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Factors driving business model innovation in sample case studies in South Africa

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In an environment of changing customer needs, technological advancement and digitization, the importance of business model innovation in supporting companies to accrue benefits from increased digitization while counteracting threats has intensified. Factors driving business model innovation could be of value in facilitating business model innovation success and accrue benefits from increasing digitization. As the factors driving business model innovation are often triggers for the next cycle, however, there is limited empirical research on factors driving business model innovation. This paper presents empirical findings on factors driving business model innovation using unstructured interviews with nine executives from five sample companies in South Africa. Main finding from the research indicate that both external and internal factors such as existential crises, serve as valuable triggers for business model innovation. Furthermore, entrepreneurial inspirational leadership and quality of staff are important conditions for business model innovation success. The study findings imply that both companies and policymakers who seek to facilitate innovation need to take into account the impact of the business model innovation triggers on business model innovation success. The main contribution of the paper is the empirical finding on factors driving business model innovation using as a lens the sample case study companies.

Keywords: business model innovation drivers, technological factors, market factors, regulatory factors, organizational factors

Introduction

The business environment is continually changing because of factors such as an increase in technological advancement, globalization (Alba et al. 2005; Jahan et al. 2021) and digital technologies (Grisold et al. 2021). Therefore, technological advancement, changing customer needs and deregulation are presenting new value creation opportunities and drive business model innovation (Casedesus-Masanell and Zhu 2013). Moreover, digital technologies have changed how business operates, interacts with customers, and creates revenue models (Grisold et al. 2021). Furthermore, because digital technologies have changed how business operates, interacts with customers, and creates revenue models in a fast-evolving global economy, the need to embrace competitive business innovation models has become more compelling than before. Furthermore, Bartel and Koria (2014) indicate that innovation and a national system of innovation that were previously seen as linear, are now viewed as a systemic network perspective with significantly high barriers to innovation.

Most recently, the Coronavirus (Covid-19) has had implications beyond people's health to affecting global business and the global economy. In the Covid-19 pandemic era, the World Economic Forum (2020) has identified three pillars of innovation that businesses can latch onto, to survive and thrive. These are investing in innovation talent, adopting an outside-in approach to innovation, and encouraging prudent risk-taking in innovative businesses. In this changing business environment, business models that adapt the opportunities presented by digital technologies in developing economies are still at an early stage (Boojihawon and Ngoasong 2018). Therefore, an understanding of the factors that drive business model innovation to accrue benefits from technological advances and changing customers may

generate insights for those business that aspire to innovate existing business models. Against this backdrop, the purpose of this research study is to investigate factors driving business model innovation in sample businesses in the information communication technology (ICT) and financial services sectors of South Africa.

In a growing digital economy, the World Bank (2018) report indicates that countries such as South Africa are capturing a fraction of this growth and there is a need to invest in the foundational elements of the digital economy to keep pace. Both ICT and financial services are of importance to the South African digital economy. South Africa has one of the largest ICT markets in Africa, and shows technological leadership in the mobile software field, security software as well as electronic banking services (United States International Trade Administration 2020). Furthermore, in sub-Saharan Africa, South Africa is one of the most highly developed in terms of the ICT infrastructure, and has the most developed financial sector (Atsu, Adams, and Adjei 2021).

The pandemic has significantly accelerated the global spread of technologies associated with the so-called Fourth Industrial Revolution (4IR); among them, artificial intelligence, the internet of things (IoT), big data and block chain with IR. By 2030, South Africa would be 'an economy that uses technological innovation to revolutionize manufacturing and industrial processes, and energy provision and distribution.' These digital transformations and the fourth industrial revolution require shifts in business models in terms of how value is created and captured. The fourth industrial revolution offers companies advancement from simple digitization to innovation based on combinations of technologies and enabling innovative new combinations between

technology and market facilitating innovate business models (Lee et al. 2018).

In supporting business model innovation, Donmez-Turan and Ozevren (2019) present a generalized model, indicating how a successful business model may be implemented by companies for profitability and sustainability. A first step in the implementation of the successful business model is the environmental analysis that will include both micro- and macro-environmental factors that may impact the business (Donmez-Turan and Ozevren 2019). As such, this paper extends the process perspective generalized model by exploring the factors that will drive the process perspective initiating a new business model innovation cycle. Furthermore, understanding the factors influencing business model innovation may shed some insights on addressing the barriers to innovation as identified in Bartel and Koria (2014) as unsophisticated markets, deficient fiscal policy, reduced organizational risks and information communication technology (ICT) skills. Consequently, the research question underpinning the paper is:

What are the factors that drive business model innovation in the ICT and financial services sectors in the South African economy?

The next section contextualizes the business model innovation concept by unpacking literature's extant epistemologies. The section that follows situates the business model innovation concept within the business competitive model, after which the theoretical background of the paper is discussed, leading to the research methodology, results, discussions and conclusion.

Business model innovation concept

Defining business model innovation is challenging because there is no consensus on what the business model concept is from which business model innovation is drawn. Definitional variances to the business model innovation concept have been identified by Tesch and Brillinger (2017), who assert that next to the term 'business model', there are a variety of different definitions of the concept. The literature is replete with diverse definitions of the business model innovation concept (Al-Debei, El-Haddadeh, and Avison 2008; Alt and Zimmerman 2001; Morris, Schindehutte, and Allen 2005; Schmitt et al. 2004; Petrovic, Kittl, and Teksen 2001; Shafer, Smith, and Linder 2005; Timmers 1998; Osterwalder 2004; Johnson, Christensen, and Kagermann 2008; Teece 2010; Wirtz et al. 2016; Heikkila and Heikkila 2017). Schneider and Spieth (2013) add that academic literature on business models is fragmented with inconsistencies in definitions and construct boundaries. For example, DaSilva and Trkman (2014) define a business model as a combination of resources that, through transactions, generate value for the company and customers. However, this perspective implies that the uniqueness of business models would consist of resources and the way transactions are processed. However, business model uniqueness could also be in any of the components of the business model, such as the way revenue is generated, as in the case of Google, where the search software is provided for free and

money is generated through advertising. Furthermore, Wirtz et al. (2016) argue that despite the growing body of literature in business model innovation, there is limited understanding of the phenomena with previous studies characterized by a heterogeneous comprehension of the concept.

