

IS SUSTAINABLE COMPETITIVE ADVANTAGE ANTEDILUVIAN?

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Abstract: *This article aims to understand the contemporary relevance of the sustainable competitive advantage (SCA) concept in strategic management. Mainstream management and business training perpetuates the use of SCA despite indications that it is elusive. This study intends to elucidate how, in the 4th Industrial Revolution (4IR) world, SCA has become irrelevant, what the possible reasons are for its continued use and what alternatives can be explored for business success. The study followed an exploratory, constructivist grounded theory approach. Data were obtained from 27 semi-structured interviews to develop a grounded theory. Findings revealed four main themes, and pronounce that in a complex, interconnected business world, SCA is mostly obsolete, which demands an organisation to adapt its strategy, business model and culture to create value, be relevant, have a significant (positive) impact and contribute to the common good. The main implication of the study is therefore that SCA should no longer be promoted as a key concept for organisational success by management and academia. Alternatives to SCA, such as agility and complexity management, are more relevant in an interconnected 4IR business environment. The study enhances the body of knowledge by bolstering the critique on the continued use of SCA in contemporary business management. It furthermore highlights potential erroneous assumptions through a direct explanation of why SCA assumptions are antiquated.*

Keywords: *strategy; sustainable competitive advantage; organisational change; disruptive change; 4IR.*

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Introduction

Mainstream management thinking purports sustainable competitive advantage (SCA) as essential for an organisation to attain long-term success in terms of competitive rivalry and longevity (Porter, 1985). However, it would appear that in the current disruptive and interconnected environment of the 4th Industrial Revolution (4IR), the sustainability of competitive advantage (CA) is being challenged (Lindskov et al., 2021). In the contemporary 4IR environment, CA seems transient (McGrath, 2013) and quite elusive instead of sustainable. Yet, organisations still doggedly pursue SCA, and universities and business schools still harp on the importance of establishing SCA in their educational offerings.

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Although challenges to the notion of SCA in management have gained traction in literature (McGrath, 2013; Lindskov et al., 2021), it is unclear why the SCA concept is being perpetuated despite indications of its elusiveness. This apparent knowledge gap prevents academics and business practitioners from exploring and capitalising on alternatives to SCA in their pursuit of business success and organisational performance. To address the knowledge gap and contribute to the body of knowledge on alternatives to SCA, this study used an interpretive lens employing qualitative methods, more specifically constructivist grounded theory. To this end, data were obtained from 27 semi-structured interviews with purposively selected executives and senior management academics.

This paper commences by stating the rationale for the study, followed by the literature study pertaining to the concept of SCA in the context of the contemporary 4IR environment. The methodology employed in the study is then presented, followed by the findings and accompanying recommendations.

Rationale for the study

From the introductory comments, it can be concluded that in the current interconnected 4IR business environment, a CA is not sustainable but rather transient. Despite evidence that SCA is illusive, organisations relentlessly pursue it, and higher education institutions keep on teaching it. This dogged pursuit of SCA prevents managers and academics from exploring and capitalising on alternatives that greatly contribute to organisational success.

Considering the problem statement above, the following research question is posed: What is the impact of the exponentially interconnected world on the concept of sustainable competitive advantage and the consequent organisational business model?

From this problem statement and research question, the following primary objective for this study is forthcoming: To gauge whether the notion of sustainable competitive advantage is still considered relevant in an exponentially interconnected world of business.

Review of Relevant Literature

Critique of the SCA concept relies on an exploration of its definition and underlying assumptions, which is the starting point of the literature review. The discussion then turns to how the 4IR has changed SCA and concludes with possible reasons for its continued use by academia and business.

