; Hilton, Siami Namin and Jones, 2022). However, it seems no similar work has been done to make sense of digital transformation other than the unpublished work of Chorianopoulos (2021), that considered DT metaphors in relation to teaching and learning. The evasiveness of what DT means across wide spectrum of its application further strengthen the argument for exploring the contextual meaning of DT through metaphors. This study focuses on small business DT in Nigeria as a case of low-income country.

3. Small business digital transformation

Empirical evidence suggests SBs have intensified digital transformation as a lifeline for business survival as well as a strategic tool to navigate the economic crises during and beyond the COVID-19 pandemic (Papadopoulos, Baltas and Balta, 2020; Mandviwalla and Flanagan, 2021; Matarazzo *et al.*, 2021).

However, like any other change initiative DT has the potential to significantly modify the structure of an organization; structure, not in the sense of brick and mortal only, but also the culture within a broader societal setting (Roth, 2019). DT is associated with engaging and connecting with stakeholders (customers, employers, suppliers, regulators, shareholders) through multiple channels, in a way that encapsulates a process or collection of processes such as marketing, selling, delivering of goods and services, and communication (Reis *et al.*, 2018; Eller *et al.*, 2020). DT employs digital technologies to develop new business models or revise existing models in a way that delivers more value for the organization (Matarazzo *et al.*, 2021). SBs use a range of digital technologies for transformation; in peculiar situations, SBs adapt the use of digital technologies in this regard, such technologies include social media, productivity apps, collaboration platforms, and e-payment apps. Specific examples of tools being used are Google suite, Calendly, Slack, Microsoft Office 365, Zoom, WhatsApp, Telegram, many of the tools have free subscription packages for SBs which motivate usage

(Owoseni and Twinomurinzi, 2020). The more advanced solutions considered are Artificial Intelligence, Machine Learning, and 3D printing (Tolani, Owoseni and Twinomurinzi, 2020).

According to (Vial, 2019) DT has impacts on consumer behavior and expectations; also, DT generates data that provide hindsight and insight on business landscape, which motivates competition. But the idea of DT does not come without resistance fueled by the combination of the fear of unintended outcomes of change and transformation, such as negative impacts on security, privacy, and other ethical concerns (Winarsih, Indriastuti and Fuad, 2021). Moreover, the demand DT put on people to do things differently by unlearning, relearning and re-calibrating mindsets is another barrier.

The above narrative is consistent with many SBs in Nigeria, however, in spite the resistance and barriers, they have continued to use digital technologies to enhance business activities and processes resulting in a shift in the business outcomes and experience of stakeholders, (Berman, 2012; Akpan, Udoh and Adebisi, 2020). Taking Nigeria as an example of a low-income country with an estimated population of 206 million (World Bank, 2020), SBs in Nigeria create more than 80% of the jobs and are responsible for at least 50% of the GDP (BOI, 2019). This statistic underscores why governments and policy makers are concerned about - creating structures that support the growth and development of SBs. A significant contribution to the resistance of DT in low-income country like Nigeria is inconsistent policies, poor governance, and huge infrastructural deficit. These problems are related and played out as erratic power supply and poor internet connectivity leading to excessive cost of running businesses which further puts the drive for DT in a precarious situation; and discourages SBs from considering and using DT as a strategic tool for business development.

To put the situation in context; according to Lawal-Arowolo and Douglas (2022), Nigeria has 62% electricity access. The demand for electricity is approximately 25,000MW, and the total installed capacity is barely more than 12,000MW. Several policies have been developed and executed to address the electricity inadequacy since Nigeria's independence in 1960, but the problem is still unresolved 62 years after. So far, neither the privatization policy that resulted in the sale of state-owned power infrastructure to 11 private firms in 2013 nor the multi-level supervision and regulations of electricity generation and distribution firms have proven to be a solution (Abubakar and Abubakar, 2014). Electricity is a critical requirement for internet infrastructure, and they continue to be important key tools for business (and economic)

development; in situations where electricity is scarce, SBs look for alternative and localised solutions. They accomplish this by using expensive fuel-powered generators, inverters and solar panels which significantly raised the cost of doing business, and further made it difficult for SBs to invest in technology-driven transformation, especially since digital technologies rely on consistent power (Ihua and Siyanbola, 2012).

For the SBs who are reluctant to explore DT, the policy makers who may not understand the dynamics of a specialized domain such DT, and the digital technology developers and deployers on sites; metaphoric expressions of DT could put all stakeholders on the same page and enhance the use of digital technologies for SB transformation; and this is the heart of this study.

4. Research methodology

In this section, the methodical research approach used was explained, starting from sampling, enrollment, data collection, data analysis and reflections on the research approach.