To clarify the definition of a business model, efforts have been made to merge the different definitions. One such approach is discussed in Taran, Boer, and Lindgren (2009), who categorize the diverse definitions and highlight that researchers took three main perspectives: a narrow technological or financial focus; a more general perspective; or an incorporating strategy in their definitions. Another effort in merging the diverse definitions is found in Wirtz et al. (2016), who indicate that business model definitions either focus on the structure in terms of components of the business model or the task of the business model in terms of key activities. The commonalities among the business model definitions have been explored and according to Petrovic, Kittl, and Teksen (2001), while the definitions are diverse, a commonality among them is that the definitions include a description of how a business makes money to sustain itself while providing value to the customers, thereby reinforcing the idea that business models represent the intent of value creation. This declarative intent on how value is created was evident in the sample business model definitions reviewed (for example Wirtz et al. 2016; DaSilva and Trkman 2014; Zott, Amit, and Massa 2011; Johnson, Christensen, and Kagermann 2008; Timmers 1998; Gordijn, Akkermans, and Vliet 2000; Chesbrough and Rosenbloom 2002; Magretta 2002; Osterwalder 2004; Morris, Schindehutte, and Allen 2005; Shafer, Smith, and Linder 2005; Chesbrough 2007; Al-Debei, El-Haddadeh, and Avison 2008; Andersson, Johannesson, and Zdravkovic 2009; Casadesus-Masanell and Ricart 2010; Fietl 2011; Amit and Zott 2012; Osterwalder and Pigneur 2010; Teece 2010). These are summarized in Table 1.

Coalescing the various definitions forms the basis for formulating a holistic business model definition that is adapted in this paper. In comparing sample definitions, those of Magretta (2002), Osterwalder (2004), Chesbrough (2007), Johnson, Christensen, and Kagermann (2008), Osterwalder and Pigneur (2010), and Teece (2010) are perceived as specifying the goal of the business model and the components that are important within a business model, leading to the following definition of a business as adapted in this paper: *the underlying economic logic of how a business makes money and creates value in serving the target customer, taking into account key activities, resources and partnerships as well as the value exchanges between the company and its partners.*

The adopted definition of what a business is leads to **business model innovation** being defined as *either adapting an existing business model, innovating one or more components of the business model or innovating business model components to create a completely new business model for the company with both adapted and created business models seeking to enable the company to compete effectively in a changing environment.* This

Table 1: Sample business model definitions.

Authors	Definitions	Comment
Timmers (1998)	An architecture for the product, service, information flow and the various actors and roles; and a description of the potential benefits for the actors as well a description of the sources of revenue.	Stipulates value creation through architecture and actors' roles and specifies value capture in the sources of revenue as well as the value proposition in the product and service.
Gordijin, Akkermans, and Vliet (2000)	Describes the way of doing business between actors, thus sparks off requirements at business level.	Specifies the value creation aspect in the business model.
Chesbrough and Rosenbloom (2002)	Articulates value proposition, market segment, structure of value chain, estimating the cost structure and profit potential of the offering and describes value network and formulates the competitive strategy.	Specifies value proposition, target market and value creation in the structure of the value chain and value network and value capture in the profit potential and cost structure and value proposition and differentiation in the competitive strategy.
Magretta (2002)	Explain underlying business logic how the business delivers value to its customers, at an appropriate cost, specifying the target customer and the value of the offering to the customer	Specifies the underlying logic and specifies value creation value capture in the appropriate cost and the target customer and the value proposition.
Osterwalder (2004)	A conceptual tool that contains a set of elements and their relationships, expressing the business logic of a specific company, outlining the value offered to one or more segments of customers, the architecture and partners for delivering value and the relation between this value and capital such that profitable and sustainable revenue streams are generated	Specifies the business logic and the interrelationships between the business model components, stipulates the value proposition, target market segments, value creation in architecture, partners and resources as well as value capture profitable sustainable revenue streams.
Morris, Schindehutte, and Allen (2005)	A concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture and economics are addressed to create sustainable competitive advantage in defined markets	Specifies the interrelationship between the business model components and specifies value creation and value capture target markets as well as differentiation as implied in the competitive advantage.
Shafer, Smith, and Linder (2005)	A representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network	Stipulates the underlying core logic and capturing and creating value and strategic choices that imply a sense of value proposition differentiation.
Chesbrough (2007)	Articulates value proposition, identifies market segment, defines value structure whilst specifying revenue generation mechanisms, position of the firm within the value network and formulates the competitive strategy.	Specifies value proposition, target market and value creation in the value structure and value network as well as articulates value capture in the revenue generation and implies differentiation in the competitive strategy.
Al-Debei, El-Haddadeh, and Avison (2008)	An abstract representation of an organization core interrelated architectural, cooperation, and financial arrangements designed and developed by an organization presently and in the future, including the core products and services that the organization offers or will offer, based on the arrangements that are needed to achieve strategic goals and objectives.	Stipulates the interrelationship and value creation in the architecture and cooperation arrangements and articulates the value proposition in the product and services and value capture in the financial arrangements.
Johnson, Christensen, and Kagermann (2008)	A combination of the interlocking elements of customer value proposition, profit formula, key resources and processes that when taken together create and deliver value	Articulates the inter relationship and specifies the value proposition and the customer as well as value creation in the key resources and processes and value capture in the profit formula.
Andersson, Johannesson, and Zdravkovic (2009)	Captures the relationship between resources, actors and the events that result in the creation distribution of resources among the actors	
Casedesus-Masanell and Ricart (2010)	The logic of the firm, the way it operates how it creates value for its stakeholders	Articulates logic and value creation and implies value capture in the creation of value for stakeholders.
Teece 2010	Articulates the logic and provides data and other evidence that demonstrate how a business creates and delivers value to customers outlining the architecture of revenues, costs, and profits associated with the business enterprise delivering that value.	Specifies target the logic, target customer, and value creation in the architecture and stipulates value capture in the revenue, costs and profits.
Fielt (2011)	Describes the value logic of how a company creates and captures customer value.	Specifies the logic and value creation and capture aspects.
Amit and Zott (2012)	A system of interconnected and interdependent activities conducted by a company and its partners to satisfy a perceived customer need.	Specify the interrelationship between the business model components and stipulates value creation in terms of activities and partners, and articulates target customers and implies value proposition in satisfying the perceived customer need.

(Continued)

Table 1: Continued.

Authors	Definitions	Comment
DaSilva and Trkman (2014)	Seen as a combination of resources which through transactions generate value for the company and customers.	Specifies value creation in the combination of resources and articulates target customer and implies value proposition
Wirtz et al. (2016)	A simplified aggregate representation of the company's relevant activities highlighting how value is generated for the customer in order to secure competitive advantage.	Specifies the aggregation and value creation in the activities and implies value proposition.

definition for business model innovation differs from that used by Kok and Baets (2016), which takes a narrower view by defining business model innovation as a different way to engage with the customers and earn revenue. This view implies that business model innovation covers only three components of the business model, namely the distribution channels, relationships and revenue components. In addition to the definition, business model innovation research faces complexity in terms of the level of abstraction and confidentiality around company business model initiatives.

