Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie 2024; 43(1):29-53
South African Journal for Science and Technology 2024; 43(1):29-53
https://doi.org/10.36303/SATNT.2024.43.1.976E

SATNT / SAJST
ISSN: 2222-4173 EISSN: 0254-3486

CASE STUDY

Digital Transformation Framework for Quick Service Restaurants: A Sub-Saharan Africa Case Study

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Purpose: Since the turn of the century, more than 50% of Fortune 500 organisations have gone bankrupt, been acquired, or ceased to exist. The falling of these multinational giants is largely attributed to disruption of traditional business models by digital models. Due to digital disruption by companies such as Uber (e-hailing), Grubhub and DoorDash (food/restaurant) and Airbnb (hospitality) digital transformation has become a strategic priority for organisations. The 2020 advent of the COVID-19 virus accelerated organisations' plans for digital transformation. The challenge facing organisations is that the majority are failing in their digital transformation efforts. This study focused on digital transformation in the quick service restaurant (QSR) industry.

Methodology/approach: The study aimed to contribute insights into how QSR organisations can engage in, enable and manage digital transformation. Case study research can be used to contribute to knowledge of individual, group or organisational and related phenomena and allows researchers to understand real-life events such as organisational and managerial processes and the maturation of industries. QSR organisations are leading the restaurant sector when it comes to digital enhancements, accelerating innovation and digital automation of the future. Therefore, through a longitudinal case study undertaken with a multinational QSR organisation, qualitative research methodologies were employed, with in-depth semi-structured interviews, participant observations and document analysis.

Findings and recommendations: It was found that QSR organisations should begin their digital transformation by creating a global strategy and tailoring this to the local market or in-country nuances. Organisations should develop scalable platforms centrally, through centres of excellence, and deploy digital solutions and capabilities across the different markets. Organisations should allocate sufficient time to focus on the digital architecture and technology strategy, and leverage core digital technologies, such as cloud, mobile and big data for their digital transformation programme. Organisations executing a digital transformation strategy should employ appropriately skilled staff complements from the onset and integrate digital transformation goals into all departmental and staff objectives as part of their change management. Agile software delivery methods, data-driven decisioning principles and test and learn approaches are recommended practices to be implemented as part of digital transformation.

Originality/value: Several organisations are struggling with digital transformation. While there is literature available on the components needed for digital transformation, a detailed framework or structured guidance is missing on how organisations can embark on successful digital transformation. The study demonstrates originality by developing a framework for digital transformation for the QSR industry in Africa. The development of the framework for digital transformation provides a blueprint that organisations can adopt to engage digital transformation. The study has both theoretical and practical implications for the management of digital transformation. The findings and digital transformation framework may have broader global applicability beyond Sub-Saharan Africa.

Keywords: Case Study, Digital, Digital Disruption, Digital Economy, Digital Transformation, Quick Service Restaurant (QSR)

'n Raamwerk vir Digitale Transformasie vir Kitsdiensrestaurante: 'n Gevallestudie in Afrika Suid van die Sahara:
Doel: Sedert die eeuwending het meer as 50% van alle Fortune 500-organisasies bankrot gespeel, of is oorgeneem, of het ophou bestaan. Die val van hierdie multinasionale reuse word grootliks toegeskryf aan die ontwrigting van tradisionele sakemodelle deur digitale modelle. As gevolg van digitale ontwrigting deur maatskappye soos Uber (e-taxidienste), Grubhub en DoorDash (kos/restaurant) en Airbnb (gasvryheid) het digitale transformasie 'n strategiese prioriteit vir organisasies geword. Die koms van die COVID-19-virus in 2020 het organisasies se planne vir digitale transformasie versnel. Die uitdaging wat organisasies in die gesig staar, is dat die meerderheid in hul digitaletransformasiepogings misluk. Hierdie studie het gefokus op digitale transformasie in die kitsdiensrestaurant-bedryf (KDR-bedryf).

Metodologie/benadering: Die studie het ten doel gehad om insigte by te dra in hoe KDR-organisasies digitale transformasie kan betrek, moontlik maak en bestuur. Gevallestudienavorsing kan gebruik word om by te dra tot kennis van individuele, groeps- of organisatoriese en verwante verskynsels en stel navorsers in staat om werklike gebeure soos organisatoriese en bestuursprosesse en die volwassewording van bedrywe te verstaan. KDR-organisasies gee die toon aan in die restaurantsektor vir sover dit digitale verbeterings, die versnelling van innovasie en digitale outomatisering in die toekoms betref. Daarom is 'n longitudinale gevallestudie met 'n multinasionale KDR-organisasie onderneem, waarin kwalitatiewe navorsingsmetodologieë aangewend is, met halfgestruktureerde diepteonderhoude, deelnemerwaarnemings en dokumentontleding.

Bevindinge en aanbevelings: Daar is bevind dat KDR-organisasies hul digitale transformasie moet begin deur 'n globale strategie te skep en dit by die plaaslike mark of die land se spesifieke nuanses aan te pas. Organisasies moet skaalbare platforms sentraal ontwikkel, deur middel van sentrums van uitnemendheid, en digitale oplossings en vermoëns oor die verskillende markte heen ontplooi. Organisasies moet genoeg tyd daaraan toewys om op die digitale argitektuurentegnologiestrategie te fokus, en kern- digitale tegnologieë, soos wolk-, mobiele en groot data, vir hul digitaletransformasieprogram te benut. Organisasies wat 'n digitaletransformasiestrategie uitvoer, moet van die begin af toepaslik vaardige personeelkomplemente in diens neem en digitaletransformasiedoelwitte as deel van hul veranderingsbestuur in alle departementele en personeeldoelwitte integreer. Soepel sagteware-afleweringsmetodes, datagedrewe besluitnemingsbeginsels en toetsenleerbenaderings is aanbevole praktyke wat as deel van digitale transformasie geïmplementeer moet word.

Oorspronklikheid/waarde: Verskeie organisasies worstel met digitale transformasie. Hoewel daar literatuur beskikbaar is oor die komponente wat nodig is vir digitale transformasie, ontbreek 'n gedetailleerde raamwerk of gestruktureerde leiding oor hoe organisasies suksesvolle digitale transformasie kan aanpak. Die studie demonstreer oorspronklikheid deur 'n raamwerk vir digitale transformasie vir die KDR-bedryf in Afrika te ontwikkel. Die ontwikkeling van die raamwerk vir digitale transformasie verskaf 'n bloudruk wat organisasies kan aanneem om digitale transformasie aan te pak. Die studie het beide teoretiese en praktiese implikasies vir die bestuur van digitale transformasie. Die bevindinge en raamwerk vir digitale transformasie kan breër wêreldwye toepaslikheid buite Afrika suid van die Sahara hê.

Sleutelwoorde: Gevallestudie, Digitaal, Digitale Ontwrigting, Digitale Ekonomie, Digitale Transformasie, Kitsdiensrestaurant (KDR)

Background

The world is experiencing an era of rapid business change and disruption (Lang & Rumsey, 2018). Futurists are predicting that 40% of the Fortune 500 organisations will disappear in the next decade (Gerber & Matthee, 2019; Lang & Rumsey, 2018). Disruptive technology can change traditional services (such as taxi/hotel reservation or food ordering), industries and business models. The traditional taxi industry was disrupted by new entrants Uber, Lyft and Bolt, and the restaurant industry by Uber Eats, Grub Hub, Door Dash and Mr D Food. The falling of multinational giants, such as Kodak, was to a large extent attributed to disruption of traditional business models by digital models and new approaches led by new digital technologies (Hagel et al., 2015; Gerber and Matthee, 2019) and old technologies harnessed in new ways (Lang & Rumsey, 2018). "Digital disruption is the phenomenon when established businesses succumb to new business models that exploit emerging technologies" (Gerber & Matthee, 2019: 1). The leader organisation of the industry, preoccupied with the status quo, does not recognise the threat potential. Constrained by the nature of their prevailing business model, the organisation struggles to effectively respond to the threat of market share encroachment by the new entrants.

In the quick service restaurant (QSR) and Sub-Saharan Africa context, the need for digital transformation is apparent (Alt, 2021). This is due to the rise of digital technologies and restaurant lockdowns driven by the COVID-19 pandemic. Even before the pandemic, there was rising demand for digital engagement and more convenient service from QSR customers. The pandemic accelerated this demand for technology advancement for QSRs across the globe (Northfield, 2021), including e-commerce technology in South Africa (Mofokeng, 2021). While many organisations accelerate to keep pace with the demand, restaurants face the possibility of disruption as the restaurant industry has traditionally been resistant to change or slow to adapt (Khan, 2020).

Digital technologies made people's lives easier and allowed businesses to conduct some form of trade during the pandemic (Soto-Acosta, 2020). For example, traditional telephonic, front counter and drive-thru restaurant ordering is being replaced by self-service ordering kiosks and other online ordering applications. Hence, digital transformation efforts are increasing (Kee et al., 2021). The QSR industry in South Africa is a key generator of growth for the country (Ledikwe et al., 2020) and is growing substantially with global expansion (Maumbe, 2012). Maumbe (2012) further elaborates that mobile commerce and digital technologies are seen as a key opportunity in the QSR industry. Digital technologies such as artificial intelligence (AI) will likely become mainstream when ordering fast-food (Schoeman et al., 2021). However, further research is needed on how to capitalise on the potential of information communication technologies (ICT) in the QSR industry. Alt (2021) advocates that while digital technologies such as cloud services and the plethora of digital devices in the market offer significant potential for restaurants, they do not guarantee success. The digital transformation of the QSR industry presents both opportunities and risks, as not every innovation will be

successful. And merely adding in more technology is not the solution.

The World Economic Forum (2016) advises that there is optimism for traditional organisations, as their strategic advantages lie in their significant resources, such as hard assets, brands, global distribution, customer relations, data and decades of institutional expertise to harness for their digital transformation. Rogers (2016), however, cautions that most organisations are unsuccessful with their digital transformation efforts – estimated at 84%. Saldanha (2019) argues that 70% of organisations are failing at digital transformation. High risk of digital transformation implementation failure persists (Tomicic Furjan et al., 2020). Nike was derided for scaling back on digital, while Sears again invested millions in big data and analytics, with poor return on investment (ROI).

Park et al. (2020) advise that in such digitally transforming environments as the present, organisations are facing an increase in challenges that they will need to overcome with haste to stem the flow of declining sales and prosper in the digital era. Hess et al. (2016) further advise that integrating and gaining competitive advantage through enablement of new digital technologies is one of the biggest challenges that companies currently face. One can also further argue that societies and governments face social challenges as well, as a side or direct effect of digital change. There is concern about the impact of jobs losses as organisations implement digital technologies to automate previously manual tasks, such as order taking and processing, particularly in the QSR industry.

Understanding the reasons for ineffective digital transformation efforts and programmes in organisations will help identify challenges and recommendations to ensure that corrective measures can be put into practice to avoid digital transformation failure. Digital transformation is important for many organisations, but getting it right is even more so given the resources that need to be invested in such programmes. To this end, a research case study of a multinational organisation undergoing digital transformation was undertaken. The case study organisation is one of the largest QSR organisations in the world with over 26 000 restaurant outlets covering 145 countries and territories. Annual revenue for 2021 was more than $30 billion with a 40% digital channel sales mix. The organisation has been in existence for over 50 years. The case study focused specifically on the Sub-Saharan African operations, with over 1 200 restaurants spanning more than 22 countries.

The case study organisation began its digital transformation journey in 2014. Key justifications were to remain competitive, improve service, meet new customer generational needs and to ensure long term sustainability of the business. The organisation also recorded a decline in sales, revenue and transactions prior to its digital transformation journey. Furthermore, the impact of the COVID-19 pandemic saw the organisation under pressure to expedite the digital transformation of its business. The organisation needed to invest in digital transformation to compete with direct QSR competitors as well as new market threats such as Uber Eats, Grub Hub and Door Dash, to name a few, who have mature e-commerce platforms also offering home delivery to consumers.

The case study organisation was suitable for digital transformation research as QSR organisations are leading the restaurant sector when it comes to digital enhancements, accelerating innovation and automation of the future in the post-pandemic era (Northfield, 2021). The case study organisation has been on its digital transformation journey for over seven years. It has experienced many successes and learning's that it was able to share.

Rationale and significance of the research

According to the seminal work of Rogers (2016), the majority of organisations are unsuccessful with their digital transformation efforts and 70% of digital transformation fails (Saldanha, 2019). $900 billion of $1,3 trillion was wasted on digital transformation efforts in 2018 (Tabrizi et al., 2019). Hess et al. (2016) further advise that incorporating and taking advantage of digital technologies is a significant challenge that organisations face. Organisations are struggling to adapt, and their employees are engulfed by the digital avalanche (Dang, 2021). The QSR industry faces similar challenges with regard to digital transformation.

Furthermore, there are significant challenges and issues associated with digital enterprise/digital business (Feliciano-Cestero et al., 2023; Xu, 2014). Some of these challenges include security, privacy, value of personal data, digital divide, internet governance, a lesshuman work-life balance, long tail versus power law, and integration challenges. These challenges create barriers and hurdles for organisations attempting to engage in a digital transformation. While there is literature available on the components needed for digital transformation, a detailed framework and structured guideline is missing for how organisations can go about achieving successful digital transformation (Osmundsen et al., 2018). For the QSR industry specifically, to understand whether it is feasible to invest in digital transformation, insight into the challenges described is needed. These issues need to be unravelled further so that digital transformation practitioners understand how they can be overcome.

Literature review

The findings of the literature review support the need for a digital transformation framework to guide organisations. The literature review was carried out for the below-mentioned aspects and concepts to demonstrate the gaps in the digital transformation phenomenon.

Key literature reviewed is illustrated below.