4.1 Sampling and enrolment

The research used a simple random sampling method to enroll 28 SB owners. Enrollment was initiated through Instagram and LinkedIn adverts that promised a one-to-one session with SB consultant to help them review their business models in light of the COVID-19 pandemic; and to consider how they could use digital technologies for improved business efficiency. The motivation for advertising on Instagram and LinkedIn was to attract SB owners that have reasonable level of digital literacy. Logically, entrepreneurs that are willing to leverage advertised opportunities for business development on social media have reasonable awareness of digital capabilities and how digital technologies can enhance SBs. Another reason for choosing adverts is to discourage the researcher from recruiting participants from his network of colleagues, family and friends; thereby, removing bias in the data collection process.

Potential participants that responded to the advert were contacted through emails, WhatsApp messages and calls to discuss the research procedure, highlighting the benefits, and the expectations. In particular, the picture collection tasks were described in simple terms:

As entrepreneur and business manager, think about what you would like your business to look like in the next five years, imagine how your business would have changed in specific areas like product/service delivery, business expansions and so on using Information Technology. Then look for 5 to 8 pictures that can represent the change you imagined. You are free to use any type of picture: you can search for pictures on the internet, you could extract from magazines, or take live photographs of people, places, and things, that capture your imaginations.

Subsequently, participants' consent and commitment to attend the session was obtained, and a tentative date and time was agreed for the extensive interview. Each participant had at least two-week period to carry out the task before the interview as suggested by Ramjaun (2021).

4.2 The photo-elicitation as a visual research approach

Photo-elicitation could be imagined as a data collection technique that involves asking research participants to take pictures that captured their thoughts or perspectives in a specific scenario, and then use the picture as a basis for engaging them in discussions or interviews (Lorenz and Kolb, 2009).Using photos in interviews does not only steer conversations, it stimulates the memories in a way standard interview questions will not (Bates *et al.*, 2017). Furthermore, the use of images in discussions evokes a more profound situation-awareness than words, typical in traditional interview questions. Also, it allows for the exploration of psychological connections between the physical and social worlds (Raby *et al.*, 2018; Høybra, 2021). While photo-elicitation appears to address the limitations of the traditional qualitative data collection technique because it gives more room for research creativity and innovation, the validity and reliability of the technique may be difficult to substantiate without reflexivity (Pink, 2001; Raby *et al.*, 2018). Moreover, other scholars may struggle to adapt the research method to different problem domains. Taking these into account, section 4.6 discussed reflexivity in the context of this study.

Photo-elicitation procedure in this study imitates the Zaltman Metaphor Elicitation Technique - ZMET (Ramjaun, 2021), and it progressed in six stages, starting with participants' recruitment as describe in the preceding section (4.1). The second stage sought to ascertain whether participants were having difficulty or required additional assistance in gathering the images, pictures, or photos. Furthermore, they were reminded of the event (one-to-one SB consulting session) weekly, while reemphasizing the picture collection tasks as well as the instructions

on how to send the pictures to the researcher via email or WhatsApp message. In the third stage, participants turned in the pictures and a PowerPoint presentation file (slides) with each participant's set of pictures was created in readiness for the extensive interview. The idea was to make it easier to show participants the pictures during the one-to-one online discussion by remotely sharing a computer screen with the participant.

The fourth stage was the first section of the online discussion; this section follows an interview protocol highlighted below:

1. *Please tell me about your small business, what you do, your employees and your target customers.*
2. *I will walk through the pictures you sent, and for each picture please describe how the picture reflects the future of your business.*
3. *Please is there a future you imagined but could not have the right picture(s) to describe it?*
4. *On a scale of 1-5 rank each of the pictures and the "missing" picture (if any) on how important they are to the future of the business. 1 is most important and 5 is least important*
5. *What expression comes to your mind when you think about the process of using digital technologies to enhance your business.*
6. *What problems and concerns come to your mind when you look at these pictures you ranked most important?*

{Figure I}

In the fifth stage, which is the second aspect of the online interview session, the pictures submitted were used to create a vision board; this was an interactive design activity where the each participant co-created a vision board with the researcher - the pictures submitted by participant were arranged, merged or organized in ways that make meaning and summarize the SB's goals and objectives; the output of the session was an artistic piece that showed what the future of the SB will look like as imagined. A gift voucher together with the image of the vision board were sent to the participant via WhatsApp at the end of the session. In the concluding stage (stage six), , the researcher got back to the participants after two weeks to

ask about their experience of the *one to-one* session and requested to know if the discussions were valuable and whether they feel motivated to take further steps toward realizing the vision boards. Figure I summarized the research procedure.