Why is business model innovation important?

There are several reasons why business model innovation is of importance in supporting companies in gaining a competitive advantage. Firstly, Wirtz (2011) indicates that companies may effectively manage business model innovation to differentiate themselves and ensure competitive advantage. Moreover, innovating the business model enables companies to differentiate business models in ways that are hard to replicate for incumbents and new entrants (Teece 2010). Therefore, business model innovation is more important where companies are facing challenges with homogeneous business models and commoditization by offering companies the potential to generate profit (Johnson 2010), survive and grow by enabling them to differentiate their business models and find innovative revenue streams while reducing costs (Lee et al. 2011). Companies using homogeneous business models are selling commodities and compete on price and availability, as well as serving customers who buy based on price and availability (Chesbrough 2007; Chesbrough 2010), and are therefore at risk of failing to survive and grow. This is because competing on price and availability is not sustainable because price can be matched and price wars may break out, resulting in some of the players being forced out of business.

Secondly, business model innovation is of importance because it is linked to growth and financial performance, with an IBM 2006 Global CEO study having found that the financial outperformers put twice as much emphasis on business model innovation as underperformers (Giesen et al. 2007), and an IBM 2008 Global CEO study suggests that financial outperformers pursue the most collaborative and disruptive business model innovation (Ibm 2008). Furthermore, the fastest growing companies are those that have undertaken business model innovation (Casedesus-Masanell and Ricart 2010) and those in which technology innovation includes business

model innovation (Chesbrough 2007), because a mediocre technology commercialized with a good business model is of more value than a great technology supported by a mediocre business model (Chesbrough 2010).

Thirdly, business model innovation may be of importance to IT project success and aligning IT projects with market needs. According to Meertens et al. (2012), processes that are designed should be linked with a business model and translated and refined into enterprise architecture to ensure future systems that are developed to fit with the market needs, thereby ensuring that IT projects are not a result of technology push, but rather initiated from proper analysis of the problem and business context (Iacob et al. 2012).

Finally, business model innovation is of importance because of the continuously changing customer needs. Companies no longer regard product innovation as the only source of competitive advantage (Gunzel and Holm 2013), mainly because, with shortening product lifecycles, product-focused innovation no longer provides sustainable competitive advantage (Marolt et al. 2016).

Despite business model innovation's potential to support company performance, survival and growth, business model innovation poses both opportunities and potential risks. In addition, Johnson, Christensen, and Kagermann (2008) suggest that while business model innovation could re-shape industries and drive spectacular growth, most companies find business model innovation difficult. Because business model innovation is of such value, one may suggest that to compete effectively in a changing environment, companies need to succeed in managing business model innovation. An understanding of the business model innovation drivers may serve as one of the substantial inputs in managing business model innovation to compete effectively.

Literature reviews

Business model innovation in a company is triggered by either external or internal factors, which are referred to as business model innovation drivers. Despite the awareness of business model innovation drivers as triggers, there is paucity of research in the area. For example, a Google Scholar search in 2016 using the search term 'business model innovation drivers' reflects this paucity of research with 25 results, while the term 'business model innovation triggers' yields six additional results. Furthermore, one may argue that this is a new area of exploration as the references are dated from 2010 to 2016. However, Mahadevan (2004) had earlier identified

competition, technology, value shrinkage, changing customer needs, regulatory factors and firm-level competencies, while Morris, Schindehutte, and Allen (2005) identified growth aspirations as a driver for business model innovation. Despite the drivers being both internal and external, Sosna, Treviño-Rodríguez, and Velamuri (2010) suggest that often the triggers are external. However, Bucherer, Eisert, and Gassmann (2012) put forward the view that the drivers could be internal or external and could be categorized into threats and opportunities, which could also be internal or external. Meertens et al. (2013) add that these drivers could be either threats or opportunities and the drivers should have enough potential to be worthy of pursuit. The following paragraphs present a discussion of both the external and internal business model innovation drivers.

Technological advancement

Technological advancement triggers business model innovation by bringing opportunities for new value-creation strategies (Johnson, Christensen, and Kagermann 2008; Mahadevan 2004), and enabling increased collaboration and providing opportunities that make it easier for companies to collect and analyse consumer data (Bhatnagar, Maryott, and Bejou 2008). In addition, technological advancement may present new sources of revenue (Hoffman and Novak 2003). Furthermore, according to Tongur and Engwal (2014), technological advancement requires companies to master double complexity in terms of both technology and business model innovation, as technological advancement may often require a new business model, resulting in the company running dual business models. According to Markides (2013), running dual business models could pose challenges as the new business model could require value chain activities that are in conflict with those of the existing business model. Therefore, trying to compete with both business models could risk mismanaging both and destroying value (Markides and Charitou 2004).

Technological advancement may be classified as either sustaining or disruptive. However, Christensen, Raynor, and McDonald (2015) indicate that despite its broad dissemination, disruptive innovation theory's core concepts have been widely misunderstood and its basic tenets frequently misapplied. Sustaining technological advancements is aimed at enhancing the performance of existing value propositions and is the most common and could either be incremental or radical (Christensen 1997). However, there is a difference between the two because incremental innovations seek to provide value propositions that meet the user requirements more efficiently, while radical innovation's value proposition often results from new technologies that provide new functionalities. Therefore, according to Norman and Verganti (2014), incremental innovations seek to do better with existing solutions, while radical innovations aim to do what the value propositions did not do before. Furthermore, radical and incremental innovation may have either a positive or negative impact on leading companies and laggards. As Freixanet and Rialp (2021) highlight, incremental innovation may have a positive relation to leading

companies sales growth and performance and a negative impact on laggards' sales and performance, while radical innovation may boost laggards' sales growth and performance and adversely affect leading companies' sales growth and performance.

In terms of disruptive technological advancements, Christensen, Raynor, and McDonald (2015) highlight that researchers, writers and consultants; use of the notion of disruptive innovation has been convoluted and applied to describe any situation in which an industry is shaken up and previously successful incumbents stumble.

Christensen (1997) points out that these are rare and bring in value propositions that perform less than established mainstream products and are typically cheaper and simpler, but have led to the failure of leading companies. Christensen (1997) identifies additional challenges with disruptive technological advancements, which are that both the market and the final product features are unknown in the beginning, and listening to dominant customers leads to failure. Furthermore, while identifying the effects of a disruptive innovation is relatively easy, definitions of what a disruptive innovation is, are quite elusive despite Christensen having identified that disruptive innovations are either new market innovations or low-end innovations (Nagy, Schuessler, and Dubinsky 2016). In clarifying this confusion, Nagy, Schuessler, and Dubinsky (2016) propose identifying disruptive innovations based on functionality, technical standards and ownership, and providing explanations as to how an innovation could be disruptive to some adopters and at the same time be not disruptive for others.

