The effect of digital transformation on the business models of solutions providers: A perspective on South African firms

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Master of Arts by Research
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I. Abstract

In this interdisciplinary study, we examine the global shift of commercial models from ownership to as-a-service in technology, which forms the foundation for the solutions provider product and service capabilities. The democratisation of digital technology access paves the way for new players and diverse competitors in their landscape. Investigating deeper, we uncover four dimensions—servitisation, entrepreneurship, sustainability, and open innovation—that exert significant influence on the business models of South African the solutions provider. The research problem gains meaning through the lens of the dynamic capabilities framework. Rooted in social constructivism, the researcher explores interactions and connections that foster the creation of knowledge and meaning. To understand the solutions provider category comprehensively, the researcher conducted one-on-one interviews with various industry experts, including vendors, systems integrators, telecommunications operators, resellers, independent software vendors, and enterprise customers. This process unveils that a pivotal element in achieving successful digital transformation lies in adopting an alternative business model that facilitates continuous adaptability.

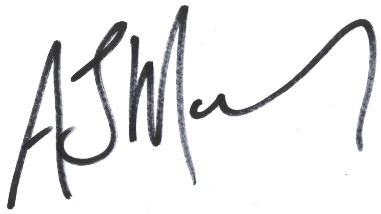
This study showcases how organisational ambidexterity lenses equip these companies with the ability to create, deliver, and capture value. Internally, servitisation and entrepreneurship empower the solutions provider to redefine their intellectual property and leadership strategies. Externally, sustainability and open innovation emerge as levers they employ to ground responsible transformation and elevate value propositions. The research emphasises that these providers must focus on developing intellectual property as their core offering. This involves leadership cultivating the adaptive skills necessary to facilitate effective collaboration. Furthermore, giving precedence to digital sustainability emerges as an enabler in shaping the persona of the solutions provider as an innovative company. Ultimately, this study establishes the fundamental role of the solutions provider as a catalyst for enterprise digital transformation, enriching our theoretical understanding of this category.

II. Keywords

business model, digital transformation, dynamic capabilities, entrepreneurship, open innovation, servisation, solutions providers, sustainability

III. Declaration

I, Andrew Jaycee Moodley, declare that this research report is submitted in complete fulfilment of the degree of Master of Arts in Interdisciplinary Digital Knowledge Economy Studies at the Wits Link Centre, University of Witwatersrand. Apart from where recognised, this study is my unaided work and has not been formally submitted for any degree to any other university.



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IV. Acknowledgement and Dedication

To the participants who graciously gave of themselves during a trying chapter in living memory.

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To Him through whom all things are possible.

Contents

V. Glossary of Terms

Specified term	Definition
Artificial Intelligence*	Artificial intelligence is a type of computer technology which is concerned with making machines work in an intelligent way, similar to the way that the human mind works.
Aftersales	The support provided to customers after the product is purchased or consumed
Break fix	The method of providing IT support and service to customers in an on-demand manner
Capital expenditure*	In accounting, capital expenditure is money that is spent on buying or improving fixed assets
Cloud*	Or cloud computing, is the practice of using a network of remote servers hosted on the internet to store, manage, and process data, rather than a local server or a personal computer.
Customer	A customer or an individual who purchases good or services for their own use
Fintech*	technology that supports the banking and financial sector.
Exploitative	Alignment of the company assets and excellence in their operational execution
Explorative	Adaptability of a company to innovate through external assets and change in response to market forces and demands
General Data Protection Regulation*	European Union legislation introduced in 2018 with the aim of giving individuals more control over personal information held by companies
Hardware*	In computer systems, hardware refers to the machines themselves as opposed to the programs which tell the machines what to do
Hyperscaler	Are commonly known as large data centre companies that build data centres for hyperscale computing, such as Alibaba, Amazon Web Services, Facebook, Huawei, IBM, Microsoft, SAP.
IT Distributor	A wholesaler who is a franchise holder for one or more vendor. Primary role is to recruit, enable and grow Solutions Providers for the vendor technologies and services
Internet Service Provider*	a business providing their customers with connection to the internet and other related services
Independent Software Vendor	A company whose primary function is to distribute software. Typically offer products that the primary vendor does not offer, allowing customers to benefit from capabilities they have developed
Machine Learning*	a branch of artificial intelligence in which a computer generates rules underlying or based on raw data that has been fed into it
MSP	Managed services partners supply digital technologies such as networking, cybersecurity, infrastructure, as a service. They provide support and management for these services on-premises, at a remote location or via cloud delivery mechanisms
Multinational	A multinational company has branches or owns companies in many different countries.
Operating expenses*	money spent on the ongoing costs of running a business or organisation, such as wages and rent on premises.
Partner	Firms that are licenced to use or sell the vendor technology
POPIa	(Or POPI Act) Introduced in SA for companies trading in or with the region. Provides a legal framework for keeping personal data safe by requiring companies to have robust processes in place for handling and storing personal information of SA residents
Reseller	Firms that are involved in the business of buying and selling technology
Systems integrator	A systems integrator brings together multiple disparate systems and configures them to work together
Stock	Technology that companies purchase in bulk to sell to companies or customers
Software*	Computer programs are referred to as software
Techno	Reflects the intent of Telecommunications companies to transition to technology companies
Telco	Companies that build and provide telecommunications infrastructure and services
Tier1	Reflects the company that can provide a direct connection to the backbone of the internet without having a pass through another network or pay for access
Vendor	The company that creates, manufacturers, owns the copyright to, and sells the technology via their defined channels and routes to market

*A specified term with an asterisk is a definition quoted from the online Collins Dictionary (Collins, 2007).

VI. Abbreviations or acronyms

Abbreviation/Acronym	Expanded form
AI	Artificial Intelligence
API	Application Programming Interface
B2B	Business-to-Business
B2C	Business-to-Customer
BM	Business Model
BMI	Business Model Innovation
CAPEX	Capital Expenditure
CASC	Computers and Applied Sciences Complete
CEO	Chief Executive Officer
CX	Customer Experience
DCF	Dynamic Capabilities Framework
DT	Digital Transformation
EDS	Electronic Data Source
ERP	Enterprise Resource Planning
ESG	Environmental, Social and Governance
GDPR	General Data Protection Regulation
ICT	Information and Communications Technologies
IoT	the Internet of Things
IP	Intellectual Property
ISV	Independent Software vendor
ISP	Internet Service Provider
LAN	Local Area Network
ML	Machine Learning
MSP	Managed services provider
OA	Organisational Ambidexterity
OPEX	Operating Expense
OSI	Open Systems Intercommunication
OTT	Over The Top
PoP	Point of Presence
POPIa	Protection of Personal Information Act
R&D	Research and Development
SA	(The Republic of) South Africa
SI	Systems Integrator
SDS	Systematic Database Search
SLR	Systematic Literature Review
SME	Small to Medium Enterprise
SP	Solutions Provider
TechCo	Technology company
Telco	Telecommunications operator
VAR	Valued-added reseller
WAN	Wide Area Network
ZAR (R)	South African Rand

Chapter 1 The sectoral context for digital technologies companies

1.1 Background to the study

The preceding ten years were remarkable for the worldwide ICT (information and communications technology) sector. The proliferation of smartphones and other mobile devices, along with the flourishing application of the internet to work, life, and play, ushered in a boom in the ICT sector. The ongoing demand for the internet contributed to additional technological innovations that accelerated sectoral growth, notably in artificial intelligence (AI), big data analytics, cloud computing, and the Internet of Things (IoT). This expansion also resulted in increasing rivalry among ICT companies and the emergence of new business models (BMs), such as software-as-a-service (SaaS) and platform-based companies. Additionally, the COVID-19 pandemic intensified the usage and reliance on digital technologies for remote working, e-commerce, and online education, further propelling sector expansion.

Digital transformation (DT) became the mainstream transitional tool for companies seeking to harness technology to increase productivity, reduce costs, and enhance customer experience (CX) (Matt et al., 2015). DT developed into the primary strategy for companies seeking to better their operations and competitiveness by incorporating digital technologies into every facet of the company, radically altering how it functioned and created value for their stakeholders (Maksimenko et al., 2021). This included integrating digital tools and platforms for automating operations, data analytics for decision-making, and digital channels for customer interaction. By automating tedious procedures and optimising processes, DT helped these companies. These companies were aided by DT in boosting productivity and contributing to cost-effectiveness by lowering the demand for physical labour, thus enhancing operational efficiency (Martínez-Caro et al., 2020; Ritter & Pedersen, 2020)Furthermore, DT strengthened customer participation by offering customers new and more convenient ways to interact with a company, such as via mobile applications or chatbots, leading to an increase in customer satisfaction and loyalty. DT was an important pillar for competitiveness in the digital economy, supporting companies in reacting to fluctuating market dynamics and customer expectations (Maksimenko et al., 2021; Martínez-Caro et al., 2020; Ritter & Pedersen, 2020).

1.2 Solution provider participation in the ICT sector

This study examined the transformations of the solutions provider (SP) BM as they strove to maintain relevance in the digital economy. The focus of the paper was on the SP operating in South Africa (SA). It concentrated on how they adapted, modified, or realigned their BMs to match the changing demands of their customers from the overall ICT sector. The SP operated in various sectors,

e.g., financial services, healthcare, mining, public-sector, and retail, with some specialising in specific sectors and industries. Their primary BM was to provide the applications, communications mediums, hardware, software, and associated services enabling the broad reach of the internet and devices to many parts of the globe. DT-fuelled growing competition, quickly evolving technology, and shifting customer expectations unsettled these companies.

Over the years, the SP faced hurdles as new technology complexities and global growth accelerated, forcing them to reconsider their market positions and value propositions (Cisco, 2020; DataBridge, 2020; Zhang et al., 2020). These impediments included:

I. Addressing data privacy and security concerns: The SP verified that their solutions were trustworthy and that they could protect their customer data as the volume of data generated and stored kept growing. Data loss was more than an oversight; it was treated as criminal under laws such as POPIa and GDPR.
II. Addressing regulatory and compliance issues: The SP ensured that their solutions complied with all applicable laws and regulations of the territories they operated in. They required sufficient agility and adaptability to continuously improve with the changing regulatory landscape as digital technologies continued to flourish and accelerate market innovation.
III. Attracting and retaining talent: Considerable effort was involved by most companies to attract and retain innovative and competent staff in a fiercely competitive environment. The SP was not excluded from this dilemma of talent management.
IV. Cost management: Developing and maintaining technological solutions could be cost-prohibitive in the long term. The SP needed to keep costs under control while also creating and delivering exceptional services to their customers.
V. Establishing trust with customers: For their solutions to be adopted and embraced, customers needed to understand supplier positionings, how they operated their companies, and the quality of their offers. The SP required competence and capability to deliver on what they offered.
VI. Keeping up with rapid technological change: The pace of technological change was rapid. This rapid change drove the SP to constantly adopt new technologies and engagement models to maintain relevance and build a competitive advantage.
VII. Managing complexity: As technology became increasingly digital, sophisticated, and interwoven, it was challenging for the SP to keep up with cutting-edge innovations while ensuring that their offers were secure and reliable.

These hurdles and business challenges brought rise to company considerations about present BMs and pursued new growth and innovation strategies to sustain their business in the digital economy. Reassessment included extending their service offerings beyond enabling products and creating new leadership models to leverage new commercial models (Morais et al., 2020; Ritter & Pedersen, 2020). The option explored was the forming of strategic alliances with potentially competitor companies to improve capabilities or provide competencies that the company did not possess. In addition, companies deliberated how to provide scalable value-added services and cultivate long-term connections as CX drove customer behaviour (Athanasopoulou & De Reuver, 2020). Companies accomplished this by recognising their customer friction points with them and implemented solutions to these challenges. Additionally, they prioritised DT strategies since it was an essential component of the economy and helped others improve their operations, reduce costs, and enhance engagement (Cisco, 2020, 2020; Sheposh, 2019; Zhang et al., 2019).

This paper provided a glimpse into the methods and constructions of those companies enabling digital technologies for enterprise businesses, herein referred to as customers. Customers relied on the technology manufacturer and supplier (vendor) and or their designated agents, the SP, to recommend, design, install, and support digital technologies implementations. Vendors had trained and certified the SP to offer these capabilities to the market. Some of the techniques the SP utilised to build digital services capabilities were examined in this paper. What competencies did these companies require to retain, recruit, or collaborate with individuals from the broader market? How were the elements of sustainable DT interwoven into the strategies of the company? What leadership paradigms were necessary to handle corporate digital disruptions? These questions were investigated through examination of the BM impact of DT and the adversities faced by South African the SP in achieving the same.

The original intent of this paper was to evaluate the implications of DT on enterprises in the digital technologies sector, often known as the ICT sector. After the initial investigation, this researcher chose to narrow the research focus to the SP category. Therefore, the study focused on the under-researched South African SP category within the ICT sector to provide focus and originality. The SP category consisted of companies that employed information technology to construct infrastructure, supply devices and systems, support the speed of execution, and guide the trajectory of digital technologies adoption. These technologies encompassed any media or method for broadcasting, recording, and conveying information through sound and imagery utilising networked devices moving data over wired or wireless connections. The names and descriptors for the SP were

often inconsistent in their usage throughout SA. We categorised the "solutions provider" or SP as any company whose primary BM was the selling or utilising of digital technologies to provide services to customers. Table1 below provided guidance to the company designations that had been classified as SP in this study.

Table 1

The entities included in the definition of a solutions provider

Industry Designation	Type of Solutions Provider	Description (Provided by the researcher)
ISV	Independent Software Vendor	A company that buys hardware and software to create unique applications and systems into products for resale that are not designed or offered by the software and hardware vendors, e.g., access control systems, stock management applications, and university student management systems
MSP	Managed Services Provider	Like a reseller but does not sell the hardware or software. They provide it as a subscription or consumption commercial offering, primarily as a managed and maintained service, e.g., application performance management, email subscription, and endpoint security management
Reseller	IT Reseller	A company who buys technology and resells to customers and customers without adding an extensive services portfolio with the offer, e.g., laptops, servers, and software licences
SI	Value-added Reseller or Systems Integration	A reseller that focuses primarily on designing and integrating bespoke combinations of hardware and software into a solution for the enterprise, providing the related design, implementation, and support services, e.g., cybersecurity posture, ERP implementation, and hybrid cloud architecture
Telco	Mobile or fixed-line operator with an enterprise business division	Telco firms provide enterprise services. These include internet access, wide area networking, voice and video communications, managed services, and datacentre including cloud computing and hosting services. E.g., Liquid Intelligent Technologies, MTN Business, and Orange Business Services
"X" reseller	Niche or specialist reseller in “X”	Resellers who focus principally on one or more niche domains of digital technologies with a deep investment in skills and technology accreditation, e.g., Cybersecurity reseller, IP telephony reseller, or Video-conferencing reseller

An examination of the various strategies and models in use by the SP to compete and operate in the digital technologies sector was analysed in this paper. In addition, it assessed the obstacles and possibilities that the SP encountered as a digital business, such as the effect of emerging technology, increased competition, and shifting customer expectations. Further probing of the SP practices and the mechanisms they used to build digital service capabilities was conducted. The investigation included partnerships with vendors, taking a thought-leadership position, certification, and training, developing specialized capabilities for specific industries, and providing value-added services. The SP

category was examined by focusing on the primary role of these companies in digitally enabling customers. It offered insights into the issues and possibilities they encountered and the tactics and approaches they applied to achieve success in this highly dynamic environment.

The SP category of companies encompassed manufacturing, distribution, and the maintenance of digital technologies for customers. They also provided the building of the infrastructure and support of digital assets utilizing both virtual and physical technologies. This industry also included companies that trained, hired, or procured digital technologies related professional services to enable customers (Davies et al., 2007). These services related to digital technologies developed by themselves or third-party vendors, including their vendors. These companies provided a wide range of services, such as technical support, data analytics, software development, and technology consulting. Additionally, they offered sales and accredited training for the expertise and knowledge required to implement and support emerging digital technologies. An exploration of the nature of the SP category was provided, focusing on how they transitioned to primarily digital companies. Thus, examples were offered of how they distinguished themselves in a sector where technology was democratizing, and rivalry and uniqueness were declining. The SP was an essential bridge between the technology vendors provided and the technology customers utilized. In a global survey by Accenture, over 80% of vendors reported that the SP category contributed more than 50% of their annual revenue from digital technologies and related service (McInerney et al., 2017). The SP was an integral route to market for vendors designing and manufacturing the most advanced and complex digital technologies available.

The activities of the SP category drove their technological variety, which drove their vendor partner selection and areas of capabilities development. The SP stratified the ICT sector by favouring certain technology domains for specialization and competence development, such as application development, software-defined networking, or datacentre management. These companies further diversified by layering on additional capabilities ranging from geographic reach to vertical specialization. This diversification extended to partnering with global solutions providers providing practically every ICT ecosystem capability or co-opetition partnerships. The SP capability was borne from their investments in the related skills, competence, and infrastructure to provide and implement advanced digital technologies. Therefore, the SP category choices and recommendations made for their companies directly influenced most customers digital and cloud technology choices. An SP was responsible for promoting digital technologies adoption, implementation, enablement, and consumption for customers and, inadvertently, their downstream customers (DataBridge, 2020).

Ultimately, the SP leverages technology deployment to improve the CX, support cost optimisation and improve how they work.

1.3 Research problem statement

Digital technologies transitioned from being consumed as a combination of one-time hardware products and perpetually licensed software. The new model combined prepaid or post-paid subscription-based or consumption-based commercial and utilization models. The proliferation of distributed cloud systems pushed the transition towards incremental commercial models and the flexibility to distribute or consume products and services between disparate networks, geographies, and companies. This capability enabled predictability, flexible pricing, frequent software updates, and the capability to provide additional services such as data analytics and support. However, a primary consideration remained compatibility with existing systems and technologies the company employed(Modisane & Jokonya, 2021). These adaptations to the commercial model led to shifts in how companies and customers valued and perceived their connection with technology. These shifts promoted the increased expectations customers developed from companies that provided them with digital technology goods and services. The emphasis switched from owning technology to merely having access to it, which altered how customers recognised the value of the technologies, both functionally and financially.

Customer expectations for regular updates and extra services grew as they paid for continuous access rather than a one-time purchase. Their expectations also increased the need for tailored experiences and customer service from their technology providers. In addition, the capability to collect and analyse user data boosted customer expectations for customised solutions and suggestions based on their usage and patterns. All companies in the digital technology supply chain were challenged with determining the impact these technological and commercial innovations had on their extant BMs (Matt et al., 2015). Furthermore, the innovative transformation of technology challenged the nature of how the SP produced their goods and services. Value-building consisted of moving the emphasis from manufacturing and delivering of a product to offering continuous support, upgrades, and new services. Furthermore, being able to confer personalised solutions and suggestions necessitated a makeover of how the SP built and developed their offers. They needed to react swiftly to changing customer aspirations and market trends to preserve a competitive advantage. Research regarding the effect of DT on the BMs of the SP and the tolerance in their capabilities to sustain DT-influenced company change was vital. An exploration was conducted herein of how the SP sustainably adapted and developed their BMs in response to the transformation of the digital technology sector.

1.4 Research purpose statement

The goal of this research was to examine whether digital transformation required companies to revaluate their extant business models. The focus was on the solutions provider companies operating in South Africa.

i. The services capabilities required by these companies to leverage diverse service concepts and commercial models to provide innovative products and services.
ii. The leadership and culture system companies had in place oversees their digital strategies, tactics, and operating models.
iii. The company strategies and tactics catered for ongoing technological innovation and their ability to improve the environment and support sustainable business operations.
iv. Capability development to support the DT requirements of the market and their participation in the digital ecosystem.

The dynamic capabilities framework (DCF) was the lens employed to analyse the impact of DT related to utilising internal and external capabilities to contend with a changing market environment (Teece et al., 1997). Further, this researcher leaned on the DCF and organisational ambidexterity (OA) lenses to explore BM innovation. The fields of application explored are servitisation, entrepreneurship, sustainability, and open innovation as boundary conditions for practical BM innovation (Foss & Saebi, 2017).

1.5 Research question

How does digital transformation affect the business models of South African solutions providers?

I. To what extent are product-centric solutions providers transitioning their business models to people-centred, services-led solutions providers?
II. How do leaders of solutions providers transform leadership practices and culture to navigate digital transformation effectively?
III. How are solutions providers developing sustainability instruments in their business models to address stakeholder expectations and requirements driven by digital transformation?
IV. What capabilities should solutions providers develop in their business models to mitigate the rate of innovation superseding the pace at which they build competency?

1.6 Painting a picture of the solutions provider topography

Customers inadvertently discovered how astoundingly complex it was to sustainably support their digital technologies, environments, and infrastructure when immersed in an economy with rapidly shifting goalposts. Sustaining engineering, often known as maintenance engineering, was the process of maintaining, supporting, and upgrading enterprise-level digital technologies. Due to the rapid evolution of technology and the need for a wide array of talents, introducing new or developing technologies might have presented challenges for a company to accomplish alone. Companies might have needed to seek external help to successfully perform maintenance engineering on their digital environments.

SP companies positioned themselves as the sustaining engineering partner to facilitate crossing the competence chasm between customer business requirements and the emerging vendor technologies. Customers valued the digital system architecture, maintenance, and support expertise of the SP. They relied on these capabilities from the SP to mitigate the complexity and interoperability of digital technologies on their behalf. This reliance included understanding and addressing the technical challenges of integrating different systems and software and ensuring that the technology was compatible with other systems and devices in the enterprise environment. Additionally, the SP was accountable for keeping abreast of the most recent developments in technology and industry standards, which was potentially a significant burden for customers, especially justifying and retaining these skills. By abdicating these obligations to the SP, customers might have focused on their core business while ensuring that their digital technologies were well-maintained and optimised. The SP bridged the competence gap for customers by offering the essential knowledge and abilities to successfully select, manage, and maintain digital environments.

In addition, the SP generated numerous products and services leveraging digital technologies to address their customers challenges. Thus, the SP category was a cutting-edge segment of the broader digital technologies sector. These companies significantly stimulated the future of the digital economy in SA by expediting the identification, adoption, and continued application of digital technologies. Typically, this process comprised integrating diverse hardware, software, and network components to meet specific requirements and deliver predefined outcomes and functions. Integration was complex, as it required knowledge of multiple technology architectures and an in-depth comprehension of how different systems could interconnect or interact. By concentrating on their expert area, the SP offered customers a comprehensive solution tailored to their needs and

requirements. The SP specialised in integrating multiple subsystems from manufacturers and providers into a single system or solution to produce predetermined outcomes and functions (DataBridge, 2020). These systems integration companies operated within the broad clusters of:

I. Geographic (global, regional, and domestic) experience and presence,
II. Market-vertical specialisation (such as financial services, healthcare, mining, public-sector, and retail),
III. Service orientation (consulting, design, infrastructure, and software integration), and
IV. Technology capability (such as AI, cloud, network, storage),

There were numerous SP category companies operating in the SA ICT sector that had experience with a vast array of digital technologies (Listcorp, 2022). The presence of these companies provided customers with various outsourcing options for their digital requirements. The SP category comprised foreign entities with a local presence, SA-founded companies with an international footprint, and SA companies with a predominantly domestic presence. Despite the expansive capability of these companies, with many of them being in the top percentile of their worldwide segment, the SA overall digital readiness remained in the bottom 50% of 141 countries measure (Cisco, 2020). This low index of performance reflected the limited digital technologies prowess amongst them, a need for more resources to drive adoption, and a desire for better-qualified workers with expertise in emerging technologies. Improving digital readiness in SA would likely have needed substantial expenditure in these areas coupled with measures to raise knowledge and adoption of digital technologies. Most of the key functionality the SP required for DT was included in the components the survey used to assess digital readiness. These were (Cisco, 2020):

I. Human capital: The availability and developmental tasks for digital skills,
II. Technology adoption: The proportion of digital technologies available and then used by companies and customers in the execution of their primary activities, and
III. Technology infrastructure: The scale and breadth of digital technologies and functionality primarily enabling the domestic economy.

The SP concentrated on offering services and solutions that aided enterprises in acquiring the skills and infrastructure required to manage and maintain digital technologies effectively. Typically, they offered training and development programs to enable customer staff to acquire the skills essential to work with digital technologies and assist with the deployment and maintenance of

technological infrastructure. In addition, they aided customers in adopting new technologies by advising them on how to select and execute the appropriate solutions and by assisting with integrating these solutions with current systems. By addressing these factors, the SP played a crucial role in assisting customers to enhance their digital readiness and technology inclusion in their enterprise activities. The South African SP predominately participated in the B2B (business-to-business) environment, harnessing existing and future digital technologies to provide innovative and intriguing functionality. Additionally, they frequently collaborated with other technology companies and vendors to provide customers with a broader range of solutions. This B2B emphasis enabled them to offer customised and focused services to fulfil the unique requirements of their customers without the distraction of customer demand volatility or market share fluctuations.

1.6.1. Telco as an enterprise solutions provider

There were also customer-oriented and enterprise-focused telco companies operating in the SP category. The enterprise-focused telcos also exploited their current infrastructure and assets to provide additional value to their customer offers. Overall, the South African SP category was competitive, with a mix of local and foreign, large, and small competitors providing an incredible collection of offers to customers. The largest telcos in SA invested significantly in their enterprise-IT business divisions. This investment consisted of a blend of network infrastructure services like internet service provisioning to the managed data centre, cloud services, and LAN-focused capabilities. The emergence of this focus in telcos developed over the last two decades. The following section presented a glimpse into their background, supporting the inclusion of the enterprise-focused telco in the SP category.

At the beginning of the twenty-first century, South African telco companies focused on delivering traditional voice and data services to customers and companies. However, as technology evolved and grew in importance, these companies anticipated the corporate-IT market potential. Some of the most significant telcos in South Africa began investing in expanding their enterprise-IT focus in the middle of the 2000s. They initially focused on network infrastructure services such as internet delivery and distributed datacentre solutions. These capabilities allowed them to service the expanding needs of their enterprise customers and compete with other IT companies concentrating on the enterprise customer segment. Through the following decade, these telcos developed their business-IT operations into new areas, such as cloud services and cybersecurity. Additionally, they formed alliances with other technological companies to offer their customers a greater variety of options. This investment permitted them to become significant players in the enterprise-IT market in

SA. Today, these telcos were among the significant purveyors of enterprise-IT solutions in SA, directly competing with the traditional IT providers. The telco provided a comprehensive range of services that assisted customers in digitalising their operations and remaining competitive in a rapidly changing technological landscape. Their financial resources, market penetration, physical assets, service capability, and technological investments placed them in an enviable position for success.

MTN Group (MTN) acquired a small ISP for a relatively minor shared cost of R25m in 2001 (MTN Group, 2001). At the time, MTN was the first of the large South African telcos to pursue providing enterprise services, and it was a non-core business segment for telcos at the time. MTN continued their predominantly enterprise ISP (internet service provider) focus today. Their strategy also maintained traits of diversification and scaling through acquisition and organic growth. They continued the dualistic strategy of organic and acquisition growth to open new countries or diversify their offerings in existing countries. MTN was a significant 29-country, pan-African mobile and enterprise business-focused connectivity and data-related services partner with a robust diversification into fintech. MTN Group reported generating over R30bn from the enterprise business focus of their total R182bn revenues for the 2021 financial year. Their ability to sustain positive revenue attainment was an incredible contribution in the context of the overwhelming competition, size, scale, and financial contribution required for mobile success.

Vodacom Group (Vodacom) launched their enterprise-IT division, Vodacom Business, early in 2008 (Vodacom Group, 2009). Their intention was to compete with the incumbent tier1 ISPs in SA. The concept was to provide converged communication solutions by leveraging their existing corporate customer base. They added the capability to build, deploy, and manage wholesale and enterprise datacentres and networks. Vodacom expanded their enterprise focus and geography by acquiring two companies. The first was Gateway Telecommunications, for their pan-African satellite and network services footprint. The second was Stortech (now known as Nexio) for their enterprise-focused datacentre and services capability. These capabilities made them a formidable competitor in delivering the connectivity and services enterprises require in almost any part of the continent, both rural and urban. Vodacom managed their business in over seven African operating countries and delivered enterprise services in over 48 countries. In SA alone, Vodacom Business produced just under R18bn of the R56bn of revenue generated for the financial year 2021. This revenue generation positioned Vodacom Business as one of the largest enterprise-IT companies in the country, and potentially the African continent, by income generated.

A few additional international telcos operated in SA with a predominant enterprise-IT focus. However, the financial and performance records related to their income and market positioning were consolidated into their overall reporting and had limited transparency specifically for the African region metrics. Liquid Intelligent Technologies (LIT), a subsidiary of Econet Wireless, a satellite and voice operator in Zimbabwe, was established in 1997 (Liquid Intelligent Technologies, 2023). Over the last 25 years, LIT established itself as a dominant wholesale and enterprise infrastructure provider. The company owned and operated the most geographically prominent terrestrial fibre network on the African continent. They leveraged their high-speed, multi-country network to provide access to advanced cloud and cybersecurity services directly and through partnerships. LIT competed for ISP, enterprise private and public WAN (wide area network), and managed services within the South African market. The company also pursued their growth strategies through organic and acquisition endeavours. There were other internationally headquartered telcos operating in SA. British Telecom Communications Services (BT) and Orange Business Services (Orange) were world-renowned and prolific international telcos with enterprise-IT business-focused divisions operating in the South African market. The technical and operational capabilities of the BT and Orange international companies were represented in the local area by their sales offices. Globally, these companies had sizable wholesale and retail carrier, mobile, cybersecurity, and enterprise IT operations. They constructed and owned wireless, satellite, terrestrial, and submarine communication infrastructure. Their African business objective was execution and customer service to their international customers. They differentiated quite critically between locally headquartered and internationally headquartered to maintain focus, product standardisation, and services alignment for their customers. Under their current selection criteria, they did not actively compete at all levels with a domestic market. Large, multinational corporations were their primary target market, benefiting from and leveraging their global network services and capabilities, thus maximising value delivery and capture for them.

Outside of their core telecommunications expertise, the four specific adjacent verticals within which SA telcos participated were enterprise-IT business services, cybersecurity, fintech, or mobile money, and cloud services. Over and above the three directly competitive services, fintech was the standout vertical of opportunity and investment for telcos. Fintech had a significant value proposition for moving money between persons and companies. Often, it was a partnership with or in competition with a traditional bank. The fintech competency of the telco business was not of direct interest to this research as it was generally consumer-focused and not currently a broad-based enterprise-IT offering. The technology would cross over into the business-centric market as the financial services paradigm evolves with digital innovation. In the other three adjacent verticals, the telcos positioned themselves

in a direct competitive collision with traditional enterprise-IT companies, such as the broad and niche-focused vendor partners and resellers, herein collectively called the SP category.

1.6.2. The players in the solutions provider category

Many large companies in these adjacent verticals had BMs orchestrated to deliver technology solutions and services to customers. These companies were a mix of internationally and locally headquartered companies operating in the South African and more expansive African markets. The publicly available information related to the internationally headquartered corporations, on the extent of their business operations and share of the domestic market, was limited. These corporations generally summarised their reported information for international markets into large regional or consolidated across the globe for competitive reasons. These conglomerates committed on their web pages and other media to continue investing in the African continent, with the vast majority hosting their African headquarters in SA. SA provided a comfortable base for these companies with international experience and competence, including easier access to international destinations with direct flights, and a relatively stable economic and political environment. These international companies provided emerging technologies and support competence in the region by leveraging their global customer learnings and talent pool, making them formidable competitors to the domestic SP. Those corporations with an international footprint in complex technology adoption had reference case studies and methodologies that were superior to the offers of their local competitors. Furthermore, these companies had a lower cost of operations for complex technologies, as they leveraged their international footprint for operational excellence while utilising a local sales team and consulting services for domestic execution.

There were several JSE-listed and privately-owned companies with a SP category business operating in SA. Gaining access to a listed company strategy and financial data was possible because it was already in the public domain. It was problematic to acquire the same level of information for a private company, as most of their information was PR-related and lacked the vigilant depth and transparency listed companies were obliged to provide. Table2 provided a snapshot taken on 28 November 2022, at the close of trade, of the JSE-listed companies under the Technology and Telecommunications categories.

Table2

Johannesburg stock exchange firms listed under the categories of Technology and Telecommunications

JSE listed company name	Market cap	Company primary business model	Listed category	Operating regions
Prosus	2,1T	diverse customer internet technology	Technology	Global
Naspers	1,1T	diverse digital and media technology	Technology	Global
*MTN Group**	*255B*	*mobile and fixed-line operator*	*Telecoms*	*Africa & ME*
*Vodacom Group**	*230B*	*mobile and fixed-line operator*	*Telecoms*	*Africa*
*Bytes Technology***	*20B*	*systems integration*	*Technology*	*UK*
*Telkom SA**	*17,5B*	*mobile, fixed-line operator and systems integration*	*Telecoms*	*Africa*
Karooooo	12,5B	data technology manufacturer and integration	Technology	Global
*Datatec***	*9,6B*	*IT distribution and systems integration*	*Technology*	*Global*
Blue Label Telecoms	4,8B	prepaid distribution and mobile operator	Telecoms	Global
*Altron***	*4,1B*	*data technology and systems integration*	*Technology*	*SA*
*Alviva Holdings***	*2,9B*	*IT distribution and systems integration*	*Technology*	*Africa*
*Capital Appreciation***	*1,6B*	*financial services technology and systems integration*	*Technology*	*Global*
*AYO Tech Solutions***	*1,1B*	*information technology services and systems integration*	*Technology*	*Africa*
*Adapt IT***	*970M*	*specialised software provider and systems integration*	*Technology*	*Global*
PBT Group	969M	data and analytics services and systems integration	Technology	SA & Europe
Mustek	837M	IT manufacturer and distribution	Technology	SA
Alaris Holdings	797M	manufacture radio frequency technology and integration	Technology	Global
*EOH Holdings***	*653M*	*digital technologies services and systems integration*	*Technology*	*EMEA*
Huge Group	402M	converged connectivity and communications, technology provider	Telecoms	SADC
Etion	299M	niche digital technologies services and integration	Technology	Global
Sebata Holdings	285M	IP support and utilities	Technology	SA
Cognition Holdings	206M	data collection, research and marketing consulting and services	Technology	SA
*ISA Holdings***	*205M*	*managed cybersecurity services and systems integration*	*Technology*	*Africa*
*TeleMasters Holdings***	*66M*	*converged digital technologies services and systems integration*	*Telecoms*	*SA*
*Jasco Electronics***	*51M*	*information technology managed services and systems integration*	*Technology*	*SA & EAfrica*

Company market capitalisation was a reasonable indicator of the value the market ascribed to them. This value allowed for comparison in size between different companies with varying BMs. It further provided investors with an indicator of the future performance of the stock by signalling what the market was prepared to pay for the same. In Table2, a single asterisk (*) identified the mobile and fixed-line operators with an enterprise-IT division. A double asterisk (**) identified entities that were directly, or via one of their subsidiaries, involved in the business of an SP. The only anomaly this researcher identified in this classification was Telkom, which had a subsidiary called BCX. BCX was one of the largest listed systems integrators in the country, at the time of their acquisition by Telkom in 2015 (Businesstech, 2014). The double-asterisk companies accounted for only 1% of the total market capitalisation of the companies. Normalising for Bytes Technology Group (BTG), which did not have operations in SA, this contribution level dropped to 0.6%. This researcher removed the extraordinary valuation of the related companies Prosus and Naspers. These company valuations were extraordinary relative to their other listed compatriots and did not predominantly participate in the South African

SP business category. Even though these two company valuations significantly offset this data, the market capitalisation of the double-asterisk companies moved up to only 4% when BTG, Prosus, and Naspers were excluded from the calculation.

There were also the SP companies unintentionally excluded from Table2 that other listed holdings companies may have owned. This study desired to include several large unlisted SP operating in SA with a meaningful market share and company value. The reports from these companies were consolidated, summarised, or not available in any form to allow for ease of comparison or standardisation of data. This lack of detailed visibility made segment analysis inaccurate and ineffective. However, the available information in Table2 painted a broad but candid picture. The SP category, excluding mobile and fixed-line operators, should have become more cohesive. It currently enjoyed low investor confidence in the long-term contributions from them, depicted by the low revenue attainment from the market comparative to the telcos. The low-confidence sentiment derived from the valuations the market ascribed to these firms relative to the other companies in their category. The single-asterisk companies, in contrast, had a respectable 13% of the total market capitalisation. Furthermore, they had an overwhelming 89% share when the extraordinary companies Prosus and Naspers were removed (once again, removed given their significant valuations related to subsidiaries operating in geographies outside of Africa).

The ability of the listed single-asterisk companies to attract capital and thereby invest in innovation and market capture grossly overshadowed the double-asterisk companies for the same. The single-asterisk companies were predominantly telcos as their core business. These companies had divisions or investments in enterprise-IT focused companies. Their resources to dominate this sector were vast, with substantial infrastructure and market penetration to support their strategies comparatively. Many of the listed companies reviewed referenced their strategic commitment to their DT and reported on driving their sustainability metrics for positive change. These companies were confident in the general adoption of cloud services and were developing this capability, reorganising their product and service offers, and performing investments into developing cloud revenue streams. These companies were investing in platform capability, allowing them to scale their companies across their geographies and take digital services to every part of the customer base. The telcos had robust fintech strategies, establishing a company footing in mobile payments and e-commerce trading.

The South African market was underpenetrated in offerings driving financial inclusion and digital trade at scale (Ngqambela, 2022). Telcos actively engaged the scale of digital platforms to

disrupt the existing financial services regimes with their financial services, lending, payments, and insurance offers. The disruption allowed them to capture a substantial percentage of the rapidly growing digital commerce market and anchor their existing mobile services and data revenues within the customer base. Telcos leveraged their mobile penetration within the customer base with their fintech strategies. Enterprise-IT similarly allowed them to diversify revenue streams generated from their network and datacentre infrastructure. The revenue from mobile voice and data was constantly eroding, given competition, the regulatory environment, efficiency of technologies, and unlocking of radio-frequency spectrum. These companies had to find alternate income streams to maintain and grow their infrastructure to keep pace with technology evolutions like 5G.

The values from Table2 provided a picture of where the weight of financial capability resided for the SP category in SA. It provided insight into which companies had the investment potential to dominate the market. The mobile and fixed-line operators were in a favourable position given their significant network capabilities, their large customer bases, their existing digital technologies capabilities, and the supply chains they had. They provided cloud services, diverse connectivity bearers, managed hosting, IoT technology, cybersecurity, networking, and unified communications. These service offerings placed them squarely within the domain of a solutions provider with resources that overshadowed the traditional enterprise-IT providers.

1.6.3. Status of the solutions provider category

Providing core services centred around the network, the datacentre, and hosting facilities was the underlying services that powered the internet and communications for customers. The SP overlay of cybersecurity and managed services offerings were the DT capabilities leveraging cloud, security, and the developing trend of IT resilience. Digital natives entered the workforce as customers. As customers, they reset the engagement and experienced expectations with the SP. Their adoption of technology as consumers propelled their desire for a similarly seamless experience from their suppliers as enterprise customers. Advances in digital technologies services at scale changed the face of engagement and were the areas of growth for the SP.