In terms of participation, out of 28 people that registered for the session, 17 people completed the photo-elicitation task and the extensive one-to-one online interview session. Participation realized in this study is sufficiently meet the requirement of photo-elicitation and Zaltman Metaphor Elicitation techniques(Bates *et al.*, 2017; Ramjaun, 2021). Furthermore, each interview session spanned one hour on average. In retrospect, previous research that used the photo-elicitation technique found similar levels of engagement (Lorenz and Kolb, 2009; Bates et al., 2017; Hancock and Foster, 2020; Ramjaun, 2021; Hidalgo Standen, 2021). For the registered participants that failed to turn-up, the reasons for absence include personal interruptions to already scheduled time, poor internet connectivity, and the inability to find at least five pictures that represent the future of their business.

4.3 The research population context

The 17 SBs involved in the project represented a diverse range of business sectors, including healthcare, education, construction, logistics, engineering, agriculture, consulting, and fashion. The SBs have been in operation for 3 to 15 years. Furthermore, the largest SB in terms of staffing has 15 employees, while the smallest has only two employees. All the SBs in this study are utilizing at least one digital technology to enhance productivity. Social media, online payments, online stores, online meeting and collaboration platforms, productivity apps, and custom software are among the digital technologies used by SBs. Also, the SBs are aware of more advanced digital technologies and have mid to long-term plans of exploring the technologies for business transformation. Some of the advanced digital technologies include 3D printing, Augmented Reality (AR), data modelling, and analytics with Machine Learning (ML).

Table 1 summarized the research sample and emphasized the population described above; it helps readers to visualize the research population - a group of SBs in a low-income country using digital technologies to transform SBs. Furthermore, it gave a perspective within which readers could appreciate and relate to the metaphorical expressions of DT revealed in this study.

{Table I}

4.4 Photo-elicitation dataset

The photo-elicitation procedure produced three qualitative datasets – the pictures (and vision boards), the audio interview and a transcribed audio interview. Figure II is a vision board created by a participant whose "*business is into food catering services, cooking indoor, outdoor, parties, weddings and here and there. [she] started with home specialized catering by cooking soup for busy executives; and had a vision of a drive-through restaurant that provides local Nigerian breakfast*". The study produced 17 vision boards, and Figure II is a sample; it is blurred to avoid potential copyright concerns. Moreover, all datasets were anonymized in line with the research ethics requirements. Potentially, the dataset can reveal multi-dimensional and deep-seated insight on small business DT.

{Figure II}

4.5 Metaphor analysis of dataset

Using inductive approach to content analysis and Nvivo software, the transcribed interview were analyzed according to the four stages of metaphor analysis : 1) coding and discarding, 2) compiling, 3) categorization, 4) establishing validity and reliability (Schmitt, 2015; Demir and Güraksın, 2022; Gök and Kara, 2022).

First, the transcripts were carefully studied to make sense of how the one-on-one conversation evolved, keeping an eye out for metaphors. In this context, a metaphor is a figurative expression in which a non-technical or non-business character, a descriptive word or phrase is analogous to the use of digital technology for business development. This definition of metaphor resonates with extant literature (Pitcher, 2013; Schmitt, 2015). Although interview question 5 (section 4.2) directly elicited DT metaphors, the content analysis covered all the interview conversations. At the end, 27 figurative expressions were identified. Second, all expressions that reflected subjective opinions were discarded, more so, when it does not premise on an analogy that is widely accepted and understood. For instance, "… *I see everything as spiritual capital"* was a case in point. While, *spiritual capital* is a figurative phrase, anyone who is not religious or does not believe in the supernatural may struggle to make sense of this phrase, moreover, it is open to misinterpretations because being spiritual may mean

different things to different persons. As a result of the foregoing, six coded metaphoric expressions were discarded, and the coding produced 21 expressions.

Next, the 21 figurative expressions were re-examined for ambiguity, and the specific metaphors that were equivalent to DT were extracted and ordered alphabetically. Following this exercise, six more expressions were removed for the analysis leaving 15 metaphors as final output. The categorization stage grouped the 15 metaphors into three main categories, and the dominant category was further divided into four subcategories in view of the perceived strong connections between the metaphors. The entire data analysis procedure relative to the raw data was revised again to ensure consistency.

4.6 Reflectivity as a proof of rigor, reliability and validity

In terms of reliability and validity, given that this is a qualitative study, reflexivity was deemed an acceptable and rigorous method of demonstrating reliability and validity (Pink, 2001; Dodgson, 2019). According to Corlett and Mavin (2018), reflexivity is a deep form of reflection; it is an act of introspecting on how the process of doing research influences the outcomes of the research (Fletcher-Brown, 2020). The researcher takes a step back, and in awareness of personal unconscious biases and as an external entity with no stake, reconsiders the research in its natural environment (Dodgson, 2019).