An additional challenge to disruptive business model innovation is discussed in Foss and Saebei (2017) and provides an example of how the sharing economy provides an illustrative case where business model innovation from companies such as Uber in the transportation business and Airbnb in the accommodation expansion, which are considered to be disruptive, are being hampered by a country's competition law. Furthermore, Habtay (2012) suggests that technological advancement conforms to the disruptive innovation theory, while market factors deviate from the theory by failing to progress further after quickly disrupting a portion of established markets. Technological advancement is a driver for business model innovation as technology is enabling people to share information instantaneously all over the world through the internet for personal and business purposes to collaborate, cooperate and co-create for value generation and distribution, thereby presenting opportunities for new business (Lee and Trimi 2012).

The key technologies driving business model innovation include mobile computing, cloud computing, data analytics, and 3D printing and social networking. For example, mobile computing has created opportunities for business model innovation such as in the ability to use mobile phones to facilitate and transfer payments (Mustafa 2015) as well as changing services in e-tourism, e-health, e-marketing and education (Sousa 2015). On the other hand, advances in cloud computing present companies with on-demand computing services over the internet enabling innovative and transformational

shifts in how IT services are managed and delivered (Garrison, Wakefield, and Kim 2015) resulting in the adaptation of ICT companies' business models. Therefore, Clohessy et al. (2016) suggest that cloud computing has accelerated business model innovation for delivering ICT solutions. Another technology that is expected to drive business model innovation specifically in manufacturing is 3D printing, which offers manufacturing companies rapid prototyping while lowering costs, presenting the companies with a high degree of flexibility and more product variants available in the market (Weller, Kleer, and Piller 2015). Consequently, manufacturing companies could innovate existing business models to exploit these opportunities and to cope with the increased competition generated by the vast product variants in the market. In addition to mobile computing, cloud and 3D printing, big data and data analytics are driving business model innovation with data analytics being used to leverage big data to provide valuable insights for business model innovation. For example, according to Bryant, Katz, and Lazowka (2008), Walmart contracted Hewlett Packard to construct a data warehouse to capture transaction data from their 6,000 stores worldwide and apply data analytics to detect patterns indicating the effectiveness of pricing strategies and marketing campaigns, as well as to support the improvements in supply chain management.

Market factors

The market factors that drive business model innovation include the changing customer and the increasing competition and market orientation. Changing customer needs drive business model innovation by pushing companies to offer value propositions that meet the changing needs as well as meet the needs of un-served customers. The changing customer needs are a result of the increased access to information and commoditization (Teece 2010; Johnson, Christensen, and Kagermann 2008; Chesbrough 2007; Casadesus-Masanell and Zhu 2013; Sun et al. 2020) and the opportunities to serve the un-served customers (Johnson, Christensen, and Kagermann 2008). Un-served customers are excluded either because the current value propositions are extremely expensive, extremely time consuming, extremely complicated or extremely inaccessible (Johnson 2010). Therefore, Vagadia (2020) indicates that new business models are being created, old ones are being tweaked and reworked, and previously un-served customers are being delivered products and services, some that they did not even know they needed. Changing customer needs drive business model innovation as deeper innovation can no longer be achieved by market feedback and meeting customer needs, but must rely on more forward-looking market orientation (Ma et al. 2021). Furthermore, business model innovation may have a multi-focus to either satisfy existing, but non-attended market needs, bringing new technologies, products or services to the market, or enhancing, defying or transforming an existing market with a better business model and to create an entirely new market (Yahaya et al. 2020).

There are a number of additional challenges in serving customers that may include the fact that customer needs exceed solution capability as technology lags behind customer demand, while in other situations the solution capability exceeds customer needs as technology exceeds customer expectations (Dewulf and Mann 2002). Therefore, Abbasi et al. (2019) suggest that for successful business model innovation, simultaneous attention is needed on the supply and demand sides as high failure rates are often due to a lack of adequate attention on the demand side of innovations. Moreover, with technological advances, modern customers are sophisticated and well informed and seek value beyond price, quality, speed and customization from products and services, also seeking enriching experiences (Lee and Trimi 2012).

Apart from the changing customer needs, the competitive forces are the other set of market factors that motivate for business model innovation. The competitive forces driving business model innovation include the need to fend off low-end disrupters and respond to shifting bases of competition as the perception of what an acceptable value proposition changes over time is (Johnson, Christensen, and Kagermann 2008), as well as the competitor rivalry. The competitor rivalry is exacerbated by the 'China price' effect, which is a cliché coined in the mid-2000s that equates to 'whatever your own price is, less than 30%'. 'China price' refers to competitive advantage derived from lower factor costs (Devang et al. 2017). The 'China price' drives business model innovation as companies need to find new sources to lower costs and increase quality to remain competitive in terms of acquiring capabilities to move from commodity producing areas to specialist services and creativity-based products and services (Keen and Qureshi 2006). The competitive forces have resulted in value shrinkage and business model homogeneity, thereby further driving business model innovation (Mahadevan 2004). According to Qiu (2019), business model homogeneity is an important factor affecting the core competitiveness of a business with a unique business model a basis for unique competitiveness, which may not be duplicated and imitated by other companies.

Regulatory factors

Regulatory issues that drive business model innovation include changes in the regulatory environment that provide opportunities for new value creation (Mahadevan 2004). As such, laws and policies have an impact on the business model (Donmez-Turan and Ozevren 2019). Regulatory changes have resulted in deregulation, causing pressure, with trade liberalization and overcapacity increasing commoditization and eroding operating margins in more and more industries and pushing for business model innovation (Bouwman and MacInness 2006). For example, the effect of deregulation on the airline industry in the United States enabled Southwest the opportunity to expand its low cost approach (Comes and Berniker 2008). In addition, regulations can effectively stimulate business model innovation and expand enterprise technology, thereby reducing the barriers to access of the market (Qiu 2019). Furthermore, Alt and

Zimmerman (2001) highlight that legal issues are an important component of the business model, because legal issues may influence the general vision, decisions on value creation systems and revenue models.