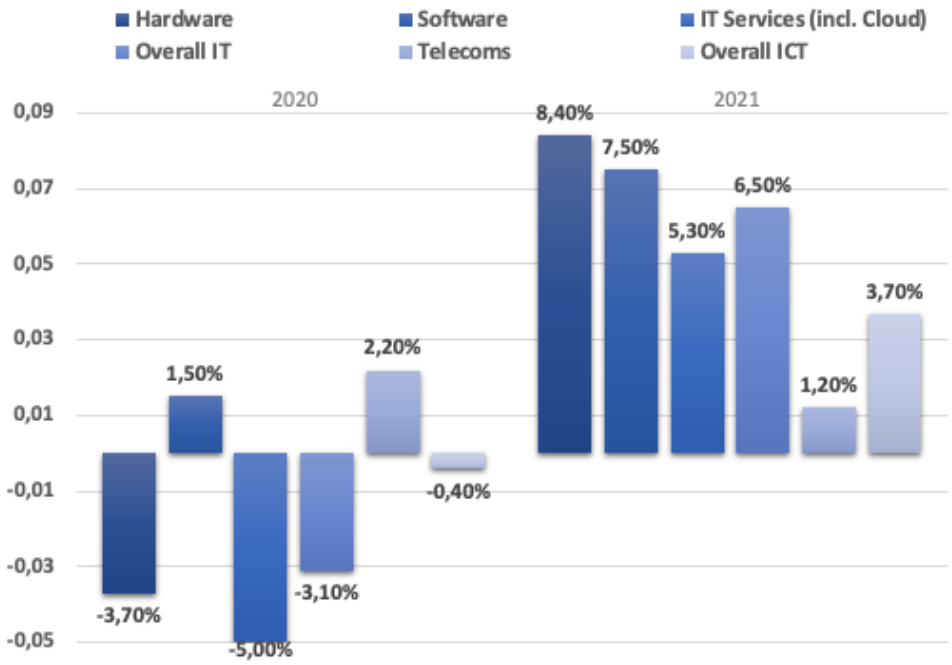
TechCo was an abbreviation for "Technology Company" and characterised the impact of emerging digital technologies on companies with a telco heritage. The MTN and Vodacom CEOs articulated the transformations their respective telcos were undergoing to be more aligned with the digital economy. They had begun to identify as TechCo and away from telco (Businesstech, 2022; Mzekandaba, 2020). Despite the initial analysis of the listed companies on the JSE, TechCo was more

highly desired by global investors than traditional telcos. This valuation rewarded them for the implied agility and adaptability to the ever-changing digital economy (Warren, 2022). The CEOs of these telecommunications companies admitting their strategic need for transformation was a declaration of real intent. The SP category of offerings and services was appealing to these nouveau techno companies. Functioning as a techno altered their traditional BM. It was a fundamental change to their traditional financial model of high capital expenditure (Capex) into assets with diminishing returns and low operating expenditure (Opex) into services and innovation expenditure. In addition, the telcos had an established BM for subscription and consumption income, on the back of their mobile voice business. In contrast, conventional enterprise-IT companies had built their BMs on large, unpredictable project revenues. To accommodate the changes sought by their customer services, commercial, financial, and operating models, each of these companies had to develop new BMs to adapt to the opportunities available from DT.

The global COVID-19 pandemic of 2020 changed the conventional revenue patterns of the SP. Nonetheless, the decline in revenue was temporary, and since 2021, the South African SP had experienced a return to growth. The pandemic had a few unintended consequences, which left the SP category reeling and altered their strategic trajectories. Some customer industries, such as travel, hospitality, and retail, remained constrained in 2022, compounded by other local challenges, such as the riots of July 2021 and the ongoing disruption of the electricity supply (Madubela, 2021; Siwele & Prinsloo, 2022). These unfortunate events were made worse by the ongoing supply chain problems and disruptions, the global chip shortage, the rise in cybercrime, and other factors. Contingent on their circumstances and constraints, these occurrences led companies and customers to redirect, reduce, increase, or withhold spending. Most enterprises and consumers migrated to hybrid work technologies, OTT video, and communication platforms. Consequently, the telcos were not experiencing the same growth they did before the pandemic. A shift in enterprise and customer demand for robust connectivity services, cloud services, and cybersecurity technologies posed a challenge for the SP, as depicted in Figure1.

Figure1

SA ICT market growth in 2020 and 2021. Source (BMIT, 2022)



The demand for connectivity aligned perfectly with the DT journey map commonly experienced by companies. Several global hyperscalers present in SA enabled companies DT to cloud-native services for their applications, datacentre, network, and storage. The global hyperscalers with a local Point-of-Presence (PoP) at the end of 2022 included Amazon Web Services (AWS), Google Cloud Platform, Microsoft Azure (Azure), and Oracle Cloud Region, with the imminent arrival of Alibaba Cloud announced. These hyperscaler clouds high availability reduced the barriers to adopting cloud-native services. It challenged the SP to be market-relevant regarding the skills and competencies necessary to execute these cloud capabilities. Some SP companies moved swiftly to form partnerships and promote their cloud capabilities with these international hyperscalers. Alibaba Cloud selected BCX as their exclusive go-to-market alliance partner in South Africa. Many listed SP companies partnered with Azure to provide different cloud stack components. AWS amassed a loyal following in the open-source SP community, with these companies holding a high level of certification for AWS programs and cloud systems. The Oracle Cloud was accessible to SA-based SPs for quite some time, and with the launch of their Cloud Region, they received renewed and heightened interest from these companies.

1.6.4. The SP value proposition

The South African SP transformed their value propositions and vernacular to be digital-centric. The largest SP enterprise divisions actively identified as providers of various capabilities. These were

I. AI and automation: Discovered trends and anomalies to make data-driven decisions, predictions, and preventative actions which optimised and personalised experiences.
II. Cloud services: Leveraged the cloud for automation, scale, innovation, and agility for enterprises.
III. Customer experience: Enabled innovation to build highly responsive and agile companies.
IV. Cybersecurity: Provided holistic and multi-dimensional security posture assessment, advisory, implementation, and management services.
V. Data management: Leveraged data to gain insights, drive sustainable value, and enable transformation changes.
VI. DevOps and modernisations: Reduced complexity and improved agility resulting in improved security, compliance, and cost optimisation.
VII. Digital networking: Enabled any device using the network from anywhere at any time in a managed, secure, and guaranteed manner.
VIII. Enterprise advisory services: Delivered multi-technology business solutions that were agnostic and fully integrated to meet business outcomes.
IX. Managed services: Reduced cost, partnered with best-of-breed technology providers, automated business, and drove efficiencies.
X. Platform business: Provided capability via self-service, API, or value systems.

There was, however, a constraint inherent to the novelty and uniqueness the SP represented. Significant investments in people, procedures, and technology created formidable entry barriers for the SP rivals, affording them protected access to sophisticated technologies. The natural normaliser of the market was that many companies could not indefinitely justify or sustain their investment level in all available digital technology fields. This limitation steered them towards speciality in a particular area of digital technologies, which provided a competitive advantage. Specialisation, with market success and references, made it difficult for new companies to enter and compete with the incumbent SP. It was worth emphasising that although entry barriers were high, this did not indicate that new enterprises did not enter the market. New entrants utilised new techniques, business strategies, or solutions to overcome these challenges. Furthermore, the free market was dynamic and ever-changing. Technology was evolving swiftly, and competition between companies was fierce, challenging companies to develop and invest in new technology to remain competitive. Consequently, the market was rarely static, and even established companies had to adapt and alter in response to market conditions. Their strategies were in place, access to the technology was world-class, and the environment was ripe for the digitally transformed SP to stand up. For instance, many companies had

developed robust strategies that allowed them to leverage their strengths and overcome their weaknesses. Further, the environment in SA was conducive to the growth of a digitally transformed SP, as the public and private sectors were investing heavily in developing digital infrastructure and services. In addition, several domestic SP companies had emphasised their ability to provision of value-added services and solutions, which were gaining importance for DT-conscious customers. Moreover, investing in their personnel, these SP companies offered training and development programs to boost employee digital abilities. Despite the fierce competition, the South African SP was well-positioned to compete with their worldwide counterparts and take a sizeable portion of the regional technology market.

1.7 Highlights of Chapter 1

Apart from mobile and fixed-line operators, this research indicated a fragmented SP category in SA, with low investor confidence in the traditional players long-term contribution. Most domestic SP companies had invested in platform capability to expand their companies internationally and provide digital services to their customers. Telcos had established a foothold in the rapidly expanding mobile payments and online retail markets thanks to potent fintech strategies. Regarding financial technology, these telecommunications companies capitalised on their customers widespread use of mobile devices. The background review indicated that mobile and fixed-line operators were in a favourable position to dominate the market due to their large customer bases, existing digital technologies capabilities, and established supply chains. Nevertheless, participation in developing technologies was declining. Access to sophisticated digital technologies, such as AI, big data analytics, cloud computing, and the Internet of Things, which previously required a significant financial investment upfront, democratised and was available to companies of all sizes and types worldwide. The South African SP companies were receptive to the challenge of competing with their global counterparts for a slice of the regional technology pie.

Chapter 2 Literature review and analytical framework

2.1 Introduction

Digital Darwinism surmises that the current cadence of technology innovation surpasses the natural adaptation or acclimatisation capability of a company, and consequently envisaging their inevitable failure. The remarkably adaptable companies had a healthy strategy of leveraging cutting-edge technologies, creating definitive customer benefits, a competitive advantage over their peers, and an efficient cost-and-profit model (Goodwin, 2018). Digital transformation (DT) is a multidimensional worldwide phenomenon whereby companies employ digital technologies to transform, augment, or supersede how their business operates and dispenses value. In the last decade, the contention in companies had moved from indecision regarding embracing some level of DT to favouring the planning for significant company change because of its positive effects on company performance (Bender & Willmott, 2018). Companies reluctant to embrace DT were seemingly less competitive and relevant to evolving customer needs, propelled by experiences from the use of digital technologies by customers. Sectoral incumbents found themselves vulnerable to fresh and innovative competitors, and only those agile in their adaptation survived the technology-driven transformation (Maksimenko et al., 2021). There seemed to be little choice for companies, especially those exposed to rapid technological advancement and the emergence of new digitally enabled companies contesting the dominance of incumbents. Companies should consider the factors and the nature of the challenges and their effect on their BM. Further, they ought to understand the competencies required to withstand and overcome their limitations and utilise these learnings to exploit existing and explore developing new capabilities. This chapter provides an analysis of the above considerations utilising the systematic literature review (SLR).

2.2 Intent of the systematic literature review

This SLR utilised the narrative review category of research in their review of the literature (Xiao & Watson, 2019). This research objective was to follow a structured and methodological sound discipline to limit bias in selecting the available academic literature. Further, objectivity and repeatability of the methodology was desired, considering that future research into the business model (BM) and their relevance for the solutions provider (SP) company was pursued (Foss & Saebi, 2017). The SLR outcome provides a backdrop for the qualitative research study and was not a standalone review of the current literature (Xiao & Watson, 2019).

This SLR investigated how DT is transforming the BMs of the South African SP and evaluates the impact of DT on them. The SLR analysed peer-reviewed journal articles gathered through filtering

for components of the problem statement through research databases. The main attributes in the primary search criteria were the critical factors of servitisation, open innovation, sustainability, and entrepreneurship derived from the main research question.

2.3 Approach utilised and steps taken

This researcher conducted a systematic database search (SDS) followed by a cross-reference snowballing technique. The initial search involved selecting pertinent articles from the PubMed, Web of Science, and Scopus databases using a predetermined search strategy. This approach usually consists of keywords, Boolean operators, and constraints such as date ranges and primary language requirements. It comprised collecting relevant literature for inclusion in the review (Babbie, 2016). Following up on the references cited in the initial journal articles found through the SDS is an example of a cross-reference snowballing technique. This technique supported finding additional relevant literature to this research question. The reflections of the researcher suggested that articles with similar citations are related to the same subject. Following these references enabled the researcher to acquire alternate literature not revealed by the primary SLR protocol, but still considered pertinent to the study. Both methodologies are frequently used in literature reviews, notably in scientific research, to ensure coverage of all salient studies (Parker et al., 2019). This approach was necessary for a robust and comprehensive analysis of this research topic.

During the initial scanning of literature related to the research topic, a relationship emerged in the existing body of research between the dynamic capabilities framework (DCF) and the BM (Fischer et al., 2010; Foss & Saebi, 2017; Hossain, 2017; Teece, 2010). Dynamic capabilities analyse the mechanism of value creation, delivery, and capture by companies operating in environments of rapid technological change. This finding resulted in the inclusion of "dynamic capabilities" to the primary search strings of "business model", "digital transformation", and "company change". The first step of the review protocol was selecting the with the preliminary discovery conducted on the 20/04/2020. The three index engines utilised were a) Google Scholar, b) EBSCO: ScienceDirect, and c) EBSCO: Computers and Applied Sciences Complete (CASC) as an electronic data source (EDS). The first attempt was to find documents per search string, which furnished thousands of diverse and unrelated documents to this research topic. This approach was replaced by a Boolean "and" search for all four search strings simultaneously, including the critical criteria referenced in Table3 below.

Table3

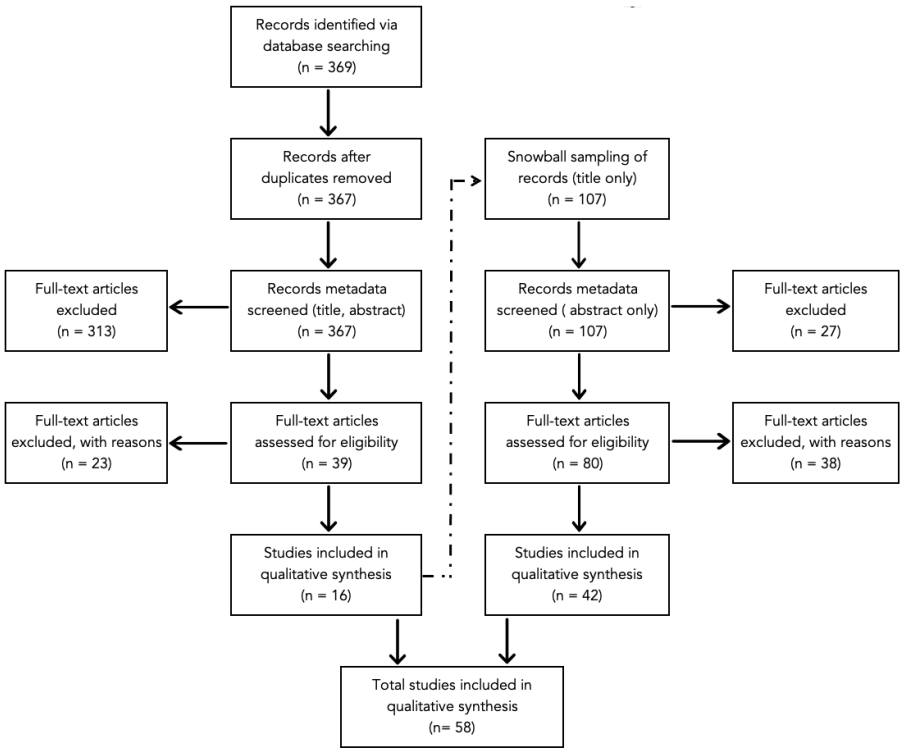
Exclusion criteria utilised in the EDS search.

1. Not written in English,
2. Not peer-reviewed,
3. Not a research article,
4. Duplicate report of a previously identified study,
5. Where this researcher has no direct access to the content containing all the primary search strings, namely:
    - Business model (derived from the critical outcomes of this research).
    - Digital transformation (specific area of influence on this research market sector).
    - Dynamic capabilities (interesting lens linked to this research areas of business models).
    - Company change (seeking articles that utilised the key phrases and incorporated company shift in behaviour or construct).

The preliminary search yielded 369 documents for all four search strings appearing concurrently in the article, with 51 articles from Google Scholar, 261 documents from ScienceDirect and 57 documents from CASC. Even though the researcher expected the indexes to overlap, the search criteria resulted in less than a one percent overlap of articles between each EDS. The 367 articles, after 2 duplicates were removed, moved through another two levels of screening. The first was a screening of the "title" and the "abstract" of each article for the secondary search strings of "servitisation", "open innovation", "sustainability", and "entrepreneurship", derived from this research purpose statement, research sub-questions and the analytical framework. This screening reduced the volume of articles by 313 articles down to 54. The "introduction", "method", "finding", and "conclusion" sections of the remaining articles were screened for relevance to the secondary search strings, reducing to 16 relevant articles. The remaining 16 articles underwent the cross-reference snowball sampling exercise to find additional relevant journal articles relevant from this detailed screening process. A scan of the reference sections of the 16 articles, seeking the four primary search strings appearing in the title, resulted in an additional 107 articles. The abstracts of the 107 articles were screened for relevance to this research topic, excluding 27 articles. The introduction, method, findings, and conclusion of the remaining 80 articles were reviewed for relevance to the secondary search strings, eliminating 38 articles. The flowchart in Figure2 demonstrated the application of the review protocol, producing the articles included in this SLR. A critical assessment of the 16 articles from the first methodical review and the 42 from the snowball sampling exercise constitutes the total qualitative synthesis of 58 articles presented herein.

Figure2

Flowchart of the review protocol



During the process of qualitative synthesis, an additional theme of organisational ambidexterity (OA) emerged. Further, company change evolved into a dynamic capability companies require rather than a primary theme of this research. The OA theme complemented the themes of business models, dynamic capabilities and digital transformation (Benner & Tushman, 2003; Božič & Dimovski, 2019; Bustinza et al., 2019; Chan et al., 2019; Coreynen et al., 2020; Fischer et al., 2010; Spieth et al., 2014; Zhang et al., 2019). This relationship suggested that OA is crucial to digital transformation, business modelling, and dynamic capabilities. OA was a company design construct that refers to the dynamic tension within companies between two distinct BM capabilities leveraged to provide higher performance than a single BM (Bustinza et al., 2019).

There are two standard components to OA. First, exploitative capability references the capability to utilise internal competencies to create efficiencies and successfully implement. The second, explorative capability, entails the capacity to react to a changing environment by harnessing external competencies, knowledge creation, and analysis of future opportunities. OA refers to an ability to balance exploration and exploitation activities. Developing the strength in one and remaining weak in the other led to a company versed at defined strategy but weak at strategy implementation or vice versa. It amplifies that companies balanced exploration and exploitation activities to successfully navigate the challenges of market changes such as DT (Benner & Tushman, 2015).

Experimentation, innovation, and the creation of new products, services, or BMs comprise exploration activities. Conversely, exploitation activities involved optimising existing products, services, or BMs. Customers may build OA competence to adapt to changing market conditions and compete effectively. A mature change management competency development was important to navigate uncertainty and change. The exploitation adeptness to drive internal efficiency and leverage existing resources whilst exploring new markets and opportunities was an intriguing model. It emphasised the significance of the company ability to balance short-term and long-term objectives. The model further suggested the mutually reinforcing nature of exploitation and exploration activities, influencing robust and responsive company competence and capability (Kriz et al., 2014).

2.4 The analytical framework

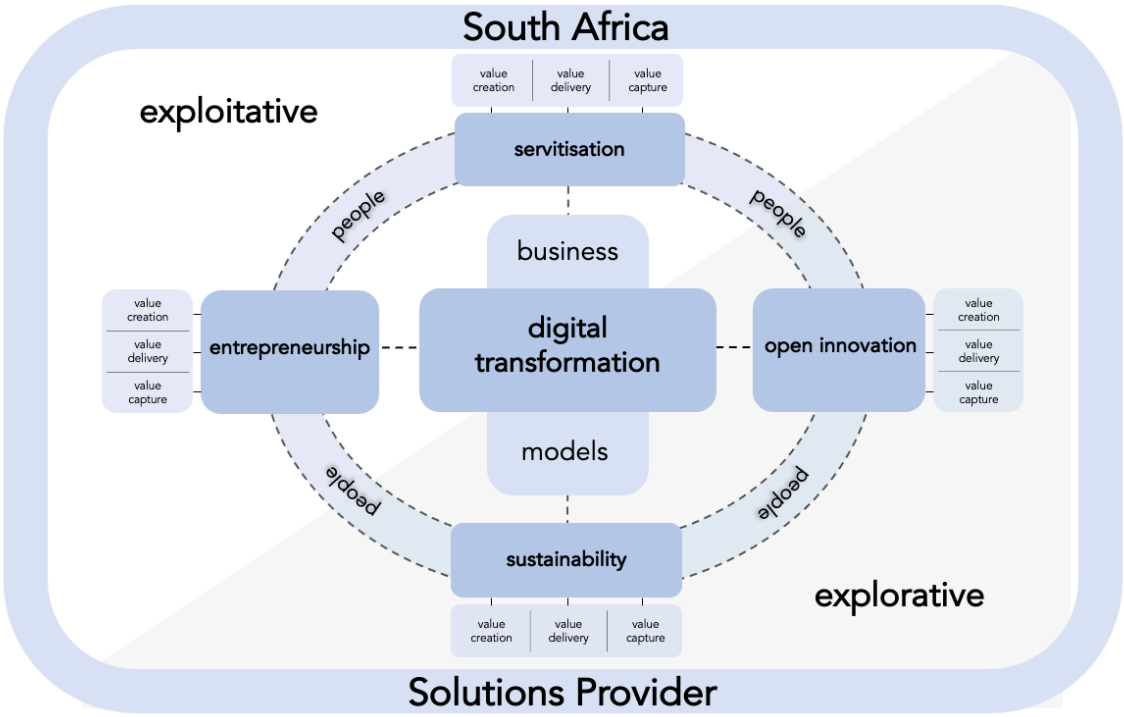
This study was a structured exploration of the influence of DT on the BMs of South African the SP. DT directly affected the SP through the business and technology transformation of their primary digital technology suppliers, which are vendors. These vendors design, create, manufacture, and sell the primary digital technologies of the world. These companies had shifted their value from manufacturers of hardware and software products to service orientated companies. This shift in a foundational element was inadvertently imposing a BM change on all the SP companies that primarily focus on providing value-adding services onto vendor products and offerings. Value is the foundational element of BMs, and companies created value through the various undertakings of exercising their expertise and competencies (Hong & Fauvel, 2013; Verrue, 2014). The expertise and competence a company possesses were a distillation of their knowledge, capabilities, assets, and processes. These competencies enabled them to perform operations proficiently and define their value propositions (Hong & Fauvel, 2013). Companies may possess superior research and development capabilities. By employing these resources, coupled with knowledge and skills they created new goods and services, they satisfied the needs of their customers and remained competitive. Another company may have excellent logistics and supply chain management capabilities, permitting it to deliver products to customers efficiently. In addition, a company may possess exceptional customer service skills that assisted in retaining their customer and foster brand loyalty. Competencies and capabilities differ between the diverse actors and companies within a sector. Their distinctive blend of knowledge and skills distinguished companies from their rivals and produced value for their customers.

This paper proposed the incorporation of OA concepts of exploitation and exploration into BM design and architecture. OA referred to the capacity of companies to balance the exploitation of

existing resources and capabilities with the exploration of new opportunities and markets (Benner & Tushman, 2015; Bustinza et al., 2019; Fischer et al., 2010; Kriz et al., 2014). Incorporating OA may help companies realise how to consume their internal and external competencies to establish a sustainable competitive advantage. This research contributed additional insights and data dynamics to existing BM generation tools and processes, enabling the SP to further understand the primary drivers of their BM and ultimately improve or augment their capabilities.

Figure3

The Analytical Framework



The Analytical Framework (AF) provided a visual context for this study. The SLR examined the impact of DT on the South African SP and their choice of BM through the exploitation and explorative lenses. As depicted in Figure3, the exploitation lens reviewed the themes of servitisation and entrepreneurship, which were inward-looking at leveraging and optimising company assets. Servitisation was the transition from being product-centric to customer-outcomes driven and the subsequent influence on people, processes, and technologies. Entrepreneurship related to the characteristics of entrepreneurial leadership styles that impact decision-making and company culture. The explorative lens studied the themes of sustainability and open innovation, which were outward-looking toward the market and competition. Sustainability related to the digital decisions on the viability, strategic choices, and the capabilities the company required or built to contend with these forces. It also weighed heavily beyond the popular environmental and social considerations. Open innovation enabled value through pursuing partnerships and engagement with the market,

capitalising on external assets to supplement the company competence and amplifying customer value enlargement. All four themes depended on employees participating in the value creation, delivery, and capture cycle with customers. Each of the phenomena probed were value facilitating from a supply and demand standpoint (Bustinza et al., 2019; Kriz et al., 2014). These phenomena anchored how the company navigates DT-influenced business model innovation (BMI).

2.5 The confluence of the primary research themes

Digital technologies encompassed diverse computer-enabled resources used to access and process data. These technologies included instruments, devices, bots, tools, groups, protocols, processes, networks, and methods. They enabled users to access various data, information, expert and social reviews, reports, analyses, and games (Oka et al., 2017)**.** These technologies substantially impact how individuals and companies connect, work, and make decisions. They expanded by decreasing expenses, speeding up processes, and improving service levels. In addition, they accommodated customer preferences by supplying enhanced information, wider choices, and improved convenience. Dissimilar sectors and companies, including healthcare, education, finance, retail, and manufacturing, applied digital technologies to promote innovation and improve company operations. They also supported the advancement of new products and services, including an improvement of customer experience (CX) via engagement technologies (Bican & Brem, 2020).

However, DT was not just about things or products; it was about automated actions, decisions and execution (Edelman & Dörner, 2015). Innovative technologies blurred the fundamental dissimilarity between the physical and the digital realm, transforming capabilities and ways of doing things at an unprecedented scale and pace. The digital economy redefined service delivery and value creation, influencing how the SP designed their BM (Mergel et al., 2019)**.** The digital economy referred to the rapid development of digital technologies such as the Internet, mobile devices, and cloud computing, as well as their influence on society and the economy. These market dynamics transformed how services were delivered and value created. This transformation was influencing how the SP designed their BM to create new products and services to align with the needs of their customers. Digital technologies allowed companies to customise their offerings, improve service delivery, establish new revenue streams, and enhance operational efficiencies (Oka et al., 2017).

DT translated into companies using digital technologies to change how they create, deliver, and capture customer value. It considered the influence of digital technologies on individuals,

companies, and society. The stimulus of DT influence a minimum of three of the following outcomes (Foss & Saebi, 2017; Govers & van Amelsvoort, 2019; Hossain, 2017):

I. Customer or market changes: Digital techniques assisted in attracting customers attention or penetrating new markets, resulting in increased revenue and market growth.
II. Disruptive impact at scale: Digital technologies could have a disruptive effect on individuals, companies, and society, leading to changes in how they live, work, and play.
III. New categories of companies: Digital technologies facilitated the creation of new kinds of companies, such as digital-native start-ups, which have the potential to challenge conventional business paradigms.
IV. Redefining relationships: Digital technologies may enhance communication and collaboration within and across companies, strengthening ties with customers, partners, and suppliers.
V. Transformed business processes: Digital technologies may be employed to automate and optimise business operations, resulting in higher productivity and efficiency improvements.
VI. User experience and engagement: Digital technologies could be applied to improve the user experience and provide convenience supported by personalisation.

DT was a continuous experimentation, adaptation and innovation process that changed how companies operate and deliver value to customers. The outcomes of DT varied by industry and company specific circumstances, but the consensus was to create value for the customers, improve efficiency and boost competitiveness (Danilova, 2019). Significant market transitions required BMI, with focus on the organisational and financial design responsible for creating, delivering, and capturing value (Foss & Saebi, 2017; Govers & van Amelsvoort, 2019; Hossain, 2017; Teece, 2010). BMI referred to creating and implementing new BMs that created customer value and capture company value. Hence, companies can utilise BMI to remain competitive in a rapidly changing market environment.

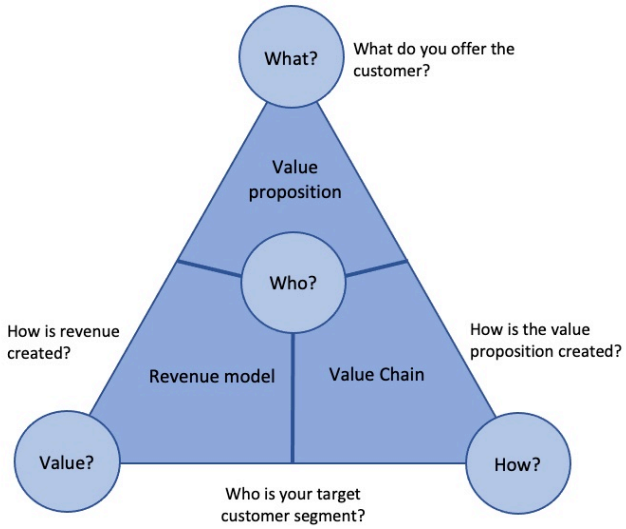
2.6 The significance of business models

A BM was the plan of a company to attract customers to their offers and services, generating a profit and providing usefulness to their stakeholders (Bouwman et al., 2017; Chesbrough, 2010; Teece, 2010). Osterwalder and Pigneur (2010) published a model in their book called the Business Model Canvas (BMC), soliciting entrepreneurs and companies to forgo outdated BMs and develop new models for the modern age. The BMC had since become the de facto standard tool that firms utilise to define, communicate and visualise their BM (Athanasopoulou & De Reuver, 2020). The BMC

assisted companies in visualising and comprehending their BMs main components, such as value propositions, customer segmentation, revenue streams, and essential resources. However, the purpose of this research being conducted was not to update, revise or review the BMC. Nonetheless, it would have been an oversight to ignore positioning this research contribution relative to the popularised BMC model. The approach taken was to focus on those value components of the SP BM most influenced by DT and how they contributed to segments of the BMC. This research provided a distinct dynamic for evaluating companies value creation, delivery, and capture capabilities, which injected additional data into BM modelling tools and technologies such as the BMC (Coes, 2014).

Figure4

Graphical representation of the basic business model. Source (Gassmann et al., 2014)



Every company employed a BM regardless of size, sector, or location. The BM was the leadership paradigm and blueprint that governed the company strategy and operations (Bican & Brem, 2020; Gassmann et al., 2014). It specified how they addressed customer demands and the methodologies and commercial offerings that characterise how they anticipated satisfying these needs. In Figure4, illustrated the basic premise of the BM as a trinity between the company revenue model, value proposition and the value chain leveraged (Gassmann et al., 2014). Thus, a BM defined how a company produces income, gave value to customers, and captured value for itself (Foss & Saebi, 2017; Kieser, 2018; Spieth et al., 2014). In particular, the BM described how a company interacted with its stakeholders, such as customers, investors, partners, and suppliers. A BM was not static but constantly evolving as the company adapted to market, technological, and customer demand changes (Chesbrough, 2010). Sometimes BM adaptations were voluntary, where the companies purposefully redefined their future through optimisation and investments. However, adaptations could also be reactive, where unforeseen or unplanned changes adversely affected the current BM, and

adjustments were essential for sustaining business success (Chesbrough, 2010; Kotarba, 2018; Spieth et al., 2014). Changes prompted by DT were transformations to a new form and construct of a company appropriate for performing commercially in the digital economy. Further, the company was required to service the general technological expectations of customers or leverage digital assets to enhance the company capability or customer engagement (Foss & Saebi, 2017; Kotarba, 2018). BM flexibility was competency mechanisms companies developed to market or innovate ideas, notwithstanding the challenging barriers to overcome.

Companies propelled their response to change with the capabilities, models, or tools they expected within or via the innovation of their extant BM (Coreynen et al., 2020; Kieser, 2018; Müller et al., 2019; Spieth et al., 2014; Teece, 2007). BMI hypothesised value creation, delivery, and capture, which propagated uniqueness in the company value proposition, influencing their design and capability expansion (Hossain, 2017; Spieth et al., 2014). Value creation correlated to the dynamic capabilities required from different value components, enabling their collective output to be greater than the combination of individual contributions. Companies created an actual or perceived value to the customer by delivering improvements to their offers. Value capture related to the profitable delivery and commercialisation of the value proposition. Companies projected that the design and execution of their BM is a mechanism to capture value (Hossain, 2017; Teece, 2010). The orchestrating of the value proposition and company structure was the tension companies struggled with and where failures often occurred. This tension resulted from the duality of constraints in the company dynamic capabilities coupled with their proficiency to manage and sustain them. The duality stems from the impediment to companies simultaneously focusing on internal capability development whilst assembling capacity to attract value from the market (Zhang et al., 2019).

OA was a complex competence and included the aptitude to optimise, innovate, and augment the company BM to withstand technological and market shifts (Tongur & Engwall, 2014). Theoretical and practical competence of dynamic capabilities was required to retain competitive advantage, cope with the impact of BMI and leverage OA (Benner & Tushman, 2015; Bustinza et al., 2019; Kriz et al., 2014). Dynamic capabilities reflected the capacity to produce, integrate, and restructure resources to react to changing market conditions and build a sustainable competitive advantage. The capability itself to manage and react to change was a dynamic capability most companies required to contend with an evolving future. To maintain a competitive advantage, deal with the impact of BMI, and harness OA, theoretical and practical knowledge of dynamic capabilities was indispensable. OA described a capacity to balance exploration and exploitation activities (Benner & Tushman, 2015).

Exploration activities entailed experimentation, invention, and the creation of new products, services, or BMs, whereas exploitation activities involved optimising existing products, services, or BMs. OA was essential for companies to adjust to changing market conditions and maintain their competitiveness. Dynamic capacities, BMI, and OA were interconnected and reinforce one another (Kriz et al., 2014). Companies with theoretical and practical expertise in dynamic capabilities were better positioned to deal with the effects of BMI and capitalise on OA. This positioning allowed companies to generate, integrate, and reconfigure internal and external resources to create new BMs, adapt to changing market conditions, and create a sustainable competitive advantage (Bustinza et al., 2019). These competencies were meaningful to managing the paradox of simultaneously exploring opportunities presented by the market. This was vis-à-vis the exploration of the open market, while contending with innovation, vis-à-vis the exploitation of existing internal strategies, assets and competencies to develop sectoral competitiveness (Božič & Dimovski, 2019; Chan et al., 2019; Teece, 2016).

2.7 A perspective on servitisation in product-centric companies

The digital technologies sector was an enabler of economic progress, including a catalyst for the future development of the global digital economy. This sector comprised an ecosystem of companies specialising in diverse digital activities with foundational trends, i.e., those leading to or emerging from other trends. Foundational trends aid in understanding the conditions under which digital activities create distinctive forms of value creation, delivery, and capture (Matsubayashi et al., 2019). DT was driving the trend for companies to make small and rapid innovations of their offers, aiding them to identify new and retain existing customers with new technology-enabled values or capabilities. Alternatively, companies that maintained their legacy approach of incremental innovation in addressing these forceful market shifts were experiencing customer and revenue erosion (Bourne, 2018).

Company mechanisms to discover, service and preserve customers were crucial for success. If these mechanisms were inadequately conceived and executed, it may have jeopardised their ability to maintain relevance with customers exposed to other companies and their offerings. DT stretched beyond merely digitalising operations and customer expectations. It encompassed the design and modelling of the companies investment and capability development while simultaneously provided the mechanism for improving operational efficiencies and potential savings (McInerney et al., 2017). In a 2018 global survey, 51% of the companies employed digital technologies to enhance products and services offerings, superseding any other activities they conducted (Hernandez et al., 2019). Thus,

those companies premising their BM on value generation, customer experience, and transparency were more admired by customers than their competitors, an intentional and beneficial consequence (Bourne, 2018; Hernandez et al., 2019). However, hastily changing the company value proposition spawned cost constraints if the new offering was manually complex or requires regular intervention by proficient skills. Alternatively, a reduced focus on customer value capture resulted in short-term gains, sacrificing the long-term value creation benefits from the strategic choices (Berman, 2011).

SP companies pivoting their BMs on regular, substantial capital expenditure projects should have revisited their approach to investments in capability and operating costs, matching the customers migration to consumption and subscription offerings. As customers and enterprises shifted from substantial once-off equipment purchasing or perpetual software licence regimes, revenue income would have changed from large capital project milestone payments to small, periodical payments (McInerney et al., 2017). DT value to the company was not just about technology; it may have been a valuable capability required to react to constant shifts in customer expectations and market demand. Revaluating their business operations enabled companies to innovate alternative approaches to people, processes, systems, routes to market, partnerships, and technology. These companies may have created the latitude to model their operational costs, including supply-side and internal costs such as plant, people and processes, to match the new profit and cost curves (Hoong, 2013). Thus, the ambit of DT stretched beyond the boundaries of internal operations. It also encompassed the company ecosystem of suppliers, competitors, adjacent markets, customers and non-customers (Ismail et al., 2017).

Some dimensions considered were product selection, competencies required, revenue models, competitor activity, internal capabilities to adapt, and customer preferences. Reviewing foundational assumptions or ongoing business decisions was paramount when facing the challenges of BMI. The development of digital-led capabilities translated to new competencies and, thus, new business mechanisms and potential new revenue and profit models. DT obliged companies to contend with customers determining their combination of products with associated high-quality services. Further, the customer expected the new offers to encompass savings in their commercial utilisation despite increasing service level expectations from the delivery of the products and services (Coreynen et al., 2020). There were companies abandoning exclusively providing supplier technologies sold principally based on the value proposition of the supplier intellectual property (IP). These companies were maturing to provide integrated, value-adding solutions comprised of their services IP delivering the supplier technologies (Coreynen et al., 2020; Teece, 2010). The strategy of outcomes-based

servitisation surfaced when companies transitioned to a service-dominant logic in their BM. They then executed company design and structure changes to support this customer outcomes-based services model as their new value proposition (Coreynen et al., 2020; Foss & Saebi, 2017; Kindström et al., 2013).

Many companies required help understanding and managing the servitisation competencies required, to transition from product-centric to service-centric at all tiers of customer focus and delivery. The struggle manifested strongly in companies where the leadership had a dominant product-centric style and originated from a product-centric business background (Baines et al., 2020). Legacy management practices made it challenging for companies to shift their focus from selling products to providing services. The company was not previously obliged to create their own value (products or offers) previously, only represent their supplier value proposition and innovation roadmaps. These companies were relatively transactional in nature, executing on demand-created, without having had ethe responsibility of doing so themselves (Coreynen et al., 2020). These practices curbed the adaptability of their BMs, processes, and company structures to accommodate responding to market shifts. It highlighted the need for companies to invest in new technologies and infrastructure and develop new skills and competencies.

Servitisation was the talent of transitioning from a product-centric to a service-centric BM, emphasising providing customers with value-added services instead of merely selling products (Kohtamäki, Einola, et al., 2020). This capability required companies to amend how they identified with their products, interacted with customers, and delivered value. It was regularly problematic for companies to identify and quantify the value of their services and develop new revenue streams. Often, the difficulty stemmed from companies having to change their culture, mindset, and business processes, which tool time to accomplish (Martínez-Caro et al., 2020). This culture shift created a strategic dilemma for companies. They were challenged with protecting their core operations mode whilst fiercely re-engineering their BM to a digital competence mode encompassing physical products and value-added services. The compromises, tolerances and non-negotiables were not self-evident and tested the resolve of the product-centric business (Kohtamäki, Einola, et al., 2020).

An integrated product-service BM was important for value creation in companies with a legacy baked in a product-centric value proposition. There was risk of companies simplifying servitisation to the act of supplying services alongside a product. This activity was simplistic bundling and was insufficient to sustainably create, deliver and capture economic value against the propositions of

digitally enabled competition (Lenka et al., 2017). The democratisation of digital technologies capability sanctions the market, permitting unprecedented fresh entrants with marginally different or cheaper offers. Simple ideas with a great BM, such as value co-creation with customers, tended to accrue superior value than superior technology executed through a weak BM (Hossain, 2017).

Not dissimilar to the innovation of company BM, servitisation advanced when the activities involved are organic, intuitive, and repetitive (Lenka et al., 2017). Organic related to the notion that the servitisation process was integrated into the everyday activities, including alignment with the company corporate vision and strategy. It was a seamless and natural process, never a separate and isolated initiative. Intuitive implied that the servitisation process encapsulated their experience and understanding customer requirements. It was a customer-centric strategy as opposed to being product-centric. By understanding the needs and preferences of their customers, a business would design and deliver more relevant and valuable services than traditionally (Kohtamäki, Parida, et al., 2020). The term repetitive referred to the concept that the servitisation process was ongoing and iterative, as opposed to a once-off event. Ongoing monitoring of the progress of servitisation and adjustment was often required. Fine-tuning would ensure that the company continued being aligned with shifting market conditions and customer criteria and that their services remained helpful and beneficial (Chesbrough, 2010; Lenka et al., 2017).