Reflexivity reveals the researchers' values and orientation, the socio-cultural beliefs and the worldviews that influenced intents and purposes of doing research and how it affects the research outcome (Corlett and Mavin, 2018; Batool and Ali, 2021). As a result, research processes and outcomes are more meaningful as researchers are able to express a common language in communicating and understanding a subject. Moreover, when researchers have a shared knowledge of research dynamics, it is easier to adapt research methodologies to investigate problems in a similar or dissimilar domain. Therefore, the concluding phase of the metaphor analysis (establishing validity and reliability, see section 4.4) adopted a systematic approach that listed key steps of the research procedure, and for each step, asked questions that probed four areas : (1) the researchers' positionality, (2) the social and environmental context of the research, (3) the motivations for tools and instruments used, and (4) the ethics or morals of the researcher's choices (Corlett and Mavin, 2018; Dodgson, 2019). The outcome was presented in figure III.

{Figure III}

5 Results and discussions

The findings of the metaphor analysis are presented in this section starting with the DT metaphors, and subsequently, discussions on how the metaphors extend the knowledge of DT.

5.1 Small business digital transformation metaphors

The metaphor analysis revealed three main figurative expressions of DT:

1. Digital Transformation is a Drama
2. Digital Transformation is a War
3. Digital Transformation is a Pregnant Elephant

In addition, the "dramatic" expression of DT is a grouping of four related metaphors:

1. Digital Transformation is a Romantic Drama
2. Digital Transformation is an Action Drama
3. Digital Transformation is an Adventurous Drama
4. Digital Transformation is a Rock and Roll Drama

According to Erlingsson and Brysiewicz (2017), a category is formed by grouping together codes that are related in meaning, content, or context. In this case, metaphors in table II were visually inspected, and items that are related in meaning, content, or context were classified together. Furthermore, the motivation for the drama subcategories was to improve the research narratives and discussions. Table II summarizes the results of the metaphor analysis and how the study arrived at the final figurative DT expression.

{Table II}

To further support the research outcomes, a mind map of the DT metaphors was developed using an online multimedia tool (Canva.Com), and quotes from participants were included as shown in figure IV.

{Figure IV}

5.2 How metaphors extend knowledge of digital transformation

The use of metaphors to communicate social realities is not new in research, for example, Venkatesh et al. (2010) used metaphors to make sense of how fashion consumers describe their experiences when exposed to various types of fashion. Reuver, Sørensen and Basole, (2018) mentioned how biological ecosystem metaphors improved the comprehension of business ecosystems; similarly, Gök and Kara, (2022) through metaphors revealed individuals' social conceptions of COVID-19 pandemic. Metaphors, according to Healy and Fitzgibbon (2020) are *symbolic* way of *seeing*, and a *means* of *simplification* (Schmitt, 2015). In this light, how can drama*, war* and *pregnant Elephant* metaphors *symbolically simplify* DT and broaden our understanding of it?

Digital Transformation is a Drama

Oxford English Dictionary defined drama as "*a composition in prose or verse, adapted to be acted upon a stage, in which a story is related by means of dialogue and action, and is represented with accompanying gesture, costume, and scenery, as in real life*" (Oxford English Dictionary, 2022a). This definition includes verbs - action words worth exploring, such as *composing*, *adapting*, *dialoging*, and *staging*. In similar ways in which drama use props and characters in various scenes to "compose" a narrative and achieve defined objective, DT entails the careful and purposeful mix of transformational tools and capabilities such as digital technologies, innovation, business models, culture, skills, processes, and procedures to achieve predefined goals. (Schallmo, Williams and Boardman, 2017; Vial, 2019; Eller *et al.*, 2020). DT adapts digital tools to business situations, which can often be dramatic, particularly in low-income country setting where the underlying digital infrastructure and resources such as electricity, internet connectivity, and digital skills that supports DT are scarce or unevenly distributed (Zhang and Xu, 2022).

Considering the words of SB owners that participated in the study, the idea of DT playing out in different dramatic genres such as adventure, romance, action, as well as rock and roll appears more relatable while paying attention to the underlined words.

To a *pre-school owner:*

> *(DT) is magical for them (pupils), and it's also an adventure for the teachers, and staff who's caring for them, they can see this level of good that comes with the new development.*

To the healthcare multimedia service provider:

> *(DT) is like a sci-fi (adventure) movie, 'cause we wanna move into the future.*

To the entrepreneur who caters for persons with special needs:

> *(DT) is romantic because I know I cherish what I do and I'm going to do it for the love of it… that kind of love you know… through technologies that are helpful… (because) my feeling is involved.*

To the business consult who runs a consulting as a SB:

> *If (DT) is drama, then there's got to be action, and there's got to be suspense.*

To a fashion designer who runs fashion SB:

> *We don't get it wrong with (DT as) rock n roll, if we can't roll it, we'll rock it, if we can't rock it, we'll roll it, we keep moving.*

These narratives underscore the adventure, romance, action, and rock 'n' roll drama perception of DT. Furthermore, given that change is fundamental to transformation, DT is psychological, as evidenced by a shift in perspectives and worldviews of the research participants, SB owners and entrepreneurs that drive DT. Psychology of communication and dialogue are essential for effecting change. As the drama "director" communicates expectations and ensure actors reflect expectations through verbal and greater non-verbal communications across different "scenes" of the "drama", the DT leaders be aware of the psychology of stakeholders and communicate effectively through the *stages* of DT (North, Aramburu and Lorenzo, 2020).