The (non) definition of sustainable competitive advantage

The ‘sustainability’ portion of competitive advantage (CA) was first introduced by Day (1984) who proposed superior skills and resources as strategies that may help to sustain the CA. Although Porter (1985) is universally accepted as the authority on SCA, he did not define the concept but only described how to achieve it through a barrier that prevents either competitor

behaviour or industry evolution to diminish its longevity. The lack of an explicit definition of SCA, according to Coyne (1986), is because the meaning is superficially self-evident. He, nevertheless, contributes to the SCA definition by describing it as the durability of product differentiation, as well as the inability of competitors' capabilities to deliver this differentiation. Barney (1991) asserts that the attributes resources must have to be a CA are valuable and rare. To 'sustain' this CA, two additional attributes are needed, namely imperfectly imitable (difficult to imitate by competitors), and non-substitutable. He added that organisations must have the ability to exploit valuable, rare and imperfect imitable resources to obtain a SCA. He continues to attempt a formal definition for SCA:

A firm is said to have a sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitor and when these other firms are unable to duplicate the benefits of this strategy. (p.101)

This definition was expanded by Hoffman (2000) to include a longer time period to be sustainable, described as a "*prolonged benefit*" (p.6). It follows from the above definitions that two interconnected assumptions differentiate SCA from CA:

- barriers to competitive duplication
- an extended period of time.

Consistent with the authors on CA, writers on SCA continued to define this latter concept in terms of performance (Hill et al., 2015) and its sources (Maury, 2018) without expanding on the definitions advanced by Barney and Hoffman. This lack of a proper definition for SCA creates problems in strategic management, such as an inability to operationalise it or critique its use (Sigalas & Pekka Economou, 2013). This scholarly impediment is extended to practical applications, as managers are unable to define SCA objectively (Botes & Pretorius, 2020; Sigalas, 2015) but continue to describe and use it as a core tenet of strategic management.

Although there is no authoritative definition for SCA, there are some commonly recognised assumptions relating to it. By exploring SCA, it was noted that there are *three* major assumptions relating to SCA, namely stability, imperfect imitability, and imperfect mobility.

Stability implies limited competition, as dynamic competitors will find ways to counter an industry leader's CA (D'Aveni et al., 2010). The uniqueness of resources and the difficulty of competitors to imitate or substitute it, is called *imperfect imitability* (Costa et al., 2013). *Imperfect mobility* means resources are tradeable but are more valuable within the current business organisation and are specialised to the organisation's needs (Davis & McCarthy-Byrne, 2022). These assumptions are now under pressure from disruptive changes, and especially the 4IR. If there are changes to the SCA assumptions, it follows that SCA itself will be impacted.

Fourth industrial revolution and sustainable competitive advantage

New developments and technologies of the 4IR leverage the power of information technology and digitisation (Schwab, 2017). Digital technologies allow organisations to digitalise, which is the process of moving to a digital business. Digitisation (converting from analogue to digital processes) significantly reduces the cost of doing business, lowers the barriers-to-entry, and disperses industry boundaries (Coskun-Setirek & Tanrikulu, 2021; Sousa & Roucha, 2019). Liquid and transparent marketplaces are created (Achrol & Kotler, 2022), and bargaining power is shifted to the end-customer because of transparency and lower switching costs (Paulus-Rohmer et al., 2016). The consequence is an increase in competitors and customer-defection, who challenge the stability assumption of SCA.

Digitisation destroys sources of differentiation (Ferreira et al., 2019) and easily creates substitutes (Knudsen et al., 2021) which eliminates the assumption of imperfect imitability. Digitisation is a core facilitator of the business ecosystem, which provides abundant resources that companies do not have to own, but provide exponential growth (Ismail et al., 2023). New value propositions through the sharing economy, grant access to assets and products rather than ownership (Ritter & Schanz, 2019) and enable mobility of resources. Resources are now tradeable, which weakens the assumption of imperfect mobility.

Continued use of sustainable competitive advantage

The decline in the relevance of the underlying assumptions of SCA as highlighted above, and by extension the concept itself, has not translated to management practice as yet. The reasons for this are unclear and have not yet been explicitly addressed in literature. The authors, therefore, inferred the logic of the continued use of SCA by reviewing the literature on management training, management practices and business culture.