Notwithstanding the risk of failure, companies could design servitisation into their BM as a transformation strategy. They refrained from organising it through the extant business processes, sales and marketing activities as these capabilities required reassessment to accommodate the industry shift (Baines et al., 2020). Additionally, to reap the rewards of digital-enabled servitisation, companies required specific people, skills, and company learning capabilities to be successful, e.g., software competence, agile methodologies, and the ability to develop their IP (Kohtamäki, Einola, et al., 2020; Lenka et al., 2017). The transformation of BMs exceeded the generic strategies, such as separating products and services within companies or divisions. It inspired companies to contemplate their primary value chains and acquire new skills and technology into a strategic BM for value capture, delivery, and creation (Coreynen et al., 2020; Fischer et al., 2010; Kohtamäki, Parida, et al., 2020; Maglio & Spohrer, 2013).

Strategies were pivotal guides for companies. They determined how companies apportion resources and gain competitive advantage in response to market sector conditions and existing company capabilities (Alshawaaf & Lee, 2020; Zhang et al., 2020). Companies that embarked on a

servitisation journey with a BM heavily weighted towards exploitation-only innovations faced a potential employee, experience, or capability development gap. To avoid this divide, explorative innovation in their BM crafting activities facilitated acquiring insights about competitors, other companies and industries (Kohtamäki, Parida, et al., 2020; Martínez-Caro et al., 2020). Small and medium-sized companies harnessed their adaptability to drive OA-centric innovation projects in their organisations. They did this through their entrepreneurial innovation capability. They were small enough to coordinate change and open to market collaboration influenced by resource constraints from internally providing all capabilities required by customers (Chan et al., 2019). In contrast, dynamic capabilities were essential for large companies to overcome old paradigms and closed innovation. They built trustworthiness and engaged in partnerships with small and medium-sized companies to accelerate their internal adoption of entrepreneurial innovation (Allmendinger, 2019; Teece et al., 2016).

2.8 A perspective of entrepreneurship as a leadership paradigm

Digital technologies were not a panacea for companies to magically transform into super competitive and acutely relevant companies in a progressive market. Successful digital strategies did correlate with companies increased market competitiveness and relevance, but this did not automatically imply causation. However, there was always a possibility of a disconnect between the well-intended adoption of digital technologies that influenced strategic intent and the attainment of company DT (Ismail et al., 2017). A well-defined strategy for using digital technologies was recommended to achieve their transformation objectives. If a company pursued a clear understanding of how digital technologies enabled them to achieve their objectives, implementing these technologies would produce the desired results (Hernandez et al., 2019). They had to strive for a conducive management capability, company structure and culture in adopting these technologies. In addition, more than simply adopting digital technologies is required; companies were advised to continuously evaluate and adapt their strategies as the market and technology evolved. Additionally, companies with a more entrepreneurial approach to their industry digitisation tended to positively affect their projected revenues and profitability relative to their traditional BM trajectory (Bender & Willmott, 2018). These were outcomes because such companies were more responsive to new market conditions and capitalised on the opportunities presented by digital technologies.

Although DT had disrupted several markets and industries, many leadership teams believed they were, and remained unaffected for the foreseeable future. This nonchalance was evident in their limited implementation of DT strategies despite the market results encouraging more substantial and

earnest commitment (Hernandez et al., 2019). Leadership teams genuinely thought they were unaffected by digital technologies. They chose to remain uninformed and unconvinced of the extensive impact these technologies had on their industry or market segment. They were hesitant to invest in digital technologies due to the unnecessary risk and significant uncertainty they perceived to be involved. However, other leadership teams recognised that digital technologies continued to disrupt numerous markets, industries and incumbents. The failure to commit to DT entirely could render their company irrelevant, uncompetitive, or inefficient (Chesbrough, 2010; Teece, 2010; Teece et al., 2016). Studies had emphasised the significance of adopting an agile BM and an entrepreneurial leadership style to succeed in a digital world. For instance, Dahlstrom et al. (2017) observed that companies with an agile BM and an entrepreneurial leadership style were better able to respond to digital technologies-induced disruptions. This study also found that these companies were more likely to achieve long-term success due to the capabilities and competences they developed to manage and adapt to change (Dahlström et al., 2017).

Inspirational leadership decided on approaches that transformed the company and ensured their future success. Adopting an entrepreneurial mindset in running their business, they recognised new opportunities and capitalised on them through digital technologies (Dahlström et al., 2017). This mindset steers devising new products, services, and BMs, which will helped the company grow their market competitiveness and relevance. In addition, an entrepreneurial approach to digital technologies benefited the entire industry by enabling previously unviable segments to afford and consume emerging technologies. Entrepreneurial companies identified new opportunities and developed products and services that appealed to previously underserved or unserved markets (Audia & Rider, 2005; Zahra et al., 2006) . These company behaviours encouraged increased innovation and growth in the sector, which was advantageous for all market participants.

There was evidence that digital technologies opened up previously economically unviable markets, benefiting customers. Digital technologies facilitated greater market access for small and medium enterprises (SME) in emerging markets (Chan et al., 2019). Chan et al. found that digital technologies lowered entry hurdles for SME, allowing them to access new markets and customers and compete with larger companies (2019). The benefits of lowering barriers were increased innovation, job creation, and economic expansion in these markets. Digital technologies increased access to goods and services in remote and rural areas, making these goods and services more economically viable than without technology enablement. Digital technologies enabled companies to reach customers in these rural territories via e-commerce, digital banking, and telemedicine, leading to increased

economic activity and job creation (Bican & Brem, 2020; Hernandez et al., 2019). The leadership constantly reflected on DT, comparing what they could have gained due to good execution or what their competitors had taken because of their lack of decisiveness or commitment to DT (Bender & Willmott, 2018). Digital entrepreneurship extended the frontiers of what a company could achieve previously. It offered prospects for the sector and ecosystem to expand the horizons of their collaboration and engage in an expanded economy, which had not been feasible historically (Bican & Brem, 2020; Hernandez et al., 2019).

People were the pivot point of digital transformation, as it drove enhancements in collaboration, interpersonal communication, and interaction among diverse groups. The increasing prevalence of technology in many spheres of life had prompted a shift in the shared perspectives on work, communication, and collaboration (Hernandez et al., 2019; Kieser, 2018; Kotarba, 2018; Sousa & Rocha, 2019). Importantly, DT enabled employees to work more efficiently and effectively. This professional freedom permitted them to focus on more meaningful tasks and increases productivity and work engagement. Transformation necessitated the active participation of employees to ensure that they possessed the skills and competencies necessary to use and manage digital technologies effectively. Regrettably, global indices ranked South Africa 119th out of 188 nations in potential for DT, which placed it in the bottom 40 percent of surveyed nations (Matsubayashi et al., 2019). These results highlighted the need for South African companies to invest in their employees and ensure they possess the requisite skills and competencies to actively participate in DT. Unintended consequences of DT involved investing in education and training programs that emphasised digital skills like coding, data analysis, and digital marketing. Additionally, it was necessary to foster digital innovation and entrepreneurship in start-ups and SME by providing them with access to capabilities, funding, and mentoring (Dahlström et al., 2017). These activities aided the development of an innovative culture and encourage the creation of new digital technologies and services.

DT entailed beyond simply employing developers or software engineers. Skills development consisted of prioritising the capabilities required at all levels in the company. Talent acquisition and skills development centred on financial and revenue-generating metrics, not just technological competencies (Hernandez et al., 2019). The investment focal point needed to prioritise the acquisition of future-oriented skills, while simultaneously preserving the skills that aligned with the current business model, as the company advanced along its digital transformation journey. This balancing of skill development was crucial, lest the company precipitously shifted its BM and offers away from their relevance to existing customers and revenues (Dahlström et al., 2017). Entrepreneurial leadership

built their companies dynamic capabilities by establishing new partnerships and capabilities while positively exploiting their assets, knowledge, and market position. The SP had a fantastic opportunity to model how DT influenced BMI and catalysed digital business creation (Hernandez et al., 2019; Teece et al., 1997).

Corporate entrepreneurship became apparent when entrepreneurial traits, characteristics, and behaviours were ingrained within the company culture, extending beyond the domain of a select few individuals (Allmendinger, 2019). The role of the company leadership team was to utilise their judgement and insight to shape strategy and structure. They accomplished this by leveraging the appropriate dynamic capabilities to support the creation of complexity-absorbing BMs and coordinate company changes (Benner & Tushman, 2015; Eisenhardt & Martin, 2000). The choice of BM of a start-up reflected the judgments of their founders and leaders. In established companies, the choice described the BM components or architectures they possessed coupled with the adaptations the company was prepared to make (Allmendinger, 2019; Foss & Saebi, 2017; Teece, 2010; Zahra et al., 2006). Effective governance and management of BM experimentation and innovation was required, which enabled companies to address these leadership challenges through the careful differentiation between uncertainty and risk (Allmendinger, 2019; Chesbrough, 2010; Teece et al., 2016).

It took a robust company culture to navigate DT. The company leadership may have chosen to develop an entrepreneurial style to maintain and develop dynamic capabilities (Eisenhardt & Martin, 2000). This leadership style was about sensing and understanding opportunities, initiating actions, innovating and approving non-routine activity while orchestrating collaboration between disparate components of the company (Teece, 2007). Company leadership generally instilled an entrepreneurial culture to steer the company toward DT. A culture that fosters entrepreneurship encouraged innovation, risk-taking, and experimentation, which was crucial for adopting and implementing digital technologies (Chesbrough, 2010). By setting the tone, providing resources, and encouraging employees to think creatively and take risks, leadership was crucial to developing an entrepreneurial culture. In addition, they offered guidance, training, and support to employees who wished to advance their digital skills and competencies.

In an uncertain environment, a company decline may have ensued when it failed to successfully update and modernise their resources and proficiency to transition from regression to performance (Zhang et al., 2019). For instance, companies were characteristically incubators of entrepreneurs, or the entrepreneurial ideas of the employees related to product and services improvement, innovation, or creation. Consequently, the company already had an unacknowledged

dynamic capability that ought to have been identified, nurtured, and encouraged (Audia & Rider, 2005). Instead of passively witnessing employees depart to competitors or establish potentially competitive start-ups, companies could have instituted specific actions to benefit from their capability incubation. A case of such may have entailed extending employee involvement and job control in their BM, encouraging the incubation of novel ideas within the company instead of unwittingly resisting them and suppressing innovation (Audia & Rider, 2005; Govers & van Amelsvoort, 2019; Zhang et al., 2019). However, it was often difficult for leadership to organise cross-functional company-level collaboration and silo-spanning inter-company BMI. Similarly, creating a digital culture required the leadership to consciously shape the company cultural mindset regarding the digitally influenced change, iteratively reinventing the company (Kieser, 2018; Spieth et al., 2014). The successful adoption of digital technologies created new professions whilst potentially destroying long-standing ones. Consequently, for companies to benefit from new possibilities, there was a need for contemporary ways of organising value creation, delivery, and capture systems (Govers & van Amelsvoort, 2019; Hossain, 2017).

The dynamic capability of entrepreneurship broadly developed within an existing stable framework of recurring and routine company processes. Although BMI implied changes and innovative ideas, these ideas were commonly different for each company and needed to cater for specific circumstances (Allmendinger, 2019; Schilke et al., 2018; Zahra et al., 2006). Incumbents and entrepreneurs considered BMI a continuous evolutionary process and a key to their success, even if they were latecomers to the DT technological shift or market opportunities (Hossain, 2017; Zhang et al., 2020). The choices made by leadership was tempered by environmental conditions and existing company capability, with providence also played a role in company survival or demise. Companies that actively managed dynamic capabilities were the ones that had a higher probability of success when change happens. These companies preserved the entrepreneurial culture and addressed existing challenges with the agility to reallocate or reconfigure capabilities (Allmendinger, 2019; Teece, 2016).

2.9 A perspective of digitally sustainable business models

The South African SP category was a determinant of economic growth and development for the country. The category shaped the pace and extent of digital technologies adoption within the enterprise and consumer landscape by the choices made in adopting digital technologies, the proficiencies developed, and the innovative solutions architected. For technological progress to bear fruit, it should have filled a need, removed an obstacle, or improved business operations. Solving

problems and needs were the most candid way companies leveraged digitisation to attain digitalisation. The role of the SP was to architect these tangible digitalisation solutions by integrating the functionality of these emerging technologies with existing technologies. This resultant impact was a constructive path to DT (Ritter & Pedersen, 2020). There was a tangible link in DT between digitalisation, BMI, and sustainability. Digitalisation driven by the utilisation of digital technologies supported the innovation of BM for companies. These actions directed improvements in the value creation, delivery, and capture mechanism of companies, thus enabling sustainability benefits to the company (Parida et al., 2019).

The cost and investment in DT were implemented at the risk of shifting revenue from existing offers to new offers causing profit compression, as the new offers potentially needed incubation time to ramp up their contribution. Further, this was finished in an environment where competition increases was stifling the capacity of existing large companies from conducting viable business and impeded smaller companies from remaining agile and innovative (Chesbrough, 2010). DT was not just about technology adoption but a reimagining of the business as a platform business. This platform business communicated and engaged with suppliers and customer systems via scalable and automated digital systems. Transforming to this strategy entailed commercial remodelling, governance adaptation, process re-engineering, and systems modernisation (Bender & Willmott, 2018). Automating operations with digital platforms while building new competencies removed friction from vendor and customer engagement. It reduced company cycle times, which benefited cost optimisation exercises while it created new work, careers and learnings for employees (Dahlström et al., 2017). However, this could have been a double-edged sword, as the decision to transition to a platform business sometimes made the current BM or existing revenue streams obsolete. This transition raised the consideration of sustainable DT for the company, sector, and market participants (Hossain, 2017). In achieving sustainable DT, companies embraced a holistic strategy that reflected on the effects of their digital strategies on the environmental, social, and governance (ESG) factors. Some actions involved implementing energy-efficient technologies, recycling and e-waste management programs, and consideration of the impact of digital technologies on employment and the workforce. In addition, companies evaluate the ethical and societal implications of their digital strategies, including data privacy, cybersecurity, poverty alleviation and applicable policies (Bican & Brem, 2020).

The SP position in the market made them a pivotal contributor to job creation within the economy by leveraging digital technologies to reimagine work and careers. They achieved this directly through employment and indirectly through supporting the growth and development of opportunity

creation within other companies. Platforms and online companies reduced transactional friction between buyers and sellers. The platform opportunity enabled new competitors to enter the market with attractive pricing due to lower operating costs, thus negatively impacting the revenue and profit growth of the market incumbent (Bender & Willmott, 2018; Bican & Brem, 2020). The revenue erosion scenario affected profit by margins compressing faster than lowering operating costs coupled with intensified customer expectations. The digital technologies value chain was redefining itself as the confluence of technology, policy and customer-centricity and was driving a more extensive global communications evolution (Matsubayashi et al., 2019). Companies that believed online eCommerce stores were a magic wand to digitise customer experience or convenience were not reinventing but misleading themselves, impeding the sustainability of their DT ambitions (Bican & Brem, 2020).

Sustainable BM development defined and implemented "entirely new business models, the diversification into additional BMs, the acquisition of new BMs, or the transformation from one BM to another" (Geissdoerfer et al., 2018). Sustainable performance in the future came from the capability companies developed to move into a new or additional BM quickly and successfully. Improving company sustainability in a digital economy through leveraging DT was a precursor to BMI (Foss & Saebi, 2017). DT initiatives were soliciting companies to rethink their effectual harnessing of people, processes, and technology. As BMI progressively covered aspects of sustainability in the digital economy, opportunities arose for innovation models enabling the sharing economy, collaborative consumption, or inclusive growth (Foss & Saebi, 2017; Geissdoerfer et al., 2018; Hossain, 2017). Diverse stakeholders influenced the business plan of companies, including their employees, their market, the environment, and the global community. Companies built competitive advantages, which included contributing positively to the society they participated in (Chesbrough, 2010; Foss & Saebi, 2017; Hossain, 2017). When companies faced a technological shift or market disadvantage, they encountered a BM dilemma, especially if their existing revenue streams merely required them to shift or change. However, if they refused to accommodate the change, they constrained their ability to stretch their value proposition to new markets or customers (Tongur & Engwall, 2014; Zhang et al., 2020). Company leadership was crucial in identifying, building, and maintaining absorptive and transformative dynamic capabilities required to prevent being confined within or by their BM. When the company became restrained, variation and selection processes shifted to the market, away from their control and to their disadvantage (Benner & Tushman, 2015; Wang et al., 2015).

During technology shifts, companies invested in technology innovations that were risk diluting or potentially faced deteriorating the relevance of their value propositions. Technology shifts required new value attributes be constructed in a responsible and relevant manner, which comprised new

value creation, delivery and capture mechanisms, thus building new value propositions (Tongur & Engwall, 2014). The value attributes included safeguarding that leadership behaved responsibly with their culture while adapting and embracing the cultural characteristics required from the new BM. These were indispensable behaviours required to maintain the efficacy of the current BM until the functional and contributory implementation of the new BM (Chesbrough, 2010). The new BM surpassed a clever, logical, innovative business system. Companies should have distilled their BM to something that met the market needs (Teece, 2010). Deliberately planned and carefully executed BMI aligns all BM elements, ensuring they were inimitable and their stakeholders considered them commercially and socially acceptable (Geissdoerfer et al., 2018; Teece, 2010).

Vigilant execution extends to the environmental, social, governance, compliance, and privacy considerations a successful BM required (Geissdoerfer et al., 2018; Hossain, 2017). DT allowed companies to adopt technology that augmented the value capture, delivery, and creation capabilities. It gathered and captured data valuable to the company and their stakeholders (Hossain, 2017; Kohtamäki, Parida, et al., 2020). Hence, the company should have refrained from considering the BM a static artefact that was created once and then executed. They should have designed perpetually value-adding results from their BM execution and the market response to it. The company capability should have positively impacted policies, society, and the environment; otherwise, any competitive advantages gained may have been temporary and easily lost (Ambrosini & Bowman, 2009; Eisenhardt & Martin, 2000; Teece et al., 1997). Companies should have engaged the DT instrument to construct dynamic capabilities required to sustain their BM in a digital economy (Kieser, 2018). Thus, they architected a company that met the evolving sustainability needs of their internal and external stakeholders (Geissdoerfer et al., 2018; Kieser, 2018).

2.10 A perspective of open innovation market collaborations

The digital environment was an ecosystem of productive capability, quality and speed, electronic applications, content, networks, and services, which increased the uses, value, and variety of information for companies and individuals. The SP assimilated this digital network of economic and social information activities related to the Internet, mobile and sensor networks into valuable products and services that drove economic advancement (Matsubayashi et al., 2019). There was a natural gravitation towards the next radical technology innovation in the digital technologies sector. This was due to their departure from the norm, problem-solving potential, and associated differentiation benefits it provided to the SP. To keep pace with this rapidly transforming environment, companies should have incorporated continuous competence development into their

BM and sought innovation opportunities and growth trends while avoiding technology investments that seem appropriate (Bourne, 2018). Sometimes, getting to the intended outcome was more comprehensible with partners who already had capability than building or recruiting from scratch. Notwithstanding the company stature, experience or capabilities, there was always opportunity to develop the acumen to work with ecosystem companies who would identify capabilities to retain, discontinue, or invest in (Dahlström et al., 2017).

The SP gained positive outcomes from creating ecosystem partnerships with other companies to remain relevant to customers and, consequently, the transforming needs of their addressable market. Ecosystem partnerships were a more intricate relationship construct than a mere partnership of convenience to address a specific opportunity or capability gap between dissimilar players. Partnerships should have been meaningful and value-generative, with all parties strategically committed to growing and developing their partnership. Benefits and value ought to have accrued to all partners more meaningfully than if they had attempted the same objectives alone (McInerney et al., 2017). For ecosystem partnerships to thrive, the SP should have been transparent with their commercial expectations from the engagement, observations on the ongoing health of the relationship, and dedication to investing resources and effort into promoting it.

Most importantly, collective trust was a key metric between all parties in the partnering model. Partnerships and relationships designed with ecosystem value complement the internal development efforts for the required new skills and capabilities. The ideal allowed companies to provide value engagement with customers in a shorter time and more effectively than if they had tried alone (Dahlström et al., 2017; McInerney et al., 2017). Further, the sustainability of an ecosystem partnership was correspondingly reliant on enabling policies, strategies, processes, and capabilities to encourage adoption and trust by the market. This customer-first approach was indicative of the nature of a digital-transformed sector, where companies adapted to architecting solutions to customer problems rather than offering products preconceived and prebuilt offerings to address customer needs (Hernandez et al., 2019). Ecosystem partnerships allowed companies to arrive at the customer with a basket of competencies to architect solutions. This competency technique would have been formidable to capitalise, maintain and scale independently.

There were associations between BMI and open innovation, which facilitated the integration and commercialisation of external and internal resources to enable the value creation, delivery and capture instruments of a company (Chesbrough, 2010; Foss & Saebi, 2017). Company leadership

considered the strategic value of BMI and OA to develop the dynamic capabilities necessary for sustained competitive advantage (Božič & Dimovski, 2019; Wang et al., 2015). This association underpinned open innovation explorative and exploitation models in accelerating company performance. This performance was attained by utilising all assets, resources or positions it had access to in expediting value development (Hossain, 2017; Spieth et al., 2014). Leadership was initially responsible for designing a company innovation strategy, culture, and goals. Management was responsible for the ongoing preservation of the extant execution of strategies, culture and goals to sustain their momentum from performing whilst transforming (Fischer et al., 2010; Kieser, 2018; Teece, 2010). The open innovation approach assisted the company in improving the current value proposition to existing or new customers and addressed the challenge of competition, duplication, or relevance (Fischer et al., 2010; Maglio & Spohrer, 2013). When deliberating value proposition design, leadership assessed the exploitation of internal operations and resources coupled with exploring existing supplier relationships and the broader ecosystem of acquisitions and partnering (Zhang et al., 2020). However, the exploitation of internal competencies should have been a primary objective and the compromise of exploring new competencies a secondary objective (Božič & Dimovski, 2019; Spieth et al., 2014; Wang et al., 2015).

Successful companies developed the dynamic capability to identify, establish, manage, and maintain strategic partnerships to gain a market advantage. Strategic partnerships were crucial when participating in high-velocity markets (Allmendinger, 2019; Fischer et al., 2010; Zahra et al., 2006). DT was without boundaries. Companies should have contemplated the inflow and outflow of the knowledge utilised for internal innovations to prevent theft or duplication when sharing information and capability with partners (Eisenhardt & Martin, 2000; Teece, 2007; Zhang et al., 2020). Dynamic capabilities were required to guide the company toward a DT-influenced customer-outcomes BM. There were company and environmental antecedents to dynamic capabilities development (Eisenhardt & Martin, 2000; Spieth et al., 2014; Teece, 2007). When considering value building, companies should have refrained from pursuing digital technologies to replace their staff and seek to augment staff capability by leveraging technology. Hence, adopting emerging technology facilitated the development of sustainable value propositions. A culture of embracing technological adoption fostered customer innovation. This was achieved by differentiating through technology-enabled capabilities that prioritize a human-centric approach. Companies should have avoided depending on technologies implemented as their principal value differentiator. Democratised access to technology implied effortlessly substitution or replication by another provider if the value remains in technology supply (Martínez-Caro et al., 2020; Zhou et al., 2019).

2.11 Highlights of Chapter 2

Reviewing the four themes from Chapter 1, an additional perspective of OA emerged. This perspective challenged companies to balance exploiting their existing competencies, skills and assets while exploring new opportunities, partnerships, technologies, and markets. Companies could build the ability to explore without excluding exploitation, and vice versa, as strategically cultivated dynamic capabilities. Correlating these layers to one another was not self-evident at this research stage and formed the entry point of the research data collection and analysis. The AF was revised to incorporate the OA exploitative and explorative aspects. This enhancement added a depth to the lenses previously identified and utilised to review the phenomenon, enhancing the framework.

Chapter 3 Research problem and methodology

This researcher derived originality from conducting this study rather than seeking an original or novel discovery to examine (Gill & Dolan, 2014). The research took a social constructivist interpretive paradigm and a futuristic ontological perspective (de Jouvenel, 1967; Fosnot & Perry, 1996). This approach allowed this researcher to better understand the subject under consideration. The combination of the constructivist interpretive paradigm and inductive document analysis provided a thorough and well-rounded approach to this research. This researcher used an inductive analysis of documents to identify participants for semi-structured interviews. These interviews were the primary data source, allowing this researcher to gain a more in-depth understanding of the subject through the responses and observations of the experts. Semi-structured interviews enabled this researcher to collect rich and detailed information while maintaining structure and control over the data collection process. This researcher gained a complete understanding of the subject matter and derived originality by analysing the multiple data sources and employing a holistic approach to the research.

3.1 Anticipated contribution to originality at the outset

Originality materialised from realising what it is and then improving it by practising creative skills and structured learning. Achieving this goal required recognising that originality is an evolving and dynamic process (Cryer, 2006). Originality has the qualities of infrequency, novelty, unusualness, rarity, uncommonness, and uniqueness. It was a vital factor in motivating creativity and innovation (Acar et al., 2017). Thus, originality in research was not a quest to discover something different. Instead, it permeated this research through the uniqueness introduced by this researcher, resulting in new knowledge (Gill & Dolan, 2014).

This study explored the layer of solutions provider (SP) companies in the digital technologies ecosystem, investigating how they responded to digital transformation (DT) affecting their companies, customer experiences, culture, and capabilities (Foss & Saebi, 2017). This study examined the considerations the SP applied to their business models (BMs) in response to DT. Changing BMs may have affected how they provide digital technologies and related services. This change was crucial as the SP is a primary provider in delivering digital technologies and services to customers. Their offers to their customers influenced the competencies they built and the technological capabilities their customers acquired. It is noted that the SP customers were the business from which most consumers procure their goods and services, such as, financial, food, health, retail, telecommunications, and transportation.

3.2 Philosophy of the methodology

This researcher philosophical perspective was one of social constructivism in that social interactions and connections influenced the creation of knowledge and meaning. This view presupposed that reality forms socially via the shared engagement in ideas, values, and experiences of people (Stahl & King, 2020). Language was also a vehicle that influenced and shaped the architecting of knowledge. It materialises the thoughts, ideas, perceptions, and worldviews of people. Words and language expressed beyond the names and identifiers of things but delved into explaining and sharpening beliefs about things, events and experiences (Fosnot & Perry, 1996; Phillips, 1995). Support for active social learning have greater efficacy than passive cascading (Pritchard & Woollard, 2013). This researcher preferred active engagement with the participants via semi-structured interviews to derive their understanding and meaning of the research problem statement.

3.3 The nature of knowledge in business model adaptations (ontology)

An ontology of futurism undergirded this study. Some innovations developed through diverse market forces, and some futures accumulated from occurrences in the present market. These "Futura" were a consequence of cognitive products, ideas and expectations, hopes or fears that could not be studied utilising scientific principles and were not visible now (de Jouvenel, 1967). Moreover, there were internal tensions that destabilize systems along with external forces that exacerbated system transformation. These factors contributed to the perception that the world was constructed, interpreted, and experienced through the unpredictable interactions of people (Papachristos & Adamides, 2016; Stahl & King, 2020; Tuli, 2010).

This study focused on changes to the SP BMs driven by digital technologies trends such as AI (artificial intelligence), cloud, and software-defined everything. This research realm was considered a 'socio-technical system' and consists of systems that involved a complex interaction between humans, machines, and the environments of a working system (Davis et al., 2014; Elder-Vass, 2017). This study examined the fundamental implications of the market shift from product-centric selling to customer outcomes-driven companies. It specifically investigated how this transition impacts the business models of these companies. The adaptation of business models influenced by DT arose from a shift away from conventional paradigms, leveraging past successes alongside disruptive and pioneering innovations that propelled novel concepts and methodologies (Kotarba, 2018). Extant research attributed socio-technical transformation to the destabilisation induced state transition of a system brought on by the stresses and forces acting on it (Davis et al., 2014; Elder-Vass, 2017). These

pressures were explored using the exploratory and exploitative capabilities lens. This research had both the social and technical systems represented, with the social system being less dominant than the technological system.

3.4 Validating the effect on business models (epistemology)

An epistemology of social constructivism infused this study. This researcher had a perspective that people actively construct or create reality. This data collected was determined by how participants perceive, experience, and interacted with the world (Fosnot & Perry, 1996; Phillips, 1995). The approach taken was personal and adaptable, employing qualitative techniques. The video and voice recording of participants opinions allowed for data collection. The language, experiences, and knowledge of the researcher impacted the investigation and their outcomes (Rehman & Alharthi, 2016). However, any influence exerted by this researcher was not detrimental to this study and aided the structuring of the research questions. The knowledge and experience of the participants contributed significantly to achieving novel outcomes (Pickard, 2013). The constructivist approach explored the reality of the SP and the effects of DT on their companies. It further examined what adaptations to their BM they were performing or considering, in response to the shifts in the SP category. Published documentation shaped the research questions, and the communal perspectives from the one-on-one interviews provided invaluable data.

The method of analysing this data was inductive reasoning, where this researcher delimited patterns in this data, leveraging the lens of the AF, to understand the phenomena explored and the subsequent origination of concepts and patterns (Rehman & Alharthi, 2016). Research instruments adjudicating the trustworthiness of the constructivism approach included confirmability, credibility, dependability, and transferability (Stahl & King, 2020). The selection of data sources, the types of individuals and personas chosen as participants, the tools utilised for collecting, storing and retrieving data, and the process used to govern this research ensured that the research outcomes were addressed (Stahl & King, 2020).

3.5 This researcher perspective on engagement

This study took an explorative, qualitative, constructivist approach. The instruments employed were data gathered from published annual results or similar publicly available data and semi-structured, open-ended interview questions (Babbie, 2016; Pritchard & Woollard, 2013). Published data sources provided a macro-level view of the target companies intentions and actions, guiding the informal conversational interview with selected participants from these companies. With

varying degrees of structure, the questioning style of open-ended questions allowed the participants to provide personalised insights and experiences, unpacking their professional experiences within this research context (Rehman & Alharthi, 2016; Tuli, 2010). This approach allowed the participants to be active contributors to the generation of knowledge, with the freedom to move between questions and produce data that often addressed the various research sub questions simultaneously (Stahl & King, 2020).

This researcher had over a 20-year journey in the SP category and served within the industry as a chief digital and marketing officer in a large digital technologies company. This pedigree positioned this research to yield a distinctive confluence of academic and real-world perspectives. It further encouraged probing into this research problem and provided value for the participants, thereby rendering a novel conclusion and an insider assessment of this research problem (Tuli, 2010). This method enabled leading to an understanding of the socio-technical phenomena. It supported confirmation links connecting the various responses obtained without utilising a broader, less focussed approach for data collection to reach potentially similar outcomes (Babbie, 2016; Pritchard & Woollard, 2013; Tuli, 2010).

3.6 Methods of data collection

This study was dialectical in approach and philosophical method of reviewing and understanding this data to synthesise the truth. This researcher evaluated the data and information gathering, incorporated it into their understanding of the research problem, and left room to potentially adjust or modify the original thesis. This process continued until this researcher attained a synthesis that was the most accurate and relevant information from all the considered data sources and elements (Stahl & King, 2020). This study leveraged publicly accessible knowledge, such as published annual results statements, press releases and advertorials related to companies in the SP category, to inform the semi-structured personal interview data as the primary research instrument. Data gathering focussed on the AF themes of explorative related to servitisation and entrepreneurship with exploitative pertaining to sustainability and open innovation. The dialectical process aimed to arrive at a comprehensive and potentially nuanced understanding of this research problem. It was a dynamic process emphasising critical thinking and ongoing revision of knowledge (Rehman & Alharthi, 2016; Stahl & King, 2020; Tuli, 2010).

3.6.1. Document selection and review

Credible companies in the digital technologies sector had a web presence containing various company documents, press releases and news articles referencing their business, competencies, and offers. The intended sample size was 15-20 companies, with 3-5 years of reports and competency-reflecting documents. This approach outcome was to generate between 90 and 200 artefacts. The sample size achieved was 18 companies, with appropriately 120 artefacts, comprising principally publicly traded companies and the remainder private companies. Audited annual financial reports were a document of primary interest, including strategic intent, investment decisions, and financial returns and expectations. Secondary documents of interest were press releases or capability documents wherein companies articulate their proficiency, capabilities, product, and service offering. These company documents were analysed to ascertain the narrative and link performance indicators to this research topic, determining appropriate roots, models or explanations for the conditions under investigation (Bowen, 2009). These documents supported identifying participants for interviews, present a background for the answers provided in the interview process and corroborate this data collected (Mills et al., 2006; Yin, 2018).

Furthermore, the documents furnished insights into refining or contributing supplementary interview questions and conditions which required scrutiny during the collection method (Agee, 2009). They supported this researcher in recognising added focus areas with a particular participant in the semi-structured interview process, facilitating meaningful data collection and correlation (Bowen, 2009). The purpose was to recognise the phenomenon of DT in their BMs and mitigate the risks of partial engagement on pertinent topics. This researcher allowed for this outcome by sanitising the interview approach and questions before engaging with all the participants (Agee, 2009; Bowen, 2009).

3.6.2. Semi-structured conversational interviews

This researcher chose a purposive sampling method for interview participant selection. This sampling style allowed for short-listing interviews by companies with publicly available research-relevant documentation and the availability of willing participants from the short-listed companies (Etikan, 2016). The ideal number of interview subjects was between twenty and thirty people. The electronically recorded interviews, conducted via online video/audio conference, utilises open-ended questions in a semi-structured conversational manner. Discussions were also pursued with a few South African vendors and customers to the SP category. The approach of including upstream and downstream companies to the SP category provided a holistic perspective of the environment but did

not form the basis of the primary research investigation. Instead, it aided in providing a fuller picture, identifying gaps in the SP perspective, and supported areas for further research studies.

The total number of successful participants achieved was 24 and the interviews comprised statements and questions to them (Babbie, 2016). These statements were employed to ascertain the participants attitudes and opinions, allowing for a greater variety of questions. Further, it aided in framing this research topic with the participants, avoiding repetition and irrelevant material (Babbie, 2016; Rowley, 2014). Open-ended questions empowered participants to answer spontaneously, permitting this researcher to probe while sustaining a casual demeanour and help experiment with ideas and concepts which emerged during the session (Rowley, 2014). This interview style facilitated the organisation of response data into distinct themes prior to analysis. Furthermore, it enabled comprehensive coverage of topics without imposing constraints, a factor that often proved challenging to predefine or accommodate (Babbie, 2016; Rowley, 2014).

3.7 Experience with data collection

The following section provides a high-level insight into how the data collection framework was implemented and executed in the research process.

3.7.1. Identification and selection of documents

This study pursued a broad audience of SP category supply-chain representative companies within the SA market. This researcher utilised publicly available information to construct a comprehensive list of companies whose publicly available documents were reviewed. The lists comprised international digital technologies vendor companies, global and locally headquartered resellers/systems, integrators/ISV companies, and customer companies. For publicly traded companies, accessing trading statements containing strategy documents was possible. However, for non-publicly trading companies, this was not feasible, as these companies are not obliged to disclose this level of information publicly. The records of 18 companies were assembled, comprising statutory public company statements, press releases and company profiles. The review of these documents facilitated an understanding of the companies DT strategy and execution plan. They also identified persons of interest who were the drivers of the DT strategy or senior representatives knowledgeable of or accountable for it. These identified people were then approached for an interview or requested a referral to the appropriate person. The DT strategy helped determine the nature of the company towards their participation in the local digital technologies sector. It guided the relevance and changes required to the proposed semi-structured interview guide.

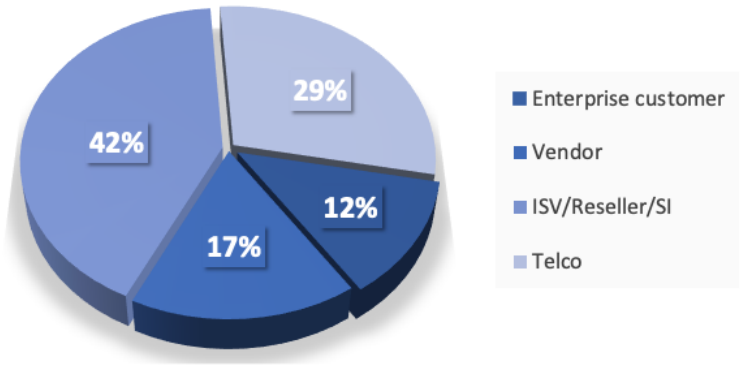
3.7.2. Overview of data collected

All this data derived from subject matter experts interviewed using a semi-structured questioning format. This researcher was keen to pursue a focus group comprising most interview candidates. However, COVID-19 regulations and protocols made focus groups logistically challenging to execute and the idea was abandoned. Nevertheless, this option may be valuable for future research related to this topic.

The candidates identified were contacted via LinkedIn Messenger or their official professional contact details gathered from the available online sources. The cross-spectrum representation of digital technologies and the seniority of the participants supported that this study was well-informed and relatable to the SP category. Figure5 provided an indication of the participants and the areas of the SP category represented. Around 80% of the participants responded from a home office, with the remainder from their corporate office environment. This researcher did not identify any noticeable effect on the insights shared or the participants openness despite physical location. All participants were alone in a closed room with no disturbances during the interview. This approach assisted in a focused discussion with the occasional and negligible occurrence of a signal loss or garbled communication due to momentary internet congestion.

Figure5

Count of participants position in the digital technologies sector



A significant challenge to the remote engagement of participants was getting the signed statutory documents from participants, with a many requiring a follow-up query as they were incomplete or unattended. The documents that were sent to each participant, in email, were the Informed consent form and participation information sheet, available in Appendix A. This researcher attributed this to participants unfamiliarity with digital signing tools and techniques, or a lack of concern for the process, despite being advised of it. Even though all documents were eventually

digitally signed, a few candidates required a few follow-ups before returning all the countersigned copies. After the first few responses from participants, this researcher sent an additional clarification email to all participants that had agreed to be interviewed. This email confirmed that this researcher was interested in understanding the perspectives of the individuals, and there was no groundwork or preparation expected from them. It clarified that no privileged company information is to be shared or required for the interview. A copy of the email is available in Appendix C.

Seventy-five percent of the candidates interviewed came from the contact list generated by the document review, and twenty-five percent were referred by the candidates primarily contacted. This researcher appreciated the introduction to the additional 25% because titles and company documents only occasionally reflected the appropriate people or teams driving DT in a company. Their inclusion provided access to a group of experts that were not on the primary candidate list. It was sometimes advantageous to seek candidates beyond what titles and roles sometimes depict, adding an additional layer to this research data that would be missed if adhering to a rigid, inflexible deterministic protocol.

3.7.3. Mode of interviews

This researcher anticipated video calls would be the appropriate mechanism for one-on-one interviews conducted in the first of half of 2021, during the COVID-19 global pandemic. The interviews were conducted via online video calls utilising a mixture of Microsoft Teams, Zoom or Google Meet at a scheduled and agreed time and date. The application choices were based on participant preferences to minimise interview stress and technology anxiety. The participants were comfortable utilising online meetings for the interview as they were familiar with the technical features and functions of their selected tool. Some participants used the technology to share an artefact such as PDF documents, visuals, or screen-sharing to illustrate or highlight their thoughts. These artefacts assisted this researcher in gaining a broader understanding of the participants thought process. However, the onscreen artefacts shared were not used as research data to avoid potential copyright, privacy, or confidentiality contraventions. All interviews were voice and video recorded, employing the native recording feature of the tool utilised for the interview.