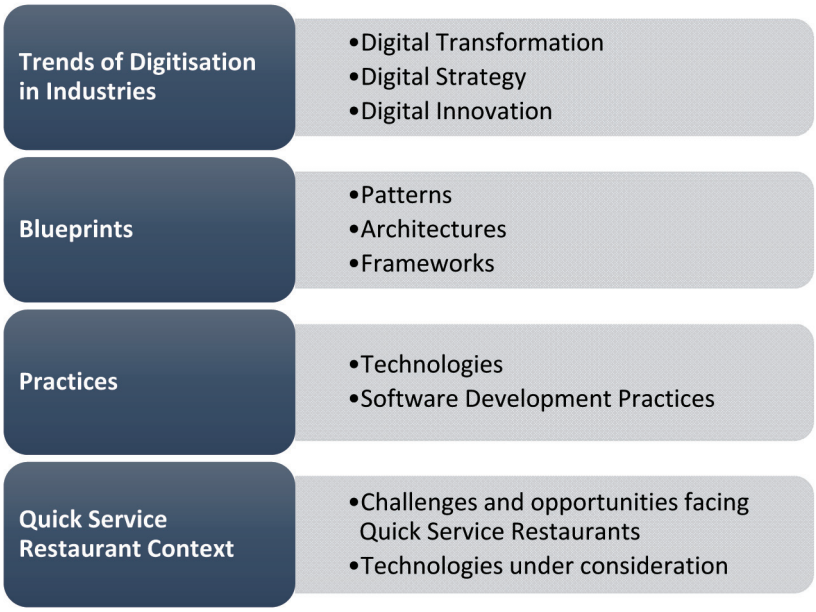

Figure 1: Literature review layout
Source: Author's Construction

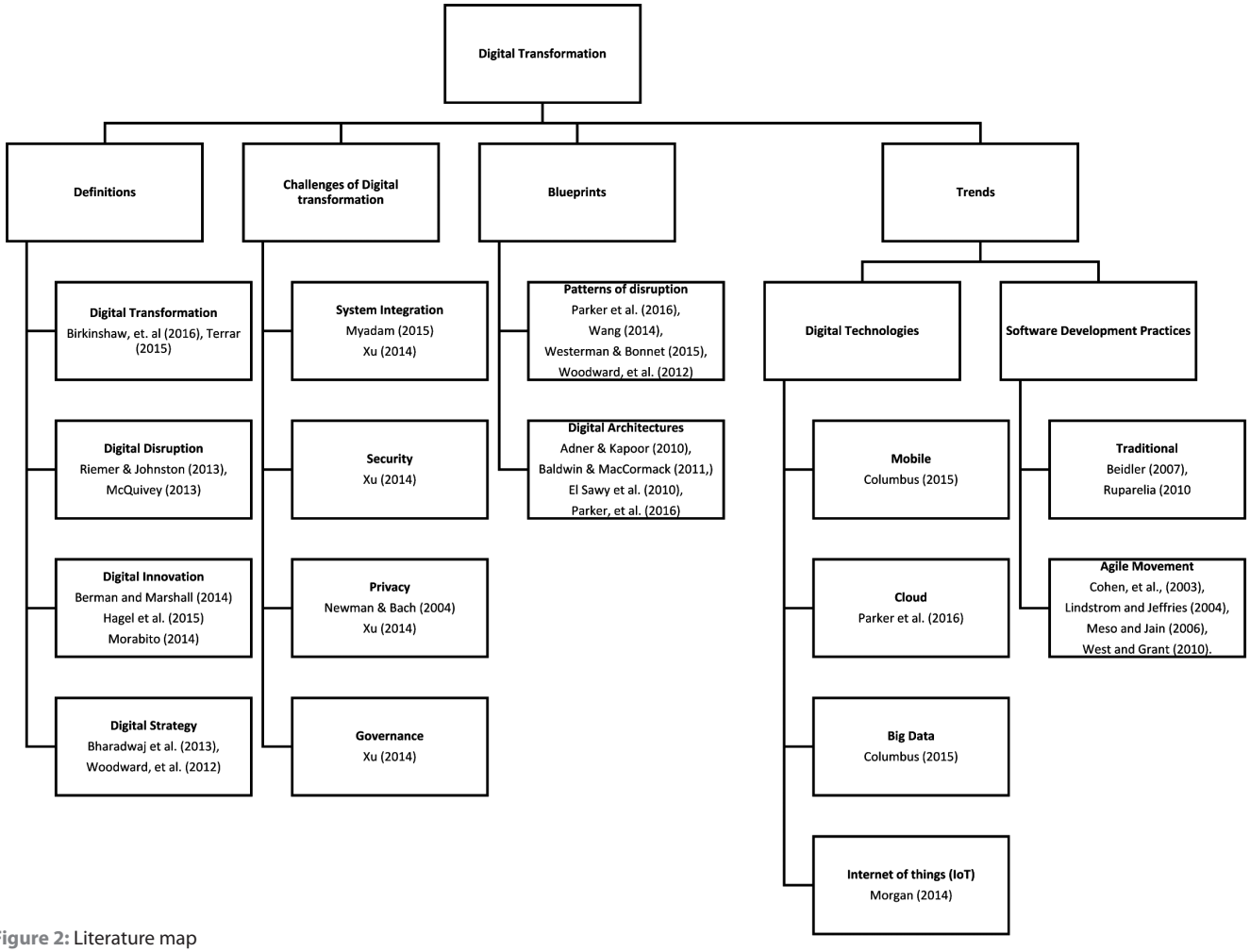

Figure 2: Literature map
Source: Author's Construction

Trends of digitisation in industries

Gong and Ribiere's (2021:12) in-depth research on a unified definition for digital transformation (DX) define it as "a fundamental change process, enabled by the innovative use of digital technologies accompanied by the strategic leverage of key resources and capabilities, aiming to radically improve an entity and redefine its value proposition for its stakeholders." Zhang et al. (2023) postulate that emerging digital technologies such as the blockchain, artificial intelligence (AI), internet of things (IoT) and platforms have had a significant impact on business practices with organisations keen to harness digital to stay competitive. There is a clear shift towards digital technology and organisations are embarking on digitisation processes. Schniederjans et al. (2020) advise that the amount of data made available through digitisation offers benefits to organisations such as forecasting, personalisation of sales processes, product design and service. According to McDonald (2013) companies engage in digitisation journeys through creating online channels, equipping their sales force with tablets, and moving to cloud-based software as a service (SaaS) models. He points out that these moves, however, are easy to replicate and results in them becoming commoditised. Competitive advantage is not gained, and more emphasis is placed on IT-based cost reduction. He maintains that the key to becoming a digital business is for companies to focus on transformative high impact digitisation programmes.

Digitisation pushes companies to be better integrated to take advantage of information as well as gain efficiencies though digital infrastructure (Fernández-Portillo et al., 2022). McDonald adds that creating a competitive advantage is the key purpose of a digital business. Digital businesses do this by combining digital technology and resources to create a unique value proposition. Truant et al.(2021) advocate that digitisation has become commonplace in products and services. This is to support business processes. Digitisation has also been shown to boost company performance even when still in early adoption stages (Truant et al., 2021).

Blueprints

Abdelaal et al. (2018) summarises the digital transformation processes into six phases.

Table 1: Phases identified in digital transformation frameworks

Phase	Description
Initiation	Understanding digitisation opportunities, threats and impact
Ideation	Imagining transformation dimensions as options for the business
Assessment	Evaluating digital readiness levels and identifying gaps
Engagement	Communicating the vision and integrating the necessary people
Implementation	Proceeding with the action plan in various domains
Sustainability	Validating and optimising the action plan continuously

Source: Abdelaal et al. (2018)

Vial (2019) advocates six building blocks for the digital transformation process. First there is the use of digital technologies. These include social, mobile, analytics and IoT platforms. Secondly, there are disruptions using digital technologies. They alter consumers' behaviours and expectations. Thirdly, there are strategic responses that are due to industry disruption and the need to remain competitive. Fourthly, there are changes in value creation paths. The use of digital technologies can create new paths to value creation, e.g. digital channels and value networks. The fifth building block comprises structural changes, which occur as the new value paths are created. Negative impacts are security and privacy considerations. Positive impacts are organisational efficiency/ performance improvements, industry improvements and societal improvements. Lastly, there are organisational barriers requiring consideration, such as employee resistance and inertia that need to be addressed.

Mann et al. (2022) challenge the notion that a firms' digital transformation success is based on the above-mentioned factors only. They propagate not only operating within a firm's boundaries but also focusing on orchestration in its business ecosystems. This is illustrated below in Figure 3.

Components of the above-mentioned constructs are aligned to the research objectives in terms of investigating the strategy, and mobilising and aligning aspects of digital transformation. The research participants within the study were probed to understand their view on the above success factors. This enabled the researcher to systematically weave this into a framework for digital transformation. This was one of the study's key objectives.

Practices

Kane et al. (2015) advise that mature digital businesses focus on integrating social, mobile, analytics and cloud technologies to transform how their businesses work. With regard to technology in the QSR segment, digital integration with store designs and mobile technology is the number one area to start with (Klein, 2021, as cited in Northfield, 2021). The researcher also aimed to understand the suitability of traditional versus agile software delivery methodologies when building software to support digital transformation programmes. This is to aid digital transformation practitioners.

Issues facing organisations attempting digital transformation

Feliciano-Cestero et al. (2023) conducted a systematic literature review of the challenges and issues organisations encounter with digital transformation, which restrict their internationalisation capabilities. They found that the lack of technological knowledge, the inability of technological infrastructure, the new security risks associated with these technologies, the cultural factors and the personality traits that limit participation, perception, learning and optimal use of these tools were the common issues and challenges organisations face. They advise that future theoretical and empirical

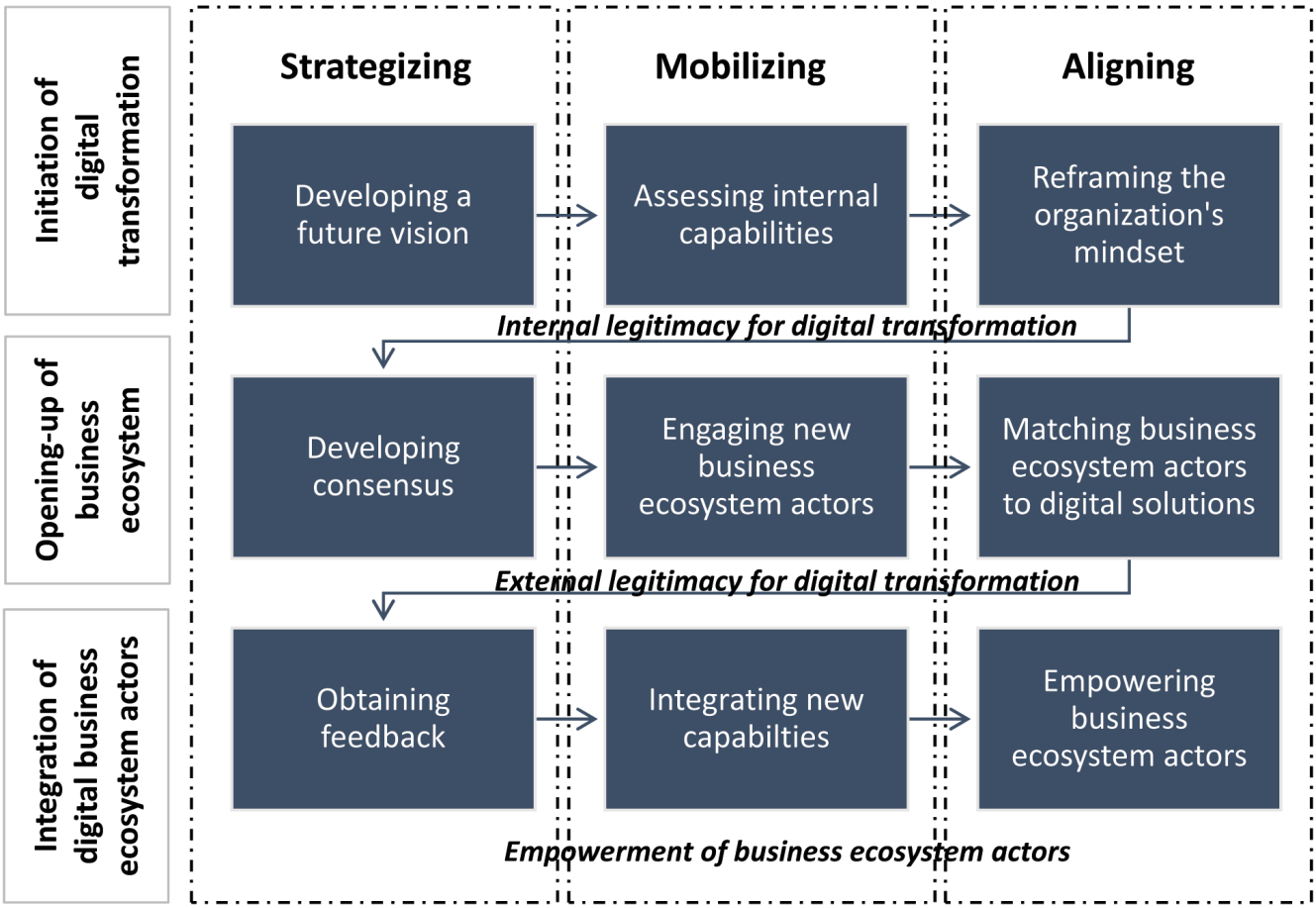

Figure 3: Orchestrating the digital transformation of a business ecosystem
Source: Adapted from Mann et al. (2022)

research that addresses the negative consequences of digital transformation is needed.

Davenport and Westerman (2018) advise that organisations are failing at digital transformation for three reasons. Firstly, organisations need to be aware of economic factors and give careful thought to the desirability of the product or service. Digital capabilities alone will not guarantee success. Secondly, digital is much more than just technology implementation. It is an ongoing process that requires investment in skills, projects, infrastructure and reduction in legacy IT systems. Lastly, digital investments must match the readiness of the industry. This thinking is supported by Zimmer and Miemimaa (2019) who advise that organisations face barriers in their digitalization efforts which include insufficient skills, lack of a clear vision and challenges integrating technology.

Xu (2014) advises that there are significant challenges and issues associated with digital enterprise or digital business. These include security, privacy, value of personal data, the digital divide, internet governance, a less-human work-life balance, long tail versus power law, and integration challenges. Key to the research was to understand the challenges organisations face with digital transformation and how to circumvent them.

Innovations in quick service restaurants

Historically, the QSR focus was on fast and cheap. However, this has shifted to a focus on customer needs and co-creation of value to ensure customer satisfaction and loyalty (Gallarza-Granizo et al., 2020). Furthermore, the QSR industry has taken cognizance of the need to innovate digitally to attract younger digital natives (Blaschke et al., 2017). Pedroso (2020) supports the view of Blaschke et al. (2017) of the drivers for digital transformation in the QSR industry by advising that its consumers are demanding improved service and convenience.