Drama often time is enjoyable to see on our screens, but we forget a lot of work has gone behind the scenes to produce admirable piece of art on "stage". Similarly, a digitally transformed business is admirable because of how every part of the business syncs to deliver

desired business outcomes, but a lot of unseen, backstage work has gone behind the scenes into building such outward capabilities seen on "stage". The perception of DT as drama is instructive given that it combines emotional, physiological, and physical elements of transformation that is essential for us to make sense of DT in social context.

Digital Transformation is a War

War is not a pleasant experience, and the memories of war often do not leave something to be happy about, in that case, why do SB entrepreneurs regard DT as a War? Let us consider a quote from the interview:

> *"We've got to have that war mentality; we need that military mindset"*

It is clear that the participant was referring to the military mindset, which is required to drive DT, rather than getting physical fighting real battle. Although, SBs in low income countries contend with many limiting factors such as poor access to credit, double taxation, low ease of doing business index, training and development, poor access to markets, foreign exchange issues, and it looks as if these issues are all out to stifle SBs; it is apparent that executing DT successfully in such environment requires a forceful approach which will imagine the business environment a battle ground first for survival and afterwards for the acquisition of *territories* as market share for the purpose of business expansion.

In wars, there are casualties, which may resonate as temporary defeats, the researcher's interaction with the SB owners suggest that SBs are aware of this fact:

> *"For everybody on a mission to achieve something there are definitely going to be challenges right, and now challenges are not disappointment but I think they are learning points. If the period was set to realize this, we did not achieve it, then we have to go back and ask ourselves where we got it wrong. Where did we make the mistake and not get discouraged to continue but I will go back to the trenches and start pushing again,*

Will there be *collateral damage*? Yes, it is understandable that some transformational ideas and their executions will be unsuccessful, and the outcome could be catastrophic, but the SB entrepreneur needs to remain resolute and continue to strategize for victory. Missions in war

can be protracted, disruptive and forceful, so also is DT, it can change the course of business landscape and invalidate known ways of doing things (Manyika *et al.*, 2013). War requires strategic planning and careful execution, just as digital transformation does. When DT is compared to war, it conveys the message that, while DT is desirable, it is a deliberate and strategic process, sometime involving tough decisions and actions, wins and defeats.

Digital Transformation is a Pregnant Elephant

Elephant has been used in idiomatic expressions to interpret social concepts. A "white elephant," for example, is an expensive item that is ineffective; "a baby elephant in the room" is an obvious truth that is regarded as embarrassing and is being deliberately ignored (Oxford English Dictionary, 2022b). However, in this study, what does associating DT with a “pregnant elephant” imply?

To start with, the elephant is a ginormous animal, as such, it presents different perspectives to different people. According to Haynes (1991), African elephants can be pregnant for up to 22 months followed by an extended period of calf dependence. Elephants have the longest gestation period of all mammals, which makes sense given the size of elephants. Elephants, unlike other animals, usually have only one calf at a time. Although elephants can have twins, this occurs in only 1% of elephant births. “Baby elephant” also known as calf can weigh up to 268 pounds at birth and stand about 3 feet tall. Elephants give birth every four years and given that their pregnancies can last up to two years, they typically only have four or five calves in their lifetime if they live for 60-70 years, which means a sizable portion of their life will be spent in making calves.

Based on these premises, it appears SB entrepreneurs’ social perceptions of DT as a pregnant elephant imply that DT takes considerable time for conception, planning and delivery, in essence takes time for the benefits of transformation to be realized, but when realized it is significant. This interpretation is further affirmed by a quote from the interview with a SB entrepreneur:

> *“If it takes an elephant that long to get a new one and when it is birthed its big, we are going to give it time to be where we want it to be”*.

How accurate is this perception of DT, does it really take significant time to deliver SB DT results, must the result be big bang at a time? Scholars have argued that DT is a process (Schallmo, Williams and Boardman, 2017; Juergensen *et al.*, 2020; Priyono, Moin and Putri, 2020) and benefits are realizable in bits as the process unfolds (Ulas, 2019; Eller *et al.*, 2020). According to Mandviwalla and Flanagan, (2021), a recent study of forty-two cases of SB suggests that DT could generate immediate gains. In the same vein (North, Aramburu and Lorenzo, 2020) opined that DT is a journey rather than a destination, so it is not about delivering a big result at the end of a long haul, especially for SBs. The misconception of DT as pregnant Elephant could further explain the slow adoption of digital technologies for transformation by SBs in low income country (Owoseni, Hatsu and Tolani, 2022).