Besides trade liberalization due to deregulation, intellectual property (IP) management issues are driving business model innovation, with companies seeking to generate revenues from IP that it is not being used internally and buying IP from external partners (Wang, Jaring, and Wallin 2009). As such, strategic approaches to using IP need to be aligned with business model innovation for commercial success (Hernandez-Chea et al. 2020). In addition, IP is moving from only a protection mechanism to a tradable good; for example, the Deutsche Bank buys substantial IP mostly from universities and high-tech ventures (Gassmann, Enkel, and Chesbrough 2010). Consequently, Chesbrough and Brunswicker (2014) suggest that the practice of buying and selling innovations is becoming prevalent in large companies with customer co-creation, informal networking and university grants as the most common inbound practices, while outbound practices include joint ventures and selling market-ready product ideas to another company that eventually sells the products.

Organizational factors

The main internal organizational drivers for business model innovation are identified as both resources and growth aspirations. According to Bucherer, Eisert, and Gassmann (2012), resources that become costly or unnecessary represent a driver for business model innovation. Comes and Berniker (2008) add that underutilized resources or capabilities in terms of technology, human resources or manufacturing could drive business model innovation. As an example of the use of underutilized resources, American Federal Express courier services leveraged its large body of knowledge in repairing electronic devices that employees use to make deliveries to offer the repair of electronic devices directly to customers, creating a business model that capitalizes on existing capabilities and excess capacity to provide repair services on a global scale (Matzler, Vieder, and Kathan 2015).

In addition to resources, another of the key internal factors that is a driver for business model innovation is growth aspirations. Company growth aspirations, according to Morris, Schindehutte, and Allen (2005), are classified into four main categories, namely subsistence, income, growth or speculative. Subsistence growth aspiration companies seek to meet basic financial obligations and may not have a strong motivation to undertake business model innovation. The income, growth and speculative groups are most likely to pursue business model innovation to support their growth aspirations. This is mainly because income-generating companies invest to a point where the business generates a stable income for the owners, while growth-focused companies undertake initial investment and reinvest to grow the company, while speculative companies aim to demonstrate venture potential before selling out (Figure 1).

Methodology

Research paradigm, methodology and design

The study follows a pragmatist philosophy focusing on the relevance of problems and practices with the intention of solving problems and informing future practice with inquiries aiming to contribute practical solutions to inform practice (Saunders, Lewis, and Thornhill 2015). In a pragmatist worldview, knowledge is seen as being both constructed and based on the reality of the world we experience and live in (Johnson and Onwuegbuzie 2004) with knowledge acquired through a combination of interaction and reflection (Biesta 2010). As such, a pragmatic approach strives for a problem-solving approach that takes into account existing knowledge and experience in business model innovation both from theory and practice to fuel best practice in business model innovation.

Methodologically, pragmatism has no set of methodological requirements, but a consequential action knowledge framework to guide inquiry, allowing the researcher to select any method based on the method's appropriateness to the study (Green and Hall 2010). A qualitative research approach was used in this research study as, according to Feilzer (2010), pragmatism does not require a particular method or method mix, and does not exclude methods. Furthermore, typical research methods in pragmatism will include a range of methods such as qualitative, quantitative, action research and mixed methods, and will follow the research problem and question with an emphasis on practical solutions and outcomes (Saunders, Lewis, and Thornhill 2015). As a research design, a multiple case study strategy was selected as, according to Yin (2014), case studies could involve either a single case or multiple cases with multiple cases substantially increasing analytical benefits.

Study participants and data collection

In the research study, criterion sampling is used, where selection is based on certain criteria (Onwuegbuzie and



Figure 1: Business model innovation drivers.

Leech 2007). In particular, the criterion was a company that has previously undertaken business model innovation as identified from popular local media publications or from meetings between the researcher and innovation services consultants. The unit of analysis was a single company in which information was collected from executives involved in the design and implementation of business model innovation, and the sample case studies were selected based on having previously conducted business model innovation. In the case studies, the data was collected using unstructured interviews lasting between 45 and 90 min. An interview protocol was used as the basis for the interviews. A brief overview of the participant companies and why the companies were regarded as good fit for the research is illustrated in the table under the *company context* column (Table 2).

Data analysis

Thematic analysis was used according to the interpretivist tradition. The main themes have been derived from the concepts of theoretical framework presented in the literature review section, while sub-themes were observable through the manifestation of expressions in empirical data (Ryan and Bernard 2003). Therefore, a conceptual framework for the study was developed from the literature review after data was collected. In analyzing the collected data as an approach to ensure that the analysis is tightly

linked to data, an inductive approach was adopted with the codes and themes identified from the data. Thereafter, a deductive approach was embraced to map the themes identified from the data to the conceptual framework. Consequently, thematic analysis presents researchers with a systematic way of researching data that would otherwise seem vague, mystifying and challenging. Data can be analyzed and then be linked to a broader theoretical or conceptual framework (Braun and Clarke 2012).

Having inductively identified the codes and overarching theme, the themes were mapped to the conceptual framework. Codes were generated from data to ensure that theory is used to inform practice, and codes were mapped to the conceptual framework to ensure theory informed practice. In addition, the focus was not on an objective or subjective reality, but on solving a problem with business model innovation moving towards developing best practice on how companies manage business model innovation to compete in a changing environment. Furthermore, a reflective process was undertaken during the data collection process and theoretical sampling, triangulation and data saturation were used to ensure methodological coherence.

Results

Theme 1: Technological factors

Technological factors are a theme that is a concept in the theoretical underpinning. Technological advancement has

Table 2: Case study companies.

Company	Sector	Company context
Case study A: Digital marketing company	ICT	Identified as a viable case for examining business model innovation as the company was branded as one that values innovation and new thinking, according to information published online. In addition, the company is a leading digital marketing having won several awards and the company perceives itself as a trail blazer in the digital marketing space. Services provided include search Engine marketing, digital advertising, big website developments and training. The products include the content management systems, webcam, mail systems and CRM systems.
Case study B: Large ICT company	ICT	Large ICT company was identified as a viable case for examining business model innovation as the company is an ICT services provider that operates in a business-to-business environment and is branded as having a unique business model. Outsourced IT services and products for mission critical systems to some JSE-listed companies as well as public and private companies including companies in the mining sector.
Small ICT company	ICT	A consulting services, e-learning, and software systems provider to large enterprises in South Africa. Using the business model canvas to support customers to document business models and identify broad based economic empowerment (BEE) opportunities. The company utilizes the business model canvas to help customers to understand the BBEE impact on their business model. As such the company presents an opportunity for the researcher to examine how the company innovates the business model to compete effectively, as well as how the company supports customers to manage business model innovation to achieve BB-BBEE compliance.
Financial services provider A	Financial services	Financial services provider A presents a curious case is a subsidiary of a global group and is perceived to be unique, focusing on how people want to be serviced. A financial services provider that seeks to address customer frustrations while saving them money. Offering banking and insurance services.
Financial services provider B	Financial services	Financial services provider B presents opportunities to examine business model innovation in a company that operates in a niche market and a newly established is a renewable energy funding provider with an innovative product in a niche area that was not being served by the commercial banks, as the market is regarded as too small for commercial banks yet too big to be funded from developer's balance sheets.
Financial services provider C	Financial services	In a financial services sector where there is a high degree of concentration and interconnectedness with the top five banks, financial services provider C is one of the leaders in the market, providing both financial services and insurance services. In addition, the company is perceived as a first mover and disrupter in its market, a view supported by some of the executives in the competitor companies that participated in the study.