Management training focusses on theories of business strategy that explain the choices and approaches of organisations for obtaining a competitive position (Keig & Brouthers, 2013). The approach to current training supports classical theories with assumptions that the world is predictable, competition is stable, and CA is sustainable (Reeves et al., 2015). Current management training develops what Örtenblad et al. (2013) call replacers, managers that are narrow-minded, profit-centred and focussed on maintaining the current business practices and approaches, such as SCA.

Management practices focus on how management is socially and procedurally performed daily with specific reference to planning, development and implementation (Asmuß, 2018). Most of the 'tools' to perform these practices were developed with the assumption of a stable environment where SCA is gained through size, differentiation and capabilities. Although the business world has undergone significant changes since 2000, limited new strategy frameworks have been introduced to deal with these developments (Ghemawat, 2016). Only three strategy frameworks, which have some applicability in the 4IR environment, have

been developed since 2010: adaptive advantage (Reeves & Deimler, 2011), business model innovation (Lindgardt et al., 2013) and transient advantage (McGrath, 2013). The vacuum created by the dearth of appropriate tools for the 4IR, results in managers reverting to what they have been taught and what is available for use, which includes SCA as the measure of organisational success.

Business culture supports the concept of managerialism, which is the systematic rise of the management group that deprives owners and employees of decision-making powers (Shatil, 2020). According to Eagleton-Pierce & Knafo (2020), managerialism leads to the acceptance of its ideas without explanation and interrogation because it is seen as ‘common sense’. Klikauer (2015) uses CA as a specific example of an incidence in which an idea is used as a ‘catch-all umbrella’ to shift management thinking into a specific direction without questioning it. This is tantamount to SCA being elevated to ideology in organisations when tested against the five criteria of an ideology (Shrivastava, 1986):

- *Naturalisation of the status quo*: Change is resisted to maintain the dominant structures and order.
- *Factual underdetermination of action norms*: SCA is difficult to test but accepted as truth (Botes & Pretorius, 2020).
- *Denial of contradictions and conflict*: SCA is offered as a proxy for stability despite all indications that it is not relevant in a volatile changing world.
- *Universalising sectional interests*: Decisions about SCA are centred in top management, in line with Sison’s (2018) view that little input is obtained from other stakeholders.
- *Normative idealisation of goals*: The normative idealisation of the profitability outcome of SCA ignores the broader impact and consequences of relentlessly pursuing it, which has led to various business scandals.

Mapping SCA against the five criteria for an ideology reveals that it fits the application. Therefore, strategy as an ideology can be seen as one of the reasons why SCA is still being pursued by organisations despite its diminished relevance.

The literature review revealed that there is not one universally accepted definition for SCA but there are three generally accepted assumptions: stability, imperfect imitability and imperfect mobility. These assumptions and therefore, the SCA concept, are under pressure from the 4IR driven by digitisation. Despite all indications that SCA is questionable it is still taught and practiced. The reasons for this are unclear but might include management training focussing on obtaining a SCA, management practices relying on outdated and limited frameworks and a business culture that supports SCA as part of an ideology and managerialism.

Research Design and Methods

This study forms part of the PhD study embarked on by the first author of this paper and should be viewed in this context. The second author was not only the promotor of the PhD, but also an active co-author. The overarching study subscribes to the ‘science of understanding’ which underpins interpretivism. The science of understanding adheres to multiple realities, through which the world is seen as contextual, and new interpretations and underlying meanings are pursued (Goldman, 2016). The subject of the study, the relevance of SCA in the 4IR world, is relatively new and is therefore, well suited to an inductive approach and exploratory design, where theory is generated through data patterns (Saunders et al., 2019). In line with the chosen interpretivist paradigm, the study employed qualitative research methods where meaning was derived from the words (as transcribed) and not from numbers. Furthermore, the constructivist grounded theory method was used in this study, as it seems to be more flexible than some of the more rigid analytical approaches. (Charmaz & Thornberg, 2021). In addition, it allows for an appraisal of the literature and the crystallisation of a research question from the literature before research commences, in contrast to some more restrictive approaches to grounded theory (Corbin & Strauss, 2008).