The QSR industry is aiming to adopt a customer-orientated approach to their strategy and design (Gallarza-Granizo et al., 2020). This has led QSR organisations to focus on technology, delivery and digital initiatives. Mason et al. (2016) further recommend that QSRs must focus on creating delightful experiences through food quality, service quality and atmosphere to enable long term success. Gallarza-Granizo et al. (2020) advise that research gaps exist in QSR with regards to cultural dimensions in its globalised industry.

Blaschke et al. (2017) advocate service design principles for implementing a digital business model. They list five steps, namely research, synthesis, ideation, rapid prototyping and validation. Research is about understanding consumer needs. Synthesis is about defining the customer experience flows, service touch points and personas. Ideation is concerned with brainstorming for new ideas. Rapid prototyping is about building out the new service and validation is about testing it for feasibility and acceptance. The five steps process of Blaschke et al. (2017) for implementing a digital business model is similar to the notion of digital transformation processes of Abdelaal et al. (2018) discussed earlier, which comprises initiation, ideation, assessment, engagement, implementation and sustainability.

QSR customer service enhancements

The QSR industry is aiming to adopt a customer-orientated approach to their strategy and design (Gallarza-Granizo et al., 2020). Rastegar et al. (2021) advise that self-service technology is used by QSRs to enhance the customer experience. Self-service technology allows customers freedom over their dining experience and hence increases overall satisfaction. The self-service kiosk is one such example. McDonald's began installing kiosks in select locations (Kane et al., 2015). Rastegar et al. (2021) went on to advise that the use of the kiosk was expected to increase with the advent of the COVID-19 pandemic as consumers look to avoid human touchpoints.

Another self-service technology example cited by Ciftci et al. (2020) is the use of biometric technology, such as facial recognition. This is thought to increase the speed of service, thereby freeing up restaurant teams to focus on personal interactions with consumers.

QSR emerging threats

During the COVID-19 pandemic, many dine-in restaurants struggled with lockdown restrictions to trade in South Africa and aimed to pivot towards take-away or delivery (Bhoola, 2022). Customer delivery services are a key need for QSR customers, and were so even before the pandemic began (Khan, 2020; Titone and Goch, 2018). This need grew due to the COVID-19 pandemic as customers adhered to social distancing. The eat-at-home option provides a significant opportunity for QSR on which to capitalise. However, most QSRs do not have their own delivery infrastructure, i.e. drivers, motorcycles/cars, delivery bags or driver management technology. Restaurateurs in South Africa advised they had insufficient resources (Bhoola, 2022).

Third-party restaurant delivery providers (TPRD) are defined as companies that provide a delivery service to restaurants (Goch, 2018). Examples include Grub Hub, Door Dash and Uber Eats. In the African context, Mr Delivery Food, Uber Eats and Jumia are popular examples. Titone and Goch (2018) advise that third-party restaurant delivery providers present an opportunity to QSR to have an online channel. This is useful, especially if the restaurant has not invested in one. QSRs are trying to understand the long-term impacts of third-party restaurant delivery partners on their organisations. There are concerns regarding the long-term sustainability of their businesses as the third-party restaurant delivery partners grow and begin to control market share. This is due to the delivery charges and commissions placed on the restaurants by the third-party restaurant delivery providers. Reported service fees can go up to 30% of the restaurant sales (Titone & Goch, 2018). Third party restaurant delivery providers have been criticised for the high commissions it charges restaurants (Li et al., 2020). This is challenging for QSRs as they are low margin high volume businesses.

Key gaps and opportunities to investigate as part of the study

A summary of the literature review, key gaps and opportunities to investigate as part of the study are illustrated below in Table 2.

Research objectives

The purpose of the study was to develop a digital transformation framework for QSR industry practitioners.

The key aims of the research study were:

1. To contribute insights into how QSR organisations can engage in, enable and manage digital transformation;
2. to examine leading-practice QSR digital organisation design, processes, cultural considerations, architectural guidelines and programme management to enable digital transformation;
3. to examine digital transformation hurdles and challenges organisations face and what can be done to circumvent these with focus on the QSR industry; and
4. to develop a framework for how to engage in a digital transformation.

Achievement of the above objectives was envisioned to provide a systematic approach to digital transformation practitioners on how to engage digital transformation in the QSR industry.

Research methodology and design

After careful consideration of the research problem of this study and insight into advantages and disadvantages of different methods, qualitative research was deemed to be the most suitable to answer the research questions and meet the research objectives. Investigating how organisations engage digital transformation is an emerging research area. According to the seminal works of Yin (2003), case study research is suitable when 'how' or 'why' questions need to be unravelled and the focus is on a contemporary phenomenon in a real-world context. Case study research can be used to contribute to our knowledge of individual, group or organisational and related phenomena and allows researchers to understand real-life events such as organisational and managerial processes and the maturation of industries (Yin, 2003). Hence, case study research of an established organisation on a digital transformation journey was undertaken. In a longitudinal case study with this multi-national restaurant organisation, qualitative research methodologies were employed with in-depth semi-structured interviews, participant observations, and documentation analysis was undertaken.

Table 2: Summary of research gaps

Literature Section	Author	Pros	Cons	Gaps
Trends of digitisation in industries	Truant et al. (2021); Christensen & Euchner (2020); Ting (2020); Lanamäki et al. (2020); Saldanha (2019); Chanias et al. (2019); Dyer et al. (2019); Rogers (2014); Christensen (1997)	Advocate popular technology choices and opportunities available	Not specific to QSR. Literature lacking on which technologies or blueprints to apply for QSR. Lack of detailed insight into QSR digital transformation	Understanding of when to apply technologies in QSR-specific context; Applicability to QSR
Digital transformation blueprints	Zaoui en Souissi (2021); Abdelaal et al., 2018; Mann et al., 2022; Sainger (2018); Osmundsen et al. (2018); Parker et al. (2016); Woodward et al. (2012)	Conceptual frameworks; Advise on components required for digital transformation	Articulate gaps in management of digital transformation. High level approaches presented	Verification of their digital transformation framework planned via case study. Detailed QSR frameworks for practitioners are lacking
Digital transformation practices	Unhelkar (2016); West & Grant (2010); Meso & Jain, (2006); Cohen et al. (2003)	Sufficient content for application of agile methodologies	Lack of evidence for data-driven and multivariant testing in QSR	Gap in proven software development frameworks for QSR
QSR digital transformation context	Bhoola (2022); Alt, (2021); Northfield, (2021); Rastegar et al. (2021); Ciftci et al. (2020); Gallarza-Granizo et al. (2020); Li et al. (2020); Pedroso (2020); Zemke et al. (2020); Aytac & Korcak (2018); Titone & Goch (2018); Blaschke et al. (2017)	Provide views on key drivers, technologies for digital transformation in QSR; Opportunities presented for robotics, IoT, big data and cloud computing.	Lack of proven application of concepts to QSR and lack of QSR case studies.	Some theoretical constructs which need to be proven in QSR

Source: Author's Construction

The target population chosen in this research included employees and partners who are part of the digital transformation programme, working on initiatives of the QSR case study organisation or are impacted by the digital transformation programme. They spanned members of the leadership team, executives, directors, middle management and teams at the forefront of the programme to ensure a multi-level perspective could be attained. The saturation principle was the aim when working through the interviews at the case study organisation. After the first twelve interviews, the same concepts and themes began to repeat themselves in the following ten interviews, thereby implying saturation had been achieved. While there are other factors that affect sample size in qualitative studies, researchers generally use saturation as a guiding principle during their data collection. Stratification across various groups in the company, i.e. leadership, directors, middle management, etc. was obtained. Saturation in each stratum was also obtained. A total of 22 interviews were conducted at the case study organisation, using a combination of in person and online (Microsoft Teams) methods. This included more than 90% participant coverage of the digital transformation core teams.

Theoretical framework

Yin (2009) suggests that a complete research design requires the development of a theoretical framework for the case study that is being conducted. Collins and Stockton (2018) define the theoretical framework as the use of theory for a study that assists to convey the researchers views and how the study will go about processing new knowledge. The theoretical framework intersects with the existing knowledge concerning the phenomena under study, the researcher's epistemological inclination and the study's methodological, systematic approach.

The study is based on theories concerning digital transformation challenges, design principles, practices and strategies for adoption. Hence the researcher developed a theoretical framework (Figure 4) based on these theories and their application in the research are discussed below.

In understanding the challenges and issues facing organisations engaging in digital transformation, the researcher propagates the use of existing knowledge and theories concerning this phenomenon. Feliciano-Cestero et al. (2023), Tomicic Furjan et al. (2020) and Xu (2014) advise of significant challenges and issues associated with digital enterprise or business transformation and internationalisation. These theories include the lack of technological knowledge, cultural factors, learning, security, privacy, value of personal data, digital

Table 3: Overview of data collected

Data Source	Purpose	Description
Interviews	To gain insight into the digital transformation journey the organisation undertook.	22 semi-structured interviews were conducted from November 2018 to August 2022.
Observations	To understand the interactions, implementation challenges, complexities and essence of the digital transformation journey as experienced by the participants and stakeholders	This occurred in 1–3 hour long workshops, strategy meetings, company presentations, change management activity and "war-room" sessions with stakeholders.
Documents	Assisted to visualise and contextualise feedback and insight provided in interviews.	This included digital strategy, process, organisational structure, change management, project plans, and training and internal communication documentation. Furthermore, root cause analysis (RCA) finding documentation when issues/incidents occured was also examined to qualify data provided in interviews regarding platform challenges and outages.
On-site interactions	To embrace the stakeholders and interview participants and understand the digital transformation journey at its core.	On site interactions included interviews, observations, conference calls and participant meetings from November 2018 to August 2022.

Source: Author's Construction

divide, internet governance, a less-human work-life balance, long tail versus power law, and integration challenges. Key to the research was to understand the challenges organisations face with digital transformation and how to circumvent them. This has been identified as a gap in most digital transformation research focusing on its positive impacts (Feliciano-Cestero et al., 2023).

These challenges are further supported by Myadam (2015) relating to why system integration issues exist, Hagel et al. (2015) on organisations' struggles to respond and Newman and Bach (2004) on privacy issue challenges organisations face. These theories were used in the study to inform the interviews so as to understand how the case study organisation is overcoming them with its digital transformation effort. Understanding how to circumvent these issues adds new knowledge to enable digital transformation for practitioners.

Theories on key architectural and design principles and patterns are cited by Feliciano-Cestero et al. (2023), Parker et al. (2016), Woodward (2012); Westerman & Bonnet (2015) and Wang (2014), who propose patterns for disruption. In addition, the researcher explores insight on how modern software development practices can expedite and enable digital transformation. These theories were used in the study to inform

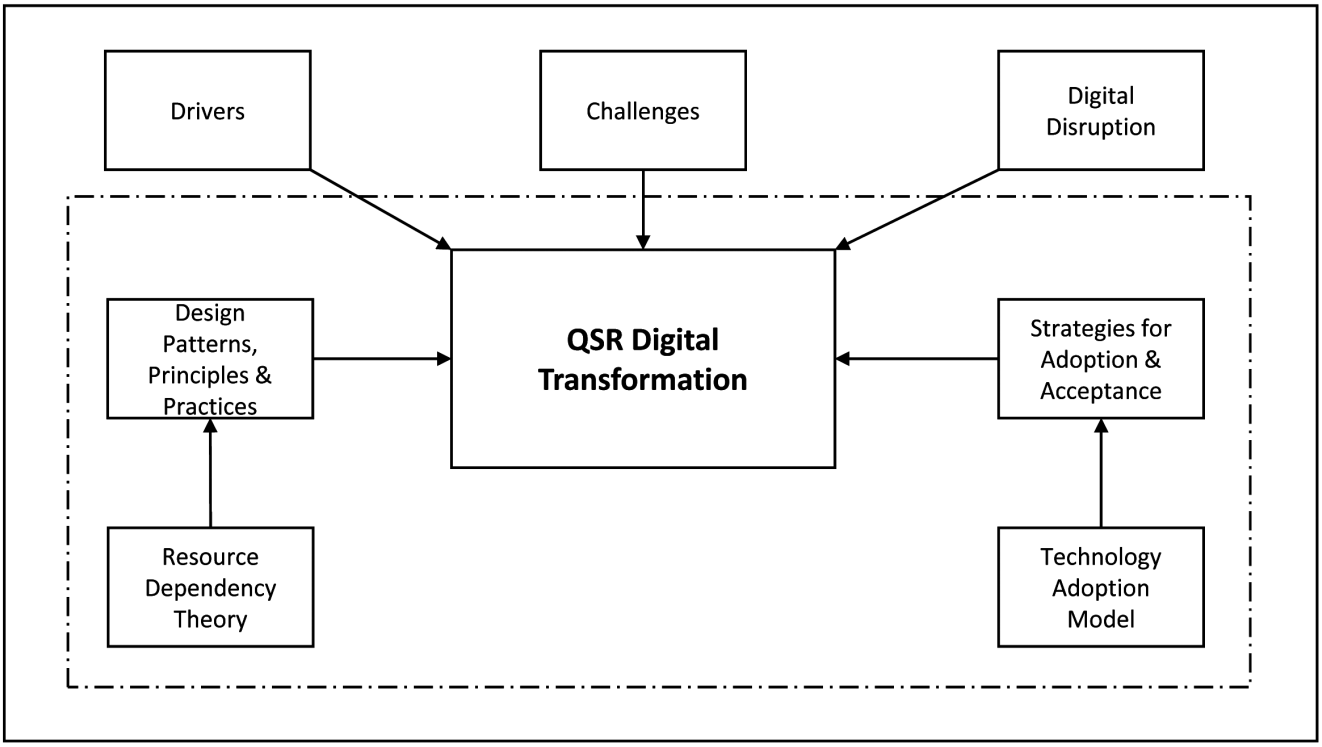

Figure 4: Research theoretical framework (Source: Researcher's own construct)
Source: Author's Construction

the interviews to understand how the case study organisation is adopting them for its digital transformation programme.