While war and drama metaphors of digital transformation resonate with the realities of digital transformation, the social understanding of DT as a pregnant elephant is socially misconstrued especially in the SB setting.

6. Implication of findings and conclusion

The overarching objective of this study was to uncover metaphors that depict DT as seen through the eyes of SB entrepreneurs in their social setting and, as a result, make sense of how these metaphors broaden our understanding of DT. The uniqueness of these objectives motivated the use of social theory to frame the research approach, and picture-elicitation technique to drive data collection through in-depth interviews with 17 SB entrepreneurs and business owners. Data was analyzed using a content analysis procedure known as metaphor analysis. Subsequently, the study revealed 21 metaphors that qualify DT; the metaphors were categorized into three and phrased to make three figurative statements: DT is drama; DT is war; and DT is a pregnant elephant. The reliability and validity of the research process was asserted through reflexivity. Reflection on the results and a triangulation of the metaphors with English lexicon, literature, and broader interview excerpts supported the notions of "DT is a drama" and "DT is a war," but opposed "DT is a pregnant elephant," especially in the context of SBs in low-income countries. This is one of the first empirical studies that figuratively explain DT, and its implications for literature and practise in the small business management and Information Systems areas.

First, DT is a novel concept that is frequently misinterpreted (Reis *et al.*, 2018), and this study has increased the knowledge of DT across a wide audience and business stakeholders who may perceive DT as a buzzword, a rave of the digital age, or a social construct that lacks depth. The findings of this study have aided in the description of DT to SB owners that have limited knowledge of Information Technology. The meaning of DT communicated through the metaphors makes the knowledge of DT more inclusive; it makes it easier to connect with entrepreneurs regardless of social barriers like age, language, and literacy levels. Second, it also becomes easier to design, develop, communicate, and execute DT strategies and interventions targeted at SB. For example, insights derived from these metaphors can be used to create workshops, training materials, and advertisements that are both appealing to people and strategic in intent. Third, it helps deliver DT sustainably, sustainability in this regard is twofold: (1) it speaks to resilience in the face of change, allowing SBs to maximize the benefits of DT in the short, medium, and long term. (2) It helps delivers DT in a way that is eco-friendly because the social imaginations of the SB owners who lead DT are better understood and stakeholders, including policy actors, can have useful conversations and collaborations with minimal communication barriers.

Metaphors pervade daily life, not only through our language and communications, but also in the way we think and act (Redden, 2017). As such, they play a crucial role in understanding and practicing DT.

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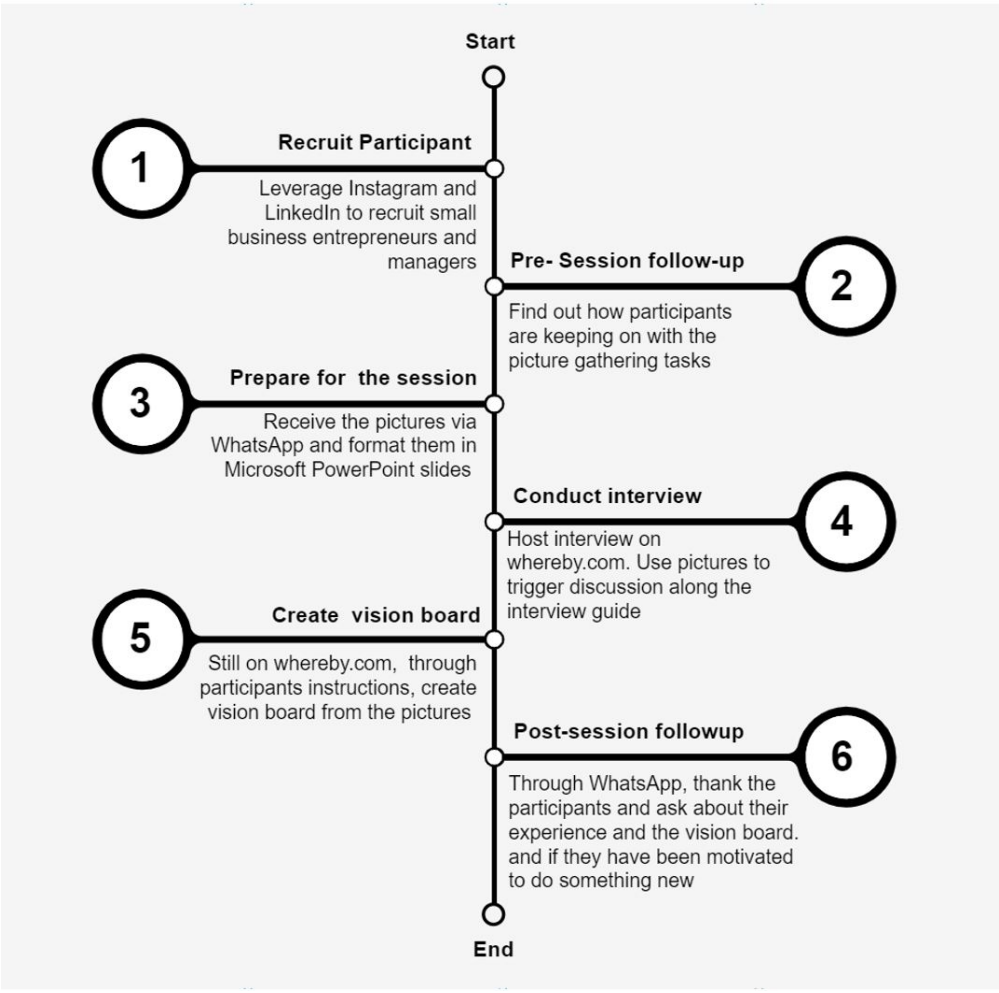