been identified as a driver for business model innovation (Teece 2010; Wirtz 2011; Casadesus-Masanell and Ricart 2010). In addition, Brinckman and Govender (2015) identify four key technologies that have converged to drive innovation, namely social networking, mobile computing, analytics and cloud computing. In a similar manner, the case studies identified technological advancement as a driver and examined how the four key technologies were driving business model innovation in the case studies. Christensen (1997) classifies technological advancement as either sustaining, which includes incremental and radical advancements that seek to enhance existing value proposition, or as disruptive by initially underperforming.

In the corpus of data, which was collected under Theme 1, the potential impact of disruptive technological advancement that drives business model innovation in the company is shown in the quotations below, even within the same company as reflected in the views from participants 2 and 3, who were from the same case study.

Participant 2: Disruption in all industries going forward is imminent. Just like Skype destroyed the telephone industry.

The opposing view was that:

Participant 3: Disruptive technological advancement is not likely as we operate in an area of large enterprise organizations that would not allow that level of disruption,

Participant 1: Just note on the disruptive side number one disruption is very it can be misleading the word disruption speaks to uncontrolled chaos disruption is if the economy suddenly blows up tomorrow there is going to be a lot of disruption in this country if this happens. Disruption very seldom actually happens it is a consequence of 30–40 years of all kinds of issues and ultimately it ended up in the disruptive sort of state.

Technological advancement was an even more intense driver for business model innovation in the provision of ICT services, as illustrated by this quote from another interview:

Participant 3: So generally because we are a service business we find out that we tend to follow the lead inventors in the IT industry so as an example most services are spin-offs from new inventions in terms of technology so you cannot create cloud services without the technology being an enabler to the creation of those services. So the changes to the operational process is based on how the technology has allowed that change to happen because we are a service business we are in support of technologies that are there and the take up or demand of those technologies.

While technology was a driver for business model innovation, it was highlighted that technology may pose risks, using as an example social media, as highlighted in the excerpt below:

Participant 9: So technology is absolutely empowering, it really is an enormous enabler of business model innovation across product process everything that we do. At the same time technology is also poses risks to the business you know then at the end of the day when you get something wrong you due to technology the risk is bigger too. Social media that type of thing, puts a massive spotlight in everything that you do and so it holds you to higher standards, it brings that spotlight

and microscope on every single piece of the business more so than it used to be in the past. So it pushes you harder at the same time.

Social media has been used in some cases to reinvent the channels that were used to acquire customers and build customer relationships, as indicated by the quote:

Participant 5: For us the key driver was technology and social media because like you know if you look at our business model our channels were primarily we used to do a lot of exhibitions marketing channels where we would do IPM exhibitions. We would do print media. We would do all the stuff and so eventually we would realise that those things were not impact full so now we are on linked-in so when someone starts phoning us we tell them we have a platform on Linked-in so that's how we connect with our market. So basically in terms of reinventing our business model it has been primarily around channels and customer relationships you know that is basically these two parts have changed quite a lot in that you know we connect to generate sales via LinkedIn.

In addition to social media, mobile technology was another technology that was perceived to drive business model innovation in the case studies:

Participant 5: I mean mobile – everything is mobile these days so we're trying to move in that direction ... mobile is core to everything we do. So we're giving a real -time feedback is we've seen dramatic impact on how that changes behaviour and drives behaviour. It enables you to track data on a whole new level; wearable devices as well as mobile so this whole trend towards wearables is very exciting and you know it gives us access to even more data.

Another technology that was regarded as a key driver for business model innovation in some case studies was data analytics:

Participant 8: Data analytics is what we are, we're as a company, from the top like right at the top. Data analytics plays a big part into your business model, it is everything. The cloud was perceived as an intense driver in ICT services, as illustrated by the following extract:

Participant 3: The big change in IT industry at the moment is cloud computing that has enabled the delivery of ICT services to be on demand, highly scalable and billable on demand basis

However, in the financial services provider, cloud computing is perceived as a moderate driver for business model innovation as highlighted in the next quote, as, while it is important in terms of providing efficiencies for the company, it is not necessarily a driver for business model innovation.

Participant 8: I'd say moderate in terms of big data, cloud computing does provide efficiencies and capabilities that is important but I wouldn't say it's important.

Theme 2: Market factors

Market factors in terms of customer needs are identified as driving business model innovation, as the changing customer needs are a result of the increased access to information and commoditization (Teece 2010; Johnson, Christensen, and Kagermann 2008; Chesbrough 2007) and the opportunities to serve the un-served customers (Johnson, Christensen, and Kagermann 2008). In the

sample case studies, the market factors driving business model innovation were competition, the need to serve un-served customers and changing customer needs. In the next paragraphs, I briefly discuss how each of these factors drives business model innovation, starting with competition.

Johnson, Christensen, and Kagermann (2008) identify the need to respond to intensifying competition, the shifting basis of competition and fending off low-end disruptors. Some of the sample companies were front runners in their market, but were still faced with fierce competition driving the companies to innovate their business models as shown by these extracts:

Participant 1: In our industry there are a lot of competitors but specifically if we are in the top six digital agencies. [as] the market is moving into a space where the top 15 agencies in this country are going to be equally strong in what they do.

Participant 4: Yeah I think we are ahead of the game but there is competition in the game and there is a constant battle of staying ahead and it is the battle of winning the customers over to your platform but there is definitely clear competition and we certainly pride ourselves as being a front runner in some of those areas.

Participant 2: I am talking about an era of hyper-competition, hyper-choice and hyper-connectivity. Mobile phones are giving us this hyper-connectivity; new business models the Google's are offering services that are creating hyper-competition. Hyper-competition is giving us what I call hyper-choice.

Participant 7: And with that has come quite a lot of competition and margins that these organizations have typically charged for lending have come down quite considerably as the competition has increased and so much so that we have found that the pricing is no longer financially viable... So we were effectively forced out of the market by the banks who were falling over themselves to do the debts, in my view, at sub-optimal margin.