The initial study design was for semi-structured face-to-face interviews. However, COVID-19 protocols and general consideration for the participant health and safety of the participants and the researcher was paramount. COVID-19 work-from-home measures also contributed to the utilisation of online video meetings. During the video and voice-recorded interviews, this researcher primarily listened to the responses from the participants, occasionally interjecting to seek clarity and limited

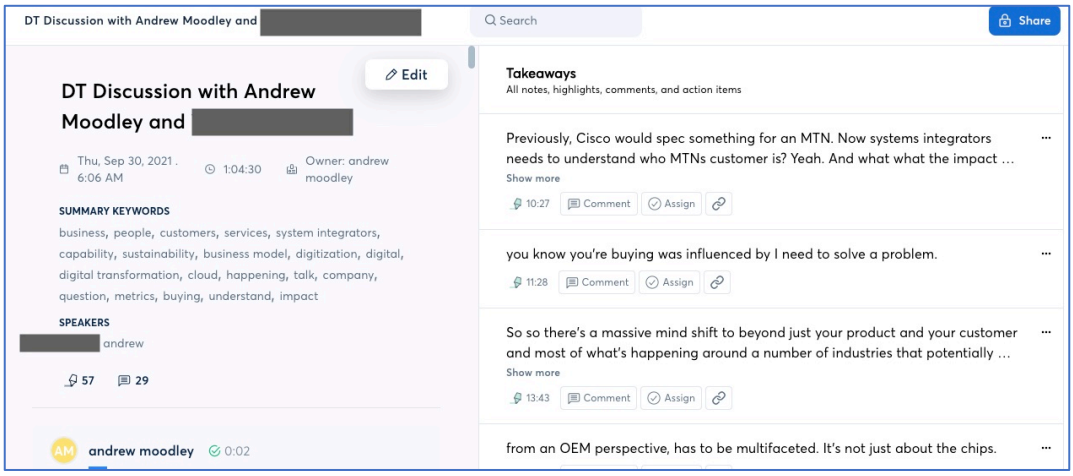
notetaking to essential insights. The participants generally gave a sense of being open and direct in their answers, at times citing examples of their response to DT and how they would or could have done things better or differently. Most participants were keen to participate in further discussions on this topic in either a one-on-one setting or a focus group, indicating their desire for further structured and constructive conversation related to this research topic. They believed it would provide support and an understanding of the DT phenomenon that was lacking for the SP category.

3.8 Data analysis and coding applied.

The structural approach to the analysis and coding of this data remained consistent with the methodology proposed for this research. As depicted in the AF, this research themes provided the structure for this data analysis without forcing or restricting this data coding or categorisation. Data analysis commenced only after the conclusion of all 24 interviews. Since all the interviews were video-recorded, with knowledge and permission by the participant, this researcher reviewed different software packages to aid in the interview data structuring.

Figure6

Screenshot of Otter.ai transcription



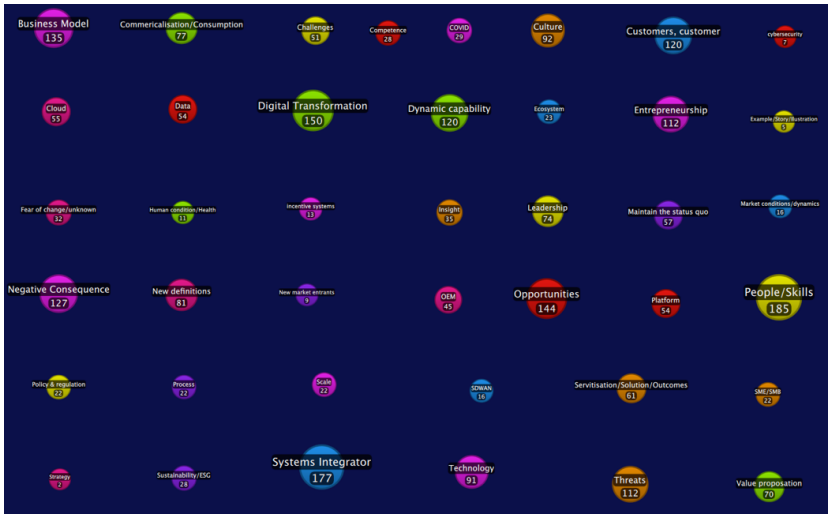
The first step was to transcribe the interviews. The software utilised for this is named "Otter.ai", depicted in Figure6 above (Liang & Yun, 2016). This software used AI to determine the words being spoken and by whom. This researcher trained the software with their voice to differentiate and identify the two speakers for each recording. The application generated a rich-text file with the full transcript, associated speakers, and timestamps. This researcher reviewed the text whilst simultaneously listening to the recording to ensure the accuracy of the transcription. Each

transcription required minor changes to accommodate for South African colloquialisms, nuances, or abbreviations in the conversational language and spoken word.

The second step was to open code each of the 24 interview transcriptions. The software utilised for this is named “Quirkos” depicted in Figure7, Figure8 and Figure9 below (Turner, 2013). This software allowed this researcher to import the transcription and systematically work through the text. Each word, phrase, sentence, or multiple sentences of interest was highlighted and assigned to single or various combinations of open codes. During this activity portions of the transcription were allocated to keywords used by the participants to provide and construct an additional level of context. As this researcher progressed through the transcriptions, the keyword count incremented with new thoughts or ideas that emerged. This activity concluded with 41 open coding categories, depicted in Figure7 below. The source data of what the participants said was maintained along with the text reference, and coding to aid in a seamless revisiting of the text, before final deletion.

Figure7

Quirkos screenshot of the initial keyword coding



A fascinating insight from the open coding exercise was witnessing patterns emerge from the associations between the open coding themes. A significant pattern that emerged was the close relationship between Digital Transformation, Business Models and People/Skills, which significantly outweighed all other code categories by a factor of 2. This correlation was depicted in Figure8 below. This coding of People/Skills demonstrated strong associations with the codes of Incentive systems, Culture, Entrepreneurship and, most interestingly, with the concept of Negative consequences related to Digital Transformation.

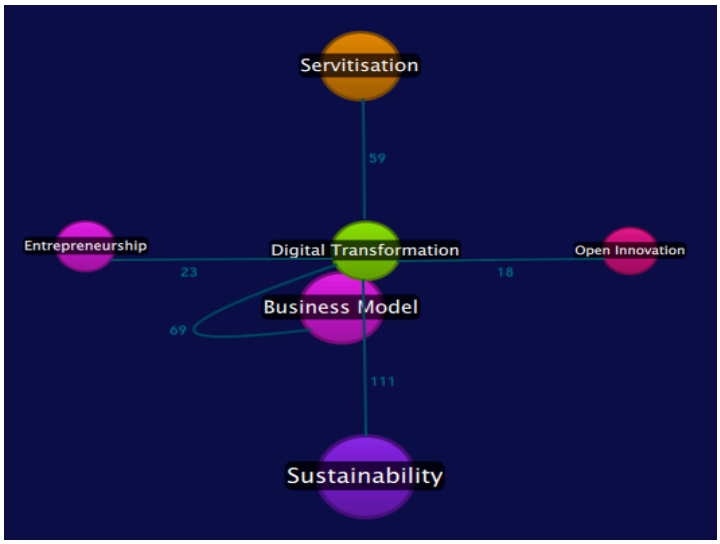
Figure8

Quirkos screenshot of the correlation between business model and people/skills from the interview transcripts

The third step was to perform axial coding on the open coding results achieved in step two. The open coding themes were grouped into the AF themes and the interview guide language whilst still maintaining the associations from the open coding. Keeping the original data integrity is critical. The associations provide a depth of relational understanding that is lost if this linkage is not maintained. In this grouping exercise, some codes superseded or collapsed into others to eliminate redundancy, ambiguity, or thematic overlap. The association between the final code groups was reviewed, structured, and defined using a graphical format like the AF, depicted in Figure9 below.

Figure9

Quirkos screenshot of association between the final code groups using AF format



The strongest association was between Digital Transformation and Sustainability, followed by Business Models, Servitisation, Entrepreneurship (which includes Leadership and Culture), and Open Innovation (which provides for Competencies and Platforms). This researcher updated the AF to have people as a common thread among the four themes after "People and Skills" emerged strongly in this data collection process. The coding exercise allowed sifting through this data collected in a structured and systematic manner which led to functionally coding this data into themes, elements, and phrases. These had not been crosslinked and associated with other sections referencing the same theme. Further, these themes had a non-linear correlation to different themes, and this meta-data was searchable using word clouds, phrase search, and CSV extracts for reoccurrences. Additionally, this researcher assessed the interview quote and the context of the section supporting correlation to the themes and sub-themes.

3.9 Limitations of methodology

Utilising research data based on semi-structured interviews captured the participant perspectives at that specific time. The SP category evolved rapidly, given their innovative and competitive demands of the digital technologies sector. A potential methodology was to revisit the participants after a period to determine changes or shifts in their perception—engaging with the participants in focus groups or forums to discuss specific themes to more profound or shared insights not contained in the interview transcripts. While this methodology offers numerous benefits for exploring the research questions in-depth, it was essential to acknowledge their limitations to ensure the validity and reliability of the study (Kakilla, 2021; Roberts et al., 2021). These include

I. Covid19 pandemic: The context of the world was safety and security. People had a heightened sense of stress and vulnerability. Casual interactions and impromptu conversations were limited which may have had an unknown effect on the efficacy of the interview approach.
II. Interpretation and Analysis: Analysing qualitative data demands considerable time and effort, and interpretations may have varied, especially when using tools which reduces intimacy with the data for the researcher.
III. Limited control over external Factors: In face-to-face interviews, researchers had limited control over external factors that may have influenced the interviewees responses. Participants emotional states, fatigue, or distractions in the interview environment could impact the quality and depth of the data collected.
IV. Limited generalisability: Due to the small sample size typical of qualitative studies, the findings might have needed more generalisability to broader populations or settings. While the

research aimed to provide rich insights and context-specific knowledge, extrapolating the results beyond the study participants should not be overly extended.

V. Social desirability bias: Participants may have been inclined to provide socially desirable responses, particularly when discussing sensitive topics or technologies. This bias could have led to underreporting of negative experiences or opinions, limiting the accuracy of the findings.

VI. Subjectivity and bias: Qualitative research inherently involved subjectivity, as data collection relies on participant perceptions, experiences, and interpretations. The researcher biases, beliefs, and preconceptions may have influenced the interview process, potentially leading to biased results.

VII. Time and resource constraints of online: Conducting one-on-one face-to-face interviews was a time-consuming and resource-intensive process. It required significant planning, and scheduling, which limits the sample size or duration of the study. Additional, technological challenges such as device capability and internet availability may lead to frustration and anxiety when they do not perform optimally.

Despite the limitations mentioned above, utilising qualitative semi-structured one-on-one face-to-face interviews provides an opportunity to explore complex human-technology interactions in depth. By being mindful of these limitations and taking appropriate measures to address them, the research produced valuable insights into the experiences and perceptions of participants and contribute to the existing knowledge in the field (Kakilla, 2021; Roberts et al., 2021).

3.10 Ethics clearance application

The highest ethical principle of hard work was adhered to in this study. Not deceiving anyone and taking full responsibility for all actions, with full knowledge and appreciation that plagiarism and falsifying information are immoral and dishonest. This commitment included ensuring professional competence by keeping up with research in this domain, being accurate, building credibility and maintaining the requisite methodological standards (Yin, 2018). The purpose of this study was for a masters by research in interdisciplinary digital knowledge economy studies, focusing on DT and their effects on the BMs of the SP category companies in South Africa. The following steps were followed.

I. Step 01: This researcher compiled the available public documents for the SP of interest to determine the extent of DT in these companies.

II. Step 02: These documents assisted in identifying persons of interest in the companies approached via industry introduction, LinkedIn networking or a direct cold call for an interview.

III. Step 03: The participants agreed to the interview process before the interview date, providing informed consent (Babbie, 2016; Cryer, 2006). This prior approval gave them a broad overview of this research and their rights during the process. The summary includes how the interview process achieves confidentiality and anonymity. It went on to confirm the interview was recorded and stored in a secure cloud location to be utilised only for this researcher reference and data correlation and that they could opt-out any time before this research was published (Cryer, 2006).

This study did not involve the participants providing any personal or confidential information. Instead, it explored this research problem through the context of their professional experiences and expert knowledge. The study took a snapshot of their DT experience and contextualises relative to their participant peer group. The SP category benefitted by gaining insight into the successes and failures of peer-group companies tackling the phenomenon of DT in their BM. The research also provided potential areas for future research and investigation. The highest standards of ethics was maintained, with respect for participant autonomy, beneficence, non-maleficence and justice underpinning this research ethics (Wiles, 2013).

3.11 Highlights of Chapter 3

The conclusion drawn in this thesis substantiates the emergence or cultivation of originality in a manner characterised by methodical, ethical, and responsible considerations. The methodological framework explained in the present chapter served to underscore the requisite level of rigour essential for the attainment of the desired outcomes. The use of semi-structured interviews navigated between adaptability and conscientious adherence to well-defined research methods. This researcher remained wary of the components comprising ethical research, and this chapter focused on the methodology approach to achieve a viable and meaningful result.

Chapter 4 The dynamics affecting the solutions provider

4.1 Overview of the research data

The South African solutions provider (SP) category were facing the challenge of the ongoing digital transformation (DT) of the digital technologies sector threatening their long-standing value-generation models. This transition affected the way customers preferred to consume technology, and consequently, the fundamental principles upon which the SP category was shifting. According to the participants, DT is testing the capacity of the SP to offer the services their customers demand. The conventional BM of the SP centred on providing services to customers via centralised, large-scale infrastructure on-premises project deployments. However, digital technologies progression was provoking a more decentralised model, with an emphasis on supplying services through a network of distributed technologies and pay-for-use commercial models.

Further, customers were growing technologically aware and want more customised and adaptable service models. Their technology sophistication necessitated the SP embracing new technology and an enhanced BM to supply these services efficiently. The following chapters examined the SP category macro concepts from the participant vantage point. It demonstrated how the digital revolution challenges their old BMs and their perspective on how companies adjust to the evolving technology economy. Further, it also examined the effects of these developments on the future success of the SP and how they may have continued to provide sustainable services to customers in the digital economy. In the following chapters, each participant was allocated a notation, tabled in Appendix B. “EC” referred to end customer (customer), “V” to technology manufacturer referred to as a vendor by the industry, “SI” to an ISV (independent software vendor), systems integrator (SI) or value-added reseller (VAR) and “TC” to a telecommunications company (telco).

4.2 The context of solutions provider companies

The SP were entities within the technology sector characterised by their fundamental BM focussed on the resale and customised configuration of diverse technology systems encompassing both hardware and software components, tailored to meet the specific needs of their customers. Typically, these configured technology systems aligned with their deliberate selection of domains in which they were certified a high degree of proficiency and expertise (SI-7, SI-8, SI-10). Their competencies created a unique dependency relationship between the SP and the vendor, as their mutual success depends on maintaining and growing their relationship. The SP associated capabilities and certifications on the vendor technologies played a crucial role in their value proposition. Conversely, the vendor required a credible and competent channel in the market, which the SP

fulfilled, which made the relationship mutual beneficial and dependant (SI-1, SI-3, SI-4, V-2, TC-5, SI-8, EC-2, TC-7, SI-10).

There is a harsh reality to how the SP operated to sustain their companies, beyond capabilities and credentials. The primary driver for an SP, shared with almost every other for-profit company, was to maximise profit for the lowest effort expended. For companies in the SP category, this was primarily through large projects with substantial financial hardware, software and implementation requirements (SI-1, SI-2, SI-4, SI-5, TC-4, TC-5, SI-7, TC-7, SI-10). The Participant "SI-7" felt strongly that "my colleagues can call themselves an SP, but really, they are just trying to move some mess of products into their customer environment." Vendor digital transformation involved them changing their offers from once off purchase of hardware and software to purchasing and utilising their technology via a subscription or based on consumption. For the SP, a BM of selling just annuity subscriptions, instead of how companies sell just hardware products, was unsustainable (SI-4, SI-5, TC-4, TC-5, SI-7, TC-7). Relevance as an SP in the digital economy required companies to deliver services packaged around enabling the enterprise solve their business challenges or address their market opportunities with digital technologies (EC-1, SI-3, V-1, V-2, V-3, EC-2, V-4, EC-3). Participants confirmed that DT was driving the SP to plan for dramatic change; however, there are some who believe that there was also a choice to do nothing about DT (SI-1, EC-1, SI-2, V-1, SI-6, SI-8, SI-9, SI-10). For those unwilling to change, the Participant "V-1" cautioned that "SPs need to understand that providing subscription and consumption services is not another commercial model. It is a different BM from the product-selling business."

The SP credibility and capability increased as they built trusted advisor relationships with more customers. These customers required them to aggregate best practices and competencies to solve their industry-vertical and customer-centric challenges (SI-4, SI-7, V-4). The information they desired was not constrained to digital technologies but includes underlying strategy and competitive options their market vertical was experiencing (EC-1, SI-4, SI-9, TC-7). Several participants suggested that they create vertical specialisations focused on understanding how they enable customers to be more successful with their consumers (TC-1, SI-4, SI-5, SI-6, TC-5, SI-8). This focus allowed them to occupy a thought leadership position for that vertical and build trust and credibility with the related customers. Building these trusted advisor positions was not restricted to the traditional vendor partner. Other industries were also encroaching into the digital technologies sector servicing customers, as Participant "TC-1" observes:

Telcos are becoming solutions providers, and consulting firms as well as audit firms are becoming solutions providers. This approach is a somewhat unconventional model for us [a telco] as a business. Telcos are a form of SP, but we [telco] are still determining where we strategically want to participate in that market. We are now technologically positioned for the network, security and managed services segments

Telecommunication operator (telco) companies provided elements of fundamental systems integration to enable the underlying telecommunications services they provide to function, such as collaboration services, cybersecurity and enterprise networking (TC-1, TC-3, V-2). Participants from telco companies believed that their BM was changing to one of an SP. However, they were transforming slower than their customers expect from them (TC-1, TC-3, TC-5, TC-6, TC-7). Telco customers were driving them to provide everything they do as-a-service. However, the telco BM was the building, operating and maintaining of infrastructure on a long-term commitment model and not a month-to-month managed services (TC-1, TC-3, TC-7). They required their upstream providers to transform their commercial offers first. This roadblock was a critical business constraint. The telco would have faced contractual and commercial risks if they only had monthly commitments from their customers but were obliged to make long-term commitments to their upstream voice and data providers (TC-1, TC-5).

SP companies were concerned that the vendors, the companies they had a dependency relationship with for success, would act on their potential to become competitors to the SP (SI-1, SI-2, SI-3, SI-4, SI-5, SI-6, SI-8, SI-9, SI-10). Further, it was easier than it had ever been for their vendors to move business or projects away from the incumbent to another SP partner or even directly to themselves. Participant "TC-3" raised the ethics of this vendor BM when asking, "Is it right? That is the question. They [vendors] can do that [move business directly to themselves, away from their channel] as they wish. What does it mean for a reseller or a telco who is the solutions provider to that enterprise?" The vendor did this because they easily trump, as the manufacturer, the product value proposition the SP offers. They also had the intimate product knowledge and financial control to offer a more commercially attractive proposition (SI-1, EC-1, TC-1, TC-3, SI-6, SI-8, SI-9, TC-7).

The internal stress of the traditional vendor companies further compounded the dissatisfaction of the SP. These traditional vendors remained challenged by the BMs and agility of new vendors affected by their desire to transform into a subscription and consumption model (V-2, V-3). The vendor adopted this digital pay-per-use model rather than once-off fees for a physical or virtual product. However, when the new commercial model implied an untenable risk to the vendor related

to the delivery, they transferred this risk into the channel partner model responsibility to manage and contain. Essentially, they incrementally adapted the channel program, so their risk transfers to the SP. Compounding these challenges was the SP has little power to refuse this risk transfer, as the vendor designs the product and markets strategies for their technologies (SI-1, SI-2, TC-3, V-2, SI-5, TC-7, SI-10). This risk transfer encumbered the SP with fewer customers and lower revenue diversity. Participant "SI-9" observed that "the larger solutions providers can survive digital transformation more than the younger companies, but we [large the SP] will have to take much pain medicine along the way."

Participant "TC-3" worked in a company that was tirelessly trying to reduce the vendor brand from all their solutions. They were prepared to continue utilising the technology, but would white label it or not formally commit themselves to the exclusive supplier of the vendor technology. Decoupling from a vendor only satisfies customers if the underlying value proposition of the SP was succinct and viable enough (TC-3, TC-4, SI-7, SI-10). SP companies were removing external branding from their identity and moving into branding their intellectual property (IP) and capability within their market offers (SI-4, SI-6, SI-8, SI-9, SI-10). This phenomenon was encouraged by enlightened vendors. They believed it was crucial to their sustainability if the SP to generate and construct their value proposition independently from the vendor value proposition (V-2, SI-8). Telcos had this as an underlying competence in their BM, with most of their offers in their value proposition were vendor agnostic (TC-1, TC-3, TC-5, TC-6). This ideological position of the SP creating a value proposition decoupled from the vendor brand was not new. "Customers want this [value-based] model, but it [non-vendor affiliated value proposition] only works when you [the SP] are agile and not concerned about their vendor affiliations," advised Participant "TC-6".

The smaller SP created niche market positions as they struggled to compete on equal terms with large global SP (EC-1, V-2, SI-5, SI-7, SI-10). However, larger SP was agile, scaled easily and responded well when they already have a standardised product that met the customer requirements (TC-1, SI-2, TC-3, SI-4, SI-7). Larger SP companies faced constraints from their current business operating rules. These operating protocols represented many years of ongoing risk mitigation, governance adherence, separation of duties, continuous innovation and testing in pursuit of predictable and robust product portfolios (SI-1, TC-1, SI-2, TC-4, SI-7, TC-7). However, Participant "V-2" observed that "on the high-end side, where the large the SP struggle is when they do not seem to be pulling together the competencies that they have in the company from across a lot of different business lines." This exploitation capability was one of the fundamental DT challenges for the larger

SP. It was highly complex to transform multiple legal and geographic entities with varying value propositions, engagement models, management, and incentive systems. These challenges inhibited them from constructing generally available propositions and providing consistent service levels to all their customers (SI-1, SI-2, TC-3, V-1, V-2, SI-5, TC-4, SI-6, TC-5, TC-7).

Some SP companies had an install base within which they pursued quick digital wins, benefitting from existing technology journeys with their customers (TC-3, SI-5, TC-4, TC-5, SI-10). This incremental digital innovation approach would have automatically increased their digital maturity, allowing them to explore and configure new digital competencies (EC-1, SI-4, SI-6, V-3, EC-3). Some opportunities were underpenetrated from a local skills perspective which the international SP or the vendor professional services teams were addressing (TC-2, V-1, TC-4, EC-2, V-4). Participant "V-3" admitted that "when we reach out to our channel partners, the internal challenge is they never went through that transformation [product-centric to own IP-centric] process. Thus we have to find the competencies where we can or build them ourselves." The SP category should have enhanced and developed competency trajectories rather than diversify into sectors or industries within which they had little exposure or experience (TC-3, SI-5, TC-4, TC-7). However, should opportunities have arisen, they could have partnered for the required skills and incubated the development of the capability until demand increased (SI-3, SI-4, SI-6, TC-6)?

SP companies should have simultaneously positioned themselves with a BM that was valuable to their upstream providers and downstream customers (EC-1, V-1. V-2, EC-2, V-4). The larger SP could have latched onto this opportunity faster, whilst the smaller companies were still taking a point solution approach, limiting their potential (SI-1, EC-1, V-3, EC-2, EC-3). Participant "V-1" was critical of the board of directors and senior executives of the larger SP partners:

> *These [large] partners believe they should pivot on a branding change or a new relationship with a higher-tiered vendor. That will never bring change. So, there is an element here of a board-level executive-level decision-making clarity of why this is important, the problem statement, and the impact of not making this decision that needs to change. They have a thinking decisively problem, not an opportunity problem*

Non-SP participants had found this phenomenon paradoxical, as the companies were losing the opportunity to reinvent themselves, differentiate themselves from their competitors and be market attractive (EC-1, V-1, V-2, V-3, EC-2, V-4). Some participants attributed this oversight to the

shareholder and senior leadership team inability to fully comprehend the challenge and the impact of not solving it adequately (SI-1, EC-1, TC-2, TC-3, V-1, TC-6, SI-8).

4.3 Understanding of SP business models

Most South African SP companies existing BM relied on the once-off or project-based sale of hardware and software products with the associated implementation and support thereof (SI-1, TC-3, TC-4, SI-6, SI-7, SI-9, TC-7). Traditional hardware and software sales required a significant once-off commitment and payment from a customer (SI-8, SI-9). The vast revenue opportunity was a complex model to move away from if the SP BM had been built on a continual flow of significant capital projects to maintain their cost base (SI-3, SI-6, SI-8). SPs made poor digital BM decisions because they were traditionally revenue focused. They needed convincing of the digital-services BM capability to sustain the company (EC-1, EC-2, EC-3). The participants expected DT to move from a choice to a forced decision for the industry before they moved. Those companies that had yet to determine how to make the cost-base transition would probably not survive this type of market change (TC-1, TC-3, TC-7). Those companies that could have survived the change would have built a robust value-creation model. The Participant "V-4" indicated that "services require building company IP, not just adding complementary implementation and management offers to a product sold. It [the IP of the company] is a secret sauce of how your business achieves success and results."

Further, other participants believed some SP companies would migrate to the online product-selling model of eCommerce and forego the digital services opportunity (TC-3, TC-5, TC-7). Another observation was vendor services-based products employed different digital technologies than traditional ones. This change required the SP to develop and add new capabilities to their portfolio, maintaining existing capabilities that sustained the existing BM (V-1, V-2, EC-2, V-4). Participant "EC-2" advice to the South African SP category was, "the business needs to evolve itself intentionally, with opportunity, into a digitally relevant business. We [customers] are an important source of this information, but only if the conversation is being framed correctly with us."

Participants suggested that although the signs in the market were evident that transformation should occur, companies were being slow to transform, even though they wanted to and had put DT into their strategic priorities (SI-1, TC-1, TC-2, TC-3, V-1, TC-4, SI-6, TC-5, SI-8, V-3, SI-9, TC-7, SI-10). One of the challenges was determining what the transformed BM would be relative to the opportunities presented by DT and the existing needs of customers (TC-1, SI-3, SI-6, SI-9, TC-7). The Participant "V-3" indicated that, "some companies are choosing to start a new business, a digital twin

of themselves. They do this whilst continuing to run the existing business as changing from the current to new is too difficult." They observed that the SP from other countries were doing that to overcome the inertia indecision creates in a business. Telcos with an SP capability were also struggling with transforming into a digital business (TC-1, TC-3, TC-5, TC-7, EC-3). Participants implied that despite their BM relying on annuity income, their inability to adapt encumbered them moving at the pace of the market demand (TC-1, TC-2, TC-4, TC-5, TC-6).

4.4 The dilemma of digital transformation

All the SP companies, their vendors and their customers interviewed had DT as a strategic action in the business (SI-1, EC-1, TC-1, TC-2, SI-2, SI-3, TC-3, SI-4, V-1). The popular approach amongst the SP was adopting or substituting current product technologies. They replaced products with new, more capable, or more popular digital technologies, such as cloud-based servers instead of physically hosted servers (SI-3, TC-3, SI-5, SI-6). Cloud-based technologies were the natural gravitas for the SP companies internal and external transformation. However, Participant "EC-1" cautioned, "if you [the SP] want to pull me into a DT meeting again, I have one rule. You mention a single technology platform or solution [as the DT artefact]." Unfortunately, the SP trapped themselves by directly correlating DT with technology adoption. Unfortunately, these were the conversations the SP was having with customers and the transformation message driven by most vendors (SI-1, SI-3, TC-3, V-1, V-2, SI-5, SI-8, V-4). The Participant "V-2" agreed that they transformed their portfolios faster than their SP partners kept pace, forcing the focus onto the products and technologies. Further, the vendors expected the SP to participate enthusiastically and actively skill up to meet vendor transformation of their commercial and technology offers, which was a product-centric focus (V-2, V-3, V-4).

There was a consensus amongst participants that DT as a strategic priority. Regardless, they were non-committal on the nature of the actual transformation or their relevance or commercial viability for their SP company (SI-4, SI-5, TC-5, SI-7, SI-9, SI-10). The SP remained optimistic about their revenues and profit generated over the last two decades. They were moving at the pace of their competitors in new technology adoption, their skills were capable and well-defined, and their customers were not demanding much more from them (SI-4, SI-5, SI-8, SI-10). However, customers were looking for companies that were digital champions that had the technology competencies coupled with their sectoral or industry insights and experience (SI-3, V-1, SI-6, EC-2, V-4, EC-3). Participants agreed that DT was inevitable and that despite the pace of change, companies should be intentional in determining their plan and deliberate in their execution (TC-2, TC-3, SI-4, V-1TC-6, SI-8, EC-2, V-4, EC-3). Participant "TC-2" echoed the sentiment of intentionality:

You [the SP] should also focus on specific industries because, in a digital world, customer problems need more than just the products and competence you have [to solve their business problems]. Otherwise, you must be a massive company with a growing headcount in every digital technology discipline. This approach is not sustainable

The vendors expected the channel to embrace the transformation, i.e., their partners to become certified to sell and implement their products, and partner technical propositions reinforce this position (EC-1, SI-2, SI-3, V-1, SI-6, SI-8, EC-3). Participants confirmed that they see widespread industry activity related to internal business transformation. There was an emphasis on technological adoption, but limited activity related to the external transformation of people, processes, and technology (TC-1, TC-3, TC-6, EC-2, EC-3). A few participants believed that the large SP companies were reluctant to adopt technologies that required them to move quickly. This reluctance was related to minimising company friction and tension, facing project failure, or extended scope creep (TC-1, TC-5, SI-8, SI-9, TC-7). A challenge for the SP was ensuring that their DT needs and actions were relevant to their customer (SI-3, TC-5, SI-8, V-3). Further, participants revealed that the DT journey was an isolated experience in the industry. Each business had a unique perspective on overcoming the challenges it faced and had unique experiences with common hurdles encountered (SI-4, SI-6, SI-7, TC-7). Isolation created an environment where the transformation was best effort, as there was no model, shared experience or referenceable material to determine what success looked like for participants (SI-1, TC-3, SI-4, SI-6, SI-7, SI-10).

DT was driving a redefinition of culture for companies, where employees struggled in adapting to an always-on, globalised market (EC-1, TC-1, V-1, V-2, TC-4, V-3). Most participants agreed that employees in the companies they worked in were genuinely concerned for the safety of their jobs and the impact of DT on their careers (SI-1, EC-1, SI-3, SI-4, SI-6, SI-7, SI-8, V-3, EC-2, SI-9, V-4, TC-7, SI-10). A successful approach adopted by an SP was identifying customers prepared to transform with them and achieving quick wins together (TC-4). An exciting observation Participant “EC-2” made was” with digital transformation, the power [the driving force of change] has moved to the customer and away from the supplier.” Participants often encountered professional challenges convincing their management of the digitally transformed nature required from their company. Leadership was generally sceptical that the companies would possess capabilities, operate efficiently, be staffed with appropriate employees, and would still have attracted diverse customers profitably (EC-1, TC-2, SI-2, SI-5, TC-5, V-3, EC-2, EC-3).

4.5 The imperative of dynamic capability development

In a changing market, companies should adapt their go-to-market propositions. Participants believed new capabilities were required to become a provider of digital offerings (SI-2, SI-3, SI-8, SI-9, EC-3). Every business had a definitive set of current capabilities and a set of customers requiring current and future products and services (TC-4, SI-6, TC-6). Further, each business had a commercial imperative, and the opportunities presented to the companies would influence their investment and rollout plan of capability development (SI-1, SI-6, SI-7, EC-2). Participant "TC-6" eloquently captured the idea of capabilities by observing that, "what the industry needs is a capability to build capability." However, not every company had the current capability to understand or recognise what were the capabilities they required to service current and future opportunities – a conundrum for many of the participants (SI-1, EC-1, TC-1, TC-2, SI-2, SI-3, TC-3, SI-4, V-1, V-2, SI-5, TC-4, SI-6, SI-7, SI-8, V-3, SI-9, TC-7, SI-10, EC-3). This conundrum was compounded by customers not having the capability either, hence they relied on the SP to assist them in their DT journey (EC-1, V-2, V-4, EC-2, EC-3). According to Participant "SI-6", customers were, "obviously looking for innovation from us, and they are disappointed if we do not respond accordingly."

Participants believed that when their customers asked for assistance with innovation, they asked the SP to provide solutions for their internal challenges or their downstream customer problems (SI-6, SI-8). This requirement moved the traditional SP away from their typical deployment of products and integration of existing systems. They were now solving company problems or considering the customer outcomes from the technologies adopted (TC-1, TC-3, SI-4, SI-5, SI-7, SI-10). To get this opportunity with the customer, Participant "EC-2" suggested that the SP, "has got to be a trusted adviser to their customer." Participant "SI-4", with extensive experience in professional services, believed that advisory services capability was the first competence companies established. Advisory services development needed significant investment in people, processes, and technology, and required many projects and solutions sold, deployed, and managed to earn the title (TC-2, SI-3, SI-4, TC-6).

These and other capability questions plagued the participants, some of them into indecisiveness whilst they contemplated the various scenarios and how they could have approached them (SI-1, EC-1, TC-1, TC-3, TC-4, TC-5, TC-7). Development of capability through non-competitive sharing of experiences and skills was a capability that companies developed to overcome the hurdle of not knowing what they were required to know (EC-1, TC-3, SI-4, V-2, TC-4, V-3). The capabilities to look for were beyond technical know-how, including geographic presence, customer access,

technology access, vertical specialisation, and financial resources (EC-1, SI-4). Some participants indicated that their companies had developed capabilities that did not form part of their primary commercial offer but was commercially attractive to their platform-orientated customers (EC-1, TC-2, TC-3, V-2, EC-2, SI-10, EC-3). Companies had to refrain from developing non-essential capabilities that they could have accessed via effective partnering. Partnering was appropriate when the capability had not aided directly in market competitiveness. However, it would have positively impacted health and safety and the social environment or be cost-prohibitive for everyone to develop simultaneously (SI-2, SI-4, SI-8, V-4, EC-3).

Companies had to avoid taking an academic or theoretical approach to capability development. Instead, they should have started with defining capabilities which would drive success immediately and used those as a point of departure (TC-4, TC-6, TC-7). Participant "TC-4" recommended the path of caution:

> *You [an SP] cannot be or should not try to become what you are not. However, you should do the typical introspection and look at your capabilities. Then take the time to define the capabilities you do have and the capabilities you do not have. After that, figure out what capabilities are relevant to your customers and the market*

Participants confirmed that they needed to mature in developing new capabilities. Participant "EC-2" echoed this by stating, "companies should develop capability, or they need to have a capability. I [customer] will not buy products from them; I will only buy a capability." Companies experienced propositioning solutions and lost the customer opportunity because they lacked the comprehensively developed execution capability (SI-1, SI-2, TC-4, SI-6, SI-7, SI-9). The SP had to have recognised that in a transformed digital technologies world, they were not selling the vendor value anymore but their capability as a service or an offer (V-1, V-2, V-3, V-4). This capability to maintain the current company capabilities and develop the new capabilities simultaneously was a challenge for most SP companies (V-1, V-2, SI-6, SI-8, V-3, SI-9, V-4, SI-10). The larger SP struggled more with the capability management than smaller companies due to the multidisciplinary nature of larger companies and the focus capability of smaller companies (SI-3, SI-4, V-1, V-2, SI-5, V-3, V-4, SI-10, EC-3). Similarly, larger companies attempted more change simultaneously, which increased their chances of some choices failing (V-2, V-3). Failure was not a negative in an environment of rapid innovation and agile experimentation and required a robust entrepreneurial capability to manage complexities (EC-1, SI-3, V-1, V-2, SI-8, EC-2).

4.6 Digital transformation impact on economics

A significant hurdle for the SP was bridging the gap between understanding their existing cost models to deliver their offerings and ensuring they had the appropriate skills and competencies for their services offering. These factors required a tangible and meaningful commercial benefit to their customers (TC-3, SI-6, SI-8). Participant “SI-9” confessed that one of the critical metrics they had to change was moving from the number of offers bought to the frequency of offers used by their customers. The SP companies refrained from attempting to mix traditional and digital services cost models in their companies as they measured and rewarded different behaviours (SI-2, SI-3, SI-4, SI-7, TC-6, SI-10). The transformation from traditional to digital services had to be designed and deterministic. According to Participant “SI-9”,” the SP just change commercial models without changing their business models." The company dependency was beyond expecting revenue from the digital services model to reach the same level or replace the traditional revenue generation. Companies had to conduct careful redesign of their BM and the associated offers, as changing one with the other was irresponsible and self-defeating (TC-3, SI-4, TC-4, SI-8, SI-9).

The benefit of digital services was the ability to quickly build and scale a service across as many customers and customer verticals as possible (SI-1, SI-4, V-2, TC-6, V-4). The commercial model the SP company transitioned to was the capability to design digital services for all customers to simultaneously benefit (SI-3, SI-4, V-1, V-2, V-3, V-4). It was important to understand that “the cost-benefit analysis you see on the PowerPoint slide does not always translate,” cautioned Participant “TC-7”. Incumbent companies with their existing BM had to sensitively balanced their income and cost base for to a predetermined ratio. These companies could not simply move from these to new models (TC-2, TC-3, TC-5, TC-6, V-3, EC-3). However, new market entrants had the advantage of designing their cost base to match their digital-services income stream compared to the incumbent SP with legacy income models. Participant “V-1” reminded the SP that “the revenue and costs areas are significant because this is where many companies will get stuck. Every executive or leader wants to protect the current revenue streams because that is traditionally the most important metric for their business.”

The participants working at digital technologies vendors agreed that exclusive capability was no longer standard in their products (V-1, V-2, V-3, V-4). Previously vendors would have had a level of assurance that the customer would remain invested in their technology because of their uniqueness and the ongoing capital investment made to sustain it. Vendor products had a long shelf life, so customers previously implemented long-horizon investment cycles of between three and seven years

(EC-1, V-2, EC-2, V-4). The SP had benefited from this previous buying pattern. With the emergence of pay-per-use subscription and consumption models, the SP had to create unique offers to their customers of services and capabilities that would make their offer attractive relative to their competitors (EC-1, V-2, SI-7, SI-8, TC-7). Participant “SI-2” explained that the inherent knowledge of a company was their primary positioning approach with the customer, supported by the vendor digital technologies.