Lastly, to understand how to enable digital transformation, strategies for adoption were examined and used in the study. The resource dependency theory (Archibald, 2017) was used as a basis to understand the scarce resources on which the case study organisation has formed dependencies and what its approach to this is. The technology acceptance model and adoption theory (Davis, 1989, as cited in Charness & Boot, 2016), was used to understand how the case study organisation mitigates risks around technology adoption and acceptance challenges by its stakeholders with its digital transformation programme. The combination of these theoretical concepts and the research process aided to generate the digital transformation framework for practitioners.

The research process emanated from the ontological school of thinking. This looks at what the actual reality is and how the researcher can better understand its existence (Raddon, 2015). Interpretivism, which is underpinned by subjectivist ontology can be used to understand how and why things happen to elucidate meaning (Raddon, 2015). This is apt for digital transformation research in the specific case study organisation's African context. Digital transformation programmes are complex, and it is imperative to understand the contextual factors that cause organisations to fail or succeed in this process. Quantitatively analysing the research phenomena was not deemed appropriate by the researcher to elicit the needed insights to critically understand digital transformation challenges. A qualitative investigation was needed to gain in-depth insights.

The combination of these theoretical concepts and the research process aided to generate the digital transformation framework.

Ethics, privacy and confidentiality

Ethical approval was attained from the case study organisation to utilise the organisation as a case study for the research. Ethical clearance was provided by the researcher's business school's ethics committee prior to any research being undertaken. Furthermore, informed consent and approval was obtained from participants in the study.

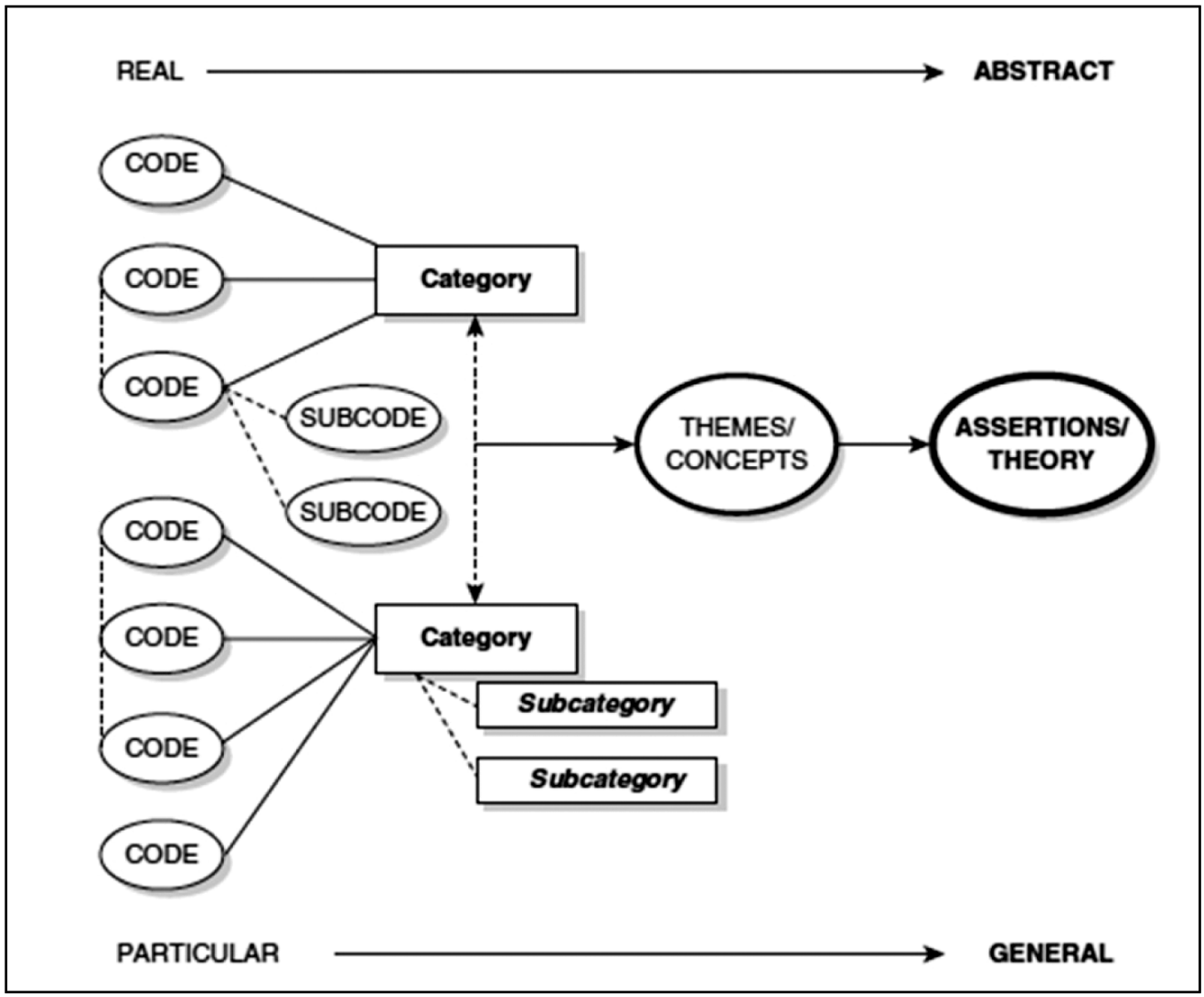

Figure 5: Streamlined code to theory model for qualitative inquiry
Source: Saldana (2013)

Data Analysis

The code to theory model for qualitative inquiry by Saldana (2013) was applied to unravel the underlying themes and concepts from the raw interview transcripts and documentation.

Thematic analysis techniques, which are apt and one of the most common forms of analysis for qualitative research, was applied to identify, analyse and document the patterns and themes. Specifically, the application of inductive thematic analysis methods was utilised. Microsoft Excel and mind mapping tools were also used for data coding, visualisation and categorisation.

Validity and reliability

Triangulation in case study research is important to ensure the reliability and validity of the data and results (Fush et al., 2018; Yin, 2003). Triangulation helps mitigate bias and enhance reaching data saturation. Denzin (1970, as cited in Fush et al., 2018) describes four types of triangulations that researchers can utilise to reduce bias and improve truth and validity of research. These four types include data, investigator, theory and methodological triangulation.

Data triangulation is concerned with utilising different data sources for the phenomenon being researched (Nolan & Behi, 1995; Yin, 2003). They cite the example of data collected from different people at different times and in different places. Data triangulation can be used to address issues of construct validity as multiple sources of evidence provide multiple measures of the phenomenon under study (Yin, 2003). Yin (2003) describes this as a convergence of evidence. Investigator triangulation is concerned with utilising different researchers in the research to unravel the concepts (Nolan & Behi, 1995). Bias is reduced by using different investigators reviewing the same data (Fush et al., 2018). Theory triangulation looks at a range of theoretical models in the same study (Nolan and Behi, 1995). It is concerned with the application of viewing the data through a theoretical lens (Fush et al., 2018). Methodological triangulation looks within method and across methods (Fush et al., 2018). Focus groups, interviews, document analysis and observations would be within-method triangulation in a qualitative study. Quantitative and qualitative methods in a mixed method study would be across-methods triangulation. For the purposes of this study, methodological and data triangulation techniques have been applied to ensure reliability and validity of the findings.

Analysis and findings

Distribution of interviews

Table 4 presents the demographic information and distribution of the research interview participants across the organisation.

Code distribution and frequency

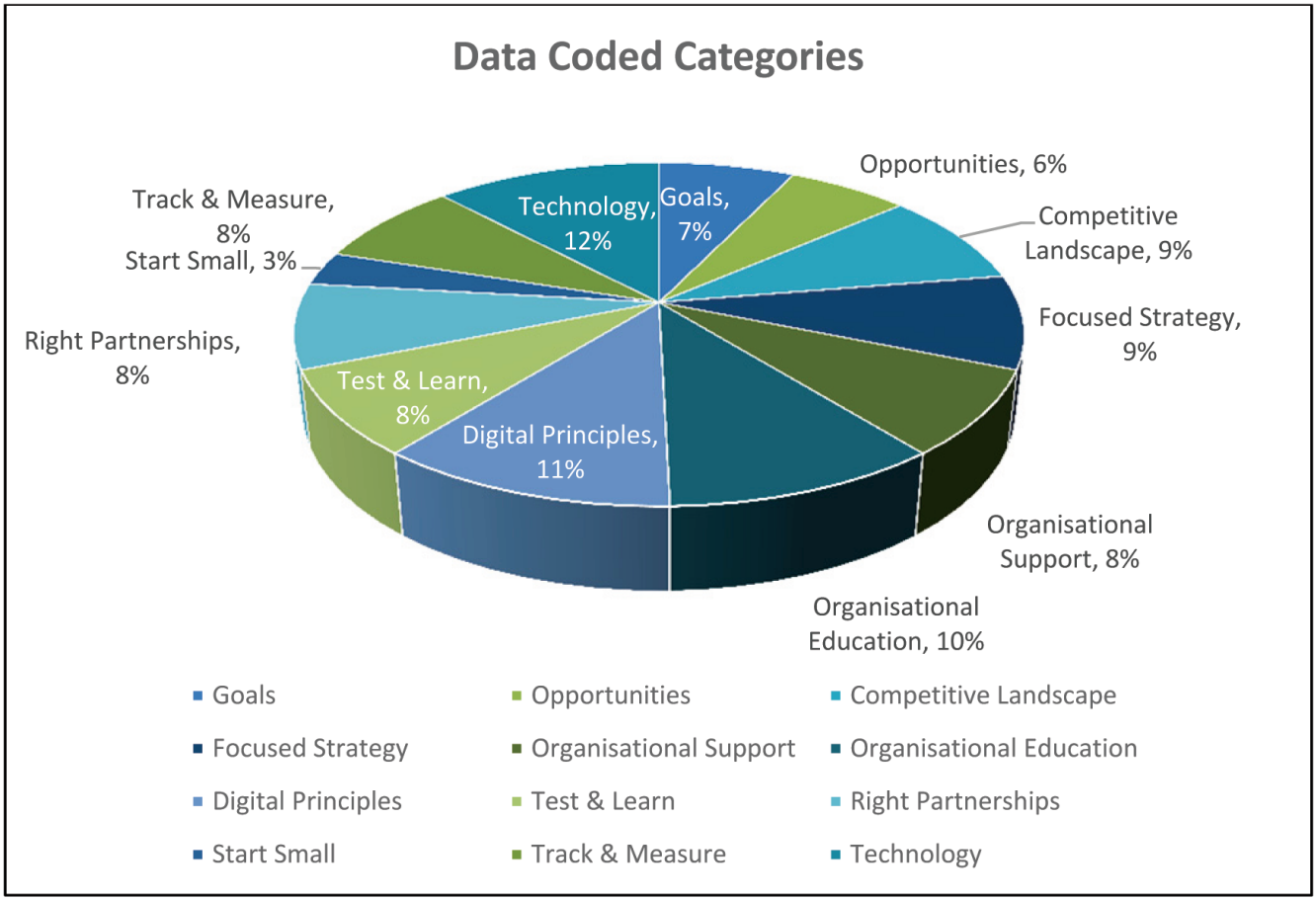

Figure 6: Emergence of key themes
Source: Author's Construction

Table 4: Interviewee demographic information

Interview	Interviewee	Organisational department	Work experience (Years)	Work experience at organisation (Years)	Duration (minutes)
1	Information Technology Director Africa	Finance, Planning, Information Technology & Business Intelligence	20	2	60
2	Digital Marketing Manager	Marketing, Digital	18	6	60
3	Chief Digital & Innovation Officer Africa, Director	Digital and Innovation	16	13	60
4	Digital Marketing Content Manager	Marketing, Digital	14	4	60
5	Digital Analytics & Governance	Marketing, Digital, Analytics	10	2	60
6	Chief Marketing Officer Africa, Director	Marketing	22	13	60
7	Head of Business Intelligence	Finance, Planning, Information Technology & Business Intelligence	15	2	60
8	Equipment and Innovation Manager	Operations, Restaurant Excellence	13	5	60
9	Digital Operations & Enhancement Specialist	Digital and Infrastructure	10	4	60
10	National Learning Technology & Training Manager	Human Resources	18	13	60
11	Food Delivery Lead	Digital & Infrastructure	12	11	60
12	Food Delivery Operations Specialist	Marketing, Delivery	20	20	60
13	Delivery Brand Manager	Marketing, Delivery	10	7	60
14	Digital Support Specialist	Digital Operations	7	1	60
15	Data Scientist	Digital Marketing	12	2	60
16	Digital Media & Performance Lead	Digital Marketing	12	2	45
17	Digital Support Specialist	Digital Operations	6	1	30
18	Digital Operations & Enhancements Manager	Digital Operations	25	1	45
19	Digital Operations & Enhancements Specialist	Digital Operations	8	1	30
20	Digital & E-commerce Product Manager	Digital Product	12	3	45
21	Junior Brand Manager	Digital Marketing	3	2	45
22	Business Analyst	Digital Product	15	1	30

Source: Author's Construction

The pie chart (Figure 6) above illustrates the central topics that stemmed from the data collection activities: technology (12%), digital principles (11%), organisational education (10%) and focused strategy (9%). Some of the topics that had fewer occurrences were used to expand on the major themes identified, thereby adding richer insight.

Thematic analysis techniques, which are very apt and one of the most common forms of analysis for qualitative research, were applied to identify, analyse and document the patterns and themes, specifically, the application of inductive thematic analysis methods. The diagram below illustrates a word cloud. The word cloud represents the weighting of themes identified.

The word cloud (Figure 7) illustrates the key research themes that emanated from the study. These key research themes include importance of a focused strategy, organisational education, digital principles and technology. These key themes will be explained later on.

The table below illustrates how the coding process was undertaken by starting with the key interview quotes from the participants, allocating a code number, creating a category and understanding the emergent themes. The code number is matched to the direct quote from the participant in the semi-structured interview to demonstrate how the codes were created from the interview data.