Participant 1: In the technology space it is interesting because the China price that you refer to isn't necessarily original, it's more case of technological in nature. The China price is already there in the sense that there are cheaper ways. But there is big premium being put just on methodologically customizing your platforms and technologies as opposed to having a cookie cutter setup. There is a market out needs a customized attention

Participant 8: So if you look at our core businesses there's always that competition in the insurance space ... fierce competition in the life insurance space and in the financial services space

I mean competition is always fierce, it's a traditionally fierce industry, there's a lot of competitors. Mobile companies sell insurance, retailers sell insurance. So while it's not necessarily direct competition it still competes for a share of a wallet of the receivers; so it is shifting, I wouldn't say it's intensifying because it's always been intense but it definitely shifts and it's about staying ahead of the curve.

I guess you might say there are some shifts in terms of new entrants, a little bit more you know it's been dominated by intermediated distribution channels. Here's a growing direct distribution play which I guess is different and different players I think you know; many different types of companies are doing insurance now compared to how it used to be.

The 'China price' is indicated as one of the key reasons companies undertake business model innovation. In so

doing, companies move from commodity producing areas of an assembly and outsourcing crisis generators to specialist services and creativity-based products and services (Keen and Qureshi 2006). The presence of the 'China price' in outsourcing was not major, but rather an erosion from the Indian-based companies as reflected by the two extracts that follow:

Participant 3: The China price its outsourcing is not significant about so we supply South African people to run large South African company's systems and more than that we run South African companies that are based on the African continent but we run them we supply the bodies that run their IT services. So it doesn't really matter.

Participant 2: So margins are being eroded in a lot of cases the Indians are eroding the margins in the services model and the Chinese are eroding margins in the product model so the value add has to come over and above the products and services which means differentiation is the answer.

Having examined how competition is driving business model innovation, I will examine how changing customer needs are driving business model innovation. The intensity of the changing customer needs was shared as follows by one participant:

Participant 2: The intense drivers are the changing customer needs ... The business model is very much what is the problem you are looking at so biggest challenge today is addressing the client needs because of the Hyper choice it is the hyper choice but even with this hyper choice there are some problems in terms of addressing the customer's biggest problem and addressing the customer's biggest problem correctly.

Furthermore, there was a perceived relationship between the market factors in terms of the changing customer needs and technology. Changing customer needs and technological advancement are perceived to be inter-linked with competition as customers adopt new technologies, as illustrated by these quotations:

Participant 2: I am talking about an era of hyper-competition, hyper-choice and hyper-connectivity. Mobile phones are giving customers hyper-connectivity, the Googles are offering services that are creating hyper-competition and customers are faced with hyper-choice.

Participant 3: The changing customer needs are related directly to technology as the customer adopts technology, we will then provide services so it is an intense driver of business model innovation ... I think our models change based on changes in technology ... The changes to the operational processes are based on how technology has allowed the change to happen and because we are a service business we are in support of technologies that are there and the take-up and demand of those technologies

Theme 3: Regulatory factors

The importance of regulatory factors in driving business model innovation is highlighted in Bouwman and MacInness (2006), with Wang, Jaring, and Wallin (2009) suggesting that besides trade liberalization due to deregulation, IP issues are driving business model innovation with companies. In the case studies, however, IP management was not regarded as an intense driver, but rather

general compliance and legislation around POPI as discussed in the next paragraph.

The POPI Act that was passed on 27 November 2013 is expected to have an impact on the way information for multinational companies will be managed, as indicated by participant 3's quote:

I think it is going to change the way that South Africans treat information but what we have not recognized is that there are many other countries that have a similar kind of act in Europe and America has its own version as well so multinational companies like some of our customer that could centralize information I think it will become increasingly difficult and it will change the way that our business work we will keep the information for the South African operations here for Nigerian operations there for European operations there and how you aggregate it as a multinational group will have its own challenges.

Based on the discussion regulatory factors may drive business model innovation with regard to compliance requirements for example the POPI act will impact how information is stored and processed in ICT companies.

Theme 4: Organizational factors

Sosna, Trevinyo-Rodríguez, and Velamuri (2010) suggest that the business model innovation drivers were mostly external. In the current research study, the internal drivers were found to be meaningfully driving business model innovation and in some cases were found to be the key drivers for business model innovation, with their impact even more intense than external drivers. For example, in one of the cases, the main driver was existential crises as illustrated in participant 7's quote:

I mean we actually had no choice, if we hadn't it's a bit like newspapers you know, you can't just carry on just like a broadsheet if you don't have an electronic platform you'll never survive. Likewise, with us we had a product that very quickly became priced out of the market that was not competitive as a result and which no longer made us relevant. So at the risk of standing on the street corner with a cardboard sign giving handouts, we had to come up with a solution but that's the nature of our business, which considering is a relatively small business and it's an entrepreneurial business.

Another organizational factor perceived to be driving business model innovation across the case studies was the company's aspirations for growth. This is in line with the finding of Morris, Schindehutte, and Allen (2005) that companies that aim to generate income, grow or speculate business models are most likely to pursue business model innovation to support their growth aspirations. The sample companies in the research were aiming to grow and the growth aspirations were identified as being key to innovating the existing business models.

Leadership was identified as another internal organizational factor driving business model innovation as indicated by these extracts from different participants:

Participant 1: The leadership of the organization is that there are two aspects. We are all entrepreneurial, we have the desire of being in control of our own destiny and building this business that people can remark on and say these guys know something that is quite good. So

there is also a shared value specifically within the leadership and it filters down. And the shared value consists of sincerity being humble about what we do but having exceptional work ethic in terms the service you deliver and the quality of the work.

Participant 4: The magic happens within inside the people and the belief and the inspirational leadership inside the business model.

Participant 6: And I think the biggest problem today in strategy and specifically business models is that leadership what it comes down to is if you've got CEO's you are there to put out fires and get involved right at the end like to approve things. You don't get that sort of innovation coming out whereas if you have got a CEO who takes the lead on it, sets the direction is part of the process you end up with a different culture in an organization. ... There's a huge premium on leadership. Yeah, so it's an intense driver.

In addition to leadership, the quality of staff was perceived as an intense driver with the quality of staff being regarded as the key to business model success as the same business model may be implemented in different companies and yield different results based on the people driving the business model as illustrated in the quote below:

Participant 4: You can implement the same business model in two different companies and have completely different results. The magic happens within inside the people and the belief and the inspirational leadership inside the business model. A business model and the structure do not give you success, people give you success. So as long as your business model has the right people on the right seats and being measured correctly and being fed in terms of incentivizing you will have success.

A similar view regarding the importance of quality staff is illustrated in this extract:

Participant 1: And the second driving force is the staff. We always say we have this bus that we are driving and we need to get the right people on the bus sitting on the right seats on the bus. The driving force is our team without that we would not have a business model.