4.7 Every customer has a customer

The SP category participated in a business-to-business (B2B) market sector, where customers were predominately enterprise companies. These customers provide goods and services to other companies and customers (SI-4, SI-7). Customers were also facing DT impact on their BMs, like the SP and other companies (SI-8). They had similar pressure to meet their customer needs, differentiate themselves from their competitors or remain relevant in the digitally transforming economy (EC-1, SI-7, V-3, SI-10). These customers were seeking partners who would enable them on their transformation journey. To do this these partners had to understand the market sector and the needs of their customers. Participant “SI-6” continued by explaining the following:

> *Customers are saying to us, "I want you guys to come and sit with me to strategise with me, to tell me what you have learned about the oil and gas industry. Describe how I can apply what you guys have learned about the oil and gas business to my oil and gas company.” The customer is more interested in what we understand about their sector than what technologies we can sell them*

A core element of the DT strategy for an SP was one of “customer first” (SI-2, SI-3, SI-8, SI-10). To engage, the SP had to understand the customer and the technologies relevant to their market vertical (SI-3, SI-6). Further, the SP had to also understand what their customers were trying to do for their consumers (SI-7, SI-8, SI-9). The technologies had to be realistic and future-relevant to daily business. The technologies introduced should also have had a meaningful and significant impact on their daily routines and not be foreign to their regular operations (EC-1, V-2, SI-5, TC-6, EC-3). Participants fixated on continuously building dedicated competence in areas of specialisation found longevity in their relationship and the services they had offered these customers (TC-3, SI-4, SI-5, SI-7, SI-8, SI-9, SI-10). Participant “SI-4” advised that, “the scale of the experience and insight growth an SP gains is proportionate to their count of customers.” These companies diversified themselves into the trusted advisor role. They moved away from reactively responding to customer-originated requests to proactively engaging with customers to identify and solve business problems (EC-1, TC-3, SI-4).

Participants specified that they identified a customer domain that would have benefitted from their focused competence in that vertical sector (TC-2, SI-2, SI-4, V-1, V-3, TC-7). The result from this focussed investment was to move from participating within a pool of providers to the lead advisor in the strategic transformation projects (TC-3). The persona of the employees placed before the customer differed from the traditional sales and relationship management of the traditional SP (SI-1, SI-2, TC-3, SI-7, TC-6, EC-2, EC-3). These relationship exchanges between the supplier and customer amplified on the back of joint success compared to transactional volume and revenue being the pivot of the engagement (TC-3, V-1, SI-5, EC-2, TC-5, TC-6).

Participant "TC-3" perceived a distrust among customers of digital technologies. These concerns arose because of the failures of projects in other corporations or opponent vendors negatively positioning against their technology (TC-3, V-3). Participant "SI-10" recognised that, "it is becoming a problem for an SP to sell to those customers." The SP overcame this challenge by leveraging their trusted advisor position to demystify perceptions and concerns with their existing customers (TC-1, SI-5, TC-5, SI-8, TC-7). However, the SP faced the challenges of their internal transformation keeping pace with the customer expectations and speed of transformation (SI-1, SI-2, V-1, SI-6, SI-9, V-4). Participant "TC-7" indicated that their most prominent customers requested they change all offers to subscription-based commercial models from their current long-term contracts. This change benefitted the customers by reducing liability and risk related to price, service, and vendor lock-in. The change in dynamic, noted Participant "SI-2", was reflected in "the power has moved to the enterprise." However, the sustainability of maintaining service levels and competence to deliver on a non-committed large-scale offering involved the SP taking on significant risk and cost with little in return (TC-1, TC-3, TC-5, SI-7, SI-9, SI-10).

The customer was concerned about, "what should our focus be in a digitally transformed business?" observed Participant "EC-1". Customers wanted the offers they consumed to resize and transform at the pace of their expectations or demand (TC-1, TC-3, TC-5, SI-9, EC-3). This customer trend most notably affected participants providing services dependent on significant capital assets (TC-1, TC-3, TC-4, TC-5, TC-6, TC-7). The vendors were perpetuating this expectation with customers as they cross-subsidised and discounted their commercial models. This competence derived from being the original technology provider and benefitted from a global scale in their cost model (V-3, V-4). Participants indicated that changing their focus from selling competence to addressing customer-needs was rewarding. They encountered aggregating competence and creating solutions that their traditional business would not have organically built or designed as an offer (SI-1, SI-2, SI-3, SI-4, SI-6,

SI-7). The focus of the SP moved from finding a problem for the offers they had created to solve the problems the customers wanted to solve – the technology would follow the solution definition (EC-1, SI-2, V-2, EC-2, EC-3). That was an indicator of DT in action (SI-2, SI-3, SI-7, SI-8, TC-7, SI-10). Participant "SI-2" indicated that, "even the customer sometimes does not know the problem they want to solve." Thus, problem identification was conducted via the consulting, advice, and capability offered by the SP. Therefore, the posture and presentation of the SP to the customer was critical, observed Participant "V-1":

> *I [technology vendor] want to highlight very generically that there is not enough agility, not enough going after and being aggressive, not enough of owning the opportunity from a customer perspective, as opposed to the legacy that an SP brings into the engagements, we [vendor] have with them. For example, there are still too many companies, and I say this respectfully to our partners, that classify themselves as vendor partner X. It is essential to do that because certain benefits come with it. However, that should not define how you arrive at a customer. The SP must have intrinsic brand value, not the value from association with someone else*

The SP personnel sent to the customer had to be solution crafters and had to have advisory skills, not just product selling capability (TC-3, SI-4, V-2, SI-6, EC-2, SI-9, V-4, EC-3). They discussed their digital roadmap of offers and how this would have complemented or enabled the customer (EC-1, V-1, V-3, V-4, EC-3). These solutions crafters or trusted advisors needed core competencies that enabled them to design scale and longevity to the solutions they architected for their customers (V-1, V-2, TC-4, EC-2). However, this invisible barrier stopped them from pulling it together and addressing the problem because everybody knew the theory, but not everybody was able to successfully execute on it (SI-1, TC-3, SI-6, TC-6, SI-8, SI-9).

4.8 Highlights of Chapter 4

In this chapter, this researcher examined the topology of the SP category using the data collected. The SP operated in a vertical undergoing significant change due to external dynamics, leaving the SP to adapt or decline. However, choosing a BM was a practice that necessitated a thorough understanding of the factors and the potential futures. This chapter emphasised capability development as a critical construct for BMs, whether the company intention was to maintain, improve, or transform. The economy of change drove customer expectations. Not all customers required the same results, and the SP had to have been decisive and cautious in their approach to DT.

Chapter 5 Participant views on exploitation

This chapter explored the participant perspectives on the exploitative concepts of servitisation and entrepreneurship. Servitisation referred to transitioning from product-based to service-based business models (BMs). This shift to services was driven by customer demands, digital technologies transforming and increased competition for all stakeholders. Servitisation was beneficial when the services had a diminishing cost, or the BM was designed for profit maximisation while still benefiting the customer. Entrepreneurship in the leadership and design of the company looked to constructs such as decision-making, employee participation, risk appetite, and culture as some of the internal levers to maximise the return on effort. When assessing these capabilities of the BM, the perspectives and benefits to the customers and other stakeholders were vital.

5.1 Providing products and services

Private, hybrid and public cloud infrastructure replaced the provisioning of customers-owned and managed data centre environments. The SP was no longer the provider building the environments, providing the infrastructure or the requisite service level agreements. Instead, the SP explored service provisioning concepts with unique capabilities and offerings, that they had decoupled from the vendor services, to enable the customer in these environments.

5.1.1. Servitisation and solution outcomes

Some participants were adamant that there was a misconception that digital transformation (DT) is causing traditional ICT product and services models to fall away entirely (EC-1, SI-3, TC-3, TC-4, SI-6, V-3, TC-7, SI-10). Participant “SI-6” reflected on this concept:

> *SPs will never get away from the fact that IT consists of two parts. The commodity hardware or services part and that they are selling a combination of these. The SP is selling hardware with some software, or they are selling hardware with some services, or they are selling software or services. How do you run software or provide services on hardware that does not exist? There will always be a hardware market, whether remotely or on-premises, but there will be hardware somewhere*

The concept that there would always be physical technologies somewhere was correct. Participant EC-4 observed that, “the cloud is just a massive physical datacentre owned by someone else.” However, participants concurred that the consumption of traditional IT was changing with the commercial models of services, subscriptions and consumption (SI-1, TC-1, TC-2, V-1, TC-4, SI-6, SI-7, SI-8). The adaptation in the commercial model changed the ownership and the procurement model for the SP and the customer. Whoever owned the physical assets had a commercial model that was

highly attractive and competes effectively against the scale and price benefits provided by the hyperscalers (EC-1, SI-3, TC-3, TC-4). An additional intricacy for the SP was determining how to bridge the divide of relevant offering services, ensuring they had the appropriate skills and the operating capabilities to deliver those services (EC-1, SI-3, V-2, SI-5, TC-4, SI-6, TC-5, SI-10). Customers required assistance when facing digital technologies choices and execution methods. The SP had to package their expertise and capability as a professional service to assist customers (SI-1, TC-2, SI-2, TC-3, SI-6, TC-6, SI-9). Participant "TC-6" observed:

> *Digital transformation has shifted the customer requirements around how they procure services. So you [an SP] can rebrand the company and give it a whole set of different products, but it will still use the same metrics and provide the services in the same way because that is the only way it knows how to*

Compounding these service requirements was the acceleration customers made towards the cloud and cloud consumption models. These companies required their SP partners to architect, plan, migrate and maintain these environments for them (EC-1, V-1, V-2, SI-5, TC-4, EC-2, EC-3). This requirement moved the traditional SP model away from predominately product and services supply. Participant "SI-3" stated that, "so really what we [SPs] have to do is we have to lead with the primary concept that we "box-drop" anything anymore. Simple." The digital services method for the SP was no longer the standard deployment and switch-on of the infrastructure and software stack, coupled with an option of managed services for the ongoing support and maintenance of the environment (SI-3, TC-3, V-2, SI-7, V-4). The services offered had to reflect the capabilities and experiences of the company. These services were to provide healthy innovation relevant to the market vertical the customer participated in (SI-1, TC-2, TC-3, V-1, TC-4, SI-6, V-3, EC-2). Participant "SI-9" predicted changes to the commercial model of services:

> *What I [SP] see with the technology and services we currently sell is that 60%, at least, will be subscription and consumption-based within two years. Furthermore, when I say subscription or consumption-based, all of it can be switched on in a given month, and all of it can be switched off the following month as the customer desires*

The commercial model to enable digital services was subscription-based, i.e. with a short commitment period of weeks, months, or years, or consumption-based, i.e. measured as prepaid or pay-for-use billed in days, weeks, months, or years. Participants were distressed that their revenue and cost models lacked the design for these growing income model and that their companies would be unable to sustain this commercial transition (EC-1, TC-1, SI-3, SI-4, V-1, V-2, SI-7, V-3, V-4, EC-3).

The SP was discovering that it was easier to provide digital services to existing customers than to attract new ones. Existing customers trusted them to blend the old project income model with the incremental digital models (SI-1, EC-1, SI-5, SI-9, TC-7, SI-10). Further, some the SP companies were finding that the digital solutions they developed for their internal use were of interest to customers seeking to solve similar challenges. Commercialising internal capability as a service or offer assisted these SP companies in developing the competencies to build and sell their IP-based offers (TC-2, SI-4, V-2, SI-7).

The trend participants were observing was their customers did not want to own products anymore. They required the SP to provide solutions tailored to solve the business challenges they faced as customers (EC-1, TC-1, SI-4, V-2, V-3). Participant "TC-3" believed that, "the next big thing I [an SP] will do is inject and bill for our value in everything we provide." The sophistication of the requirements of the customers was challenging the SP. The customers were seeking person-to-person engagement for collaboration on solution design and then delivery had to be digital in functional and commercial attributes. Further, customers requested digital interfaces for self-service management of the deployed solutions. They wanted their systems to automatically interface to the supplier systems for digital procurement, ongoing subscription management and billing changes (TC-1, SI-3, TC-3, V-1, SI-7, EC-2, V-4, EC-3). The SP model was changing from people interfacing with people to customers interfacing primarily with digital systems managed by the SP. Participant "TC-4" highlighted a consideration that the SP made regarding platforms and skills:

> *However, we [a telco providing SP capabilities] need to ensure that the skill we develop can multiply to several customers without impacting the company and then commercialising that skill into many forms. If we had to service ten customers with ten employees, that would be a massive cost. But with one or two employees managing an automated service bought by many customers, guess what? We are ticking the box here of what makes a successful service for our company. These [people-centric] services are the most challenging for us as an SP.*

The value the SP provided was how their integration and business services solved customer business challenges (V-2, TC-4, SI-9, TC-7). Participants found that liberation from the vendor credentials as the primary value positioning for the SP was one of the most difficult challenges in their DT strategy execution (EC-1, SI-2, V-1, SI-5, TC-4, V-3, SI-9). The SP had to develop the capabilities required to repurpose and re-engineer existing institutional capability into services unique to the company and not simply an add-on to the vendor offering (SI-2, V-1, V-2, SI-7, V-3, SI-10). Participant "SI-2" paints a scenario that highlights the services orientation of the SP:

By way of example, if the customer says that they are losing customers in Cameroon, and we are trying to understand why in Ghana it is working, then we need some analytical modelling. What do we need to do? We could do data science as a service. Alternatively, that data sciences service includes pulling up a cloud environment, putting in a lake quickly, creating some wrappers around it, and some laptops so that some employees can code things. After that, do some quick analytics to say, "This is what we pick up. Does this make sense?" to the customer. Whereas previously, the customers said, "I want a data scientist, I want some hardware for computing, I want some software licences for analytics," and so forth. They [customers] used to ask us for the pieces. Now we are giving them an outcome using our knowledge of their market and business context to provide a solution in which they needed help understanding was possible or how to solve the problem.

The transition from a technology-oriented to an outcomes-oriented approach to engagement represented a significant shift in how the SP interacted with customers. This shift was motivated by the realisation that technology was a tool and that the ultimate goal of as was to achieve the desired customer outcomes (SI-1, SI-2, TC-3, SI-6, SI-7, SI-8, SI-10). Participants found that being outcomes-orientated instead of tech-orientated in engagement enabled them to transform their offers with their customers collaboratively. They agreed that focusing on outcomes rather than technology in customer engagement allowed them to collaborate more proficiently with their customers, resulting in more customised and practical solutions that met specific needs (SI-1, SI-2, TC-2, SI-5, SI-7, SI-10).

5.1.2. Effect of cloud concepts

SPs were contemplating how to leverage cloud systems to derive a cost reduction or a business benefit for their customers or themselves (SI-5, SI-6, TC-7). Participant “SI-6” called this capability "consumption economics" and believed every SP should understand this before considering building a cloud business. Speaking further on this principle, the Participant “SI-6” explained that “consumption economics is about understanding the cost and cost optimisation of putting infrastructure in the cloud, putting systems in the cloud, and not buying the infrastructure yourself and enjoying the value in features or savings it provides.” The SP provided on-premises, off-premises and hybrid infrastructure services and solutions, with telcos generally provided the shared datacentre real-estate and connectivity to facilitate off-premises scale and reliability (TC-2, TC-3, SI-5, TC-4, SI-6, TC-5, TC-6). The participants perceived the cloud as a palpable and immediate threat to the core of the SP business (TC-3, SI-6, SI-7, SI-8, SI-9). Participant “TC-1” had conveyed their first-hand experience as, “we [SPs] have seen that this evolution of the cloud has required highly scalable on-demand capacity, which the traditional SP should provide or compete with.” However, moving to the cloud

drove connectivity as customers required secure and efficient electronic access to enterprise systems and applications (EC-1, SI-3, TC-3, TC-7). This connectivity requirement increase aligned well with enterprise-focused telcos primary enterprise offerings. These were business requirements that the hyperscaler offerings could not meet or address adequately. Hence private cloud or hybrid cloud deployments required the capability that some participants believed the SP had to develop or provide (V-2, SI-7, V-3, EC-2, V-4, EC-3).

Cloud adoption was accelerating by customers in SA (EC-1, V-1, V-3, EC-2, EC-3). This growing adoption dampened the addressable revenue streams of the traditional SP. Participant "SI-7" noted that, "it is just a remote datacentre somewhere where your tin [physical infrastructure] is, but the customer is not buying the tin from me as an SP anymore; they purchase it directly from the hyperscalers." Even though the cloud datacentre required physical infrastructure and associated software, the providers of these datacentres did not normally transact via the local vendor channel partners. The transacted directly with the vendors (EC-1, TC-1, SI-3, V-1, V-3). However, cloud adoption did drive demand from the SP. Some participants suggested that customers were requesting long-term onsite contracting resources to assist and support developing their cloud strategies. Customers could not recruit, manage, train, and develop the skills sustainably in-house because it was not a core or existing competence for them (EC-1, TC-1, V-2, TC-4, TC-6, V-3, EC-2). The diversity, specialisation and complexity of resource required made it uneconomical for the customer and uninteresting for the skilled resources. These resources generally assisted the companies in determining what they ought to do and worked with the suppliers to architect how they leveraged the cloud in their strategic planning (SI-6, SI-9, SI-10). These advisory engagements required the SP to be vendor agnostic as they had to represent the customers best interest and not just those of their vendor partners (EC-1, SI-3, SI-4, V-1, SI-6).

Participants also revealed that they were taking enterprise customers to the cloud but simultaneously worked with other customers to take some of their cloud assets back onto on-premises or private cloud infrastructure (EC-1, SI-3, TC-3, SI-9, SI-10). This migration back from the public cloud was a noteworthy trend that the participants experienced. Reasons included ballooning costs for specific application types, the complexity of management, the inflexibility of the cloud providers and maturing of cloud knowledge and requirements by the SP and customers (SI-1, EC-1, SI-3, EC-2, SI-9, V-4, TC-7, SI-10). Further, some customers did not trust moving to the cloud (TC-3, SI-5, SI-10). They had incurred risk, or loss from previous experiences and had been disappointed with the failure of their last SP company or lacked faith in the underlying security or credibility of cloud

technology (SI-3, V-2, TC-3, TC-4, TC-6, V-4). Participant "TC-3" believed that this was because, "an [SP} can be any three-person company but look professional and substantial in credentials. Everyone can have a world-class managed data centre offering because of the democratisation brought about by the hyperscalers." The participant believed that inexperienced companies promoted hyperscaler technologies but did not possess the skills, knowledge, or experience to operate these cloud capabilities, leading to customer disillusionment. Participants agreed that the SA SP category, barring multinational or mega-corporations, needed to gain significant skill sets to successfully leverage the benefits the cloud brings (SI-1, SI-2, TC-3, SI-5, TC-6, TC-7). Participant "SI-5" pointed out a constraint to this happening organically or quickly:

> *We [SPs] cannot necessarily build those cloud skills because there is no way that we will make money. There is currently no scale of demand, no scale of the customer, or no obvious way to insert ourselves into the supply chain, enabling us to provide the services economically and turn a profit*

SPs need to align customer requirements with relevant digital technologies solutions. An inherent limitation was the SP will generally offer technologies for capabilities they possessed or could easily access. Their customers expected elegant, proven, and robust solutions delivered as an effective and efficient service to them. Finding and retaining the appropriate expertise to meet this requirement was challenging (SI-1, SI-2, SI-4, SI-5, SI-10). Migration to the cloud brings an opportunity to modernise systems and applications for the customer, as the architecture of traditional on-premises systems and applications was an impediment to leveraging of cloud capabilities (SI-1, SI-2, SI-4, TC-4, V-2, V-3, EC-2, V-4). However, the solutions available to the enterprise were highly dependent on the SP that have the credentials to provide such.

5.1.3. The shift in data responsibility

Digital innovation centred on the value and use of customer data presented an opportunity for the SP seeking to diversify from utilising and managing traditional IT resources (SI-1, EC-1, SI-2, SI-6, SI-9, EC-3). The SP ought to have protected their customer data from unauthorised access or destruction within their solutions and services frameworks (EC-1, SI-3, TC-3, V-2, EC-2, SI-10). Customers depended on the SP standards and metrics to deploy technology in alignment with the extant business process. These standards were critical given that there was a significant cybersecurity risk of insider threats, and well-managed cybersecurity protocols would mitigate risk effectively (SI-3, V-1, SI-8, SI-9, V-3). "Data is the key to data-driven decisions, and data-driven decisions are the fundamental conversations that enterprises [clients] are having with us [vendor]," cited Participant "V-3".

Digital technologies and systems allowed customer data to be liberated and opened up for use by other companies. This interconnectedness of data was made possible at scale by the extensive adoption and proliferation of the internet and digital platforms enabling and requiring data exchange (SI-2, SI-4, SI-8, V-4). Enterprise companies required their the SP to inherently be responsible for handling this data that passes through them, or stored by them on managed infrastructure. This responsibility included securely providing access to that data to other companies with authorisation and the appropriate credentials. Participant "SI-4" indicated that, "it almost feels like an explosion of data. The customer data source has exploded out too far, reaching and interacting with different systems and then comes back changed somehow." Data in motion was vulnerable. Secure transportation and utilisation of this data, including the safe handover of this data to the original systems and new systems or destroying this data, was paramount (SI-4, V-1, V-2, TC-5, V-4, SI-10).

Data handling was regulatorily onerous for all companies with the introduction of regulations such as GDPR (General Data Protection Regulation) and POPIA (Protection of Personal Information Act) (EC-1, SI-2, SI-4). Companies would have faced extensive fines and reputational damage if they had been found guilty of data mismanage or risk oversight. The constant introduction of new technologies, new regulations and new insights made data management solutions and services both a critical skill and a potential landmine of complexity for companies that needed more experience and capability in this specialisation (SI-2, SI-3, SI-4, SI-7). The needs of customers from the SP was evolving as Participant "EC-3" observed, "we [customers] are not asking for system integration [solutions and services]. We are now asking for data integration [solutions and services]." SP solutioning and services capability also determined the data points they would have considered valuable and what was potentially discarded (SI-1, EC-1, SI-2, SI-4). There was an added complexity from customers requiring companies to engage with them at their level of self-identity rather than generically within a demographic. This complexity was compounded by customers knowing that the company already had their data or recognises the value of the previously provided data to the current engagement or transaction (SI-2, SI-7, EC-2, EC-3).

5.1.4. The vendor modus operandi is evolving

It was almost unanimous amongst the traditional SP participants that they presently have a marked dependency on the vendors of digital technologies. They believed that the digitally transforming vendors were creating products and services that would directly compete with the offerings of the SP (SI-1, TC-1, SI-2, SI-3, TC-3, SI-5, TC-4, SI-6, SI-7, SI-8, SI-9, TC-7, SI-10). Participant

“TC-3” stated it plainly. ”The technology transformation allows them [the vendors] to transact directly with enterprises and customers. Furthermore, their current market propositions support that they are driving for this outcome.” Participant “SI-9” confirmed that, “a challenge we [SP] have as digitally transformed companies is our vendors. They are offering new digital and cloud products in competition with the traditional technology offerings we currently provide to our customers.”

Compounding the challenge faced by the SP was customers who were becoming more adept and knowledgeable about the offerings from the vendors (SI-1, EC-1, SI-2, TC-3, SI-6, SI-7, SI-9, EC-3). Participants agreed that vendors often reinforce this almost instant gratification model and expect the SP to adapt their BM to meet this demand, with little consideration of the economic and cultural impact on the SP. This market coercion strained the SP and negatively impacted them when customers expected immediate capability delivery. It became a vicious circle for the vendor, SP and the customer, with the SP typically suffering the consequence of reputation damage and potential customer attrition (TC-2, SI-3, SI-5, TC-5, SI-8).

Participant “SI-7” advised that it is not all negative even though, “traditional vendors are becoming more competitive in their approach with their [SP] partners, there are new emerging vendors that are more collaborative with their SP partners.” Other participants agreed that the traditional digital technologies vendors want to look like as trendy as the new emerging digital technologies vendors. These vendors had premised their companies on digital technologies, and require the existing channel for rapid scaling and customer relationship (SI-1, EC-1, TC-3, SI-7, EC-2, V-4, SI-10). Further, these emerging vendors, fortunately, lacked legacy products and services to protect, making them less ambiguous than traditional vendors. Participant "V-2" transparently confirmed the stress traditional vendors were under:

> *With the evolution that our company [global vendor of software technologies] is going through, we do not have products that sell themselves as we did back in the day. It is not only the customer business model that needs to change; it is us as a vendor [vendor] that needs to change too*

The vendors product, systems, software and tools did not generally match the upfront business requirement of customers (V-1, V-2, EC-3). There were numerous digital technologies to choose from, and customers need significant investment dollars and an extensive time commitment to exploring all available options (EC-1, V-1, V-2, SI-7, V-3, EC-3). The alternative as customers needed an advisor who understood their market verticals and business. These advisors needed to provide a translation between their needs and the available technologies and solutions to satisfy them. The SP

was ideally suited for this role rather than the vendors, who did not promote or support competitive or alternative vendor offerings (EC-1, EC-2). The SP realised that their BM had to change from generating income from selling a specific vendor product to generating revenue from inherent capability (SI-1, TC-3, V-1, TC-5, TC-7). Participant "V-1" advised the SP to ask themselves the question, "how am I [an SP] differentiating myself from other the SP offerings in the market?" A few participants confirmed that the established SP had invested significantly in skills and infrastructure committing them to a go-to-market premised primarily on vendor technologies. On the other hand, born-digital the SP did not have these historical constraints and primarily focus on emerging digital technologies. Their lack of legacy allowed them to adopt new technologies was more expedient than established companies (EC-1, TC-3, V-1, TC-4, SI-7, SI-8).

5.1.5. The business of technology

Participants indicated that in moving their current applications to cloud infrastructure they had to redevelop their software and reconfigure or replace their management systems (SI-7, SI-8, EC-2, EC-3). Some participants suggested focusing on relational exchanges and advisory positioning with their customers to solve the problem of technology maturing quicker than their abilities and investment could (SI-1, TC-2, TC-3, V-1, SI-8, SI-9). One advantage of the relationship exchange was the ability to position supporting DT, which discounted the SP from primarily staying abreast with the rapid innovation and adaptation that digital technologies was undergoing (EC-1, TC-3, V-1, EC-3). Participant "SI-3" had sage advice regarding this option:

> *It is returning to the digital transformation question. It is all about relational exchanges. Furthermore, we {SP] need to get back to that because we are too focused on the technology rather than on the actual person, their company needs and how we can enable them to accomplish their objectives*

Participants admitted that their customers had developed trust and confidence issues with the SP community. Trust was affected by their ability to agree to and achieve the digital technologies cost-efficiency and capability expectations of their customers (SI-1, TC-3, SI-4, SI-5, SI-6, SI-10). As a result, customers were rotating suppliers and technology choices on a shorter timeframe than the historical five and seven-year contract awards. This rotation was a double-edged sword as it shortened the period to gain a return from any investment in capability whilst providing opportunities with customers that were previously supplier locked (SI-1, SI-2, SI-3, SI-5, SI-7, SI-9). The SP was transforming their technology model to vendor-agnostic solution builders to overcome the challenge of the customers changing their technology and hence vendors regularly (SI-1, SI-3, SI-5, SI-6, SI-8, SI-10). Participants were building their unique offers of capability and transitioning away from arriving

at their customer as a vendor partner with the ingrained exclusivity and limitations that brought (TC-3, V-1, V-2, TC-6, V-4, TC-7). Participant "TC-3" was confident that vendor exclusivity was not sustainable and stated, "the only way to stay relevant is to have the ability to be able to choose and change my [an SP] vendors without affecting my customers and the services I provide them."

DT benefitted the telco that is developing enterprise-IT capability. This benefit emanated from the possibility of leveraging their current investment and revenue model. However, the telco transitioning to a competitive enterprise-competent SP was still in their infancy. Participant "TC-1" acknowledged the following:

> *We [telcos] want to be the SP but have not traditionally been. We are a software-driven company. We have billing systems. We have all these beautiful things in the background [that] we use in our company as any other customer would. However, we are still not adept at bringing that to our customers in this new world [digital economy]. That is the reality, and we do not like it*

The commercial model for telcos was similar to the investment mechanism and returns from cloud technologies. Unfortunately, the SP BM was not premised on a similar commercial model (TC-1, TC-3, V-1, TC-5, TC-6, SI-8, TC-7). Telcos, focusing on providing network, data and systems services to enterprises, found that their connectivity BM was under pressure (TC-1, TC-2, TC-3, TC-5, TC-6). Traditional enterprise-IT providers experienced revenue and margin erosion as customers moved from dedicated software licencing to pay-as-you-use cloud subscriptions. Telco companies were similarly struggling with customers migrating from dedicated and committed network infrastructure contracting to pay-as-you-use subscription-based network services (TC-1, TC-2, TC-3, SI-5, TC-5, SI-8). Participant "V-4" advised that, "SPs want us [vendors] to advise on operating a cloud business. That is where company adaptation comes into play. It is not a technology or skills change but an operational change required by them." Participants conceded that DT was superior to engaging new skills or enabling new technology in the workplace or the services offered (SI-1, EC-1, SI-2, TC-3, V-1, V-2, V-3, EC-2, SI-9, V-4, TC-7, EC-3). Technology enabled companies to deliver their primary and core capabilities in a digitally transformed market. This technology adoption allowed them to provide products and services at a scale, complexity and speed that humans could not accomplish (V-1, V-2, TC-4, V-3, EC-2, V-4). However, companies needed to consciously and deliberately transition from people-based to digital-based platforms for transacting with customers. Participant "V-1" was critical on this point:

Why do I [vendor] think the problem [digital transformation challenges] exists? Because our partners [SPs] introduced modernised technology without changing the way people, processes and operations work on the backend to adhere to that. That is why I say cloud is not a strategy. It happened, and you [the SP] are embracing it because you have no choice. As a partner or SP, the general approach to a problem is a vendor hardware or software tool to address the issue. The challenge is the customer buys the tool. The tool cannot and does not change the customer. That is not transformation; it is just another incredible tool

Digitisation and digitalisation were fundamentally different things. Digital tools to convert the processes and data of analogue activity into digital artefacts was not digitalisation or DT. It as digitisation. Most customers were no longer seeking digitisation of analogue activities. They wanted to solve their challenges within a digital economy leveraging digital concepts and solutions in an integrated manner (EC-1, V-1. SI-5, TC-5, EC-2, SI-9, SI-10). The SP or even born-digital companies would need the capability and skills to service these business requirements rather than simply providing the required technical solution and keeping everything else the same (SI-1, TC-2, SI-5, SI-7, V-3, EC-3).

Participants noted that traditional the SP was still required to build the networks and infrastructure on top of which customers would deploy their digital technologies and capabilities (SI-1, TC-2, SI-3, SI-5, TC-5, V-3, SI-10). The SP needed to continue investing and maintaining these capabilities to enable and support customer existing investments in networks, infrastructure, systems and tools (SI-1, TC-2, SI-2, SI-3, TC-3, SI-6, SI-7, SI-8, SI-9, TC-7). Participants concurred that despite the SP positioning to cater to the analogue or digital needs of customers, there was a sentiment shift from technology-orientated engagement to solution-orientated engagement (EC-1, TC-1, TC-2, SI-2, TC-3, V-1, TC-4, SI-8, V-4). However, the SP was still straddling the two BMs and the execution between the traditional and the digital-transformed. Participant "SI-5" demonstrated this in their assessment of their role in the digital transformation of the customer:

As I [SP] said, we are building the highways and foundations so that the layers above the network layer [layers four to seven of the OSI (Open Systems Intercommunication) model] have always been a little beyond where we have interacted. However, it is becoming common for us to start interacting at these layers because all our network provisioning and management platforms use API [Application Programming Interface] integration to pull more statistics and information from other systems. So we do not have in-house skills for that kind of thing, and we outsource when we require that intelligence. So, there are still many opportunities to facilitate that kind of service, but that interaction is still confusing for us

5.1.6. Maintaining the status quo

There was a perception among the participants that several large and established SP companies remained indecisive on changing their operations in order to undergo a digital transformation (SI-1, EC-1, TC-3, V-2, TC-4, SI-7, SI-8, SI-9, SI-10). These companies used DT strategies without significantly altering their internal resources, operational procedures, or technological infrastructure (SI-1, EC-1, TC-1, TC-2, TC-3, V-1, V-2, TC-4, TC-5, SI-7, SI-8, V-3, SI-9, V-4, EC-3). Participant "SI-6" observed what they see in some parts of the market:

> *I [SP] think that some companies live in denial. I know some of them [SPs] are looking at digital transformation wrong. They say, "I do not need to do that because I have been doing what I have been doing for the past twenty years. I have managed to run my company and grow it to ensure it delivers my shareholders requirements. And I do not need to do any digital transformation; I need to maintain the status quo because that is what I know. My employees are skilled and know what they must do daily and what delivers value to the business*

Further, participants believed these the SP companies have leadership with blinkers on and are contributing to their DT myopia. The leadership seemed to ignore that their vendors and their competitors across the world were developing digital capability on a trajectory that was often superseding their current services and offers (EC-1, SI-2, TC-3, V-1, V-2, TC-4, SI-6, SI-7, V-3, EC-2, V-4, EC-3). The participants who were familiar with these companies with myopic leadership believed that these companies culture supported their DT lethargy (SI-1, EC-1, TC-2, SI-2, TC-3, V-2, TC-4, SI-6, SI-8, SI-9, SI-10, EC-3). Participant "SI-4" observed that, "what is happening is that they [SPs] are not evolving. They no longer fulfil the need of their customers, and customers are already finding other suppliers for their digital needs." The challenge was broader than a few SP companies. Some customers required convincing that DT, the cloud, and not owning the hardware and software met their company needs. Further, there were not concerned that they were in an apparent and uncomfortable market risk position (TC-1, TC-3, SI-4, SI-5, SI-7, SI-9, V-4).

Participants believed that some companies believed they were performing the necessary activities and endeavours to drive DT. However, their efforts were not very fruitful, and they were not addressing their underlying company practices or culture (SI-1, EC-1, TC-1, SI-2, TC-3, V-1, SI-5, TC-5, SI-7, V-3, EC-2, SI-9). As an example of this business-as-usual attitude, Participant "TC-5" stated that:

The metrics of success are questionable for most companies. If you [SP] keep the legacy success metrics, such as annual growth in customer revenue, profit up and reduced costs, you will not transform digitally. Because it [DT] has proven your company will be different, you will not get the same financial metric return as you currently do. If you do not play in the market now, it will be too expensive when the market moves to get into the game

Participants revealed significant adoption of the DT initiatives within their companies, but they were wrestling with translating their initiatives into commercial value (TC-1, SI-3, TC-3, SI-5, SI-7, TC-6). The SP was challenged by their most prominent customers, by revenue and service diversity, requesting transitioning into as-a-service models. These requests caused conflict for the SP because meeting the customer expectations implied revenue and capability changes. Further, it would have required uncomfortably significant upfront investment with an extended payback period (TC-1, TC-2, TC-3, SI-6, TC-6, SI-8, SI-10). These companies needed to gain agility for this level of experimentation risk. Participant "V-1" was critical of the SP channel they dealt with:

My [vendor] assessment is that the SP is not agile enough and are not benefitting from the opportunity in the market right now. There is always an opportunity in South Africa and the African market for the SP. I think because of their legacy of being associated with specific vendors and having specific bespoke products, it is always a thing of "How can I make more money from selling that particular product" and less focus on systems integration and building competence to solve specific problems across a sector or industry

SPs needed to develop the capability to reimagine their BM to cater for emerging digital technologies while maintaining or forgoing some of their current offers or methods of engaging the market (SI-1, EC-1, TC-3, V-1, SI-6, TC-5, V-3, EC-3). Participants also felt conflicted about how best to modernise their company offers, change the legacy models of operating and attain a profit. They were unable to envision superseding the current revenue generation capability without compromising the current financial status of their companies (SI-1, EC-1, TC-1, TC-2, TC-3, TC-4, SI-6, TC-5, SI-8, EC-2, SI-9). However, participants agreed that the BM adaptation was a basis change (SI-1, TC-1, TC-2, TC-3, TC-5, TC-6, SI-8, V-3, V-4).

5.2 The leadership and culture systems

The level of ambition and vision of the company Chief Executive Officer (CEO) characteristically determined the success trajectory and the height it reached. The CEO typically determined the company vision and strategy and how ambitious or modest the goals were. Customer

needs, market forces acting on the business, competitor activities, product relevance, and sometimes luck changes were the perceptible factors determining leadership quality. The culture that the leadership fostered was a significant determinant of how companies would respond to the digital waves that were crashing into their industry. The CEO and company leadership operated within a business system and capabilities they had invested in and continued to promote. The cultural adaptability of the company was either a strategic level of capability or a barrier to transformational initiatives. The company ability to accept change and technological advancements, maintain competitiveness, and satisfy customers was a core competency. The participant perspectives delved deeper into the cultural nuances and company leadership.

5.2.1. The design of work

Participants, who were founders of the SP, nurtured and provided forums and committees for active employee participation in strategy setting and design of operational tactics within their companies (TC-2, SI-3, SI-4, SI-5, SI-7, SI-8, SI-10). Those participants, some of whom with a background in large corporate environments, proposed that historical management conventions did not resonate with school and college graduates joining the workforce. Participant "SI-5" believed strongly in an agile, trust-based leadership style that the current societal architecture desired:

> *One aspect of our [SP] small company management culture is that you can see who is bringing their A-game and who is bringing no game. You [employees] cannot hide in an company like ours. Furthermore, where the guys are or how they perform at any given time is unimportant; we prefer output-based measurement. We prefer trust over monitoring.*

Participants noted that companies were able to accomplish job functions in a hybrid manner. However, personal contact with colleagues, customers and suppliers produced more opportunities for innovation and trust-building than remote engagements (SI-1, EC-1, TC-1, TC-2, SI-3, SI-5, SI-6, SI-8, SI-9, TC-7). During the COVID-19 pandemic lockdowns, many leaders found it challenging to engage and build trust without the ability to correlate facial cues, body language, tone and team dynamics that resulted from interpersonal engagements (EC-1, TC-1, SI-3, V-2, SI-6, TC-5, SI-7, SI-8, SI-9, TC-7, SI-10). Participant "SI-6" confirmed how difficult getting consensus to change was in companies:

> *So getting engagement is a massive problem. From a sales perspective, we [SPs] have a marvellous plan for our company. However, it seems like, to get that buy-in for your plan, the company has got to be at an absolute "if we do not do this, our company is not going to survive." Then you get the buy-in*

Companies were experimenting with various instruments to drive employee engagement in their DT plans. Participants had mixed success with incentive systems, recognition and awards, intangible benefits like time off work for personal pursuits, and virtual teaming (TC-1, TC-2, SI-3, SI-4, SI-5, SI-6, SI-7, SI-8, EC-2, V-4). Managing employee transition to a different process, system, or way of work was the most consequential challenge participant companies found they had to overcome in their DT efforts. This constraint exploded during the global COVID-19 pandemic, with the world moving overnight to hybrid and remote working for almost all business functions (SI-1, EC-1, TC-1, SI-2, SI-3, TC-3, SI-4, SI-5, SI-6, TC-5, SI-7, SI-8, SI-9, SI-10). Participant "EC-1" explained their perspective on adaptation in the workplace:

> *I [customer] think it [culture] is the one thing people most often overlook because they think of DT in the context of technology, people, and business processes. It is a change in mindset and a culture change; it is the single most significant impact on how you collaborate and engage with your customers, stakeholders, and suppliers within the company*

Participants needed help with identifying the DT precedent for the SP. Companies had characterised their actions and strategies based principally on their intuition, past experiences and established methods (TC-1, SI-3, V-1, SI-5, SI-6, TC-6, SI-9, TC-7, SI-10). Participant "SI-4" suggested that everyone was trying to, "solve problems without knowing that the same thing challenges others." This lack of collaboration between companies resulted in everyone struggling in lonely silence and not leveraging a community to contend with shared challenges. A few participants sensed that some companies had intuitively, culturally, and structurally designed themselves to leverage the DT opportunity better than others (TC-2, SI-4, V-2, V-4, EC-3). Companies physical detachment from their customers during the COVID-19 global pandemic stressed companies operating models in how they engaged and maintained credible contact with customers (TC-1, TC-2, TC-3, SI-5, SI-9, SI-10). Participants agreed that business opportunities took longer to mature over digital communications if there was no requisite value creation and delivery paradigm shift. They ascribed this to lower levels of relationship engagement and confidence between the actors in the market as the trust and value generation model was different (TC-1, SI-3, V-2, TC-4, SI-7, SI-8, SI-9). Participant "TC-1" cited an instance in which changing the mode of engagement from physical to digital had a significant impact on business engagement:

> *These digital technologies that are supposed to create business efficiency and do all these fascinating things stalled the engagement between a particular significant customer and us. It essentially costs them another year of consuming services at a price that is five years old. So the indecision, resulting*

from a lack of face time with suppliers due to the COVID-19 inter-personal engagement restrictions, negatively impacted them. You also become indecisive because what you decide and who will provide the offering are undefined

Large SP companies found their existing processes, hierarchy and divisional structures were a constraint when the customer required bespoke solutions (EC-1, TC-1, SI-2, TC-3, V-1, SI-6, TC-6, SI-8, SI-10). Large companies were slow to adopt technology that required them to increase speed and agility in their operations. Participants conceded that the technology transformation was threatening their foundational service offerings, the core of their extant BMs (TC-1, TC-2, TC-3, V-2, SI-5, TC-4, TC-5, TC-6, SI-9, TC-7). As companies took on new markets, provide different products and offer various services, they found that their existing cultural and operational fabric struggled to embrace the challenge and the resultant opportunities (TC-1, SI-3, SI-5, TC-4, SI-6, SI-8, EC-2, V-3). Participant "TC-1" cited a company limitation that impeded revenue generation despite the customers desiring the capabilities from them:

We [telcos] struggle. We tried to do some projects in the last two years where we ran out of capability internally. It was impossible for us to look externally and create a suitable ecosystem for our customers. Ultimately, we created $15 to $20 million (USD) worth of business for other companies. We did not get to participate because our processes would not let us build that ecosystem of capability, so the customer reluctantly acquired it from other companies

Participants believed that innovation was not the responsibility of a stand-alone team within the company but a cultural capability across the business. They conceded that the cultural capability method was, unfortunately, different from the approach to innovation that most companies had naturally gravitated towards (SI-1, TC-1, SI-2, TC-3, V-1, TC-5, SI-7, EC-2, V-4, EC-3). Unfortunately, traditional companies expected similar success metrics from innovation as they did from their underlying business. Participant "EC-1" lamented not having the "budget for experimentation". The Participant continues that they are constrained by the sentiment, "why and for what are you spending this money for? If you are going to spend this, we should implement it and not waste it." It seems technology investment had to generate immediate business value with a revenue outcome for the company or the innovation budget would not be approved. The smaller entrepreneurial companies had a greater chance of success in the industry than these big conglomerates that are disincentivising experimentation because of the perceived wastage or cost (SI-3, TC-3, SI-5, SI-8, V-3, EC-2, V-4, SI-10).