Table 5: Coding processes underlying data analysis

Exemplary Interview Quotes	Code Number	Descriptive Codes	Category	Emergent Themes
To be the digital leader in their segment by delivering great, mobile first digital experiences to its customers driving brand excitement and tangible business value [1]. Building Distinctive, Relevant Brands, by increasing investment in consumer insights, core product innovation, digital excellence and initiatives that strengthen the quality, convenience and appeal of the customer experience.	1	Organisation Goals/ Objectives	Organisation Mission Statement	Creating a clear organisation vision
The changing environment [3,5], new customer needs and expectations [2] (quicker, better & faster) [7], new digital experiences available in the marketplace and customers having more access to information, new smart devices and greater content availability. Digital fits into the new consumer evolution. The consumer has changed. Risk of being left behind or disrupted has increased [3, 6]. Needs to be done to remain competitive [5]. The organisation has been left behind by the competition [3].	2	Opportunity	Competitor Analysis (SWOT)	Qualifying the Opportunities
	3	Disrupted		
	4	Customer Needs/ Expectations		
	5	Competitive Pressure		
	6	Remain Relevant		
	8	Business Agility		
There is a global framework [9, 11]. No need to re-invent the wheel when we started our journey as failures can be costly in terms of time and financial resources. Makes sense to leverage what is out there from global teams. We have defined a digital strategy for the African market and context [10]. This strategy ties into the broader global strategy but brings in the nuance of the local market [9, 10]. An example of this is USSD technology as a channel to consumers.	9	Global Strategy	Business Strategy	Developing the DX Strategy
	10	Local Strategy		
	11	Frameworks		
	12	Clear Market Strategy		
	13	Clear Focus		
Buy-in is key [14]. All stakeholders need to be onboard with a digital transformation program [14, 16, 17]. They need to understand the effort that is required from everyone [15]. It's harder to sell when its coming from the bottom. Top-down support is important. The support is there [14].	14	Organisational Support	Stakeholder Buy-In	Creating Cross Functional DX Teams
	15	Investment Support		
	16	Cross-Functional		
	17	Enterprise Education		
The organisation is working on rolling out data-driven [18] decision-making processes and systems across the business as part of its digital strategy. We use agile methods [19] within the digital specific projects. Test and learn [20] processes are not unique to digital. It is looked at from an organisation perspective. We use test and learn [20] for conversion optimisation.	18	Data Driven	DX Principles	Embedding a Data Driven culture Based on Rapid Testing & Learning through agile methods
	19	Agile Methods		
	20	Test & learn		
	21	Embrace Failure		
Digital needs to be intertwined into the business going forward [24]. There is a metamorphosis into the digital business as the organisation learns and grows. The business will learn and grow digital capability [22] at its core and grow into becoming a digital business [23]. We have had great early successes with our third-party aggregator partnerships [25] and services.	22	People	Organisational Practices	Leading the Change from the top
	23	Education		
	24	Change Management		Forming Partnerships
	25	Right Partnerships		

Table 5: Coding processes underlying data analysis

Exemplary Interview Quotes	Code Number	Descriptive Codes	Category	Emergent Themes
We benchmark [28] against competitors. We benchmark [28] against global peers and peers from different segments to be safe. The disruptor may come from different industries. We look at who has low barriers to enter our market. Amazon Go is an example of a traditional ecommerce only organisation entering the traditional brick and mortar business.	26	Start Small	DX Processes	Measuring DX Performance
	27	Track & Measure		
	28	Benchmarking		
	29	Return on Investment		
Maintenance on equipment is key to saving long-term costs. IoT [30] technologies can help us to ensure preventive maintenance schedules are adhered to in the restaurant excellence space and reduce downtime affecting customers. We can influence purchasing behaviours and drive the business agenda. We can push the needle with this. We have a cross functional team. People are building their skills and we are building machine learning [31] algorithms. Past investment in Braze (customer engagement tool) and investment in cloud [32] have been good. Easier to spin up environments with cloud [32]. Gives you agility.	30	Internet of Things (IOT)	Technology	Leveraging Technology Big Bets
	31	Machine Learning		
	32	Cloud		
	33	eCommerce		
We have AI [35] – auto ML [36], cognitive ML [36] and we can leverage existing models.	34	Security		
	35	Artificial Intelligence		
	36	Automated Decisioning Systems		

Source: Author's Construction

Figure 7: Key research themes word cloud
Source: Author's Construction

Findings and discussion

This section presents the key findings of the study. Each subsection provides findings to a particular research question.

Key research objective 1: To contribute insights into how organisations can engage in, enable and manage digital transformation

Has your organisation engaged in a digital transformation programme? If not, why? And will they be considering this in future?

Finding 1 – digital transformation key drivers

The participants highlighted the following key drivers for their digital transformation programme.

Changing environments

Businesses are aware of the dynamic landscape in which they operate. Businesses are also forced to take action for fear of being disrupted by competitors from their own industry or outside. The traditional competitor in the same industry is no longer the only competitor to be aware of. The disruption threat can come from anywhere and this change in the environment has required change in how businesses operate. Traditional thinking and ways of working need to be revisited to prevent organisations from falling behind.

New customer needs

Rapid advancements in technology, primarily in the last decade, have created new customer needs and expectations as customers easily adopt and are attracted to digital technologies.

New opportunities

Organisations do not view digital technologies with negative sentiment. On the contrary, given challenging local and global markets and increased competition, they are viewed as opportunities to elevate customer experience and unlock growth for organisations that are stagnating or pondering where growth in coming years will come from. These opportunities present the ability to unlock savings, improve efficiencies and create new revenue streams.

Finding 2 – Strategy formulation

Key research objective 1: To contribute insights into how organisations can engage in, enable and manage digital transformation.

The key strategy formulation principles as advised by participants are summarised in the following section.

Global strategy tailored to the local African market nuances

A key learning from the case study organisation is that, for multinational organisations, a framework or umbrella strategy should be developed. This ensures consistency across different geographies for consumers who are familiar with the brand and who would expect uniformity.

Digital consumer core needs are similar across geographies

Another key learning from the case organisation was that for multinational organisations, the core customer needs are often similar, as is the situation in the case study organisation. The organisation came to the realisation that consumers across markets shared the same needs for services like e-commerce applications, self-ordering kiosks, customer relationship management (CRM), loyalty/rewards programmes, delivery services, mobile technology and personalised digital marketing. This enables the organisation to focus on creating a strategic framework for digital transformation that could be adopted across all markets and geographies. This in turn leads to better adoption and success of the digital transformation programme as capabilities and partnerships are built in centres of excellence and shared.

Increase sales via new channels e.g. e-commerce, CRM, loyalty

When speaking about digital transformation, the literature alludes to many organisations investing in online sales channels to take advantage of the digital consumer. Participants advised that across many geographies and at a global level, e-commerce is being focused on as a key growth driver forming part of the business strategy of an enterprise. Customer relationship management (CRM) technologies and loyalty services are also being focused on to enable and strengthen the e-commerce sales journey. With e-commerce as the foundational service, CRM technologies and loyalty services are supplementing core digital offerings.

Decrease costs leveraging digital technologies

With digital transformation, the literature alludes to many organisations investing in cloud technologies. Participants advised that the migration of existing office and private data centre infrastructure, such as application servers, was in progress. Core applications such as the customer databases and e-commerce systems had already transitioned to the cloud-based infrastructure.

This cloud technology transition resulted in significant cost savings for the case study organisation. In addition, increased efficiency gains and improved workflow in business processes were experienced when using cloud-based infrastructure. These are a few examples of how the organisation had been able, in a short period of time, to realise cost savings as part of its digital transformation. This enabled the organisation to channel the saved resources into other areas of the organisation.

Improve brand affection

Due to the journey simplification opportunities that digital technologies present to organisations and their consumers, it is envisioned that the organisation can make significant strides in customer experience. For example, across the different global markets, mobile ordering technology has been prioritised to

allow consumers to pre-order and pay for services for in-store and drive-through collection. In this way, the consumer can bypass queues in-store and avoid "queue anxiety" when making their selection. This in turn improves the customer experience and hence brand love.

Convenience and ease

With many challenges that consumers face in their day to day lives, the organisation's key aim is to make consumption of its products and services as convenient and easy as possible. This is part of its RED (relevant, easy & distinctive) strategy. The digital transformation was aligned to this strategy and employed continuous improvement (CI) initiatives to ensure the digital experience, including ordering, was user-friendly.

Personalised experience

The organisation identified through its market research in the QSR segment that its consumers require a personalised experience with relevant communication. This communication is about relevant products that they consume, delivered at the right time and through the right medium or channel. This is part of its RED strategy. So and Li (2020) advise that hospitality and tourism sector research shows that service providers also continue to seek ways to engage customers in the value-creation process to deliver personalised experiences.

Finding 3 - Digital transformation strategy execution

Key research objective 1: To contribute insights into how organisations can engage in, enable and manage digital transformation.

The organisation highlighted several key learnings and insights regarding digital transformation strategy execution. These learnings from their experience included:

Build centrally, deploy across markets

The theory is that multinational organisations engaging in digital transformation should build their product offering, capability and services centrally. Once successfully piloted in a market, it should then deploy it across other markets.

Ensure solutions can scale

When speaking about digital transformation, a key insight from the literature is the scale principle. This advocates that services, capabilities or solutions must be able to scale as demand increases. Challenges with digital transformation occur when solutions cannot scale as the demand grows. The participants concurred with this notion. The way the scale principle is achieved is through ensuring that the digital ecosystem architecture is robust and designed in a way which allows expansion. This can be achieved practically by applying principles of cloud computing, advanced data structures, micro-service architectures and loosely coupled systems. Horizontal and vertical scaling principles are key to ensure that at peak demand, user experience is not compromised due to high processing, disk and/or memory requirements. Stress or performance testing should be implemented to ensure the systems behave well under duress. The importance of scalable digital solutions is supported and emphasised in the literature review.

Digital transformation as a continuous process

A key insight provided by the participants is the notion that organisations should not expect their digital transformation programme to have a fixed end date. Unlike other transformational programmes that organisations may have gone through in the past, a digital transformation programme is different in that it is a continuous evolution for an organisation.

Stay abreast of new trends and technologies to remain competitive

Participants advised that they are constantly observing the market for new technologies and trends to remain competitive. As an organisation, the mindset is to be continuously learning and upskilling its teams to stay abreast. New services, solutions and digital capabilities are continuously being investigated by teams across the various countries. Learnings are then shared periodically and there is a roadmap of what experiments are being conducted. The sharing across the organisation enables them to be efficient in their testing of new technologies, services and capabilities.

Set realistic expectations and goals by understanding digital transformation effort

A key insight from the respondents is that organisations need to understand the effort that is needed for a digital transformation programme. This can then start the programme in the right manner by ensuring teams are not frustrated by unrealistic expectations and goals from its stakeholders and sponsors.

Start small and leverage smaller successes. Look for low hanging fruit

Part of setting realistic goals should include understanding what digital services can be launched in the initial iterations with low effort and a short timeframe. These initial iterations should contain minimal viable products (MVP) of digital services that can be launched to the organisation's existing consumers or be used to acquire new customers. Early success can help to breed further wins for the organisation by energising them with the potential of digital transformation by demonstrating progressive growth at the onset of the digital transformation.

Finding 4 - Digital transformation structures

Key research objective 2: To examine leading-practice digital organisation design, processes, cultural considerations and programme management to enable digital transformation.

What digital team organisation structure has been put in place at your organisation?

The key insights from the digital transformation organisation structure feedback from the participants are summarised in the next section.

Staff from the onset

Participants advised that the effort required for digital transformation should not be underestimated, especially when it comes to the human resource requirements. Any transformation programme will require significant investment into organisation design requirements and people to undertake the work. The notion of staffing the team as requirements come up or as the organisation learns and comes to understand that it needs further resources is not a wise approach. Participants advised that this approach leads to reduced morale as digital transformation teams are understaffed and overworked. This in turn leads to attrition and staff fatigue. Furthermore, the organisation can fail to deliver timely on its digital transformation endeavours.

A digital transformation structure is never permanent. It evolves as the business needs change

A key learning from the participants is the concept that organisations should never view their digital transformation structure as complete. It must have the mindset to always review and revise the digital transformation structure as it learns and evolves. This is a natural phenomenon as new roles become necessary and old roles become redundant.

Separate the traditional IT scope and the new digital scope

A key insight from the examination of the various iterations of the digital team organisation structures is that the digital team was able to focus better when traditional IT scope, such as infrastructure, networking and desktop support, was excluded from its remit and left to a separate IT team function. The digital team was abstracted from the traditional IT operations and was responsible for customer-facing digital solutions, channels and services.

Finding 5 – Digital transformation processes

Key research objective 2: To examine leading-practice digital organisation design, processes, cultural considerations and programme management to enable digital transformation.

What digital transformation processes have been put in place at your organisation?

The organisation highlighted several key insights regarding digital transformation processes and ways of working. These learnings from their experience included:

Integration of digital transformation goals into all departmental and staff objectives

When speaking about digital transformation, participants advised that, for the organisation to be successful, it was imperative to embed the digital transformation goals into each employees' individual goals and objectives for each financial year.

Set up governance forums

Similar to any large organisational transformation undertaking, timely governance forums are crucial to ensure that the programme is on track and aligned to the stakeholder's expectations of the key milestones and progress. These governance forums are also important junctures for any risks or issues to be highlighted which might be creating impediments to the progress of the programme's goals and objectives. Respondents advised that the organisation has several key governance checkpoints. These include sprint-release planning, weekly status meetings, digital steering committee, strategy in action deep dives and strategy in action meetings.

Agile methods are key to digital transformation success

It is recommended to have an agile process to ensure that the organisation can keep up with the competitor landscape as well as the changing consumer demands. Use test-and-learn methods. They help to propagate moving away from assumptions and biases that organisations may possess. Use data-driven methods for decisioning. Complete continuous benchmarking across local and international competitors in the same and in differing segments.

Finding 6 - Take time to focus on the digital architecture & technology strategy

Key research objective 2: To examine leading-practice digital organisation design, processes, cultural considerations and programme management to enable digital transformation.

What digital transformation blueprints and/or architectural guidelines have been used at your organisation?

The organisation highlighted several key insights regarding digital platform architecture and technology strategy. The design of the digital architecture is a key focus area within digital transformation. Digital platform architecture design should include the following considerations:

- High scalability
- High availability
- High adaptability

Digital platform architecture design lacking in any of the above-mentioned dimensions may be detrimental to the success of the digital transformation programme.