Figure I: Photo-elicitation procedure for collecting data from small business entrepreneurs and managers in Nigeria

90x89mm (300 x 300 DPI)

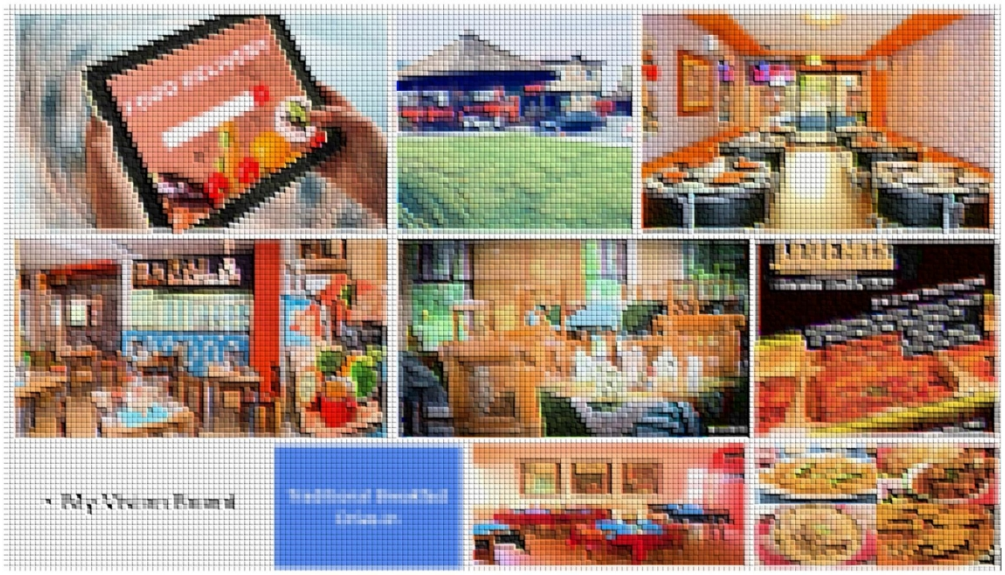

Figure II: Vision board for a catering business

140x80mm (300 x 300 DPI)

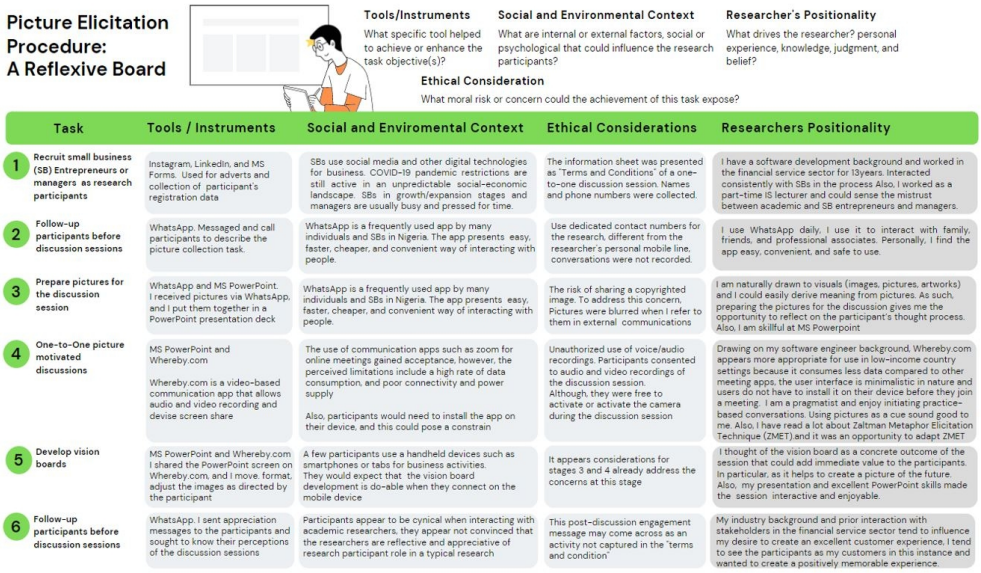

Figure III: The output of the conceptual framework for reflexivity when applied to a photo-elicitation procedure