5.2.2. The entrepreneurial cultural dynamic

Several participants from larger SP companies divulged that their performance management culture system was input-driven, requiring attendance at an office or timesheets to measure productivity (SI-1, TC-1, SI-2, TC-3, TC-4, SI-6, TC-5, SI-9, TC-7). Those from smaller focussed SP companies indicated that the nature of their operating model required a performance management culture that was outcomes-driven, relying on trust and deliverables to determine contribution (TC-2, SI-3, SI-5, SI-7, TC-6, SI-8, SI-10). Participant "SI-5" perspective was that DT was about "companies enabling customers" to achieve their outcomes and "not about their success in selling things" to their customers. Participants suggested that assertive win-at-all-costs go-to-market differs from the disposition of the customer-outcomes-driven sales engagement. This approach was empathic, consultative and geared towards a winning outcome for the customer (EC-1, TC-2, SI-3, SI-4, SI-5, TC-5, SI-7). Participant "SI-3" had "changed the metrics of success in my [SP] company from whether the customer bought or not to the benefit they derive from their purchase and their level of utilisation of the technology in their business."

Participants "SI-3" and "SI-4" provided their staff freedom coupled with financial rewards for any innovation that improved the automation of any current or new digital offerings. Companies discovered during the COVID-19 pandemic that success required focused on issues that were important to their customers (TC-1, TC-2, SI-3, SI-5, TC-4, TC-5, SI-7, SI-8, SI-9). Smaller companies had built successful companies that responded to customer needs and leveraged the solution learnings into an offering to solve similar challenges for other customers (TC-2, SI-3, SI-4, SI-8). These opportunities surfaced when the company took the development of their IP as a primary DT outcome. Participant "SI-4" articulated how the company approached IP development:

> *It is the core of our [SP] company to primarily develop products due to customer demand and evaluate how our other customers can benefit from us meeting that requirement. We have been doing that for a very long time. There are also issues where we would automate something and run it inside the business. We realised when we spoke to people about the stuff we had done that they wanted to buy it. We sell that to our customers and other market competitors, and then they sell it to customers. We have been successfully doing this for the last 15 years.*

Entrepreneurial companies found it integral for success to employ people comfortable with their innovative manner and way of work (TC-2, SI-4, SI-5, TC-6, SI-8). Participants revealed that, on average, their lower-performing employees were employed despite their profiling systems guidance confirming a low-fit for their company design and culture (SI-4, SI-5). Companies also seemed to find

it easier to establish relevant value propositions if they did not have long-standing legacy products and services inhibiting their digital adoption (SI-1, EC-1, V-2, TC-4, V-3, EC-2, V-4, EC-3). Large companies anaesthetised their employees from the hardship of start-up business establishment, incubation, and growth. Therefore, leaders who emerged from within corporations typically lacked the entrepreneurial spirit of owner-managed start-ups (TC-2, SI-3, V-2, SI-5, SI-7, TC-6, SI-8, EC-2, SI-10). Participant "EC-1", from a background in agile owner-managed companies, made the observation:

> *The biggest threat many companies need to realise is that their competitive landscape is fundamentally different today. They sit in a boardroom, do a SWOT analysis, work through Porters five forces model, and guess what? All of that is not very meaningful. They need to be far more agile, willing to adapt their company and remain as flexible as that ten- or twenty-person company around the corner in a garage*

Several participants admitted that large companies relegated learning and skills development to the business-as-usual HR training and staff development planning cycles. Others advised that companies designed an outcome aligned with their transformation strategies and objectives (SI-1, TC-1, SI-2, TC-3, TC-4, SI-6, TC-5, SI-9). Founder Participants disclosed that learning and development were central to their growth and market development activities. It enabled them to deliver a differentiator and provide a sense of comfort for their customers. Entrepreneurs encouraged experimentation and learning from failure as a norm in their daily operations. They did not persecute those employees involved in responsible failure. Rather, they actively supported a culture of responsible experimentation and learning as mechanism to instil the value of risk taking, shared responsibility and organic innovation in their work environments (TC-2, SI-3, SI-4, SI-5, SI-7, SI-8, SI-10). Participants from large companies agreed that although failure was not discouraged, they acknowledged that learning from failure was not a cultural norm in their companies (SI-1, TC-1, SI-2, TC-3, TC-4, SI-6, TC-5, SI-9).

5.2.3. Designing leadership

Participants concurred that DT was also challenging for the management and staff of companies despite the technology sector being a crucial segment of the digital economy (EC-1, SI-5, SI-6, SI-7, EC-2, TC-7). The board of directors and the executives require comprehension on the significance of DT to long-term viability and strategy in the operations and income generating capability of the company (SI-1, TC-3, V-1, TC-4, TC-5, V-3, V-4, EC-3). Participant "SI-9" argued that company leadership had not fully appreciate the impact of DT on the company:

> *So I [SP] do not believe that exco level is close enough to digital transformation - not by any means. In a major SP like ours, they are nowhere near understanding the kind of things that we are talking about*

and their impact on the business. They are not driving that behaviour. I am sorry, but that is just not happening

Participant "SI-3" believed that "it is hard for a CEO to transform an established [SP] company that is highly successful and profitable from hardware and software selling." There was a hyperreality that DT defies experiential logic, historical trends, and straight-line business gradients. Company leadership grappled with specifying new functions and upskilling staff into DT roles whilst they continued achieving within their current revenue-generating roles (SI-3, SI-6, TC-5, SI-8). It was akin to reinventing employees into something with no self-evident practicality and forgoing what presently has a tangible and meaningful consequence for the employee and the company. Participant "SI-3" launched a start-up SP four years ago and grappled with the challenge of employee fit:

When we [SP] formed, we said we would only do technologies that fit the people that started with us, so we did everything backwards. We designed our products and services based on our existing competencies and the problems they could solve for customers. The alternative is fitting the employees into jobs that may or may not make money

Participant "SI-8" supported the idea of building companies by establishing offers on the competence of the employees they had and could have attracted. They recommended the creation of committees structured around offerings. They were constantly evaluating the health of their offers, the health of the employees and the efficacy of their resource allocation to company success (TC-2, SI-3, SI-4, SI-5, SI-7, EC-2). The protracted duration of the worldwide COVID-19 lockdowns strained the traditional employee management techniques of managing by presence. Leadership had to deal with a sudden change in paradigm related to staff engagement and motivation, customer relevance and retention and company productivity and profitability (EC-1, TC-1, SI-4, SI-5, SI-6, TC-7, SI-10). Company leadership had to evolve their premise of employee management from simply driving results and effort to understanding the whole person. These companies consciously focussed on employee mental and physical health and well-being, job performance, and team dynamics (TC-1, TC-2, SI-2, V-1, TC-4, TC-6, V-3, TC-7, EC-3). Participant "TC-4" provided a reality check to company leadership about their dependency on leadership communication:

Nothing from the top gets whittled down to the lower level, that is, your workers executing your daily tasks to bring income to the company. So I [telco] say that if it is missed entirely, and that is unifying the top and the bottom reports, you will not achieve any digital transformation you desire. You may have

the best technologies, investments, and platforms, but you may need something else to assist you in getting the teams to accept change and perform

Leaders aimed to protect their company revenue and profit. They balanced their investment and cost choices to manage the short- and long-term profitability metrics. Participants agreed that most existing strategic plans presented the long-term digital ambition of the company leadership. However, there had to be more clarity on the path to the future and the required timelines and choices expected from the employees (EC-1, TC-1, TC-3, V-1, TC-4, TC-5, V-3, EC-2). Participant "EC-2" encouraged company leadership to "be comfortable with discomfort." DT had made that very real for the leadership of companies, especially those that were successful in what they did. Ultimately, the reality as "the customer is driving the demand, the customer is setting the trends, and the customer is defining and determining the next best thing and what they want," cautioned Participant "EC-2".

5.3 Highlights of Chapter 5

Services were a primary strategic choice for companies dealing with DT. However, developing cloud-based solutions was a complex task that necessitated careful capability development. On the SP, the skills and competencies required to manage and maintain emerging digital technologies environments successfully were onerous. A critical capability the SP developed was managing data complexity in multiple locations securely and efficiently. Furthermore, new, and improved capabilities became ingrained in the cultural fabric of the company. Not all employees were confident or enthusiastic about DT, and company leaders developed the skills to manage change while maintaining current revenue streams.

Chapter 6 Participant views on Exploration

This chapter explored the participant perspectives on the explorative concepts of sustainability and open innovation. Sustainability referred to more than addressing the environmental, social and governance metrics but translating this into meaningful value for the company and employees. This shift to sustainability faced the natural tendency of digital technologies replacing human effort and contribution. Open innovation reflected how companies leveraged internal and external resources, simultaneously, to construct a competitive position. When assessing these capabilities of the BM, the perspectives and benefits to the customers and other stakeholders were vital.

6.1 The design of digital sustainability

The impact of the company activities on the world around them was critical to the sustainability of the planet, the social environments, and the long-term relevance of the company to its stakeholders. Sustainability and digital transformation (DT) were strongly intertwined, as digital technologies helped companies measure and reduce their environmental impact and facilitated the transition to sustainable business models (BMs). Data analytics and automation helped companies optimise operations, reduce waste, and identify areas for improvement. Digital platforms and technologies also encouraged sustainable consumption and product development, as the underlying technologies they used should have been efficient to scale or become cost prohibitive strategies. However, as an illustration, DT unintentionally increased energy utilisation and contributed to the secondary creation of e-waste. Further, digital sustainability also references the strategies, and plans companies have that would ensure their future success. The commercial models to generate future revenues, the competencies and skills required, the type of products offered, and the means of production all impacted company sustainability. Therefore, companies considered and drastically improved their digital operations impact. Sustainability was a critical and increasingly pervasive issue that necessitated ongoing attention and action. This section delved deeper into the participants perspectives on sustainability.

6.1.1. Understanding the market dynamic

Solutions provider (SP) companies required assistance with their DT strategy vis-à-vis sustainability metrics. These companies remodeled their value propositions and capabilities, adapting to market changes, and simultaneously meeting shareholder expectations. Participants expressed concerns over facing DT challenges alone, and their technology industry did not share a common identity or experience in how they were addressing this phenomenon (TC-1, TC-2, SI-4, SI-5, SI-6, SI-7,

SI-10). Their expressed anxiety over the challenges faced highlighted the desire for information and guidance from these companies. Participant "TC-1" observed the following about the dynamics within leadership of the SP category:

> *We [SPs] need help on what to do about it [DT]. There are no books or case studies, and we have no previous experience in this kind of transformation. There is no sense of "I did this before, I have seen it before, and therefore I will now do this." There is none of it, and it is not reassuring*

Participants felt overwhelmed having to formulate and commit responses to stakeholder requests regarding their DT-driven strategies and tactics. These expectations were exacerbating an already challenging operational environment for these companies (TC-1, SI-3, TC-3, SI-5, TC-4, SI-6, SI-9). There as a susceptibility that competitors would take comparable products or services to market before the company could complete their innovation, squandering their effort and time invested. This threat undermined the company ambition and tolerance for ongoing innovation, further complicating their predicament. Participant "V-1" stated that, "incumbent SP companies are not designed to be agile. They do not know how to take advantage of the available DT opportunities. Their lack of decision-making and an unclear future causes them to reconsider everything and action nothing." These factors created a complex and demanding atmosphere for SP companies as they strove to stay ahead of the competition whilst gratifying shareholder expectations of maintaining profitability and growth (SI-1, EC-1, SI-2, TC-3, V-1, TC-4, SI-8, EC-3). Constantly changing tactics led to failures and losses, directly affecting profitability and current growth trajectories.

6.1.2. The transition to a platform business

Accessing, building, owning, or renting a digital platform was the go-to DT goal of most SP company participants. They unanimously agreed that companies were choosing digital platforms or self-service systems to provide an electronic transactional experience for their customers (SI-1, EC-1, TC-1, TC-2, SI-2, SI-3, TC-3, SI-4, V-1, V-2, SI-5, TC-4, SI-6, TC-5, SI-7, TC-6, SI-8, V-3, EC-2, SI-9, V-4, TC-7, SI-10, EC-3). The platform strategies of participants varied from eCommerce, to satisfy commodity purchasing experience for customers, to API-integrated services consumption between vendors, customers, their customers and other third-party providers, such as payment gateways, logistics suppliers and verification agencies (SI-1, EC-1, TC-2, SI-2, TC-3, SI-4, V-1, TC-4, SI-6, SI-7, TC-6, SI-8, EC-2, EC-3). Participant "EC-1" concurred that the sophistication and complexity of the data the company exchanges with other companies determined the scale and complexity of platform strategies. The Participant continued that, “now, all of a sudden, people [SPs] are looking at microservices and

microtransactions and lite-apps to do specific tasks, linking these and integrating these to existing business systems and tools."

Participants did not believe they would build the depth of relationship they currently have with their customers if they had a digital-only customer touch journey (SI-1, TC-2, SI-2, TC-3, V-1, SI-5, SI-7, SI-10). Participant companies preferred the current physical engagement model to provide their primary market engagement for their presales, software development, integration consulting and professional services delivery. These companies were reticent to rapidly transition to a digital-first engagement, having yet to see a significant customer appeal for a digital engagement platform experience. Their reluctance stemmed from the real experience of the COVID-19 pandemic and the negative impact of severing personal contact (SI-1, EC-1, TC-1, TC-2, SI-2, TC-3, SI-4, TC-4, TC-5, SI-7, TC-6, EC-2, SI-9, V-4, SI-10, EC-3). The participant "TC-6" was specifically committed to a hybrid platform strategy mode, expressing the sentiment that:

> *I [an SP] will differ on this data to correct or inform me further on this, but one of my perspectives has been that our digital platform is not a silver bullet. Look, it will not be this radical shift that is the only way customers will do things, but it has to be one of the ways to do some things. For other things, they are only a phone call or a coffee meeting away*

Regardless, some customers appreciated the capability of self-service configuration, management, and reporting on the offers they consumed from their SP. The self-service case was compelling when human engagement was not value-enhancing but friction-creating in the transactional exchange (TC-2, SI-3, TC-3, SI-4, TC-6, SI-8, EC-2, SI-9). There were many reasons why customers would have preferred the digital engagement model. The autonomy and ability that digital platforms provided customers to tailor when and how they engaged with the supplier was compelling. Further, the flexibility, convenience and control provided by digital interfaces provide a level of efficiency that person-to-person engagement easily achieve in cost and consistency (SI-3, TC-3, SI-5, SI-9).

Participant companies embarked on a customer-type platform strategy similar to an eCommerce B2C experience to service the commodity requirements of their customers. Their strategy was to create a marketplace storefront and avail some of the technologies they supply for a retail-type purchasing experience by customers (SI-1, TC-3). These participants believed the complexity of what they supplied, other than simple procurement, required a person-to-person engagement. They anticipated that this digital system would sift the low-value procurement requirements away from the

high-value person engagement model (TC-4, TC-6, SI-7, SI-8). Participant “SI-8” experienced the cost efficiency of digital systems "from an employee overhead perspective I [SP] do not have to add more employees to be able to increase the revenue in my business. This advantage happens due to the efficiencies our platform provides back to us."

Participants believed companies were pursuing platform strategies because they wanted to get to a single-pane-of-glass management and operational view for customers (TC-1, V-2, TC-4, SI-6, EC-2). The SP utilised online systems and tools, enabling customers to consume their capabilities in a self-service method. However, a self-service capability was limited to specific teams or divisions with the digital capability to deliver these products and services electronically. These participants implied that their companies found it demanding to conceptualise how they engaged with their customers via portals in an in-person manner (EC-1, TC-2, SI-4, V-2, V-3, SI-9). There were a few reasons why these successful technology companies need help with the transition from person-to-person to person-to-screen engagement, detailed in Table4.

Table4

Why successful technology companies need help with the transition from person-to-person to person-to-screen engagement

Reason	Description	Participants
Change management	The company internal processes, work design, culture, and employee mindset should be managed and adapted in flight. This capability is both difficult to do and time-consuming for the companies.	EC-1 SI-4, SI-6 TC-5 V-4
Customer discomfort or resistance	Many customers will feel like you are removing the convenience and the comfort of their dedicated person or person-engagement channels. Training, educating and supporting customers in this domain is a capability and capacity that companies will not naturally have developed.	EC-1 TC-1, TC-3, TC-6 SI-4, SI-7
Relationship management	Companies are concerned that they will lose control and lose that person-to-person management interface on which they have built their business and trust with customers. They should find ways to continue developing customer relationships through digital channels.	EC-1 TC-1, TC-5, TC-6 SI-4, SI-7 V-1, V-4
Technical limitations	These companies require expertise and resources to scope, design and implement these systems. Gaining the capability is difficult to accomplish if this competence is unconstructed.	EC-1 TC-1, TC-5, TC-6 SI-6, SI-7 V-4

Lastly, the SP premise of engagement on trust and service delivery relied on their account and technical management teams as opposed to their developers, business analysts, and marketers (EC-

1, SI-4, TC-5, SI-7, TC-6). There was an exciting state of the digital technologies sector, with vendors advocating technologies and products to enable the platform business economy. However, most companies needed substantial assistance to provide a platform experience for their customers (EC-1, TC-3, TC-4, V-3). A lack of capability was a conceivable challenge to companies adopting digital platform strategies. Participant "EC-1" put it across via a compelling insight.

> *Bizarrely, it is like the classic case of the mechanic with a broken car. It is almost as if many ICT vendors produce products that integrate different vendor technologies and toolsets. However, only a few vendors of these integration technologies provide us with platforms to allow enterprise-level integration with them to consume these same features and services. When asked, they need help to provide a good comeback other than they are working on it*

SP companies still depend on nonautomated transacting with most vendors for provisioning and purchasing whilst providing self-service digital experiences for their customers (TC-2, TC-3, SI-8, SI-9, TC-7). Unautomated processes were frustrating and adds unnecessary overhead to the transactional process. It also introduced risks regarding the complexity of the data to be processed and priced, human error of over or under-provisioning and missing deadlines or timelines (SI-1, EC-1). Conversely, this was a first-mover opportunity for the SP with digitally competent vendors. It allowed them to take a leadership posture in the market based on their technologies and solutions.

6.1.3. To scale and when not to scale

The concept of scaling capability and supplying scalable offers was an immediate goal for several participants who identified digital scale tools as an agency for growth (TC-2, SI-4, SI-8, TC-7, SI-9). DT provided companies with the technical instruments to furnish their products and services to a larger audience than traditional methods commercially allowed (TC-2, TC-3, TC-4, SI-8, TC-7, SI-10). Participant "TC-4" described how their companies considered scaling via systems, not people:

> *We [a telco] have got the skill behind it [our platform], which is a physical person with our traditional skill. Nevertheless, we must ensure these skills can disseminate to many customers without impacting the business. We are commercialising that skill in many ways. So if we had to look at it differently and service ten customers with ten employees, that is a massive cost for us. However, to take one or two employee and give them the digital tools to trade their skills, and sell them to our customers, guess what? We are better than ticking the DT box here because we are scaling and making much more money from their skills than we could previously. Frankly, the shareholders love these ideas of digital scaling*

Scale as a result of DT was possible because it allowed access from almost anywhere with an improved customer experience (CX). Further, the efficiencies created by technology surpassed what was possible via the traditional means of customer engagement and operational processing. Finally, technology allowed companies to enter and engage new markets at a fraction of the effort required to do so physically with the proverbial boots-on-the-ground operational model (TC-3, SI-4, TC-4, SI-8, SI-9, TC-7).

Utilising technology to provide offers to customers at scale unlocked innovation opportunities and requirements from customers. Participants observed subscription and consumption commercial models, similar to cloud services, as a requirement from their customers across their technology estate (EC-1, TC-1, TC-2, SI-3, TC-3, V-1, TC-4, SI-6, TC-5, SI-7, TC-6, V-3, SI-9, EC-3). Customers preferred the lower risk and lower commitment regime these incremental payment models provided for their companies. These commercial models allowed customers to merely pay for what they currently needed. Companies preferred pay-for-use over predicting their requirements years into the future and then having to commit financially to those predictions in the present. The model also allowed flexibility for growth or reduction in business requirements (SI-1, TC-2, SI-3. TC-3, SI-6, TC-5, TC-6, SI-9). Additionally, the model promoted shared accountability between the SP and their customers. Both parties remained invested in the projects and business outcomes while ensuring that the products delivered value to the companies.

However, this did not always mean adjusting to simplified BMs for the SP. Participant "SI-7" advised the SP to remain vigilant when, "you [SPs] have to pick a business model. If you pick a business model that you want to be a low-cost, highly efficient scale company with consumable products, then you are playing in a low-value-adding, highly price competitive space." This low-value price-competitive environment was akin to an eCommerce BM. Scale eCommerce worked for a B2C (business-to-customer) orientated business. It should not have been the primary BM for companies operating in the complex products and services B2B (business-to-business) delivery environment. The eCommerce approach was an oversimplification of the BM, reducing it to a commodity offering based on the commercial trade and exchange of goods (TC-1, TC-2, SI-2, SI-3, V-1, SI-6, SI-8, SI-9, TC-7, SI-10). The compounding challenge that the SP faces with digital scale models was determining how to assemble relationships with enterprise companies via digital and remote channels. Participants exemplified this complexity with a telco capability that struggled with providing more complex solutions via their existing digital channels (TC-1, TC-2, TC-3, TC-4, TC-5, TC-6).

Companies become less adaptable and nimble when they advanced in success and size, and the success of the current model dampened their DT appetite and support (EC-1, TC-1, SI-2, TC-3, SI-6, TC-6, SI-9, SI-10). Participant "TC-1" candidly expressed limitations in executing DT-informed strategic intent:

> *The strategy has to be, and I [telco] think it is about taking this new wave of digital technologies capabilities and pushing it across the whole business. It has to be available to the whole business. So it must be available for all our customers everywhere, or we do not release it as a product. That is just the way we operate. We comprise many different company units or focus areas. So making a new offering work across all of these structures takes time and effort, lots of time and effort*

Existing successes and company impediments sometimes dampen the best strategic intentions. Participants suggested that the disposition of digital products is micro-revenues, billed periodically but potentially perpetually. Hence rapid customer and transaction scaling were required to provide a meaningful financial return for the relevant investments (TC-1, SI-3, TC-3, SI-5, TC-5, SI-8, TC-7, SI-10). Hence companies attempted to make it available to all channels simultaneously to attain financial return. Further compounding the challenge, many transformational offers that the vendors required, complementing their incumbent portfolios, required specialist skills and capabilities from the SP. There were solutions to these challenges, and Participant "V-1" observed the following about the SA SP category:

> *Questions that require answers are "what are you doing yourself?" versus "what is the vendor helping with?" These questions drive the next question, "where can we [the vendor] help you to scale and then let us plot a course for how we do that together?" We [the vendor] need to see more of that conversation on the larger incumbent the SP side. And then, these smaller the SP is taking a point-type approach to transformation technologies, which will not hold them in good stead in the consumption economy. The one sensible thing we see is the boutique the SP driving unique solutions at an unbelievable scale within their customers. The beauty is that the technology stack enables them to do so and is invisible to the customers*

Participants from vendor companies suggested that whilst the vendor explored the correct solutions for customers at scale, the customer should consider the solutions they desired to adopt at scale (V-1, V-2, V-3, V-4). Point solutions were not sustainable over the long term as what was presently plausible would not have a lasting impact or address underlying issues. There was a single dominant logic for the consumption economy. It was a complex system that involved multiple actors, variables and perspectives, and different logic applies in different contexts. Therefore, a holistic and

adaptive approach was often necessary, rather than relying on a single, rigid logic (TC-2, V-1, TC-4, V-3, SI-9, V-4). The market was changing rapidly, proving difficult to predict which strategies were correct for the long term. It was premature to dismiss anything without balancing it with the current opportunities. Participants that engaged the market at scale with the capability they had developed across their company offers were seeing good responses and traction (TC-2, TC-3, TC-4, TC-6, SI-9, SI-10). This success was promising as collaborators from the vendor community acknowledged that the dualistic nature of the requirements they imposed on the SP were challenging to meet (V-1, V-2, V-3, V-4). The double-edged requirement consisted of holding and defending the traditional offers and services whilst growing and scaling the emerging digital technologies.

6.1.4. A view on sustainability

The innovation of digital technologies expanded beyond the generation of greater profits at lower costs driving customer satisfaction and engagement. The utilisation of digital technologies to transform the companies BM driving sustainable outcomes for companies and customers was a growing trend in the South African context (EC-1, SI-2, SI-6, SI-9, EC-3). The aptitude of the participants included capabilities to understand the sustainability of current company offers and how to leverage DT to build value propositions into their future. Sustainability impact extended to their skills, including reducing the wastage of resources, particularly underutilised and idle resources (EC-1, SI-2, SI-3, V-1, TC-5, SI-9).

As customers, stakeholders, and regulators placed greater emphasis on socially responsible, environmentally friendly, and economically sustainable companies, the significance of these practices had elevated. Companies enhanced their reputation, increased customer loyalty, and decreased costs by minimising waste and optimising resource utilisation. A proactive approach to sustainability also aided the company gain a competitive edge and position itself for long-term success (TC-1, TC-2, SI-3, V-1, SI-6, TC-7, SI-10). In this context, the ability of the participants to comprehend and leverage DT to develop value propositions for their future was crucial to their success. Participant "SI-3" re-enforced the sentiment of building tomorrows companies today with the following statement:

> *The questions our shareholders and customers ask us [SPs] are related to how we measure our sustainability. The market is digitally transforming, and we must ensure we have a place to conduct business tomorrow. We are looking to digital technologies and this data to help us answer and address the question of our future company and whether we are responsibly resourcing ourselves to obtain those objectives*

Participants actively developed remote working tools, intelligent building controls, green energy networks, and data centre solutions to satisfy their customer demand. The SP companies influenced customers to adopt and implement technologies to monitor and report on their positive impact, including tools that enabled them to reduce their negative impact and grow their positive impact (SI-1, TC-2, SI-2, SI-3, V-1, TC-4, SI-6, SI-8, SI-9, SI-10). These measures impacted their and their customers ESG scorecards, which were companies essential governance and compliance measures. Their implementation of digitisation-driven sustainability was not to create a green division or an ESG division but rather to inculcate sustainability into their strategy and drive these principles into their BM (SI-1, EC-1, TC-1, SI-2, TC-3, SI-6, SI-8, EC-2, SI-9, SI-10). The quote from Participant "SI-2" eloquently captured this sentiment:

> *There is an officer in a team in a department that is running sustainability. That is just creating another division. Who cares because the rest of the company remains the same. That is different from what you [an customer] want. A sustainability mindset is not what you do; it is how you do everything you do for economic, environmental, human and social good*

Companies consciously planned to develop and integrate soft skills such as environmental consciousness, customer empathy, and social responsibility into their cultural and competence fabric (TC-1, SI-2, TC-5, TC-6, SI-9, EC-3). Participants revealed that these capabilities of developing sustainability focussed applications and low environmental impact networks and infrastructure were also vital to developing a prosperous future for the SP (SI-1, TC-1, TC-2, SI-2, V-1, SI-6, SI-9, V-4, EC-3). Some participants believed that the digital needs of large customers differed from SMEs. They believed they could drive inclusion of various segments of the market, which had the potential to impact their revenue and cost structures positively.

A diverse and inclusive working environment brought different perspectives and ideas to a company. This diversity of skills, experiences, and thinking drove more innovative and practical solutions to their challenges (SI-1, EC-1, TC-1, SI-2, V-1, SI-8, EC-2). These companies were implementing tools to help them monitor and manage their sustainability reporting. Tools were sometimes software applications and also consisted of programs, methodologies, best practices and how-to guides to facilitate and manage sustainability-promoting capabilities. Participant "SI-9" noted a phenomenon within the SP category related to toolsets:

> *We [SP] get that digital tools help enable and measure sustainability at scale. Our industry never had to think that far into the future before; we did not have to. We suddenly have a responsibility because we*

can assist in alleviating this crisis because of our potential access and skills with new digital technologies. However, are we ready and capable of doing so? What should we use the tools for, or do we hope the tool will solve the challenge encountered? We sometimes implement and hope for the best

The quote above from Participant "SI-9" raised well-founded arguments regarding the role of digital tools in enabling and measuring sustainability at scale. It also highlighted the increasing responsibility of the SP in addressing the sustainability challenges in the industry. The SP had to comprehend their role in enabling sustainability efforts. They had to serve their customers by developing innovative solutions to achieve their sustainability endeavours (SI-1, TC-1, TC-2, SI-2, SI-4, V-1, V-2, SI-6, SI-7, SI-8, EC-2, SI-9, V-4, TC-7, EC-3). IT technologies were notorious direct and indirect customers of natural resources. Their manufacture and disposal consumed energy, water and raw materials, and their application displaced livelihoods.

The threat was particularly pertinent to jobs primed for automation, which generally affected the lower end of the economic scale where poverty and inequality were prominent. Whereas digital technologies primarily power the economy, there should have been a consideration of their impact on the social architecture (TC-1, TC-2, SI-4, V-1, V-2, SI-8, V-4, EC-3). Participants agreed that the SP was responsible for understanding their role in promoting sustainability and developing innovative solutions. They were essential to support their customers to achieve responsible, sustainable objectives (SI-1, TC-1, SI-2, SI-3, TC-3, V-1, TC-4, SI-6, SI-7, 19, TC-7). Given the significance of digital technologies in the global economy, the SP should have taken a proactive approach to sustainability and their role in the market. They should have actively reduced their offers and operations environmental and social impact. By behaving responsibly, they immensely contribute to a more sustainable future for us all.

6.2 Open innovation requires change management

Companies created value for their customers by effectively applying their internal competencies, such as existing skills, resources, and processes to satisfy customer demand. Their competencies allowed them to provide products and associated services to their customers. Under specific scenarios, however, companies also required an external competency to augment their internal capabilities to enhance their services. Collaboration with similar companies, the outsourcing of routine duties, and the development of specialised expertise were all viable options in attaining this competence. By utilising internal and external competencies, companies would accelerate how they addressed their customer needs and provided a broader array of services. The SP should have developed the capability to manage the adaptability and constant change this may have brought to

the business. This section investigated how participants used internal and external competencies to improve their value offerings to engage and maintain company change.

6.2.1. The purpose of building ecosystems

The digital economy presented companies with distinct challenges and opportunities. In order to succeed in this fast-paced and constantly evolving market, companies should have adapted quickly and efficiently to new trends and technologies. Participants recognised the significance of these types of partnerships and grasped that the success of companies in the digital economy was contingent on the ecosystems of partnerships they constructed (EC-1, TC-1, TC-3, V-1, SI-5, TC-6, SI-9). By forming strategic alliances with other companies, the SP would leverage their partners skills, resources, and capabilities to address new opportunities ahead of their investment curve (EC-1, TC-1, SI-2, V-1, SI-5, TC-6, SI-9, V-4). By carefully selecting and managing these relationships, companies would have built a network of competencies that drove growth and achieve business goals. The latter allowed them to extend into new markets, gain access to new technologies, and augment the services they provided. Participant "TC-7" used their partnering capability as a value proposition, as described below:

> *We [telco] always say yes when a customer asks us if we can do this or that. We go away and figure out how we are going to do it. Our solutions teams will build it ourselves, or we will go and find somebody [SP] who can help us to perform the function. So again, it speaks to being good at the partner factor, so we can always say yes, knowing that we will find someone to make it happen if we must*

SP companies ought to have established transparent ecosystem partnerships with entities that shared similar go-to-market strategies or market identities. A well-managed co-opetition methodology allowed companies to partner with shared risk and increase the efficiency of idle or under-utilised resources or capabilities (SI-1, TC-1, TC-3, SI-5, V-3, SI-9). Thus, companies developed the capability to structure ecosystem relationships, an essential skill in the digital economy where capability development was a competitive advantage. Participants found that the hardware and software vendors portfolio expansion was continuously expanding. Further, the vendor expectations from their partners and customers to adopt and adapt grow relentlessly. However, the vendors encouraged ecosystem partnering between SP competitors and, recently, with other vendor technologies and their SP partner (V-1, V-2, V-3, V-4). Similarly to how the SP performs various functions for many vendors, the vendors also acknowledged that they should have partnered with other vendors to provide a more holistic proposition to customers than a single vendor offering (V-1, V-3). Participants noted that mitigating risk, infractions, or reputational harm was advantageous for ecosystem participants and helps regulate partnerships (TC-1, SI-3, TC-3, SI-5, SI-6, SI-8, SI-9, TC-7, EC-

3). Participant "TC-4" highlighted the frustration that comes from knowing they should have partnered but how incompetence in building partnerships frustrated companies:

> *In a more prominent company, like us [a telco], we waste a lot of time and energy because we like to do it [provide products and services] ourselves. When we realise that we cannot do something, the whole thing falls flat, and we abandon the idea because we cannot partner very well to deliver things. We cannot create that ecosystem, which is frustrating because we know we should, but we do not because we do not want to. Ridiculous, I know, but true nonetheless*

Participants have seen partnerships as a powerful mechanism for the SP to have built their brand and reputation with customers. Contracting as the primary owner and delivery player of the solution or service allowed the SP to maintain control of the engagement with their customers (TC-2, SI-3, SI-5, TC-4, TC-5, SI-8, SI-9). Smaller SP companies discovered that engaging in ecosystem partnerships was quite impactful. This enabled them to engage in projects that would have been beyond their capacity to address or handle alone (TC-2, SI-3, SI-4, SI-5, SI-7, SI-8, V-3). The SP should have been deliberately circumspect of an ecosystem partnering strategy. Participants noted that the skills and capabilities they occasionally partnered for as competencies they required or intend on building within their companies (SI-1, TC-2, SI-2, SI-TC-4, SI-7, SI-8, SI-9, SI-10). However, before embarking on an ecosystem partnering journey, they ought to have determined which skills are essential for their future digital competencies. They should have understood their plans and tactics beforehand compromising their strategy or the partnerships they had established. Participant "TC-6" drove this point home:

> *Companies should not partner because they see an open opportunity but consider whether they can invest or whether partnering is the solution. You [SPs] may partner and then cannibalise your business. You must protect your business, especially if it is a minor player in the market. You have to be very clear when you draw up these partnering contracts. You do not want the opposite. They [another SP] start investing in building a competitive solution to the currently provided product six months down the line and compete with the partnership because there are guys [SPs] out there that will eat your breakfast if you do not pay attention*

6.2.2. Eyes wide open when contemplating partnerships

Participants suggested that the incumbent SP company ought to have accepted that the current competitive landscape fundamentally differed from their experiences over the last twenty years. These companies needed to be willing to adapt their company to the current trends and factors influencing the market. They ought to have adapted behaviours in line with agility, and flexibility, often

compromising their existing methodologies or processes in the interest of solving a customer requirement (EC-1, SI-2, SI-3, V-2, SI-7, EC-2, EC-3). Generally, these companies had found a critical balance between technology capability and the vertical market segment of their customers. Participants expressed that they built an ecosystem in a large SP through the alignment and healthy co-opetition between internal divisions and business units (SI-1, TC-1, SI-2, TC-3, SI-5, TC-4, TC-5, TC-6, TC-7). Other Participants believed their rigidity comes from risk and governance protocols in the SP company. There were ways of preventing the protocols from inhibiting company agility (EC-1, V-1, V-2, V-3, EC-2, EC-3). Sometimes the capability was within the companies but not naturally visible between all participants within an opportunity. Participant "V-1" had witnessed this myopic behaviour often in companies:

> *So choose the companies you [an SP] want to partner with very carefully. Some companies have the capability but also an appetite to expand territory and reach. We [an vendor] have seen too often that desperation drives the partnership rather than a strategy, your IP or simple common sense. You cannot blame someone for your failure to recognise abilities you already have or could have quickly developed. We are capitalists, after all*

Digitally mature SP companies provided their capabilities as a service via an API (Application Programming Interface) or a digital platform to meet the growing demand for digital solutions between companies. APIs and platforms enabled companies to leverage cutting-edge technology and capabilities without investing in developing and maintaining the capabilities themselves (EC-1, SI-2, TC-3, SI-4, V-1, SI-8, V-4). The API or digital platform enabled companies to access the technology and capabilities to differentiate their offerings and remain competitive in a convenient and adaptable manner. In addition, digitally mature SP companies generated new revenue streams and expanded their customer base by offering their capabilities as a service. Participants saw a growing trend of companies using a widget, application, functionality, or capability to enhance their offerings (SI-1, EC-1, SI-2, SI-3, SI-4, TC-4, SI-8, V-3, V-4). In a rapidly changing global landscape, this enhanced their offerings value and assisted many companies in remaining competitive.

An ecosystem partnership was not necessarily a formal engagement between two companies to provide a solution (SI-1, EC-1, SI-2, V-1, TC-4, SI-8, EC-3). The agreement was an opportunity to leverage capability and benefitted companies in a few ways. It provided flexibility to gain capability allowing for an agile response to market changes cost-effectively. Expanding the companies reach for non-named or designated companies was also beneficial, even crossing geographic and market borders via digital adoption of capability (SI-1, EC-1, SI-2, TC-3, SI-4, V-2, SI-7, TC-6, EC-2, V-4, EC-3).