Finding 7 – Leverage core digital technologies

Key research objective 2: To examine leading-practice digital organisation design, processes, cultural considerations and programme management to enable digital transformation.

What technologies has your organisation invested in for its digital transformation journey?

There is an abundance of digital technologies. Some are in the early concept phase while many are well established and are becoming digital industry norms. By the end of this research, the researcher is certain that new digital technologies and concepts would have been created and become part of the consideration set for organisations engaging in digital transformation. While there are many new technologies and innovations in the digital field, participants advised that some have become mature and should be part of any digital transformation consideration set. These technologies are cloud computing, mobile technology, big data, internet of things (IOT) and marketing technology (MarTech).

Finding 8 – Leadership know-how is crucial for digital transformation

Key research objective 3: To examine digital transformation hurdles and challenges organisations face and what can be done to circumvent these, with special focus on the QSR industry.

Participants in the case study organisation advised that with digital transformation, individuals at senior levels in the organisation should have experience with digital transformation. This can be a challenge when the organisation attempts to appoint an existing leadership team individual to lead the transformation but the individual lacks the experience in a competitive environment with many organisations aiming to build digital capabilities. This was the situation at the case study organisation. To then transform digitally, either those leaders need to quickly build their know-how, or the organisation should look to employ experts who have done it before. Consequently, challenges may arise with inexperienced individuals championing the digital transformation effort.

Finding 9 – Change management activity must be given necessary attention

Key research objective 3: To examine the digital transformation hurdles and challenges organisations face and what can be done to circumvent these, with special focus on the QSR industry.

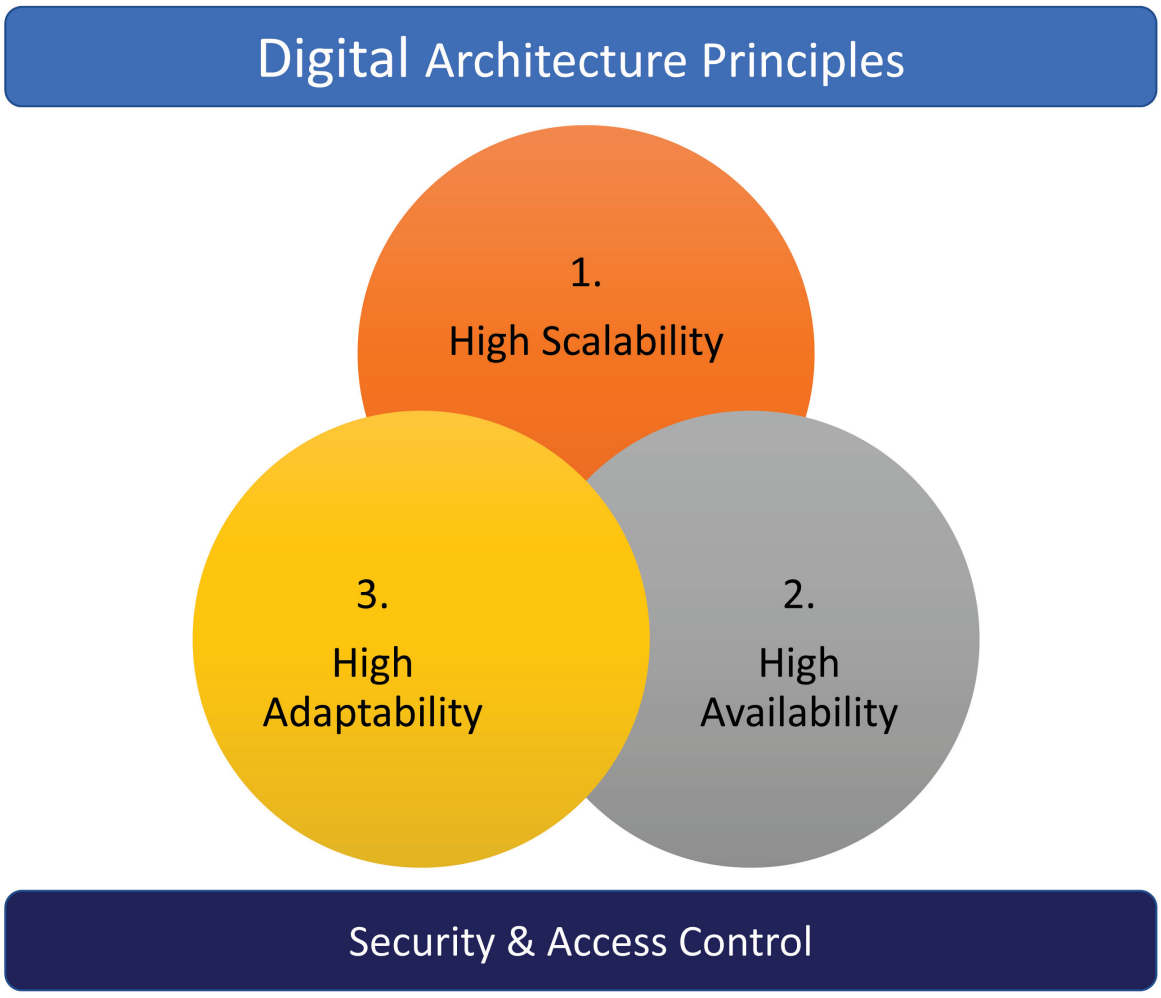

Figure 8: Digital architecture principles
Source: Author's Construction

A key insight that participants advised is that rolling out new digital infrastructure requires buy-in and investment in organisation learning and change management. Often, organisations will be moving from a manual system or process to a digitised one. The emphasis on organisation learning should not be underestimated. Participants advised that initially the organisation had underestimated the effort required. They had assumed that online computer-based training (CBT) for employees at the forefront and presentations to senior forums would be sufficient for the launch of the new digital platform.

The insufficient consideration given to change management served to hinder the digital transformation progress. Once enough consideration, planning and change management activity had been executed, the organisation was better equipped to scale and manage its digital transformation.

Finding 10 – Digital transformation scope must be clearly defined

Key research objective 2: To examine leading-practice digital organisation design, processes, cultural considerations and programme management to enable digital transformation.
Organisations need to define the scope and boundaries of the digital transformation programme. Digital transformation can be as broad as an organisation wants it to be. There is a multitude of technologies and concepts in the digital landscape being created every day. Therefore, it is imperative that the organisation define the scope of focus of its programme. This ensures the organisations digital transformation programme can remain on course.

Finding 11 – Digital transformation framework

Key research objective 4: To develop a blueprint and methodology for how to engage in digital transformation.

The findings and key learnings from the organisation are summarised in the quick reference digital transformation framework below.

As highlighted above, an organisation engaging in a digital transformation journey can follow this four-step process to reduce the complexity and navigate the challenges of digital transformation to reduce risk of failure. This is key to the research objectives, because organisations fail due to a lack of discipline in defining and executing the correct steps for their digital transformation programmes (Saldanha, 2019).

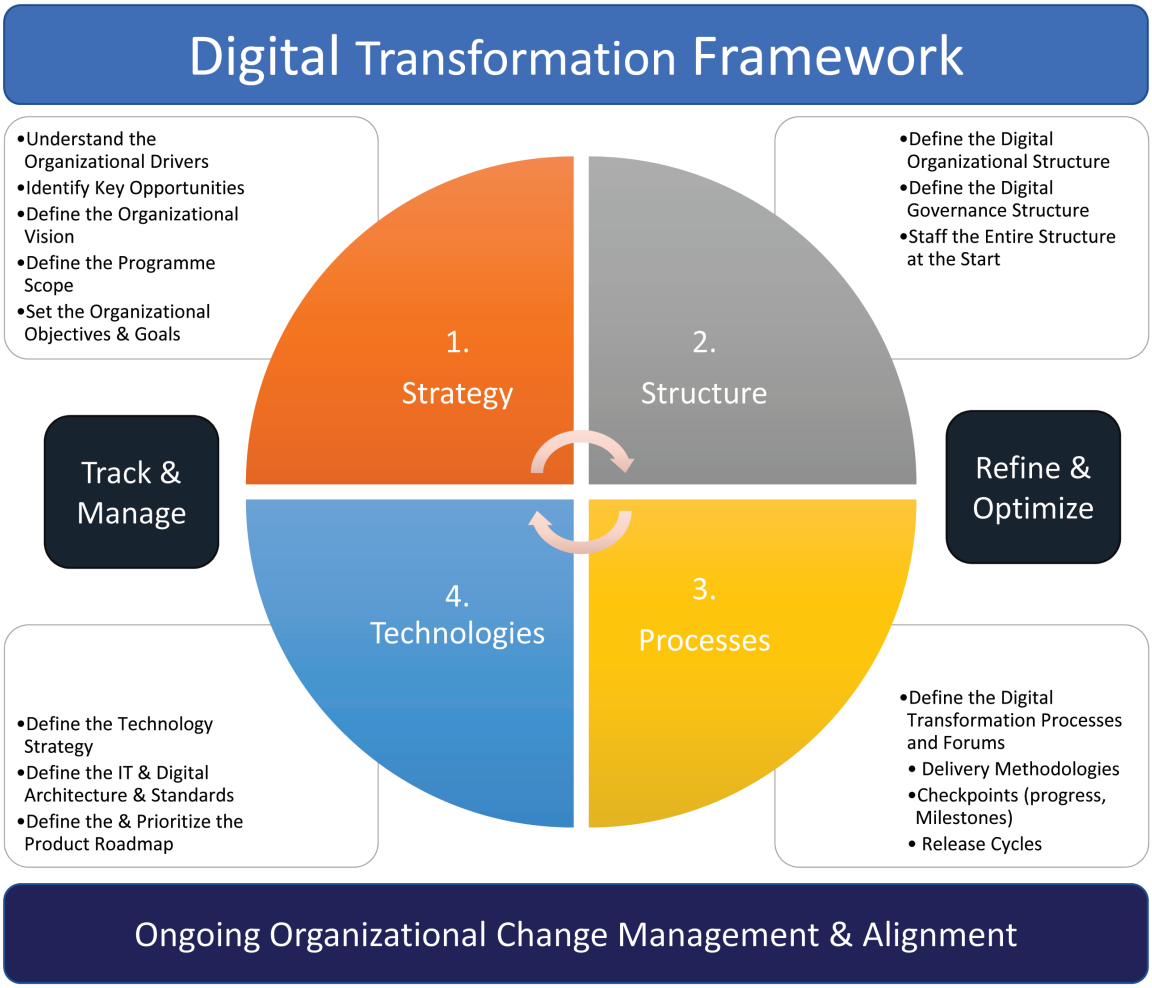

Figure 9: Digital transformation framework
Source: Author's Construction

Strategy Quadrant

The first step, the strategy quadrant in orange, is concerned with defining the digital strategy for the organisation. As part of this process, it is imperative for the organisation to critically think about what their key reasons are for engaging in digital transformation. The organisation needs to understand what the key drivers for itself is to engage in a digital transformation programme. Kane et al. (2015) advise that a lack of strategy can hinder an organisation's progress. Once the strategy is defined, it helps the organisation to stay true to its path. Part of this process also means understanding the key opportunities for the organisation. These will form part of the "low hanging fruit" (quick wins) that will be undertaken first as it will potentially bring success and strengthen the case for digital transformation to stakeholders. Digital transformation can be a long journey and organisations need to continuously show value to its stakeholders, as advised as a key insight from the case study organisation.

Multinational organisations crafting their digital strategy have an important decision to make in terms of either creating a uniform global strategy or leaving this up to each market. In the platform economy era, many leaders have taken the approach of one global strategy when it comes to building its technology applications and deploying its products/services across markets. Popular examples of companies that have been able to leverage the platform economy model are Uber, Airbnb, Meta Platforms Inc. and Alphabet. Similarly, participants of the organisation have advised that it makes sense to leverage one strategy and share assets across markets. Economies of scale can be realised in this manner, as well as the benefit of significant cost and time savings.

The next part of the strategy definition process is concerned with creating an organisational vision that can be articulated in a single sentence to its stakeholders. This helps to create a cultural mindset shift towards a digital organisation for employees. This is also an opportunity for organisations to demonstrate their commitment to digital transformation. Kane et al. (2015) advise that employees want to work for companies that demonstrate they are committed to digital progress. This aids to attract and retain talent.

Next the organisation needs to define the scope and boundaries of the digital transformation programme. Digital transformation can be as broad as an organisation wants it to be. There is a multitude of technologies in the digital landscape being created every day. Therefore, it is imperative that the organisation is clear about exactly what it wants to focus on in its programme. Kane et al. (2015) support this notion by advocating that the power of digital transformation strategy lies in its scope and objectives. The key opportunities identified in previous steps of the process should help the organisation understand what will form part of its digital transformation programme scope.

Lastly, the organisation's digital transformation objectives and goals need to be established to complete the strategy definition process. It is imperative that the organisation sets realistic expectations and goals by understanding the effort required from the digital transformation programme. Setting the organisation's objectives and goals is essential as it gives the team responsible for managing the digital transformation programme key guidelines and success criteria for its programme to work towards.

Structure Quadrant

The second step, the structure quadrant in grey, is concerned with defining the digital team structure for the organisation. As part of this process, it is imperative for the organisation to think about what digital organisational structure is needed to support its digital transformation programme. The organisation needs to understand the human resource elements it will need to support the vision and drive the digital transformation programme. Examples of the digital roles include chief digital officer (CDO), product owner, scrum master, digital business architect, project/programme manager, change manager and software developer.

Fully understanding the structural requirements should not be taken lightly by the organisation and it needs to take sufficient time to complete this step. Underestimating or under-resourcing the programme can be detrimental to its success. Organisations with inadequate expertise on the staffing requirements are encouraged to engage third-party advisors for assistance. Furthermore, the organisation needs to understand which key stakeholders will form part of the structure. Will it include the leadership team, key third-party partners, strategic advisers and other key parts of its business? Once this is understood, the governance structure for the digital transformation programme can be formalised. This governance forum needs to be established to ensure the digital transformation programme stays true to its vision and strategy as set out.

Lastly, staffing the structure from the onset is essential for optimal performance and to mitigate risk of failure. Combining multiple roles should be avoided as it can lead to unhappy teams, employee fatigue and attrition as well as substandard delivery of services to consumers and increased brand reputational risk for the organisation. Staffing the structure from the onset is essential as it gives the team responsible for managing the digital transformation the best chance of a successful outcome for its programme and stakeholders.