Discussion

Business model innovation or triggers may be subdivided into either external or internal (Sosna, Trevinyo-Rodríguez, and Velamuri 2010; Bucherer, Eisert, and Gassmann 2012) and such drivers may be divided into internal opportunities and threats or external opportunities and threats (Bucherer, Eisert, and Gassmann 2012). Existing literature (Teece 2010; Wirtz 2011; Casadesus-Masanell and Ricart 2010; Mahadevan 2004; Alt and Zimmerman 2001; Bouwman and MacInness 2006) on business model innovation drivers focuses on external drivers. However, there are some studies highlighting the importance of internal factors relating to growth aspirations (Morris, Schindehutte, and Allen 2005) and resources (Bucherer, Eisert, and Gassmann 2012). The empirical results highlight the importance of external factors such as market factors, regulatory factors and technological advancement and the internal organizational factors as drivers of business model innovation. As such, in facilitating an enabling environment for successful business model innovation within the NSI context, these business model innovation drivers would need to be taken into

account. Empirical results are in consensus with market factors relating to competition, changing customer needs and unserved customers as drivers for business model innovation. Moreover, fiscal policy deficiencies are identified as risk factors in innovation (Bartel and Koria 2014). The case studies point to the importance of fiscal policy on aspects relating to regulatory compliance, IP management, broad-based economic empowerment and protection of private information within business model innovation.

Internal factors in terms of organizational factors are perceived as one of the main drivers for business model innovation with the empirical results identifying the importance of both leadership and staff quality as echoing themes in the sample case studies regarding contribution to business model innovation success. Staff quality within a digital business model context may be linked to ICT skills that are perceived as one of the barriers to innovation (Bartel and Koria 2014). Inspirational leadership inside the business model is regarded to be key. Such entrepreneurial and inspirational leadership creates a culture that fosters innovation, while empowering each person in the business to add value. In addition, the leadership should create an environment that supports blue sky innovation and successfully integrates business functions and R&D functions. In conjunction with leadership,

staff quality emerged as a noteworthy driver with the view that the same business model may be implemented in different companies with different results. There is a need to have the ‘right’ people in the ‘right seats’ within the business models, which implies the importance of mapping the requisite skills and resources in business model innovation. This entails having the right kind of quality staff in the right positions, measured and incentivized correctly. In addition, such quality staff should be empowered to change things to address customers’ frustrations and must feel secure and not pressured to prove self, while non-performance is punishable. Furthermore, consideration needs to be given to ‘digital natives’ that need to be managed differently. The empirical results and, in addition, the empirical results identify the importance of both leadership and staff quality as echoing themes in the sample case studies regarding contribution to business model innovation success. Inspirational leadership inside the business model is regarded to be key. Such entrepreneurial and inspirational leadership creates a culture that fosters innovation, while empowering each person in the business to add value. In addition, the leadership should create an environment that supports blue sky innovation and successfully integrates business functions and R&D functions. The factors driving business model innovation are illustrated in Figure 2.

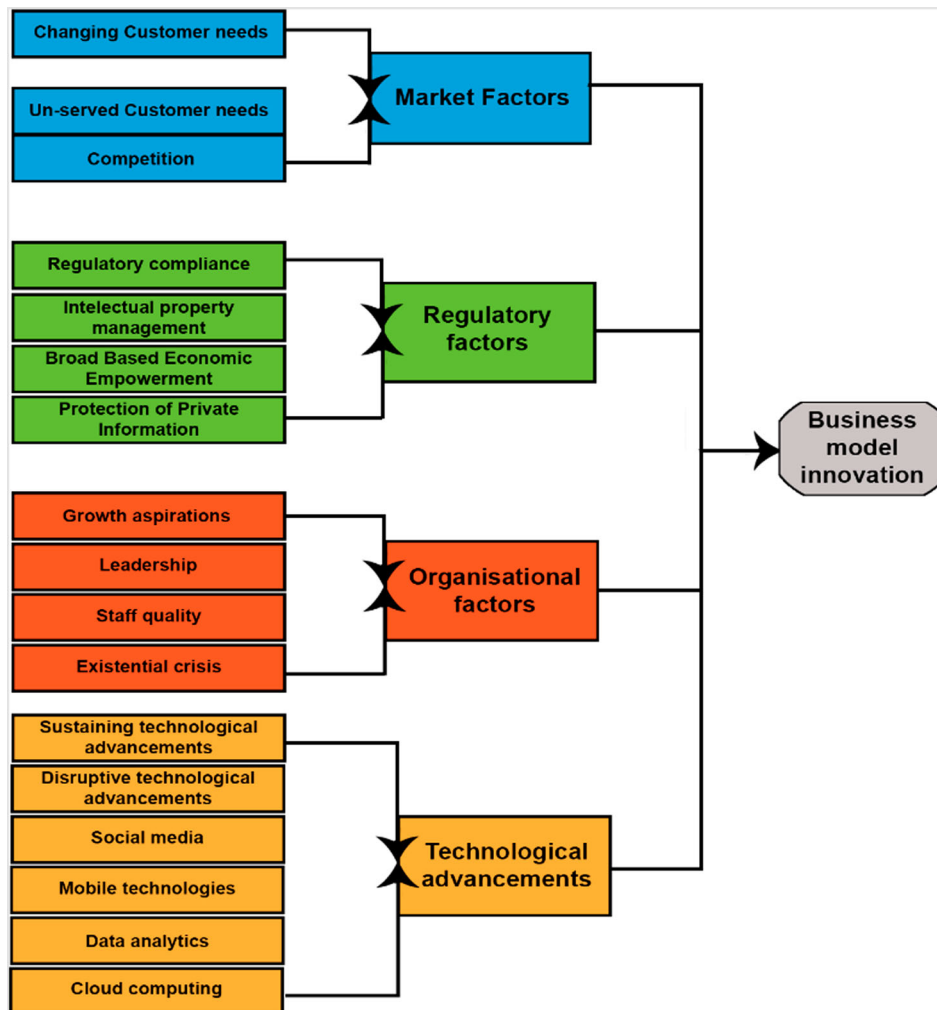


Figure 2: Factors driving business model innovation.

Conclusions and recommendations

Business model innovation in transforming economies remains a topic of vast importance to both researchers and practitioners and a growing area of research. The study contributes valuable lessons to practitioners in the area drawing from the literature and data collected from sample companies in South Africa. Future research could look at the relevance of these factors in driving business model innovation within other contexts as well as the interlink between these factors and the business model components that are innovated. Furthermore, policy formulation that seeks to facilitate innovation needs to take into account the contribution of these factors in supporting business model innovation success in companies as well as to the overall NSI context.

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