These benefits helped South African SP companies remain competitive and adaptable to shifting market conditions and customer expectations. It as an opportunity that Participant "EC-3" believed was a game changer for companies that embraced digital adoption:

> *So you [an SP] do not have to partner with someone [other the SP] as much as you can consume a service. That service is available via a digital interface such as an API. The relationship is not between the companies but between their systems for a specific function or capability. You can fill the skills gap without encumbering your business like the old world [historically] required you to*

Some participants believed that there was an unaddressed opportunity in the market. Few SP companies operated as services-oriented companies, concentrating on providing capabilities to other SP companies as their customer (SI-4, V-1, V-2, SI-5, SI-9). The limited number of companies with this BM also participated in the business of delivering services to consumers, effectively competing with their SP customers. This apparent contradiction limited the scope of these companies to construct healthy SP partners, as circumvention as always an unwelcome risk (SI-1, TC-1, TC-2, SI-3, TC-3, V-1, SI-5, TC-4, SI-7, SI-9, SI-10). There were benefits to providing capabilities as a digital service rather than via a combination of personnel, technology and expertise. The API acted as a veil, anonymising the dealing between the companies. The customer who accessed the service stays unknowing of its ownership. The benefit is the customer interaction remained obscured and unnoticed by the general workforce. This opacity allowed seamless service integration into the offering of the consuming companies without the risk of IP leakage or customer disclosure (SI-2, SI-3, TC-3, SI-4, TC-6, SI-8, SI-9, V-4). However, it was worth noting that the needs of each SP were distinct. Consuming services via digital interfaces was only ideal for some providers. Often, the reality was that the SP required the capability and the risk was justified by the outcome that would be achieved. Participant "SI-5" was agile in their approach to building or buying capability.

> *I [SP] looked at why we brought them [a market competitor] on. They had some specific IP that we needed and knowledge of something vital for us to execute the project. For us to acquire or develop that proficiency internally was not going to be fast enough or economical for that project*

6.2.3. The threat of new market-entrants

Participants from the SP category acknowledged that their competitor market was not constrained to traditional the SP competing for deals and opportunities with their customers (SI-2, V-1, SI-6, TC-6, TC-7). Their competitors now comprised global hyperscalers of products, data centres, and cloud-based services. The vendors, companies that have developed software solutions,

application developers, consulting companies, and other enterprise companies were also offering capabilities that competed with the contemporary SP (SI-1, EC-1, TC-2, TC-3, V-1, V-2, TC-4, SI-7, SI-8, V-4, SI-10, EC-3). Complex factors were driving this competitive behaviour inside a supply chain dynamic that was previously well-established. There was increased competition from new entrants and democratic access to digital technologies of companies at all levels within the digital technologies supply chain. Further, many customers were maturing to require direct access to digital technologies rather via the intermediaries of the product (SI-1, EC-1, TC-1, SI-3, TC-3, SI-4, V-1, V-2, SI-5, TC-4, SI-6, TC-5, TC-6, SI-9, TC-7, SI-10). This demand exacerbated transaction leakage for companies that do not add value. As companies transformed their capabilities and revenue streams, their BMs were transitioning from product providers to solutions providers. Lastly, technology adoption enabled companies to easily integrate with other companies, adjusting the traditionally linear supply chain dynamics. Participant "TC-4" shares the reality of new market entrants.

:

> *The other aspect is that you [an SP] will probably get a new ecosystem of competitors that you will be facing in the market. These combine local and international companies looking to enter this market [South Africa]. These companies have already gone ahead in digital transformation, developing digital solutions using technologies we have yet to experience. They have done it, and they know what they are doing, and they are coming into this market because customers want it, and we cannot give it to them. We need more experience for the opportunity to provide these technologies for which they are already experts*

SPs with an extensive international presence were a significant threat to the domestic SP. These global SP companies operate in markets with scale economies, industries and technology adoption generally superior to the SA digital technologies context (SI-1, EC-1, TC-1, TC-2, TC-3, V-1, V-2, SI-5, TC-4, TC-6, TC-7, SI-10). Their pedigree empowered them to leverage their size and influence to provide comprehensive solutions and acquired more digital technologies market share than local SP companies. Further, their experience rendered them digitally invincible to their local counterparts. They had a deeper understanding of digital technologies and a more sophisticated approach to delivering solutions. Since local ISPs had also not experienced digital technologies at scale across the market, global SP companies maintain this advantage (EC-1, TC-1, TC-2, SI-3, V-2, SI-5, TC-4, SI-7, V-3, EC-3). An added benefit for the global SP was their ecosystem partners typically have similar scale and competence abilities, from which they benefitted. Finally, these international companies had access to superior financial and company resources, allowing them to invest in R&D (research and development), technology and growth initiatives (SI-1, EC-1, TC-1, TC-3, SI-4, SI-5, TC-4, SI-6, TC-5, TC-7). These factors gave them a definitive competitive advantage. However, there were benefits to being

a local SP. According to participants, the global SP faces the quintessential chicken-and-egg dilemma. These companies required opportunities to guide their capability development and exhibit transformational aspirations, whereas the local SP was already connected to customers and could have driven opportunities. It was in the interest of the local SP companies to identify and pursue reasonable exploration opportunities instead of allowing their proverbial breakfast to be eaten.

6.3 Highlights from Chapter 6

This chapters surfaced the circular dependency for the SP. They needed the capabilities to identify and investigate possibilities but needed opportunities to develop those capabilities. The SP ought to have found a way to advance on both sides of this equation to resolve this dilemma effectively. Investing in capability development, pursuing partnerships or collaborations to help bridge the gap, and taking calculated risks to pursue opportunities that align with their transformation goals was an imperative for them. These were the best choices the SP companies had against the potentially overwhelming tide of DT complexity.

Chapter 7 Research findings

In this chapter, we probed into the findings drawn by the researcher regarding the data generated within this study. The focus then transitioned to a comprehensive analysis of the research methodology, where the elements that surfaced during our deep engagement with the data were reviewed. This section served as a tool to closely inspect the insights and provides interesting and novel insights derived from the research question and the research sub questions. The data analysis carried out and presented in this chapter offers a comprehensive response to these questions.

7.1 The business model considerations

It was imperative for solutions provider (SP) companies to have had an optimistic attitude on the financial return that investments in a digitally competitive economy would have provided. As cost models began to shift, a commensurate business model (BM) transition was necessitated; however, their uncertainty impeded transformation aspirations. When change was necessary, resistance was futile; deferring it would cost the SP something surpassing time and energy. Hyperscalers or marketplace retailers including Amazon and Takealot posed a challenge to the domestic SP volume or commodity technology product supply businesses. The primary focus of these hyperscalers was the transacting of vast quantities of products, but they did not provide advanced integration, implementation, or support services.

Further, hyperscaler companies like Microsoft with Azure, Amazon with Amazon Web Services and Alibaba with Alibaba Cloud were challenging the SP for datacentre and associated value-added software and management services. The strategic selection of a BM was crucial. Choices available spanned from growing into a scale product supply company or a digital service-led business. Attempting both simultaneously within a single business was inadvisable, as it would have resulted in incompatible cost and commercial models. Services companies demanded an investment in skills and capability ahead of the revenue curve. These companies attracted recovery of investment over an extended period versus the traditional large once-off revenue model, allowed for almost instantaneous costs and investment recovery. The services business investment dynamic works if the SP had already premised their cost model on annuity income.

Selling the new products using traditional sales motion of speeds, feeds, and company benefits was not value-adding. A digital services company put customer needs first. Conversely, a product-centric company positioned products to solve a customer problem or demand. The customers wanted to avoid tools; they desired to be met at the point of their needs by the SP offers and

capabilities. Some companies had already made the transition. The adaption was either by choice to move or an existing BM that allowed a transition to providing subscription and consumption services-led products. These successful transformations should have been publicised and shared within the community. The standard narrative was it is not financially viable for an SP, and the cloud does not have a silver lining. Sharing successes would have potentially dispelled adoption fears

SPs predominantly focussed on their internal transformation with tools, systems, and platforms and not primarily on their customer pain points. The SP had to be driven by how their existing capability would solve or remove those customer challenges. Certain companies designed their architecture based on the perspective of their customers, considering their essential needs from a SP company as a fundamental basis. Their approach pivoted on the needs, experiences, and outcomes customers were looking for from SP capability and offers. Further, the SP concentrated their employees, tools, and faculties to respond to and adjust their offers and capabilities based on customer feedback. Considering that their customers are companies with competitors and require a competitive advantage in their market was vital. These customers also potentially served other enterprises. They were also pursuing DT to remain relevant to their customers and their market. They did this whilst competing with other enterprises in their sector. They also needed to transform their BMs, not just implement new technology or add another service to their catalogue.

It was arduous for the SP to transform, notwithstanding their public pronouncements and strategic planning driving digital adoption, cloud capabilities, automation tools, and development credentials. Executability was the ultimate test of the best-laid plans. Execution was proving to be more convoluted, less appealing, and highly awkward despite their strategic intent. Companies struggled to be everything to everyone, and not all futures were possible simultaneously. Hence, the company needed to have developed a model for transformation. To compound this, some companies were offering multiple and diverse capabilities. They needed to have defined multiple DT strategies for different parts of their business, with different velocities and necessities for transformation. A strong theme that emerged was developing the ability to be an advisory business. Large consulting companies had developed this capability over many years and were now leveraging this to enter the digital technologies driven DT space. The consulting companies existing constructing success on a trust-based rapport with the existing customers, which led to privileged access to information, business challenges and opportunities to enable their DT. Despite the opportunity of scale and an annuity income model, telecommunication operators (telco) companies transitioning to the SP model also needed help with this challenge. Their extensive infrastructure and estate encumbered their

transformation. The telco BMs hinged on standardised products consumed at scale on a long-term commitment, against which they correlated their capital expenditure (capex) investments. Their upstream suppliers still required them to commit to predetermined volumes and revenues, so they needed to balance investment carefully with revenue potential.

Digital consumption models of pay-per-use or on-demand made this transition complex and onerous for the telco, coupled with their backend systems and operating models proving problematic to cater for these untried expectations. A common thread was large companies needed additional skills to stitch the DT nuances together. The teams and employees driving DT had conveyed the yearning to reinvent their companies. They saw the opportunities and capabilities residing in the company to address the need of the market. However, an invisible impediment stopped them from pulling it together and managing the requirement. Despite understanding the theory, enterprise execution remained obscure. The SP had a tendency of identifying themselves as a vendor partner and made their franchise agreement or their qualification from the vendor the basis of their identity. They should not have arrived in front of the customer with vendor badges and labels but as a fully competent company able to solve a defined domain of problems with clearly articulated value. Executives were getting so frustrated with the snail pace transformation that they left their companies. They returned to their previous employer as a customer or partner to procure the products and services on offered. They utilised these products and services as components to construct a solution to solve the challenges of their customers. This was an indictment on the SP who had the raw materials but lacked the foresight to leverage what they had.

With the pace of commoditisation of procurement of both simple and complex digital technologies, the SP needed to determine what sustainable digital transformation (DT) is and the desired BM for their business. This researcher suggested that the SP should adjust their cost model dependence from large capital projects to a services-based annuity income model, provided they were committed to developing or procuring the appropriate skills and capability to provide those services.

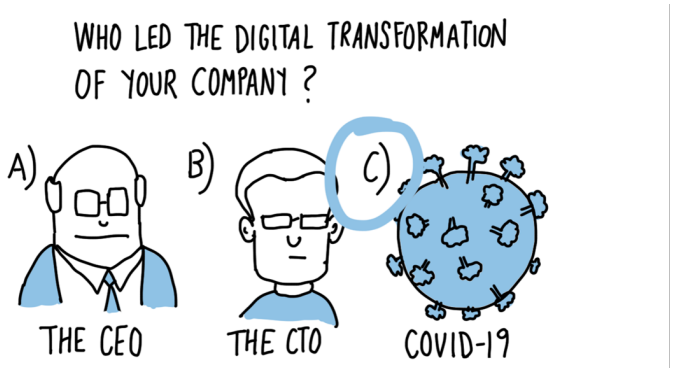
7.2 The fuss over digital transformation

The question for the SP was not whether it was a good or bad idea to transform digitally. The question the SP failed to clarify was, “what is the opportunity of the transformation?” Most large SP companies had transformed at the speed of the market demand. Customers were looking for digital champion partners because they were typically unfamiliar with digital technologies integration. SP partners possessed technology competencies coupled with their sectoral or industry insights and

experience. Hence, DT should not have been a product or something that happens in a part of the company. It should have been a fundamental component of the cultural fabric of the company. DT unsettles companies and their employees as it created an uncertain future and a deviation from the familiar trajectory of the company and career paths of employees. The leadership of these companies should be sensitive to the impact DT had on the psychology and well-being of their employees. They should have implemented change management and change adaptation programs that invited participation from employees. An example often cited in the media and a popular meme is COVID-19 accelerated companies DT, as depicted in Figure10. It was unfortunate that it took a global pandemic and aggressive unrelated governmental policies to change the nature of work and office attendance, driving the adoption of tool and changing modes of work.

Figure10

What led to the digital transformation of your company? Source: (Business Illustrator, 2020)



COVID-19 accelerated many companies adoption of remote working and performance management technologies. Technology adoption was not necessarily DT. DT was about enhancing offerings and deriving additional value from the skills possessed through leveraging digital technologies. Companies ought to have avoided relegating it to the basic implementation of new digital technologies, tools, and systems. Automating processes or digitising paper-based drudgery was an excellent starting point. However, digitisation and DT were fundamentally different things, and automation or digital ink was digitisation, not DT. COVID-19 thrust most DT strategic plans into the limelight, and they had to be taken seriously by the shareholders and company leadership. Without the adoption of digital technologies, most companies had no other immediate solutions to continue business operations or migrate work from the office to wherever their staff were geographically. The pandemic enabled budget to be realised and focus to be placed on technological strategies in most companies.

Companies that preferred to proceed cautiously into the DT lake could immediately begin with a trusted customer relationship. The process had to be initiated with the outcome as the primary

object. After that, the discovery process discharged the effort required to accomplish the desired outcome. This process identified the challenge to solve, the experience journey and the business processes enabling or preventing this result. Other considerations were customer expectations, the financial impact, and related questions that did not predetermine a solution or tool for the problem. On execution of the advisory and discovery process, the SP selected technology capabilities and digital technologies. The approach involved collaboration and journeying together rather than procurement and provisioning of technology.

There was no formula or regulations defining how to be a SP company in SA. Company founders generally determined a vision for their company and the markets they wished to address. Often their offers were determined by the skill sets within the company or skill sets the company had access to in their ecosystem. In the new world of work, the SP was regarded as business partners to their customers, sharing confidential information regarding strategies, tactics and intellectual property. The role of a digitally transformed SP was one of a transformed data aggregator, beyond an aggregation of systems. The perspective of the role had changed to enabling different data sources to communicate with one another in a secure, efficient and reliable manner at a scale that traditional the SP were unprepared for, both in experience and capability. Telcos have incredible systems and the capacity to provide these digital economy products and services. However, it was and remained a long journey for them to transform their competencies to develop their capabilities into scalable, financially viable offers.

As the access to these advanced and innovative technologies democratises, several born-in-the-cloud companies emerged from employees leaving corporates and entrepreneurs entering the sector. Given the current sentiment towards smaller, emerging companies in SA, a small company could have looked professional, with access to technology and preferential treatment to the opportunity. However, access did not automatically imply ability. A concern highlighted was the possible reputational damage done to emerging digital technologies. The new entrant companies sometimes do not have some of the capabilities required to integrate all these emerging technologies. If the project or implementation fails, the customer sometimes attributes the failure to the technology or an ideological DT initiative.

However, smaller companies were more agile compared to larger established companies. Agility was a substantial differentiator between a large-scale and a niche SP. Some smaller companies recognised that their agility is a value proposition, not a limitation. Other small companies lamented

that they lack variety in their offering, whilst the large companies envied their speed in reacting to customer demand. In creating their customer value propositions, the SP formally transformed their capabilities into commercially viable value for their customers. Vendors were building new architectures and tools to solve problems. Customers were not looking for tools to solve problems; they were looking for a partner to assist and enable their digital outcomes using the new architectures the vendors construct. The SP company needed to focus on architecting for scale. Solving niche problems or ad-hoc building propositions needed correction as the cost of sustaining competence and capability for these outpace the income streams they attracted. Building for scale was a complex task, as it was not a one-size-fits-all model in the capabilities required by each SP company. These decisions changed depending on their value system, current offers, market shares, and related variables.

Interestingly, many companies recognised that they should equip the capability to develop DT capability satisfactorily. For instance, the capacity of a trusted advisor in a digitally transformed world demanded a marriage of new and historic capabilities. Capability development was a challenge for the SP. They confronted challenges in deciding which employees to reskill and which to retain. Further, they were considering the mechanism to repurpose the newly skilled employees whilst retaining current customer value offers and existing capabilities. Not all competencies were unique to the point of being guarded or kept secret. There were novel ways of approaching and solving problems, methodologies, technical prowess and experiential learnings that were the IP of their companies.

Thus, there was diligence that companies required when selecting who does capability management for the company and the calibre of employees required to engage with the customer. These individuals ought to have been multidisciplinary and competent in the technology and the customer industry. The advisory and engagement capability design was important to market stature and reputation. In DT, too many people focussed on the tool sets. The focus should rather have been on value capture, delivery and creation capabilities. Suppose companies did not find a way to leverage their capabilities. Employees would take the capability and perhaps the market opportunity with them and exit the company. Boards and shareholders required an understanding of the opportunity digital will bring and the stress transformation places on the company. There was an element here of a board-level and executive-level decision-making clarity of why the problem statement was vital and the impact of not making this decision that needed to change. An option was to view it as starting a new company, separate from the underlying traditional company. This separation helped the leadership, and the staff, contend with the traditional versus emerging capability dichotomy.

SP solutions to customers ought to have been relevant to them and deliver tangible results daily. Hence, the SP had to have exhibited a bias towards the specific market segment for which they needed domain expertise. Further, the company needed a healthy combination of advisory capable employees in different disciplines who would orchestrate a solution or identify techniques to solve business challenges. Customers were increasing in knowledge and competence. Their growth in understanding results from technology complexity drove internal capability development. They were often closer to the vendor of technology due to the vendor engaging directly, the internet allowed democratising of access to information, and they were assimilating information and insight from many providers and third-party sources. Customers were no longer prepared to pay the premium for services they considered commoditised because they were delivered from shared platforms or scale infrastructure. The customer was driving the demand and developing the trends; the customer was defining and determining the next best thing and what they wanted as an outcome. Naturally, outcomes-based the SP would quickly adapt to a customer outcomes world; they would have the skills, culture, systems and processes to achieve this intent.

7.3 Providing innovative products and services

DT was about using digital technologies to enhance the business process, skills, and culture of a company, and not the abandoning of their currently employed technologies, systems, or infrastructure. The challenge for the SP was adapting a services-centric company model and the cost management required to successfully run a company on subscription and consumption revenues. The services offered included a noticeable combination of the SP IP and a tempered inclusion of appropriate services from their vendors. Customers had anecdotal levels of sophistication, understanding, expectation and experience with digital technologies. Further, they had varying requirements based on their current technology footprint, the services, and solutions they offered to their customers, the regions they operated in, their underlying BM and the future posture they strategically drove. The customer would continue to subscribe to or consume the service if the cost of moving or the uniqueness of the offer was prohibitive enough to stay with the current provider. The tools, systems, skills, processes, and technology the SP deployed were often as valuable as the offers they enabled. The ability to create relevant offers was a dynamic capability that companies should develop, which was something they should have considered developing.

The traditional BM of the SP, especially those with a telecommunications focus, was to construct standardised products and deploy them at scale. The digital approach melded industry specialisation with technology competence to dispense company capability at scale. Focusing on

selling company capabilities packaged on top of vendor toolsets, systems, or products provided the acumen to operate in this fashion. To accelerate competence development, the SP was attentive to the customers regarding their business challenges, sectoral nuances, and the context of their needs. The IT euphemism of “build it and they will come” was not feasible in a customer-centric economy, as the novelty of owning access to technology was democratised. South African companies were embracing subscription and consumption services, from streaming media to migrating complete enterprise data centres. Enterprise companies relied on their SP to have the necessary capabilities and infrastructure to enable their successful adoption, utilisation and decommissioning of cloud services. Moving applications, systems, and infrastructure to and from cloud infrastructure impeded the SP and their customers. There was also the dynamic of multiple data sources feeding and leveraging off these cloud environments. This dynamic included environment becoming data sources for other applications and systems, both internal and external to the company. Data boundaries were shifting significantly, and security and management complexity was compounding as data became liberated.

It was intriguing that the SP took their customer IP, information, and systems assets and placed it under the custody of third-party company, such as a large-scale hosting provider. They should have provided service assurance, privacy guarantees, risk mitigation and governance guarantee to their customers. As the quintessential middleman in service provisioning, the SP blissfully provided these solutions and sometimes disregard the compliance and security frameworks that were necessitated. They required an implicit capability to manage and secure the environment at the same or better level than a private data centre. Similarly, they required a set of competencies to securely withdraw digital assets from a shared data centre facility and ensure nothing was left behind or lost. These decisions simmered down to operational experience and cost balancing. The cost-benefit analysis underpinning the cloud provider needed to be comprehensively understood before decisions were made. The classic use case of physically deploying infrastructure or installing systems and applications via physical media ought to be updated. Significant increases in the speed, availability, and security of connectivity whilst the related cost and complexity reduction of always-on solutions were driving demand. There were no guarantees that new and emerging entrants into the SP category have sufficient experience or financial resources to fully appreciate the complexity and risks of providing cloud-based services and solutions.

Most hyperscaler cloud offerings catered for countries with significantly greater economies of scale, advanced digital economies, and skill sets than South Africa. The agility required for each customer case and requirement implied that no solution or capability was easily transferred or

duplicated between SP companies. Connectivity was a comfortable space for the traditional SP, especially those telcos with an enterprise business focus. These companies would mature their skills and services provided to the customer, as they were already in a position of trust with a significant portion of the customer digital estate. Most data breaches resulted in fraud, privacy abuse, IP-theft, damage to infrastructure and operations or non-compliance with regulatory conditions. The indeterminant result of cybersecurity breaches was the associated negative press, fines, loss of jobs and even a potential cessation of a company. The SP was evolving into cybersecurity and data aggregators, considering they brought together different data sources across multiple public and private networks in a cyber-secure way.

The emergence of multi-cloud solutions was compelling customers to demand that the SP possess vendor-agnostic qualities and proficiency across multiple cloud platforms. It was difficult for the established SP to do this as their skills and infrastructure emanate from a vendor strategy based on propositioning against competitive vendor technologies. Although this was regarded as true for established companies, even start-ups, focussed or born-digital companies needed to select a few capabilities they desired to focus on and cultivate competence in these initially. The technology migration paths from traditional on-premises to digital cloud or hybrid offerings were often not seamless, easily achieved, or standardised. These factors challenged the SP in providing succinct roadmaps or technology transformation strategies for their customers, as not all applications and systems were the same. Thus, DT was a shift away from experiential decisions to secure data-driven actions changing the business processes and value of human work.

Vendors were expounding the instant ability to shift demand, consumption, and capability with little concern for their partners that were required to enable real-time CX. Further, the vendor previously transacted through the SP to most customers. However, with digital technologies enabling real-time, consumption-based, software-centric offerings, the vendor executed products and services procurement directly with customers. However, the traditional vendors required support to contend with the operational and support risks this introduced and sought to transfer this risk to their SP partners. The choices available to customers, both enterprises and customers, created an environment where they obliged SP companies to meet their expectations. There was an inevitability that the SP was required to survive in a new commercial context. Their customers would inevitably move entirely to monthly subscriptions or consumption-only digital technologies because it lowered their risk and commitment. The SP had to commit resources and capability to both traditional and emerging technologies to meet the vendor value proposition expectations of the customers.

Expectations created a challenge for these SP companies. The runway to achieving the technology capabilities was often unchartered for the SP and their customers. Customers desired the SP capabilities, which needed to be decoupled from the underlying technologies utilised to deliver the technological features. It was a fundamental shift of the business processes, culture, CXs and offers enabled by digital technologies. IT was very simplistic in the past, and companies adopted IT as a tool or system to support getting the work done. These highly complex skills and capabilities were the primary assets of the traditional SP, and it was naive to believe these capabilities convert easily with the evolution of digital technologies.

Companies growing in all metrics related to revenue, profit, and market share needed to comprehend the urgency to transform their companies. These companies generated significant income from selling, installing, and managing hardware and software for their customers. During the COVID-19 pandemic, the worldwide increase in infrastructure, hardware and software deployment reinforced the dogma that selling hardware and software was a profitable and sustainable business. The SP required assistance introducing digital technologies executed through existing business processes and engagement models. This challenge stemmed from preserving the existing product and service offers managed and maintained by the same people, processes, and technologies. Hence, the SP needed help translating their DT plans into meaningful results. DT strategies ought to be a closed loop of activities between all company stakeholders, with a critical view of where the company was, where it will be, and the sustainable activities implemented to get it there. Otherwise, the company risks staying or regressing from their current market position, despite their intent to transform.

The inertia in actively managing the transition from the legacy company offers that were still generating revenue was crippling these companies. If the company were to sustain its present offerings and persist in targeting the market with these offerings, there would persist a group of customers inclined to avail themselves of this offer. The dependency was greater than solely the customer wanting a digital service before the company decided to experiment with digital technologies. On the other hand, a segment of customers avoided solving challenges in the digital economy and were against participation. Further, some were yet to transform entirely and remain in a hybrid state, with only portions of their company operating in the digital economy.

Integrating multiple disparate systems had always been an opportunity for the SP. Their customers required providers with similar perspectives and authentic services that met their business requirements. The conflict in how to transform is a self-inflicted limitation that these the SP have

created in building the BM around one component of the value proposition, i.e., the selling, implementing, managing, and maintaining primarily of the vendor product. The vendor product demand was a basis for performing services or integrating technology and product stacks. So, an SP should have defined the core competencies they possessed or required within a product domain, such as cybersecurity or cloud computing. Then, they needed to pursue service innovation in that area, be it platform centric, consulting services, integration into complex systems or the related. They should have constructed this unique capability leveraging competences, knowledge, or customer access they possessed. They needed to have incubated this capability development whilst still executing on the existing BM. However, they ought to pursue transforming every customer or innovation opportunity into utilising the new capability or secret-sauce in their execution. Every executive or leader wanted to protect the current revenue streams, which was vital for the current business. A long-term outlook of how the company would sustain itself on the contemporary operating model was mandatory whilst the company provides oxygen for the new BM.

7.4 The leadership and culture systems

The widespread adoption of digital technologies and the lifestyle changes introduced by the worldwide COVID-19 pandemic have profoundly affected how humans interact with the world. Introspective employees had workplace culture criteria such as hybrid work, social impact, educational support, and related benefits which were traditionally difficult to accommodate in established companies. When considering the work environment and their influence on culture, companies required a balance between productivity and innovation. Organic and diverse human engagement catalysed incremental innovation within sectors, industries, markets, and companies. It was challenging to schedule and explore this aspect of work via video and voice calls, as we discovered as a global community during the COVID-19 pandemic. People developed screens and meeting fatigue as digital-only engagement lost their novelty and uniqueness over time. Innovation taking longer was a symptom of incorporating something into the non-physical engagement between actors, not a function of digital engagement.

Digital innovation was not comfortable or familiar for most employees. This alienation resulted from employees being instinctual in their judgement and needing an intuitive basis to understand the digital economy. Depending on company dynamics, some found success by investing in training and education, others with prizes and financial rewards for successful innovation efforts. Still others rewarded employees with non-tangible benefits such as time off and shorter working days or weeks. Stress on the BM was so significant that companies seemed ambiguous in their expectations

from stakeholders. The authenticity of their intent for fundamental transformation was visible in how they managed the challenges of the transformation efforts. With the overwhelming data access and systems companies had, data-driven decision-making was the logical choice. However, companies gained requisite data science skills and experience to identify or leverage this data opportunity.

Large SP companies begrudge the culture of smaller companies attuned to fast response and action. Speed was a double-edged sword for established companies. If an analogue company responded faster, it would compromise the discipline and risk mitigation capability which made them slower but successful. These companies baked everything that made them successful into the current BM, and it would have taken deconstructing of their company to change their behaviour or speed fundamentally. The conundrum was the profitable company should remain successful to afford the costs and risks of DT in their possible future state. An example was the core of a large SP business, especially those focussing on connectivity-based telecommunications. It required the construction, management and maintenance of significant capital and physical items for the rest of the technology stack to function. The cloud may not have been here, but wherever it was, it was physically brick and mortar and required environmental systems.

Culture was essential to BM adaptation as it had a role in continuously refining the operating model and capability evolution. The criminalisation of failure is something that DT exposes as a weakness in a company culture. Smaller companies focussed on achieving a few goals and direct their endeavours towards that outcome. Larger companies seemed comfortable maintaining silos or divisions, focussing on specific capabilities and mechanisms to take such to the market. These silos influenced teams to achieve distinct goals and objectives independently from other silos and teams within the company. It was easier in a smaller company for management to determine employee productivity and their return to the company, thus allowing employees and management to allow agility and creativity to solve customer challenges. The employees participated in shaping culture in the company. Companies designed their recruitment and retention strategies to attract and retain the type of talent they believed enhanced their future. Typically, companies replaced employees with the requisite skills for current short-term business requirements. Sometimes, preferring personas with a culture alignment may have benefitted the company in the longer-term over capability acquisition. DT aimed to delight customers with technology. The company culture should have allowed it to thrive in achieving the anticipated cultural identity.

Smaller entrepreneurial SP companies found it effortless to organise themselves for the customer-outcomes expectations of customers than larger SP companies. In larger companies, thriving market-making characteristics were the door-opening go-getters that closed the most significant agreements and deals at all costs. Therefore, larger companies found it simpler to incentivise their staff with the proverbial carrot of considerable financial rewards and bonuses. Conversely, the proverbial stick of losing their employment for unattained targets was an actuality that many underwent when COVID-19 lockdowns affected the capability of companies to generate earnings when demand sharply declined. Incentives were not the primary factor for employees driving strategic goals and outcomes. They believed in the vision and mission of the company. Smaller companies found it easier to align the staff to a common purpose, whereas larger companies seemed to normalise employee performance into financial metrics.

The entrepreneur leading a small company discovered ingenious methods of recruiting, retaining, and fostering talent as much as recruiting, retaining and nurturing customer success. Companies implemented well-informed, data-driven systems, tests, and psychology-informed scoring methods to determine potential employee alignment with their value systems. Smaller companies painfully discovered their bungle if they deviated from this system recommendation and the employee did not perform. In larger companies, team environments sometimes veiled non-performance or employee deficiency. However, the benefit of this was team structures which supported employee development and contribution, even if they initially did not have possess the capabilities required.

Companies identified the skills they required to be successful and either recruited for these skills or built them internally. A limitation was finding as few people as possible with the broadest range of skills, which was difficult in an emerging discipline or developing market environment. Often, leaders and managers who have risen via the corporate ranks lacked the entrepreneurial flair gained from starting and building a business. The company should be circumspect in the capabilities they desired to the skills required to deliver on these transformation objects. Companies relegated learning and development to buzzwords and activities of the line or training manager instead of a structured strategic pursuit deliberated at the executive level. Leaders in corporate companies understood that they were mandated to conduct themselves as honourable corporate citizens, appreciating the board, executive, and company values and ethics. The reality was that these leaders often uncovered ways to operate around the executive rather than convincing them of transformation efforts. Workarounds were a helpful instrument for forging a compromise between the shareholder understanding of DT and what should transpire. Often, nursing the conversation in increments achieved the desired effect.

Executives should guard the present revenue streams because it was paramount, and the appropriate compensation metric aligned to attainment. Unfortunately, in the DT context, a longer-term view of the sustainability of revenue generation from current capabilities was required. This contest was the controversy that led company leadership to an impasse. The transformation duration was indeterminate, and predictions ranged from three to five years and sometimes longer when the actual appetite was for a change that took 12 to 18 months or less. There was wisdom in performing many changes to the business, in short bursts, as a company aspires to be all things digital to all customers. Companies refrained from attempting to transform themselves into something divergent from their present identity. Drastic changes often resulted in the market rejecting their endeavour to be diverse, disruptive or a more relevant version of themselves.

The brand and reputation of a company defined their market value, and often, dramatic changes caused brand and confidence erosion. The board of directors and executive team frequently lacked a distinct understanding of the problem statement and the impact of not solving the problem of what they should transform. The result was sometimes a pivot on a branding change, a change to the mission and vision statements, a reimagining of the company marketing assets and signing up a few cloud products. Company transformational projects sometimes stalled because the most influential employees were the ones who decide to do nothing, stalling the best intentions of the leadership. Being a digital leader was a complex and lonesome post. The leader driving business transformation frequently found themselves on the wrong side of popularity and approval. Anti-digital dissidents aimed for the digital flag bearer who stood out from the populace. Digital flag bearers were not well-liked, their reputations got denigrated despite their good intentions for the company, they resign due to the illogical strife caused, and they received no recognition for their perseverance.

It took a degree of courage and potential career suicide from the leaders to drive the transformation projects. It was a compelling decision tree that leaders were going through regarding what the SP would choose to participate in and what they would relinquish to attain a digital future. The CEO seeking DT needed to be the most prominent entrepreneurial spirit in a company. Entrepreneurs brought forth the ground-breaking spirit propelled by their years of experience, domain knowledge, sectoral context, and market need. They aligned those elements together to address the opportunities available in the market. They modelled the behaviours, thinking, actions and innovation they wished to cultivate in their leaders and employees. For instance, post the COVID-19 pandemic lockdowns companies required assistance getting their employees back to the office and introducing

hybrid models of work that were unconsidered pre-pandemic. From that perspective, COVID-19 accelerated the adoption of collaboration systems and tools and had created a new challenge for leadership, irrespective of their DT level of comfort.

7.5 The design of an operating model

SPs were irritated by the velocity of change and sought support to maintain their competence effectively. Given their intense rivalry for access to vendors and customers, as was no sharing of best practices. Therefore, if they had a modest, antiquated method of operation, a rival had already met market demand by the time they established the digital equivalent or replacement competence. Their teams were agitated due to the shift and required additional management experience or lessons learnt to guide their actions. The SP was sceptical that they required more progress in preparing for a digital transformation peak.

Being online leveraging digital technologies and being a platform business were two different BMs, despite potentially utilising the same basic building blocks. The business process adaptation, culture redefinition, and digital technologies investment appetites of the company played a crucial factor in achieving their digital ambitions. Companies needed a solid and viable platform model across their company to successfully move from person-to-person engagement to person-to-screen-to-person engagement with their market. This systems model was potentially viable for customer-orientated offers such as online catalogues and simplistic transactional or single vendor value offerings. Suppose the SP desired to provide complex offers. In that case, the company developed a platform capability that provided seamless hybrid engagement between systems and people that was intuitive for the customer. The success of a platform strategy had a dependency on the BM the company chose. Suppose they picked a BM that sought to be a low-cost, highly efficient scale business for customer-oriented low technical complexity products. In that case, they were playing in a segment to become a B2C company that provided technology at scale. as wis a space in the market for a few of them, but it was not a sensible SP company or a BM for companies with SP capability.

There were numerous data points that an SP collected organically in their incumbent business engagement. The sophistication and complexity of their engagement entailed a diversity of touch points at commercial, technical, operational, and regulatory disciplines across the hierarchy of customers. The SP desiring to be platform companies considered how they would maintain the analogue business engagement to keep the digital business engagement relevant and updated with the customers changing needs. Numerous data points could have been lost if these companies forgo

the analogue engagement for a digital one without catering for these undocumented value engagements.

The single pane of glass perspective was limited and had untested merit. The complexity of digitally creating and scaling customers ever-changing requirements into a platform was expensive and inefficient. Further, large enterprise companies had developed their platform systems to augment their capability to their customers. The SP augmented their employee competence with online systems and tools that allowed the customer to ingest those capabilities digitally. Customers were creating digital platforms to service their customers. Some already provided advanced transactional and visibility capabilities of their internal systems, such as banking applications and even eCommerce stores. The SP considered the value proposition of their systems and whether the DT was serving capability on a screen or was it serving capability to their customer platform to enable their screens. The SP meticulously designed their platform strategy. Would the company develop the platform capability from the ground up, or will it acquire access to pre-existing systems and package these digital capabilities for their customers? A hybrid of the two extremes, i.e., self-build vs buy, was a viable option, where the SP leveraged existing systems, applied technical wrappers and configuration around these systems, and furnished a unique platform offering to their customers. Digital platforms absorb the complexity of the company competences to provide a simplistic mechanism for customers to consume that capability.

SP companies scaled their staff competence at the rate of technology innovation; hence scaling by utilising digital technologies was a viable option to address the challenge. Scaling also implied mass customisation and cost optimisation in the offers delivered. Broadening engagement was crucial to economies of scale on platform investments. Customers migrated from utilising capital expenditure to incremental or operational expenditure for technology services and application capabilities. Utilising digital technologies to scale offerings resolved a dilemma for these customers, as servicing these broader markets was challenging to accomplish with a traditional high-touch, people-intensive engagement model.

An advantage for the SP primarily providing telecommunications services included the existing company capability to offer services at scale and on subscription to a large customer base. Their business system design comprised a relatively low to zero-touch model for the actual service consumption but medium to high engagement for the demand generation and support of the services on offer. This competence the companies had built bodes well for the consumption economy.

However, their present systems were substantial, with years of investment having unintended consequences. They had deeply woven their technology and business systems together. Introducing new offers and new capabilities that deviated from the existing portfolio was a time-consuming and slow journey for them, inhibiting the pace of their DT. Scaling their offers matched the ability of customers to take up and consume the offers. Otherwise, the company was investing in the hope that the market need would grow proportionately to their investment.

As vendors had transitioned their product portfolios from perpetual offers to monthly subscriptions, there was an apparent decline in the revenue generated for the exact product requirement. A concern for systems integrations was the size of the South African digital technologies market would not increase proportionately to the providers developing the capability to service the requirement. There was a light at the end of the economic scale tunnel. The vendor community acknowledged and invited the SP with structured intent and commitment to plan the navigation of these complex decisions strategically. The SP developed their secret sauce as a boutique offering. They avoided constructing generic low complexity offers and focussed on complexity-absorbing digital technologies offers. Supplying these services economically and sustainably was a commercial challenge for the SP to have designed value into the offers.

The expansion of daily management practices and culture of the SP assessed the impact of the offers and innovations the company renders on the business operations of the customer, as well as the impact of the technology adoption on the environment. ESG (environmental, social, and corporate governance) goals were essential for all companies participating in the global marketplace. These skills were coupled with the engineering and architectural skills of the company to enable the trusted advisors to be digitally sustainability aware in their engagements with customers. The demand for devices, networks, and connectivity grew as innovation in digital technologies continues. Companies were responsible corporate citizens and ensured their customers adopted sustainable solutions to business challenges.

7.6 Utilising open innovation to enhance change management

Open innovation was a business management model in which companies employed external partnerships and internal capabilities to improve internal innovation and simultaneously expand market access. Many companies scan the environment for the art of the possible, while others reassessed their internal assets to identify points of significance or value that were unlocked. Fewer companies had the deliberate and engineered capability of creating impactful propositions by incorporating their insights from external scanning and internal re-evaluation. Meeting customers at

their point of need was essential in the digital economy. As a result, solutions were crafted, with customers receiving scalable services.