The organisation should be cognisant of the princple that the structure is never complete. It is an ever-evolving organism that needs to be continuously revisited and adapted as the organisation's requirements change.

Processes Quadrant

The third step in the framework, the processes quadrant in yellow, is concerned with establishing digital transformation processes for the organisation. The key digital transformation governance processes such as the executive steering committee

need to be established as well as the cadence of the meetings. The ways of working across the organisation need to be established and embedded in the organisation culture.

Agile methodologies should be examined as it is a popular delivery methodology currently for organisations aiming to become nimble. Regular project checkpoints need to be established and milestones tracked to ensure delivery towards achieving the organisation's strategic goals. Furthermore, test-and-learn methodologies are encouraged to be part of the consideration set for the organisation's processes. This is based on the recommendations of the study's participants. Test-and-learn methodologies propagate moving away from assumptions and biases that organisations may possess. When there is an idea worth exploring, the notion is to evaluate it quickly. This can be achieved using a rapid prototyping method or another method that enables speed to trial and speed to market. The key is to assess the concept or idea as soon as possible to understand if there is a business case for it. Zaharia and Pietreanu (2018) concur by advocating that it is important to promote a new way of working and managing processes by developing a digital culture throughout the organisation. The use of data-driven and continuous benchmarking processes is encouraged as part of an organisation's consideration set when setting up processes as part of digital transformation.

Lastly, the release cycle processes for the delivery of new digital services and enhancements need to be agreed and tracked to ensure the organisation is progressing towards its high-level goals and objectives.

Technologies Quadrant

The fourth step in the process, the technologies quadrant in blue, is concerned with understanding the digital technology layer for the organisation. Digital technology forms the core of digital transformation. It is the reason why opportunities are currently present to stepchange the way organisations operate. Hence, sufficient time and thought need to go into this important foundational element of the digital transformation programme for organisations.

Part of this process involves defining the technology strategy and digital architecture for the organisation. This design will support the core digital services and processes that the organisation aims to offer as part of its business strategy. It will ensure that core or essential services can be holistically accommodated so that the organisation can have a single view of its services and operations in a real-time manner. This will enable data-driven decisioning and leveraging of big data principles as previously discussed. The design of the digital architecture is a key focus area in the digital transformation programme. Digital architecture and application design should include the following considerations:

- High scalability
- High availability
- High adaptability

Part of the process of defining information technology (IT) and digital architecture involves defining the standards in terms of which the various implementation teams will operate when creating the various systems. This may include, but is not limited to, information security, data, privacy, development, integration, service orientation, micro-service, software, procurement, access and storage standards. These standards are crucial to ensure the integrity of the digital technology platform and optimal functioning.

It is important for an organisation to take sufficient time and give careful consideration to the standards but also to ensure information technology risk and audit teams are part of the organisation structure to ensure the standards are followed and adhered to by the various internal implementation teams as well as outsourced or third-party partners. All the work and investment an organisation puts into its digital transformation and services can be undone with a single information data security breach or attack, the ramifications of which can be loss of trust with its consumers and industry partners or at the other end of the spectrum, financial loss due to shutdown of its core services, regulator penalties or fines.

Lastly, the last step of the technology definition stream is to define and prioritise the technology product roadmap. This will include key decisioning around the core technologies the organisation will commission, the sequence in which they will be provisioned and the strategy by which legacy or third-party solutions will be decommissioned. Careful consideration needs to be given to this step as it will determine the speed at which the organisation will realise benefit from its digital transformation programme.

Ongoing Process

Step one to four described in the digital transformation framework can be viewed as ongoing sequential processes for the organisation. The other continuous process that needs to occur throughout the digital transformation journey is organisational change management and alignment with all stakeholders, i.e. employees, shareholders, partners and customers. Dedicated change management teams are recommended to ensure successful digital transformation. Zaharia and Pietreanu (2018) support the notion of the importance of alignment of all employees to the digital transformation programme objectives. Tabrizi et al. (2019) advise that removing fear of job losses is essential for digital transformation programmes.

Recommendations and conclusions

Recommendations

The key recommendations based on the research conclusions previously elaborated on will now be discussed.

Organisations should embrace digital technology

The research has shown examples of digital technology disrupting well-established former incumbents in both the local African and global landscape. There is no certainty that all organisations face disruption to the extremity of ceasing to exist. Each organisation needs to understand its own strengths, weaknesses, opportunities and threats to determine where it lies on the spectrum.

In the short to near term future, organisations should embrace digital technology and transformation opportunities. Digital technologies offer significant opportunities to improve efficiency and effectiveness internally or externally with its stakeholders. There are currently a myriad of technologies and concepts and many are being created as this research is being documented. It will be time-consuming to delve into and unravel these technologies, staff teams to implement them and complete pilots to determine their effectiveness. Hence, the key recommendation is that organisations should start embracing digital transformation earliest. In this way, organisations can improve their business model, customer experience or employee satisfaction, to name but a few areas where there may be potential.

Multinational organisations should develop a uniform digital transformation strategy

The research has described how successful digital companies currently have created a central strategy according to which to execute its digital transformation programme. These digital organisations understand what their core capabilities and offerings are and develop these in such a manner that they can offer them across the world to capitalise upon globalisation. They are developed at the central headquarters in a centre of excellence fashion and scaled to the markets in which the organisation operates.

Organisations must ensure their digital transformation systems are scalable

The research has shown examples of organisations that had initial success with DT offerings and how detrimental it was when they could not scale or adapt their operations and offerings quickly enough to meet market demand. A non-negotiable aspect that organisations must have for digital transformation programmes is scalable and adaptable systems. It is therefore recommended for organisations that are looking to engage in a digital transformation programme to ensure that platform scalability, adaptability and robustness are a priority focus area.

Organisations must prioritise investment in people before engaging digital transformation programmes

The research has shown that human capital is a critical aspect of digital transformation programmes. Prioritising technology over people and forging ahead without the required human capital investments can be detrimental to a digital transformation programme even before it has gained the necessary traction. Human capital is the glue that tactically binds together digital transformation programmes. It is therefore recommended that organisations take cognisance of the necessary human capital requirements and fill these vacancies before engaging in DT.

Organisations must embed digital transformation processes and rituals in the organisation's culture

The research has shown how agile practices such as Scrum, principles such as data-driven decisioning, DEVOPS and test-and-learn methodologies such as A/B and multivariant testing are contributing to digital transformation programmes. These practices go hand in hand with digital transformation programmes and are common ways of working for digital transformation leaders. Hence, it is highly recommended that these digital transformation processes and methodologies become an integral part of an organisation's culture and are embedded from the onset. This will give the organisation the best chance to execute well and to be successful.

Organisations must place strong emphasis on digital transformation technology architecture and strategy

The research has shown that digital transformation architecture and a technology strategy are key components of digital transformation programmes. The design of the digital architecture must be a key focus area in the digital transformation programme and any digital architecture design must include sufficient considerations for high scalability, high availability and high adaptability.

Organisations must leverage technology for digital transformation programmes

The research has shown how leading digital organisations have made technology central to its operating models. Likewise, technology is a core component for organisations engaging in digital transformation programmes. Technology enables organisations to gain competitive advantage by realising the opportunities that digital technology offers.

Organisations should employ experienced digital transformation practitioners to enable digital transformation

As the research has shown, staffing the organisation with individuals who have prior experience with digital transformation programmes can yield better results at a greater rate for organisations than inexperienced teams.

Research contributions

The contribution of this study is considered in terms of the importance of this type of research to the QSR industry as well as to academia. Research contributions can be viewed from a theoretical or managerial standpoint.

Theoretical and methodological contributions

The study demonstrates originality by developing a framework for digital transformation for the QSR industry in Africa. This addresses a gap in the literature within the QSR industry and the African context. The development of the framework for digital transformation provides a blueprint that organisations can adopt to engage digital transformation. The study contributes to existing research on the drivers for digital transformation and supports and supplements the literature on the existing challenges of digital transformation that organisations face. The study supports existing research on the technical architecture and design principles for creating digital platforms.

Managerial contributions

Digital transformation has become a strategic imperative for organisations, including the QSR industry. However, the majority of organisations are struggling with digital transformation efforts and are failing. The study contributes practical guidelines for business practitioners engaging in digital transformation, providing them with a logical and structured approach through the digital transformation framework (Figure 9). The framework includes digital strategy creation and execution guidelines. Furthermore, organisational structures and considerations are provided. The framework is a new addition to literature on digital transformation. The study also provides insight into core digital technologies and processes that can be leveraged at the onset of digital transformation for organisations. This circumvents the need to expend resources on deciphering the existing literature. The framework thus is a new contribution to the literature on this topic.

The figure below provides a summary of the theoretical and managerial contributions of the study.

Limitations of the study

The study is limited to one large QSR organisation. Due to the inherent limitations of the qualitative research method, the results cannot be generalised statistically (as in quantitative studies) to other organisations. Case study research relies on analytical generalisation (Yin, 2003). The researcher's findings support the emergent theory that was developed based on the case.

The findings and theories of the study can form the basis upon which to conduct further quantitative type studies by using the findings and recommendations as hypothesis to confirm them for generalisation to wider organisations in similar or different industries. For example, a quantitative study can be conducted in the QSR or another industry to qualify the findings across a statistically significant sample size.

Areas for further study

The findings of the study can form the basis upon which to conduct further quantitative type studies by using the findings and recommendations as hypothesis to confirm them for generalisation to wider organisations in similar or different

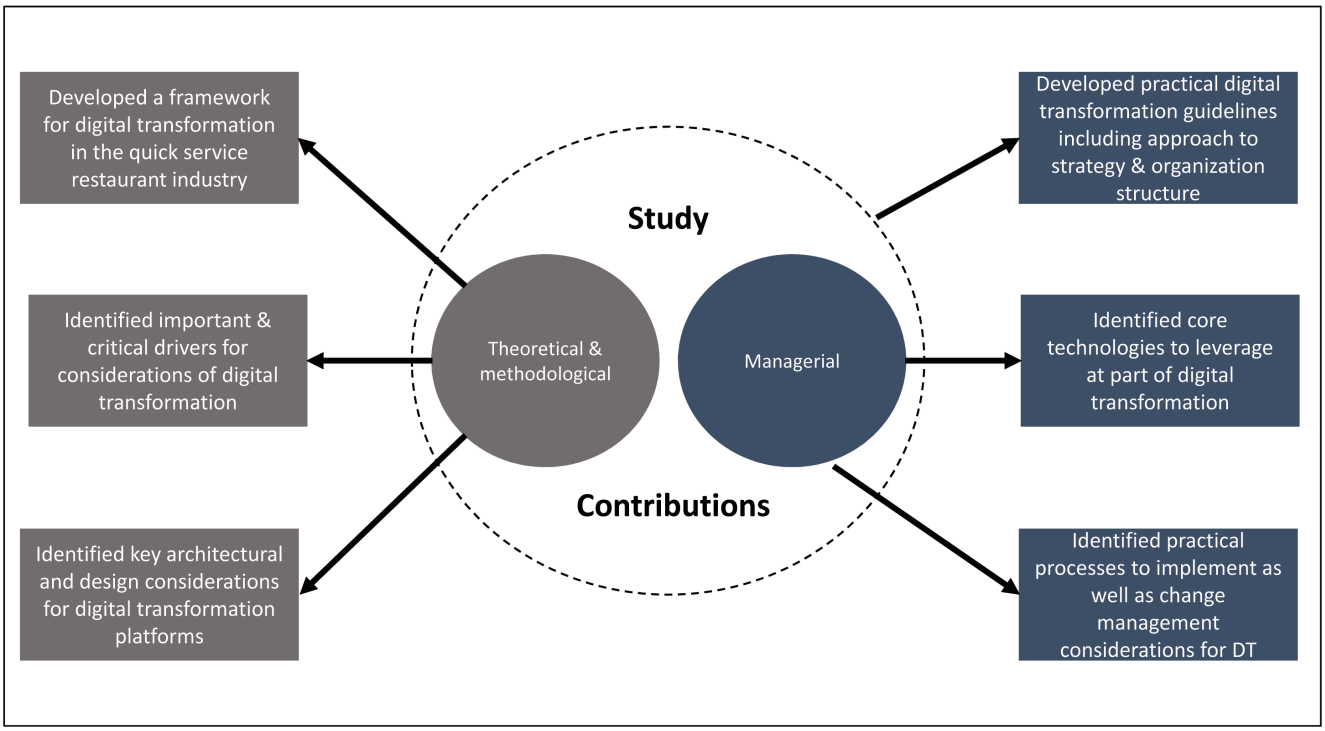

Figure 10: Summary of contributions of the study
Source: Author's Construction

industries. Specifically, subsequent studies may research digital transformation strategy development considerations in multinational organisations at a global vs local market level and how this differs across various types of organisations and industries. What are the challenges these organisations face when defining their digital transformation strategy; and when does it make sense to employ either option?

Furthermore, subsequent studies may research digital transformation agile methodology processes and their applicability to the various types of organisations and industries. What are the most suitable agile methodologies for these organisations when implementing their digital transformation strategy? What are the considerations for choosing the methodologies such Scrum, Kanban or other agile delivery methods?

Conclusions

The key contribution of this study is the digital transformation framework that provides a guideline for organisations looking to engage in a digital transformation programme. The four-step model detailed four key areas that need to be considered, namely strategy, structures, processes and technology. The digital transformation framework creation was guided by the case study organisation's learnings and key insights. These included the recommendations that digital transformation strategy should be developed centrally; digital transformation execution should ensure scalability; digital transformation execution should begin with investment in people; digital transformation processes and rituals need to be embedded in the organisation; digital transformation technology architecture and strategy are key to long-term success and sustainability; leveraging technology is core to digital transformation; organisations need experienced practitioners to enable digital transformation; and cross-organisational education is key to digital transformation success.

Acknowledgements

The authors would like to thank all the participants from the research case study organisation. Their deep insight enabled the authors to complete this study.

Competing interests

The authors have declared that no competing interests exist.

Funding Information

This work was supported by the University of South Africa Graduate School of Business Leadership (UNISA SBL)

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Dates

Submitted: 12/11/2023
Accepted: 14/02/2024
Published:

References

Abdelaal, H.I., Khater, M., Zaki, M., 2018, Digital business transformation and strategy: What do we know so far, Cambridge, England: University of Cambridge.