In the context of this study, when trying to understand the relevance of SCA in the contemporary business environment, the insights of those who actively play a role in strategy formulation in organisations, as well as the insights of those who shape management education at higher education institutions, were essential in reaching meaningful conclusions. Using purposive sampling, these insights were obtained through semi-structured interviews (Reissner & Whittle, 2022) with 18 senior level managers and nine senior academics, thus 27 research respondents. Each of the 27 research respondents have more than 10 years’ work experience in their respective industries. In line with the grounded theory as a design choice, data were collected using theoretical sampling. Theoretical sampling continuously adds to the sample based on core themes emerging until theoretical saturation is reached (Chun Tie et al., 2019). Although data saturation was reached before the 27th interview, it was decided to interview all 27 research respondents to boost the credibility of the findings.

Interviews became more structured over time to explore emergent issues in more detail. Transcripts of the interviews, field notes and reflective memos written after each interview, were subjected to analysis to gain insight to each participant’s view and their relationship to the emerging collective view. Analysis of the data was conducted using a coding framework designed by Charmaz (2014). This coding framework consists of two phases, namely *initial* and *focussed* coding, which culminates in the development of a grounded theory. *Initial coding* involves disaggregation and labelling of data into conceptual units. An iterative process leads to a multitude of code labels, which are compared and grouped into broader categories. During *focussed coding*, initial categories are reanalysed and categorised into larger units. These

focussed categories are compared across interviews and core themes and relationships are developed into a theory.

Ethical Considerations

Full ethical clearance for the PhD study was obtained from the College of Business and Economics on 10 May 2021, (ethics clearance number: 21SOM25). Informed, written consent was obtained from each research participant involved in the study. Since humans were involved in this study, all procedures performed during the data collection phase of the study were in line with the ethical standards of the College of Business and Economics Research Ethics Committee of the University of Johannesburg, and the 1964 Helsinki Declaration, or comparable ethical standards.

Findings From the Study

During the coding process of the PhD study, 1420 code labels emerged. These were reduced to 298 during the first phase of focussed coding. Through further focussed coding, these codes were re-analysed and categorised into 22 groups, which finally crystallised into eight theoretical categories. Four themes emerged from these theoretical categories:

1. *No single uniformed understanding of the SCA concept*: There is an abundance of interpretations and varied understanding of the meaning and definition of SCA among business executives and senior management academics.
2. *SCA is mostly obsolete*: SCA as a core concept of strategy is mostly obsolete in the contemporary environment, as disruptive change has impacted its underlying assumptions.
3. *SCA is still pursued for various reasons*: Although SCA is seen as mostly obsolete, it is still pursued by organisations.
4. *Reaching beyond SCA*: Because SCA is mostly obsolete, it is necessary to explore alternative ways of outsmarting competitive rivals. Consideration should be given to disciplines beyond business management to achieve this.

One core category/theme emerged from all the data: 'A contemporary strategy framework rooted in complexity theory is needed to fill the SCA vacuum'. This core category formed the basis of the essential narrative presented in the PhD study.

In line with the interpretivist ontology of multiple understandings and meanings, interviews commenced with participants being asked to describe their understanding of SCA and its meaning for organisations, which resulted in Theme 1: No single uniformed understanding of the SCA concept. These views gave context to participants' thoughts about the contemporary relevance of SCA in strategic management resulting in Theme 2: SCA is mostly obsolete. This paper focusses on this second theme because it forms the foundation for Themes 3 and 4. Only after understanding the relevance of SCA can sense be made of the

reasons for its continued use (Theme 3), as well as exploring the need for alternatives to replace SCA (Theme 4). Excerpts from interviews are used as supporting evidence. More evidence is available upon request from the authors.

SCA is mostly obsolete emerged from exploring the research question regarding the impact of the exponentially interconnected world on the SCA concept and on the organisation's business model. Participants opined that disruptive change creates effects far beyond the organisation's business model, including strategy, culture and skills which, in turn, impact the underlying assumptions of the SCA concept. These relational connections (Figure 1) are explained in the subsequent sections.