SP companies competently and cost-effectively attracted, maintained and continuously developed all the skills, capabilities and specialisations required to participate in the digital economy. These companies required access to capabilities in multiple domains to successfully engineer solutions for the diverse technological prerequisites of customers. The SP built specialisations and experience in distinct domains of the vendor technological spectrum. Other companies desired or required these competencies to construct a solution or enable an offering for their customers. Companies in other sectors had built technological capabilities in other domains that were outside the existing digital technologies vendor competencies that the SP had. Further, the ecosystem of capability an SP company assembled ordinarily consisted of companies with whom they had a business relationship. These companies are non-competitive suppliers, customers, and companies that engaged with their customer base with digital technologies they did not provide or did not conflict with their chosen vendor solutions.

Establishing and preserving a trusted advisor relationship with their customers required the SP to meet them at the level of their expectations from the engagement and the technology supplied. They did so by exploring the concentration of skills they had and built practices in those specific domains of vendor digital technologies. These companies built co-opetition ecosystems, harnessing mutual capability to provide adjacent services and solutions to their direct offers. Their collaboration potential qualified them to partake in more sizeable prospects than they could have handled individually. However, market admission and customer access were distinctive and only accessible by some market sector players. The SP company was integral to a customer. Most customers abstained from transferring or migrating their services impulsively. The somewhat exclusive nature of partner selection provided a safe harbour for those already engaged with the customer. New entrants would have to compete with the established incumbent relationships to gain acceptance or traction. The SP exploited the opportunity to engage the customers they had an advisory or trusted relationship with, providing a receptive audience for digital innovation ideas and solidifying their trust relationships.

Although there were benefits from establishing ecosystem partners and co-petition operation working models, this business operating model also incurred the potential for reputational and delivery risk. The prime contracting SP depended on the ecosystem partner to execute and deliver some components of their contracted offering to the customer. Carefully curating the ecosystem

partners and crafting the engagement was a vital capability to develop. Any failure or shortcoming of the third-party ecosystem partner negatively impacted the primary contracting party, with possible fines, contractual implications and breach of trust.

Ecosystem relationships were more multifaceted than a company-to-company formal partnering contract to deliver a solution or service. Cloud technologies and distributed networking enabled the capability required from the ecosystem to be virtually anywhere in the world. Consumption was possible via digital interfaces rather than a person or product delivery, enabling the SP to gather and build capability from multiple digital systems providers. Customers were transforming purchasing products into purchasing capability. The delivery mechanism for these proficiencies was no longer limited to onsite person delivery services and included enablement of their digital technologies and platforms. Like the available prospects to the SP, the customer also assembled an ecosystem of providers of digital technologies product and service. Their supplier database would consist of companies that solved, supported and innovated for their industry-related challenges and problems. These opportunities demanded that the SP ensured they had designed their BM to enable participation in an ecosystem of capability delivery. They constructed the digital technologies mechanisms for the services to be consumed, metered and billed as a subscription or consumption service.

Within an SP company, different divisions may have had varying modes of market engagement, partnership sophistication, and revenue parameters. DT services models would introduce additional complexity to the SP operating model. This process involved unravelling the business challenges of their customers. The SP would only work if they had consistent levels of digital maturity across business divisions, geographies and capabilities. Another distinction was globally the SP and software companies had devised solutions or tools to address the issues that customers encountered. Local companies had the localised knowledge advantage in understanding customer history, culture and experiences. They were not intimidated by global companies if their engagement was relevant and their advisory capability met the customer at the point of their need.

The SP engaged with customers, presenting a value proposition that superseded offers based on regular vendor offerings or emerging technology trends. Their competitors for customers revenues may not have identified as the SP or reflect themselves with a proposition reflective of a vendor partner. New skills and competencies were required to leverage and mature solutions related to emerging digital technologies and contenders. Global companies closer to the vendors had the advantage of first-mover status because they created, developed and met the need with access to

beta technologies or early-stage solutions. Further, the markets they operated in had more scale and density, which underpins their investment and capability development choices. These companies presented a level of digital maturity that outshines the local market due to their privileged access or capability.

With the rapid decentralisation and fragmentation of applications, systems and infrastructure, a breach of privacy, data, confidentiality, information, service delivery or security impacted companies beyond the superficial extent and mitigation of the offence. In general, negative reputation, trust, confidence and reliability sentiment by customers, suppliers, competitors, and society harmed a company more than the actual exposure or violation. Cloud technologies had significant benefits that SP companies had difficulty replicating or constructing themselves, but it came with unintended consequences required more experience managing. The boundaries of data source, access, use and storage in the traditional IT architecture were no longer the same. With digital technologies, data access and use boundaries were permeable, quickly moving between systems and platforms with a few keystrokes and authorisations.

An example of this is when governments worldwide implemented COVID-19 lockdowns. Overnight, employees took physical and digital assets to locations, networks and systems that were mainly outside most companies control from a policy or systems management level. Further, these companies had to open access to their digital assets at an unprecedented level to continue business operations. The unleashing of potential by digital technologies was incredible, but in the immortal words of a fictional hero, “with much power came much responsibility.”

Chapter 8 My thesis and conclusion

8.1 Introduction and overview

This concluding chapter relates to the originality of this research and the significance of the theory-generated methodology, contextual setting, and the meaning of the theory related to the solutions provider category in South Africa. This study is interdisciplinary in directive and social constructivist in its philosophical perspective. Interdisciplinary studies focus on challenges that do not fit cleanly in a single discipline. The challenge of the digital transformation posture being adopted is that it affects the social and technical systems of the solutions provider industry. The collaborative nature of the learning approach involves appreciating the phenomena through interactions between this researcher and industry experts in the semi-structured interviews. The synthesis of these distinct perspectives contributes to the formation of the thesis that the solutions provider acts as change agents for the digital transformation of enterprise customers.

This thesis entails an in-depth exploration of the implications of digital transformation on business models. Furthermore, it delves deeper into the evolution of business models within companies, investigating the impact of diverse boundary conditions, including product servitisation, corporate entrepreneurship, open innovation, and digital sustainability (Foss & Saebi, 2017). This investigation is directed toward enterprises offering products and services, denoted as solutions providers in this study, and unpacks their diverse responses to the dynamics of digital transformation. The context for the service providers is limited to the South African landscape. The study initiates by delving into the multifaceted layers that comprise the solutions provider category, encompassing technology, environmental influences, business focus, and the digital technologies sector. Embedded within the nature of the industry is digital transformation, given that these entities revolve around orchestrating digital technology-related products and services to meet the demands of enterprise customers. This dynamic leads to the stretching of the underlying business models of solutions providers, driven both by their own endeavours, the expectations of stakeholders, and the rapidly innovating digital technologies sector. Such expansion exerts its influence on their capabilities, corporate culture, organizational structures, and customer interactions.

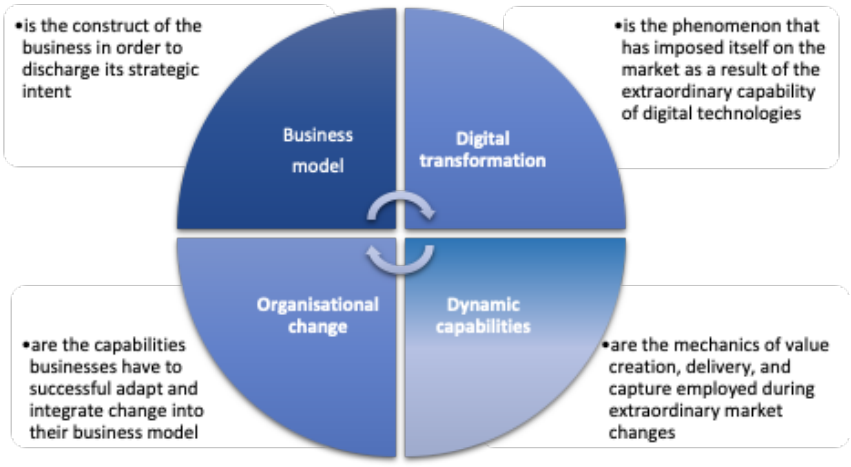
Furthermore, a systematic examination is applied to the industry landscape regarding the role of the solutions provider. Notably, the solutions provider definition includes telecommunications operators (telcos), aligning with how these companies cater to enterprise customer-centric businesses. South African companies listed on the JSE further substantiate the market size, opportunity, and the substantial contribution these entities make to the economy. The value

proposition of the sector is shifting—from intermediaries for digital technology access to enablers of comprehensive customer capabilities. This shift encompasses strategic, operational, skill-related, and capacity-driven dimensions.

The systematic literature review contributes a significant level of rigour to reviewing existing research relevant to the key themes of this study. These themes encompass business models, digital transformation, dynamic capabilities, and company change, as depicted in Figure11. During the synthesis of academic papers, the concept of organisational ambidexterity prominently emerged, highlighting company capacity to effectively harness both external and internal capabilities simultaneously. The fast pace of innovation in digital technologies forces solutions providers to stay updated with this change, as adopting these technologies plays an instrumental role in driving meaningful changes in the market. The investigation into the intersection of primary literature themes—servitisation, entrepreneurship, sustainability, and open innovation—provides an essential backdrop for solutions providers to contemplate this phenomenon.

Figure11

Key research themes of the systematic literature review



This study draws on information gathered from semi-structured video-recorded one-on-one interviews with 24 industry experts to understand how digital transformation affects the business models of solutions providers. Analysing the generated data underscored interconnected factors influencing how solutions providers contend with the effect on their business models. These considerations and responses extend beyond their market boundaries, suggesting the need for further research in this category. This research provides a meaningful stepping-stone to understanding the industry, its contribution to the market, and its long-term strategic value in sectoral digital transformation. Additionally, digital transformation challenges the conventional mode of market

positioning for products and services among upstream vendors and downstream customers. Ultimately, every company should possess tools to adapt to shifting customer expectations driven by the evolution of the digital economy.

An exploration of the industry reveals capable companies equipped with a comprehensive grasp of its challenges and opportunities. It also contextualises their response to digital transformation, acknowledging that what might appear as seemingly indecisive can stem from an industry grappling with disruptive forces. Solutions providers harbour ambition but require guidance or a compass to navigate the uncharted landscape of their industry transformation. The data points to a significant finding: solutions providers are emerging as catalysts for enterprise digital transformation. This result diverges from the initial problem statement of the study. However, it strongly emerged as originality of the research from examining this industry, including the experiences of the researcher and the insights gleaned from the industry experts.

8.2 Thesis statement: The solutions provider is the change agent for enterprise digital transformation

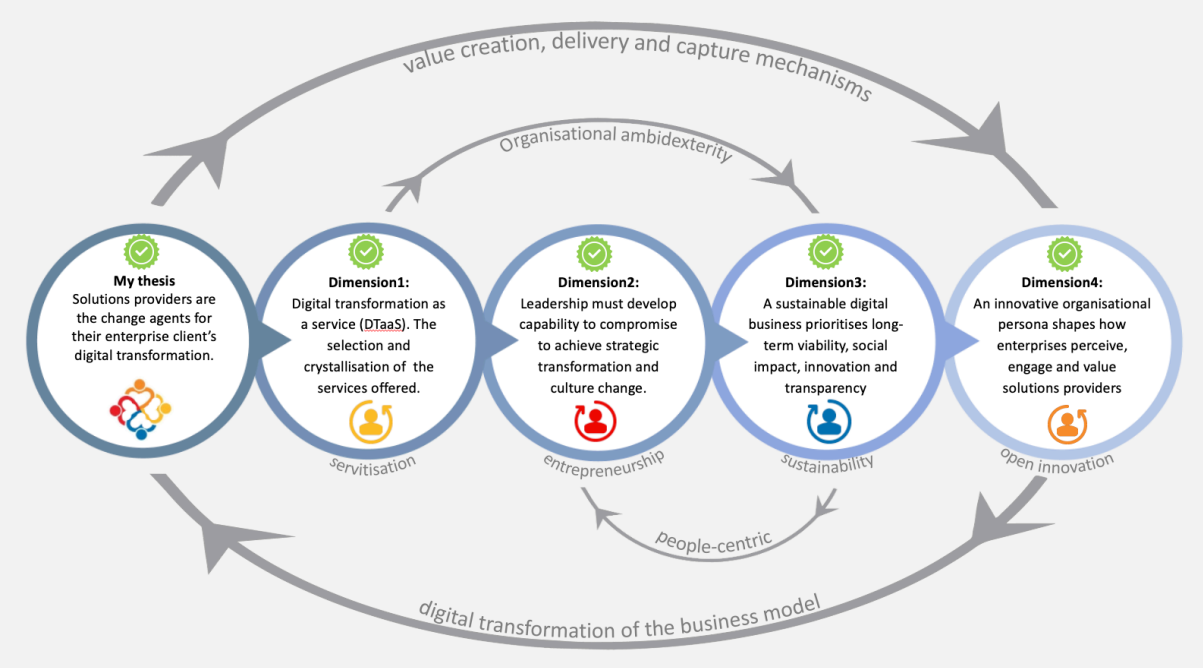
This thesis asserts that solutions providers are the emerging digital transformation change agents for enterprise customers, depicted in Figure12 below. The default agents for transformation within customers are their internal leadership and strategy offices. On average, those individuals, teams, offices, and executive leaders of the customers are responsible for charting their strategic course. Companies develop strategies on the presupposition that an understanding of the underlying business is essential in determining the strategic trajectory and execution path of the company. The customer typically engages an external company to provide specific advice, tools, or recommendations on the successful execution of their chosen strategies. These companies provide point solutions or innovative projects to achieve a specific goal or ambition, enhancing the ability of the customer collaborate, design, and execute.

This data collected indicates a shift of business innovation from the strategists within the customer to outside providers. The customer is expected to be cognisant of extant exploitative and exploratory digital technology opportunities. However, insufficient knowledge is not attributable to a deliberate lack from the customer. The researcher believes that it is the pace of digital technologies innovation outpaces the ability of any single company to effectively absorb and leverage these innovations adequately, whilst continuing their core purpose and function. As digital capabilities outperform extant industry experience and insight, the traditional strategist and team may struggle

to successful adopt digital technologies in enable organisational transformation. The change agent for the company should have an inherent understanding of the possibilities that technology provides. Further, the industry vertical knowledge required to appropriately architect and implement these technologies is vital. Finally, the provider curates the strategic roadmap for the implemented solutions and technologies to ensure a sustainable investment for the company.

Figure12

The virtuous cycle of the solutions provider as a change agent for enterprise digital transformation



As digital transformation accelerates and technology rapidly evolves, enterprise strategy officers and teams are expected to remain competent, prepared, and equipped to fulfil their function. The solutions provider of digital technologies provides unique solutioning skills and expertise including a deep understanding of technology and business operations systems and capabilities. Furthermore, they bridge the gap between internal IT and the rest of the company, working with the strategy teams to ensure that digital initiatives align with the company objectives. In the fast-paced digital landscape, customers collaborate with solutions providers to remain competitive and adaptive to the transformations that potentially disintermediate customers from consumers. As a result, solutions providers are necessary to customer engaging in significant digital transformation initiatives. Subsequently, solutions providers surpass being mere product providers; they transform into strategic partners for customer digital transformation.

Customers often seek relationships with solutions providers when they need to expedite projects or compensate for internal resource gaps. Solutions providers employ the expertise and tools needed to assist customers in adopting cutting-edge methods and systems, enhancing productivity and competitive capabilities. They prove invaluable in shepherding companies through digital transformation, aiding in strategic planning, implementation, maintenance, and ongoing innovation. Moreover, many solutions providers have collaborated with customers across diverse industries and technologies, which greatly benefits those seeking to implement digital solutions across various business functions. This way, solutions providers create, deliver, and capture value by cultivating the requisite dynamic capabilities that bolster customers in engineering business model innovation. Figure13 illustrates a dynamic capabilities and resultant services capabilities model of traditional solution provider capabilities and the associated potential arising from digital transformation implementation

Figure13

The researcher analysed how business model changes lead to new ways of operating. The table shows how traditional solutions providers develop new skills and ways of working beyond just providing hardware. Some capabilities were already available (lighter blue), while the researcher adds more (darker blue). As they adopt digital capabilities, the company gains new strengths that fit into its overall value.

	AS-IS solutions provider	Servitisation	Entrepreneurship	Sustainability	Open Innovation	TO-BE Digital Business
provides **Infrastructure as**	integrated physical products	adds own services	adds 3rd party services	adds managed & outsourced	adds business continuity	provide private, public or hybrid cloud
provides **Security as**	integrated security products	adds security monitoring	adds threat detection	adds advisory & vunerability consulting	adds secure cloud	deliver holistic cybersecurity capability
provides **Workspace as**	integated end-user compute	adds mobility solutions	adds collaboration tools	adds data & application tools	adds as a cloud offering	connect people, processes & systems
provides **Business Apps as**	integrated business apps	adds process automation	adds IoT & data analytics	adds app & systems development	adds AI & ML data	enable data-driven digital business
provides **Customer Experience as**	integrated business processes	adds cloud CX solutions	adds CX using AI & RPA	adds consistent service experience	adds data-driven decisions	enable platform business

Traditional existing SP capability Digital emerging SP capability

The data collected supports that solutions providers are important contributors to digital strategy for customers. The concept extends beyond the normative behaviours of outsourcing, consulting, project management, and related activities that are delegated to outside companies. The solutions provider moves into the company, fusing at all levels beyond the virtual project environment. The governance, management styles, work methods, compliance, ethics, and cultures of the two companies begin to merge into a new whole dissimilar to the individual companies. So,

although the two entities remain legally separate, they blend at the point of the digital transformation need, propelling the customer forward in a careful alignment of digital technology competence and capabilities.

The solutions provider emerges as a transformation agent, and their business model needs to epitomise this. The primary competency required of them is no longer the benign procurement and supply of technology due to the perpetual democratisation of digital technologies. Further, the simple addition of services does not sufficiently differentiate them from other competitors. Without unique IP incorporation into the offers made to customers, any services proposition becomes commoditised over time. Ecosystems partnerships should only be considered as short-term fixes. However, for sustainable company growth, the solutions provider requires digital technologies coupled with their unique intellectual property. Sustainability entails more than just meeting responsibilities; it requires creating a significant impact based on the solutions provider's distinctive abilities, which others will find difficult to replicate. This dedicated focus fosters not only expertise accumulation but also ripples into broader impacts, extending beyond the immediate scope of their activities. When the solutions provider packages these features into an offer for customers, they appear as catalysts for positive change rather than just another provider of products and services. As a result, the solutions provider boasts a business model that excels in competing for, attracting, and retaining new customers.

8.3 Dimension1: Digital transformation as a service offer

In this dimension, my perspective is that the solutions provider should be optimistic about the intellectual property their investments in a digitally focused company generate. The success of the digital transformation process hinges on the meticulous articulation of the solutions provider offers. Any hesitation in moving away from product-centric customer engagement models impedes the transformative opportunities they can access. The data gathered demonstrates how difficult it was for these solutions providers to comprehend the plethora of options available. The standard narrative around digital transformation was to delight the customer and improve the company through enhancing processes and reducing costs by leveraging digital technologies. The solutions provider should focus on contextually generating their intellectual property instead of primarily pivoting on their vendors' assembled products and associated propositions.

Similarly, leaders within solutions provider companies recognise that they can attain a measured level of optimisation by leveraging vendor product portfolios. Thereafter, the company shifts from large improvements to small ongoing refinements and enhancements. Innovation leads to

more strategies for company optimisation, which should consider the balance between costs and income. At a low level, discovering improved methods, reducing wastage, removing unnecessary friction, and utilizing technology to automate and expedite repetitive tasks is achievable. At a higher level, introducing novel cost, operational approaches, product tactics, and innovative financial models demands innovation from teams with a deep grasp of technology capabilities, industry dynamics, challenges, and potential opportunities. The solutions provider ought to provide their intellectual property of interdisciplinary digital technologies integration to customers. They should redefine how they engage this intellectual property to assemble new propositions with their customers to produce transformative offers that delight their customers. In the digital economy, the solutions provider is the service, and their intellectual property is their offer.

8.4 Dimension 2: Compromise-capable leadership for cultural change

In this dimension, the development of a compromise capability proves crucial for solutions provider leadership seeking strategic transformation and cultural change. This capability stands as a underlying element in the success of any transformative process. The condition for this capability remains vague in the digital transformation strategies of the solutions providers reviewed and engaged. Developing a capability for compromise enables leaders to navigate complex and often conflicting priorities when undertaking strategic transformation and cultural change. By actively listening to the various stakeholders perspectives and concerns, leaders may gain a better understanding of underlying issues and identify opportunities for improvement. Compromise fosters collaboration and encourages creativity in uncovering previously unconsidered solutions. Through embracing compromise, leaders may establish a more inclusive and diverse environment, where employees feel heard and valued, and the company benefits from their insights and contributions.

While there are undoubtedly potential drawbacks to developing a capability for compromise, the researcher supports its effectiveness as a leadership approach. For instance, leaders look to digital platforms for self-service automation seeking an improvement in the customer experience. However, they should allow for personal engagement with priority customers, high-value transactions, and complex requirements. Automation might require the elimination of specific expensive or complex , repetitive tasks. However, the company should look at retaining the teams and systems to deliver this, despite their apparent inefficiency and cost. It also demonstrates the intent of the company to sustainably provide jobs whilst still doing good business. These actions prioritise compromise to build consensus and create a collaborative, team-oriented environment. Consensus leads to increased engagement and productivity and improves overall outcomes for the company.

Although compromise fosters collaboration and inclusiveness, it can also lead to diluted decisions that lack strong positions and may not fully address the issues. In some cases, compromise hampers progress, as a leader may hesitate to take decisive action for fear of upsetting any involved parties. Moreover, an excessive focus on compromise can erode accountability, with no individual or group entirely responsible for decisions made. Furthermore, if a leader compromises too frequently, they risk losing their team's respect and being seen as indecisive or weak, potentially undermining their effective leadership. Instead of exclusively pursuing a cloud-only services offering, leaders could provide hybrid cloud solutions or even maintain on-premises options for specific customer needs. Setting transparent expectations and holding team members responsible for their actions ensures alignment towards common goals. Despite the allure of the cloud, there is space for customers seeking alternatives. Preserving traditional skill sets might seem counter to the digital trend, yet it facilitates a hybrid approach for digitally transformed offerings.

While developing a capability for compromise is undoubtedly a valuable tool for leaders, it is crucial to recognise that it's not a panacea for all company challenges. Like any leadership approach, compromise is balanced with other skills and qualities such as decisiveness, accountability, and a clear vision for the future. Only by striking the right balance can leaders effectively guide their company through the complex strategic transformation and cultural change processes. This researcher advocates for a compromise transformation strategy rather than a utopian strategy and recommends that an outcomes-based culture is imperative for the future success of the business. For instance, leadership should compromise their digital company strategy sufficiently to accommodate the existing employee participation in the future company. The choice of incompatibility for the future roles should be at the employee election, and the strategy.

8.5 Dimension 3: Prioritisation of long-term viability, social impact, innovation, and transparency

In this dimension, the researcher emphasises that sustainability extends beyond environmental, social, and governance metrics. It principally should involve maintaining the current company while constructing the company of the future in a viable, responsible, innovative, and transparent manner. In the solutions provider context, there is little control over responsible manufacturing and production, as this typically falls under the purview of their vendors. Governance is primarily driven by policy and oversight, values, reporting, and systems, which are generally well-managed by responsible government, industry bodies, and internal policies and tools. The social aspect allows the solutions provider the most discretion, as they consider their impact on individuals,

groups, and society. Further, the core of the solutions provider propositions is their intellectual property which is principally built and consumed by their employees to create customer value.

The solutions provider current business success revolves around maximising revenue while consistently optimising costs. The most significant discretionary expense for solutions providers lies in their employees. When the participants digital transformation strategies referenced employees and staff, it was often in the context of reduction, retooling, or reskilling as a default digital transformation action. This researcher suggests that company leadership need a decisive plan for company staff, with retooling, reskilling, or redundancy as one potential outcome, not the sole outcome. The company holds an asset and an obligation to the employees and staff who have contributed to its success. The solutions provider requires these employees to continue performing as the company transforms. For this to happen, current employees need motivation and willingness to keep performing, with the confidence that they will be relevant in the digitally transformed company.

This researcher proposes that many employees may naturally adapt if the company transformation strategy is inclusive and understandable, without being so radical as to provoke resistance or fear. Failing to do so might render the company unable to participate in its strategic future, as employees could oppose or undermine transformational efforts, severely hampering or even destroying the company. Employee interdisciplinary technological expertise is crucial for becoming change agents in enterprise digital transformation. The solutions provider should not let go of employees simply because they do not naturally align with emerging digital technologies. Their inherent strengths in technology, the market, their experiences, and customer knowledge will yield a viable company proposition that data analytics may struggle to reproduce. This researcher suggests that this will greatly bolster the transformation decisions made by leadership and ultimately influence the success of the digital company.

In this dimension, I believe that the solutions provider should formulate a blueprint that integrates their current workforce and capabilities into the future business model and strategy. Creating a feasible blueprint is a complex challenge, but not an insurmountable one. Digital technologies offer the foundational elements to bring any envisioned idea to life. Furthermore, technology primarily serves to enhance rather than replace humans. Thus, technology should be crafted and implemented in a model that augments human abilities, not replaces them. Functionally, technology should take over repetitive tasks, make interactions frictionless by removing the need for human involvement, and handle tasks that strain human mental and physical well-being to an unsustainable degree. However, the company should only desire a future within reach of current

employees and not one that will require a new, alternate workforce.

Furthermore, the researcher emphasises that digital transformation is ultimately about people, not technology. Changing and upskilling the staff assumes alignment among leadership, management, strategy, staff, and the market with the companies intended outcomes. Embedded within this is the ongoing effort needed for the company to stay relevant in the transforming market. This is where the ethical and commercial aspects collide within the company. How can the company inspire employees to continue their work when the evolving business model no longer accommodates their skills and competence? What becomes of employees who cannot acquire or develop the digital skills demanded by the new business model? These ethical and moral questions remain unanswered in this research data. Most companies have inefficiencies, along with redundant functions and tasks destined for automation, alongside work ripe for consolidation. However, the new business model should push the boundaries from the digital core to the edges where human knowledge, creativity, empathy, and capability will thrive. These are jobs that machines cannot do.

However, the current workforce could do these jobs if unencumbered with the repetitive and non-digital tasks that currently shackle them. The strategy that maintains the current workforce without overly stressing them about new jobs or poverty is a tangible, sustainable outcome achievable today than preventing a possible future event. Both traditional and born-in-the-cloud solutions providers will likely encounter varied results and mediocre project outcomes unless they incorporate robust people-centric sustainability objectives into their strategies. Considering these perspectives, a digitally sustainable company can generate long-term value for all stakeholders while tackling environmental, social and governance challenges.

8.6 Dimension 4: An innovative company persona

In this dimension, the researcher suggests that the solutions provider should be introspective and decisive in how they arrive at their customers. This thesis advocates the notion that solutions providers are the change agent for the digital transformation of their customer. To position themselves as architects and transition partners, the solutions provider should offer customers compelling business returns with offerings that are persuasive, reasonably priced, and value-enhancing. However, data-driven decisions tend to normalise and optimise within the dataset over time. Data itself does not generate poor, good, or any ideas. It furnishes insights and perspectives on the data that is often not self-evident. Yet, in most standard contexts, data from the past attempts to predict a potential future. Companies do not get established or business strategies constructed

because the data deems it so. Data does not lay awake at night dreaming of possible innovation projects to solve a crisis with no visible solution. Data, however, support the ideas of those who dream of the future.

The company persona projected to the customer is critical in how a business is perceived, engaged, and valued. This persona encompasses elements ranging from the brand identity and communication to the behaviour and attitudes of employees. At present, solutions providers pivot their persona on the vendor products they represent and their capacity to integrate and oversee these products. This positioning shapes how stakeholders, including customers, employees, and investors, perceive and engage with the business. A positive and consistent digital transformation image built upon intrinsic intellectual property, sectoral expertise, and digital skills can establish trust and allegiance, enhance brand standing, and amplify engagement and value. However, these are not the sole factors. The quality of products or services provided, the level of customer service, and the efficiency of business operations can also significantly impact customer perceptions and actions. An authentic and transparent persona that acknowledges flaws and challenges can sometimes foster more trust and engagement than a meticulously constructed facade. By projecting an image of innovation and forward-thinking, a solutions provider can distinguish itself from competitors and establish a robust market position. A managed perception will increase demand for their solutions, stimulate greater interaction with potential customers, and drive enhanced value of the overall company offerings.

Nonetheless, an innovative company persona may only be persona in specific scenarios. Customers may be hesitant to engage with the solutions provider that seem overly trendy or cutting-edge, concerned that these companies might require more experience and expertise to adeptly deliver their proposed solutions. Additionally, an innovative persona may not be appropriate for companies prioritising stability and reliability over innovation and creativity. A company with a strong reputation for delivering high-quality solutions and demonstrating deep expertise will likely be trusted and valued by enterprises. The solutions provider can shape the future digital business by balancing their inherent exploitative capabilities with the exploratory capabilities inherited from ecosystem partners. This equilibrium ensures a strategic approach to innovation and growth. While a solutions provider might possess a robust reputation, they could struggle to connect with customers if they inadequately communicate their value proposition and differentiate themselves from competitors. The cultivation of these two lenses of capability will define the persona of the solutions provider.

8.7 Further research and conclusion

Investigating robust leadership and effective governance in driving digital transformation represents a fertile area for exploration within the solutions providers category. Examining how boards of directors and leadership approach digital transformation, including instances where successful transformation occurs without a foundational model change, can yield valuable insights. Further studies might explore the role of corporate culture and organisational structure in digital transformation and how they bolster digital transformation goals. Additionally, examining the influence of market dynamics, governmental policies, and economic variables on digital transformation constitutes another vital research area within the context of South Africa. These explorations into the mentioned factors and their impact on implementing and diffusing digital transformation within the ICT sector offer a promising avenue for study. Additionally, it is important to examine the mechanisms and structures that propel digital transformation across diverse sectors such as financial services, healthcare, mining, public-sector, and retail. By doing this, we can gain a comprehensive understanding of both the opportunities and challenges associated with implementing digital transformation across various sectors, particularly for solutions provider companies.

In conclusion, this thesis underscores the pivotal role of solutions providers as catalysts for enterprise digital transformation. While internal leadership and strategy offices have traditionally been agents of transformation, a shifting landscape has seen the rise of solutions providers as pivotal players in driving change. These providers offer unique expertise, bridging the gap between IT and overall business objectives. With the dynamic digital landscape rapidly evolving, solutions providers are crucial for enterprises to remain competitive and adaptable. The research highlights the intricate interplay between solutions providers and customers, where the former transcends traditional roles to become strategic partners in digital transformation. This shift involves a merger of governance, management styles, work methods, and cultures, ultimately shaping a holistic and symbiotic relationship. The solutions provider's emergence as a transformation agent requires a business model that reflects this evolution, going beyond technology procurement and service addition. Instead, it necessitates integration of unique intellectual property and digital technologies to offer differentiated, value-adding solutions.

As the digital era progresses, sustainability takes on new dimensions, moving beyond mere responsibilities to create substantial, irreplicable impacts. This focused dedication results in expertise accumulation and broader positive outcomes. When these attributes are harnessed and packaged

into customer-centric offerings, solutions providers become agents of positive change, setting them apart in the competitive landscape. Ultimately, the evolving role of solutions providers propels them into strategic partnerships, competing for new customers, attracting them, and ensuring their lasting retention. This transformative journey signifies the changing face of business in the digital age, where solutions providers navigate innovation, partnership, and value creation in a dynamic and interconnected world.

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Appendices

Appendix A: Ethics clearance certificate and interview documentation

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Moodley

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H21/03/17**
PROJECT TITLE	How digital transformation affects the business models of the South African systems integrator
INVESTIGATOR(S)	Mr A Moodley
SCHOOL/DEPARTMENT	Arts/
DATE CONSIDERED	19 March 2021
DECISION OF THE COMMITTEE	Approved Risk Level: Minimal
EXPIRY DATE	13 April 2024

DATE 14 April 2021 **CHAIRPERSON** _____ (Professor J Knight)

cc: Supervisor : Dr L Abrahams

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 14 / 04 / 2021
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Participant Information Sheet

Good day

My name is Andrew Moodley, and I am a Master of Arts student in the school of Humanities at the University of the Witwatersrand, Johannesburg. As part of my studies, I have to undertake a research project, and I am investigating **"How does digital transformation affect the business models of the South African systems integrator"** under the supervision of Dr Luci Abrahams. The aim of this research project is to understand the effect of digital transformation on the South African systems integrator sector's business models.

As part of this project, I would like to invite you to take part in an interview. This activity will involve one interview and will take around 60 minutes. With your permission, I would also like to record the interview using a digital device. There will be no personal costs to you if you participate in this project. You will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any question if you do not want to. Any confidential information from the interview will be disclosed to anyone else. The interview will be anonymous, as I will not use your name or any identifying information. I will be using a pseudonym (false name) to represent your participation in my final research report. If you experience any distress or discomfort at any point in this process, we will stop the interview or resume another time.

If you have any questions during or afterwards about this research, feel free to contact me on the details listed below. This study will be written up as a research report which will be available online through the university library website. If you wish to receive a summary of this report, I will be happy to send it to you. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email Shaun Schoeman at hrecnon-medical@wits.ac.za.

Yours sincerely,
Researcher:
Andrew Moodley
0******@**********za
08****7***

Supervisor:
Dr Lucienne Abrahams
l*******@*********.com
08****7***

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Informed Consent Form

Research topic: How does digital transformation affect the business models of the South African systems integrator.

Research intent: The aim of this research project is to is to understand the effect of digital transformation on the South African systems integrator and the adaption required to their business models to contend with global trend.

Name of researcher: Andrew Moodley

I, …… agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I agree to the following:

(Please circle the relevant options below).

I agree that my participation will remain anonymous	YES	NO
I agree that the researcher may use anonymous quotes in his research report	YES	NO
I agree that the interview may be audio recorded	YES	NO
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained	YES	NO

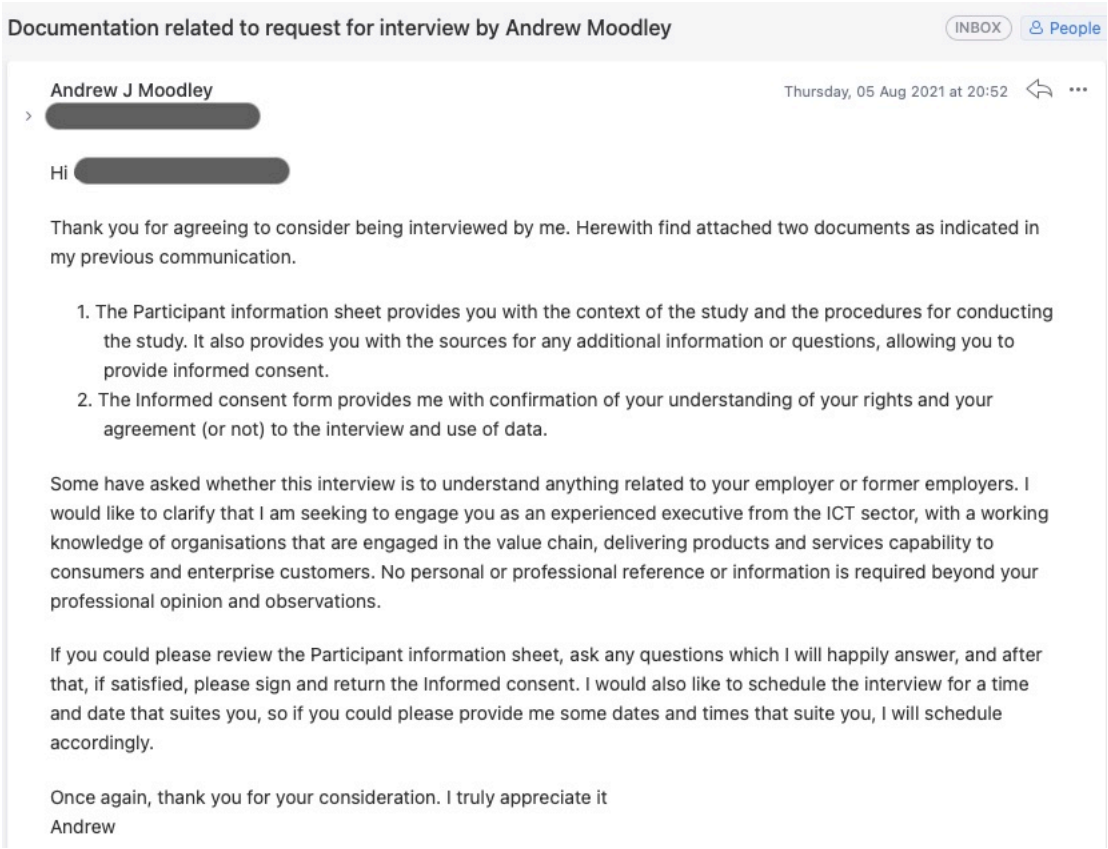
…… (signature)
…… (name of participant)
…… (date)

…… (signature)
Andrew Moodley (name of person seeking consent)
…… (date)

Appendix B: List of research participants

Participant	Responsibility	Type of company	Size of company
EC-1	Chief Information Officer (CIO)	JSE-listed diversified company	>3500 staff
EC-2	Chief Executive Officer (CEO)	CEO of a Fintech company	<25 staff
EC-3	Executive	JSE-listed financial services company	>10000 staff
V-1	Regional executive	Fortune500 digital technologies vendor	Global
V-2	Country manager	Fortune500 digital technologies vendor	Global
V-3	Country manager	Fortune500 digital technologies vendor	Global
V-4	CEO	African digital technologies vendor	<150 staff
SI-1	Chief Digital Officer (CDO)	Large systems integrator	>5000 staff
SI-2	CDO	Large systems integrator	>5000 staff
SI-3	Chief Technology Officer (CTO)	Medium cybersecurity integrator	<100 staff
SI-4	Managing Director (MD)	Independent software vendor	<100 staff
SI-5	MD	Small to medium systems integrator	<100 staff
SI-6	Executive	Large systems integrator	>1500 staff
SI-7	MD	Medium systems integrator	<250 staff
SI-8	CEO	Small to medium systems integrator	<200 staff
SI-9	Executive	Large systems integrator	<1000 staff
SI-10	CEO	Small to medium systems integrator	<150 staff
TC-1	Country manager	Business division of a telco	Global
TC-2	CEO	CEO of a medium ISP	<350 staff
TC-3	CTO	Business division of a telco	>1500 staff
TC-4	CEO	Business division of a telco	>5000 staff
TC-5	Chief Strategy Officer	Large telco	>1500 staff
TC-6	CEO	Medium telco	>750 staff
TC-7	Executive	Business division of a telco	Global

Appendix C: Clarification email to participants



Documentation related to request for interview by Andrew Moodley

INBOX People

Andrew J Moodley [redacted]

Thursday, 05 Aug 2021 at 20:52

Hi [redacted]

Thank you for agreeing to consider being interviewed by me. Herewith find attached two documents as indicated in my previous communication.

1. The Participant information sheet provides you with the context of the study and the procedures for conducting the study. It also provides you with the sources for any additional information or questions, allowing you to provide informed consent.
2. The Informed consent form provides me with confirmation of your understanding of your rights and your agreement (or not) to the interview and use of data.

Some have asked whether this interview is to understand anything related to your employer or former employers. I would like to clarify that I am seeking to engage you as an experienced executive from the ICT sector, with a working knowledge of organisations that are engaged in the value chain, delivering products and services capability to consumers and enterprise customers. No personal or professional reference or information is required beyond your professional opinion and observations.

If you could please review the Participant information sheet, ask any questions which I will happily answer, and after that, if satisfied, please sign and return the Informed consent. I would also like to schedule the interview for a time and date that suites you, so if you could please provide me some dates and times that suite you, I will schedule accordingly.

Once again, thank you for your consideration. I truly appreciate it
Andrew