113x65mm (300 x 300 DPI)

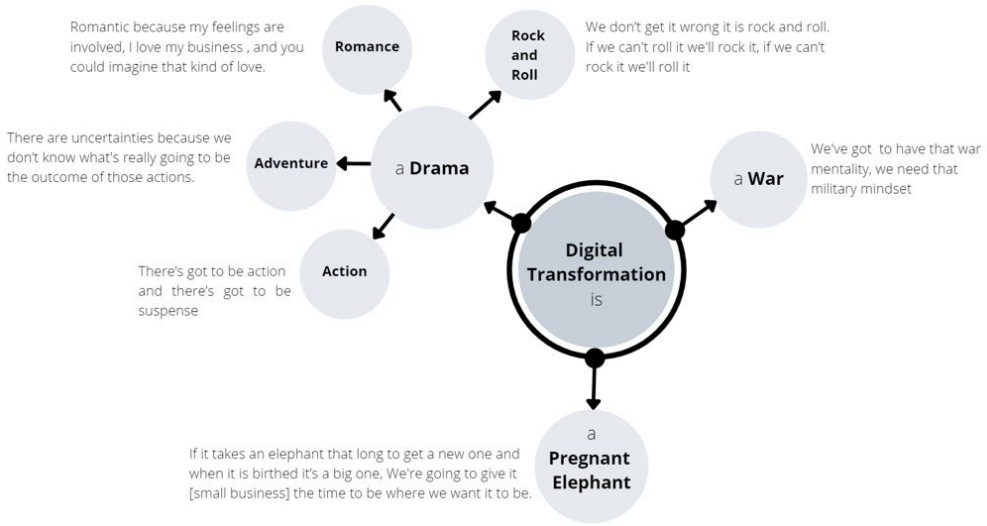

Figure IV: Mind-map of Small Business Digital Transformation

85x49mm (300 x 300 DPI)

SN	Small Business Area	Age of Business (Yrs.)	No of Employees	Digital Technologies for Present and Future use
1	Healthcare multimedia services	6	4	*Presently in use:* 1. Social media platforms 2. Online payments platforms 3. Online store solutions 4. E-learning platforms 5. Virtual meeting solutions 6. Productivity apps (Google workspace, Microsoft Office 365) 7. Multimedia software 8. Custom software *Planned for future use:* 1. 3D printing 2. Digital tailoring machine 3. Augmented Reality (AR) fitting room 4. Data analytics solution 5. Process management software 6. Digital branding and marketing technologies 7. Building Information Modeling (BIM) software 8. Digital Surveillance and Monitoring solutions 9. Classroom Smart Boards
2	Food sourcing and supply services	10	12	
3	Market research services	5	2	
4	Tailoring: design and development of children wears	4	4	
5	Sales of fashion accessories	6	3	
6	Catering for persons with special needs	5	4	
7	Educational Services (Pre-School)	8	10	
8	Online food ordering and delivery services	3	3	
9	Electrical installation services	15	10	
10	Furniture designs and fabrications	4	15	
11	Farming – Poultry and Snails	5	5	
12	Sales and services of medical equipment	5	8	
13	African food and grills services	9	12	
14	Tailoring of African Attires	7	4	
15	Haulage Services	5	8	
16	Building and construction services	6	9	
17	Business Consulting Services	3	3	

Table I: The research population summary and context

SN	Metaphors	Screening (Discard? Yes/No)	Grouping Decision
1	Action film	No	Drama - Action
2	Adventure	No	Drama - Adventure
3	Adventure	No	Drama - Adventure
4	Adventure movie	No	Drama - Adventure
5	Buffet	Discard	-
6	Classical music	No	Drama - Rock and Roll
7	Documentary	No	Drama - Adventure
8	Drama	No	Drama - Drama
9	Egg	Discard	-
10	Game adventure	No	Drama - Adventure
11	Love affairs	No	Drama - Romance
12	Magic	Discard	-
13	Masterpiece	Discard	-
14	Pregnant Elephant	No	Pregnant Elephant
15	Rock and roll	No	Drama - Rock and Roll
16	Romantic	No	Drama - Romance
17	Romantic movie	No	Drama - Romance
18	Spiritual	Discard	-
19	Story	Discard	-
20	Technical Knock-Out	No	War
21	Waging war	No	War

Table II: Digital Transformation Metaphor Grouping

What is Digital Transformation? Investigating the metaphorical meaning of digital transformation and why it matters.

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