Alt, R., 2021, Digital transformation in the restaurant industry: Current developments and implications, *Journal of Smart Tourism* 1(1), 69-74. https://doi.org/10.52255/smarttourism.2021.1.1.9.

Archibald, M.E., 2017, Resource dependency theory, Encyclopedia Britannica, Available from: https://www.britannica.com/topic/resource-dependency-theory. Accessed: 4 October 19.

Bhoola, S., 2022, The impact of covid-19 pandemic lockdown measures on restaurants in Durban, South Africa, *African Journal of Hospitality, Tourism and Leisure* 11(4), 1408-1424.

Blaschke, M., Cigaina, M., Riss, U.V., et al., 2017, Designing business models for the Digital economy. In: Oswald, G., Kleinemeier, M. (eds) Shaping the Digital Enterprise. Springer, Cham. https://doi.org/10.1007/978-3-319-40967-2_6

Charness, N., Boot, W.R., 2016, Technology, gaming, and social networking. In Handbook of the Psychology of Aging, Eight Edition. Elsevier, 389-404. https://doi.org/10.1016/B978-0-12-411469-2.00020-0.

Ciftci, O., Choi, E.K., Berezina, K., 2020, Customer intention to use facial recognition Technology at quick-service restaurants, *E-Review of Tourism Research* 17(5), 753-763.

Collins, C. S., Stockton, C.M., 2018, The central role of theory in qualitative research, *International Journal of Qualitative Methods* 17(1), 1-10. https://doi.org/10.1177/1609406918797475.

Dang, T.S., 2021, Organizational mindfulness for organizational change: a case study in Digital transformation, Unpublished Masters (Management) thesis. Mahidol University. Available from: https://archive.cm.mahidol.ac.th/handle/123456789/4278. Accessed 10 May 2022.

Davenport, T.H., Westerman, G., 2018, Why so many high-profile digital transformations Fail, *Harvard Business Review* 9, 15. Available from: https://www.hbsp.harvard.edu/product/H047J1-PDF-ENG. Accesseds 12 June 16.

Feliciano-Cestero, M.M., Ameen, N., Kotabe, M., et al., 2023, Is digital transformation threatened? A systematic literature review of the factors influencing Firms' digital transformation and internationalization, *Journal of Business Research* 157, 113546. https://doi.org/10.1016/j.jbusres.2022.113546.

Fernández-Portillo, A., Almodóvar-González, M., Sánchez-Escobedo, M.C., et al., 2022, The role of innovation in the relationship between digitalisation and economic and financial performance. A company-level research, *European Research on Management and Business Economics* 28(3), 1-8.

Fush, P., Fush, G.E., Ness, L.R., 2018, Denzin's paradigm shift: revisiting triangulation in qualitative research, *Journal of Social Change* 10(1), 19-32. https://doi.org/10.5590/JOSC.2018.10.1.02.

Gallarza-Granizo, M.G., Ruiz-Molina, M., Schlosser, C., 2020, Customer value in quick-service restaurants: A cross-cultural study, *International Journal of Hospitality Management* 85(8), 2020.

Gerber, A., Matthee, M., 2019, Design thinking for pre-empting digital disruption, *Digital Transformation for a Sustainable Society in the 21st Century* 759–770. https://doi.org/10.1007/978-3-030-29374-1_62.

Pappas, I.O., Mikalef, P., Dwivedi, Y.K., et al., 2019, Digital Transformation for a Sustainable Society in the 21st Century. I3E 2019. Lecture Notes in Computer Science. Springer, Cham. Available from: https://doi.org/10.1007/978-3-030-29374-1_62. Accessed: 7 Jan 20.

Goch, R., 2018, The impact of third-party restaurant delivery penetration on the quick service pizza industry, NEDSI 2018 Annual Conference, Providence, Rhode Island, USA 12-14 April 2018. Available from: https://core.ac.uk/download/pdf/323214767.pdf. Accessed 7 June 19.

Gong, C., Ribiere, V., 2021, Developing a unified definition of digital transformation. *Technovation* 102(C), 102. https://doi.org/10.1016/j.technovation.2020.102217.

Hagel, J., Brown, J.S., Wooll, M., et al., 2015, Patterns of disruption Anticipating disruptive strategies in a world of unicorns, black swans, and exponentials, *Deloitte*. Available from: https://www2.deloitte.com/content/dam/insights/us/articles/anticipating-disruptive-strategy-of-market-entrants/DUP-1098_Patterns-of-disruption_vFINAL.pdf Accessed: 17 September 16.

Hess, T., Matt, C., Benlian, A., et al., 2016, Options for formulating a digital transformation strategy, *MIS Quartely Executive* 15(2), 123-139. Available from: http://www.misqe.org/ojs2/execsummaries/MISQE_V15I2_Hessetal_Web.pdf. Accessed 18 June 16.

Kane, G.C., Palmer, D., Phillips, A.N., et al., 2015, Strategy, not technology, drives digital transformation, *MIT Sloan Management Review & Deloitte University Press*. Available from: https://sloanreview.mit.edu/projects/strategy-drives-digital-transformation/?switch_view=PDF. Accessed 3 July 22.

Kee, D.M.H., Binti Misbah, N., Binti Nazril, N.A., et al., 2021, The impact of COVID-19 on the fast-food industry in Malaysia, *Journal of the Community Development in Asia* 4(2), 44-57.

Khan, M.A., 2020, Technological disruptions in restaurant services: Impact of innovations and delivery services, *Journal of Hospitality & Tourism Research* 44(5), 715-732. https://doi.org/10.1177/1096348020908636.

Lang, D., Rumsey, C., 2018, Business disruption is here to stay - what should leaders do? *Quality - Access to Success* 19(S3), 35-40. Available from: https://www.proquest.com/docview/2113234182?pq-origsite=gscholar&fromopenview=true. Accessed 12 August 19.

Ledikwe, A., Stiehler-Mulder, B., Roberts-Lombard, M., 2020, Product involvement, WOM and eWOM in the fast food industry: A young adult perspective in an emerging African economy, *Cogent Business & Management* 7(1), 1-22. https://doi.org/10.1080/23311975.2020.1817288.

Li, C., Mirosa, M., Bremer, P., 2020, Review of online food delivery platforms and their impacts on sustainability, *Sustainability* 12(14), 1-17. https://doi.org/10.3390/su12145528.

Mann, G., Karanasios, S., Breidbach, C., 2022, Orchestrating the digital transformation of a business ecosystem, *The Journal of Strategic Information Systems* 31(3), 57-68. https://doi.org/10.1016/j.jsis.2022.101733.

Maumbe, B., 2012, The rise of South Africa's quick service restaurant industry, *Journal of Agribusiness in Developing and Emerging Economies* 2(2), 147-166. https://doi.org/10.1108/20440831211272607.

McDonald, M., 2013, Defining digital, technology's current tower of babel, *Accenture*. Available from: https://www.accenture.com/us-en/blogs/blogs-defining-digital-technologys-tower-babel. Accessed: 5 December 15.

Mofokeng, T.E., 2021, The impact of online shopping attributes on customer satisfaction and loyalty: Moderating effects of e-commerce experience, *Cogent Business & Management* 8(1), 1-33. https://doi.org/10.1080/23311975.2021.1968206.

Myadam, R., 2015, Re-think integration in the digital world, *WIPRO*. Available from: https://wiprodigital.com/2015/09/22/re-think-integration-in-the-digital-world/. Accessed 19 August 16.

Newman, A.L., Bach, D., 2004, Privacy and regulation in a digital age. In: Preissl, B., Bouwman, H., Steinfield, C. (eds) E-Life after the Dot Com Bust. Heidelberg, *Physica* 186-207.

Nolan, M., Behi, R., 1995, Triangulation: the best of all worlds? *British Journal of Nursing* 4(14), 829-32. https://doi.org/10.12968/bjon.1995.4.14.829.

Northfield, R., 2021, The future of fast food, *Engineering & Technology* 16(2), 42-46. https://doi.org/10.1049/et.2021.0208.

Osmundsen, K., Iden, J., Bygstad, B., 2018, Digital Transformation: Drivers, Success Factors, and Implications. In Mediterranean Conference on Information Systems (MCIS). 28-30 September. Greece:AISel, 37. Available at: https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1004&context=mcis2018. Accessed: 4 February 20.

Park, Y., Sawy, O.M.E., Hong, T., 2020, Digital transformation to real-time enterprise to Sustain competitive advantage in the digitized world: the role of business intelligence and communication systems., *Korea Business Review* 24, 105-130. https://doi.org/10.17287/kbr.2020.24.0.105.

Parker, G.G., Alstyne, M.W.V., Choudary, S.P., 2016, Platform Revolution: How Networked Markets Are Transforming the Economy-And How to Make Them Work for You. New York: W.W. Norton & Company.

Pedroso, C.S.P., 2020, The QSR industry at all velocity. Unpublished Masters (Finance), *NOVA - School of Business and Economics*. Available at: http://hdl.handle.net/10362/106851. Accessed 15 November 20.

Raddon, A., 2015, Early stage research training: epistemology & ontology in social science research. [PowerPoint presentation]. University of Leicester, Leicester, United Kingdom.

Rastegar, N., Flaherty, J., Liang, L., et al., 2021, The adoption of self-service kiosks in quick-service restaurants, *European Journal of Tourism Research* 27(2021), 1-23. https://doi.org/10.54055/ejtr.v27i.2139.

Rogers, B., 2016, Why 84% of companies fail at digital transformation, *Forbes*. Available from: http://www.forbes.com/sites/brucerogers/2016/01/07/why-84-of-companies-fail-at-digital-transformation/#630d3eb6588f. Accessed 17 June 16.

Saldana, J., 2013, The Coding Manual for Qualitative Researchers. 2nd ed. London: SAGE Publications LTD.

Saldanha, T., 2019, Why digital transformation fail: the surprising disciplines of how to take Off and stay ahead. Berrett-Koehler Publishers. Available from: https://www.perlego.com/book/971778/why-digital-transformations-fail-the-surprising-disciplines-of-how-to-take-off-and-stay-ahead-pdf. Accessed 14 October 2022.

Schniederjans, D.G., Curado, C., Khalajhedayati, M., 2020, Supply chain digitisation Trends: An integration of knowledge management, *International Journal of Production Economics* 220(C), 1-11. https://doi.org/10.1016/j.ijpe.2019.07.012.

Schoeman, W., Moore, R., Seedat, Y., et al., 2021, Artificial intelligence: Is South Africa ready? *Gordon Institute of Business Science, University of Pretoria*. Available from: http://hdl.handle.net/2263/82719. Accessed 14 February 22.

Soto-Acosta, P., 2020, COVID-19 pandemic: Shifting digital transformation to a high-speed gear, *Information Systems Management* 37(4), 260-266. https://doi.org/10.1080/10580530.2020.1814461.

Tabrizi, B., Lam, E., Girard, K., et al., 2019, Digital transformation is not about technology, *Harvard Business Review* 13, 1-6. Available from: https://www.hbsp.harvard.edu/product/H04TO3-PDF-ENG. Accessed 12 December 20.

Titone, J., Goch, R., 2018, The economics of quick service restaurant delivery partnerships. Proceedings of the 45th Northeast Business & Economics Association (NBEA), New Jersey, October 25-27. New Jersey: Northeast Business & Economics Association. Available from: https://digitalcommons.molloy.edu/cgi/viewcontent.cgi?article=1043&context=bus_fac. Accessed 21 September 20.

Tomičić Furjan, M., Tomičić-Pupek, K., Pihir, I., 2020, Understanding digital transformation initiatives: Case studies analysis, *Business Systems Research* 11(1), 125-141. https://doi.org/10.2478/bsrj-2020-0009.

Truant, E., Broccardo, L., Dana, L., 2021, Digitalisation boosts company performance: an overview of Italian listed companies, *Technological Forecasting and Social Change* 173(C), 121-153. https://doi.org/10.1016/j.techfore.2021.121173.

Vial, G., 2019, Understanding digital transformation: A review and a research agenda, *The Journal of Strategic Information Systems* 28(2), 118-144. https://doi.org/10.1016/j.jsis.2019.01.003.

Wang, R., 2014, Outlook on dominating digital business disruption, *Constellation Research Inc*. Available from: https://www.constellationr.com/research/constellations-2014-outlook-dominating-digital-business-disruption. Accessed: 1 December 15.

World Economic Forum., 2016, Digital transformation of industries: In collaboration With Accenture. Available from: https://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/digital-enterprise-narrative-final-january-2016.pdf. Accessed 4 February 16.

Westerman, G., Bonnet, D., 2015, Revamping your business through digital transformation, *MIT Sloan Management Review* 26, 10-13. Available from: https://sloanreview.mit.edu/article/revamping-your-business-through-digital-transformation/. Accessed 9 December 15.

Woodward, C.J., Tschang, F.T., Ramasubbu, N., et al., 2012, Design capital and design moves: The logic of digital business strategy, *MIS Quarterly* 32(2), 537-564. https://doi.org/10.2139/ssrn.2010935.

Xu, J., 2014, Managing digital enterprise ten essential topics. Paris: Atlantis Press.

Yin, R.K., 2003, Case study research: Design and methods. Third Edition. Thousand Oaks: Sage Publications.

Yin, R.K., 2009, Case study research: Design and methods. Fourth Edition. Thousand Oaks: Sage Publications.

Zaharia, S.E., Pietreanu, C.V., 2018, Challenges in airport digital transformation, *Transportation Research Procedia* 35(1), 90-99. https://doi.org/10.1016/j.trpro.2018.12.016.

Zhang, Z., Jin, J., Li, S., et al., 2023, Digital transformation of incumbent firms from the perspective of portfolios of innovation, *Technology in Society*, 72(C), 102-149. https://doi.org/10.1016/j.techsoc.2022.102149.

Zimmer, M., Niemimaa, M., 2019, Cultivating a digital jungle: A tentative framework. In IFIP WG 8.2 OASIS Workshop at ICIS, 14 December, Munich: University of Turku, 1-7. Available from: https://research.utu.fi/converis/portal/detail/Publication/42555758. Accessed 12 October 20.