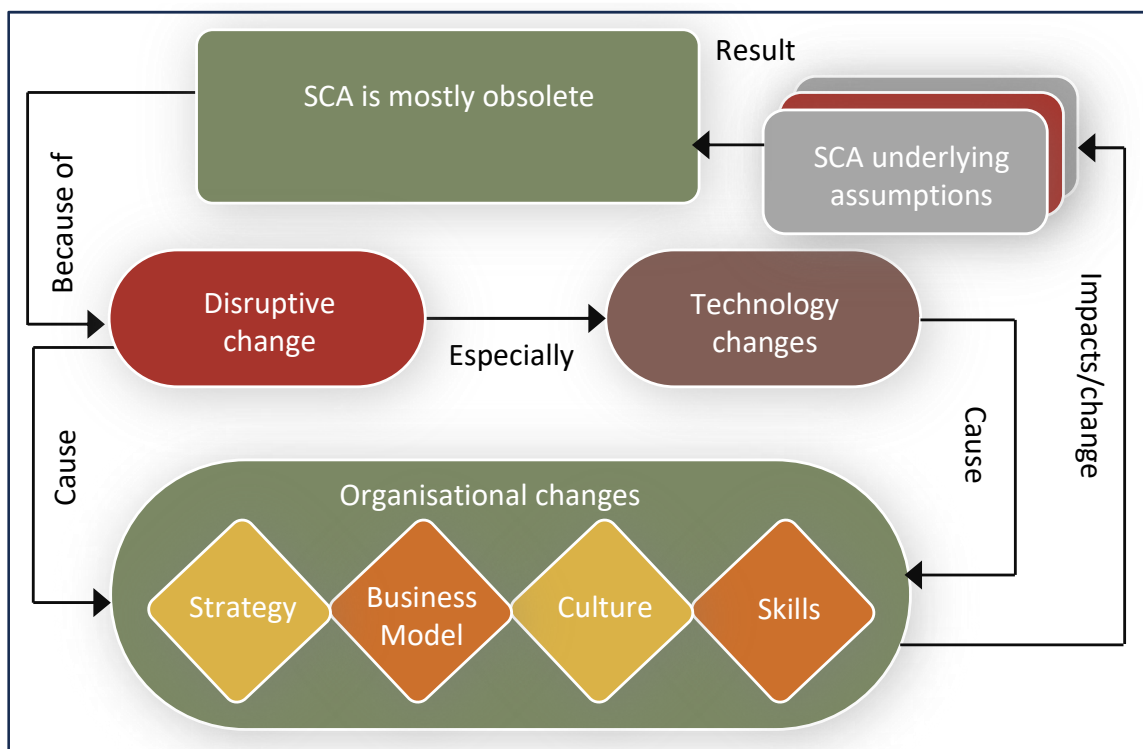


Figure 1. Relationships of key findings of the theme: SCA is mostly obsolete

Source: Researcher's own design

For purposes of the discussion in this paper, each of the relationships will be presented as a theme, starting with SCA is mostly obsolete, followed by disruptive change that diminished the relevance of SCA. The resultant organisational changes questioning the SCA assumptions are discussed as the final theme.

Theme 1: SCA is mostly obsolete

The views of participants on the contemporary relevance of SCA were grouped into three major sub-themes: SCA is not relevant, SCA has qualified relevance and SCA is still

relevant. There were no discernible differences in views observed between industry participants and academics.

Sub-theme 1: SCA is not relevant

The majority of participants strongly indicated that SCA as a concept in strategy and business management is no longer relevant. Most participants were very emphatic in their assertions, as seen from the quotes (Figure 2). Some of the participants who do not think SCA is still relevant, started to touch on the reasons for their assertion, highlighting the short timeframe of any advantage in the dynamic interconnected world. As such, they concur with the research findings pertaining to high-velocity markets in which organisations are in constant change and processes are less structured with high reliance on new and situational information (Li et al., 2019). Hyper-competition makes it difficult to sustain a CA owing to rapid innovation and shortened product life cycles and, as such, competitive advantages are temporary (Lindskov et al., 2021).

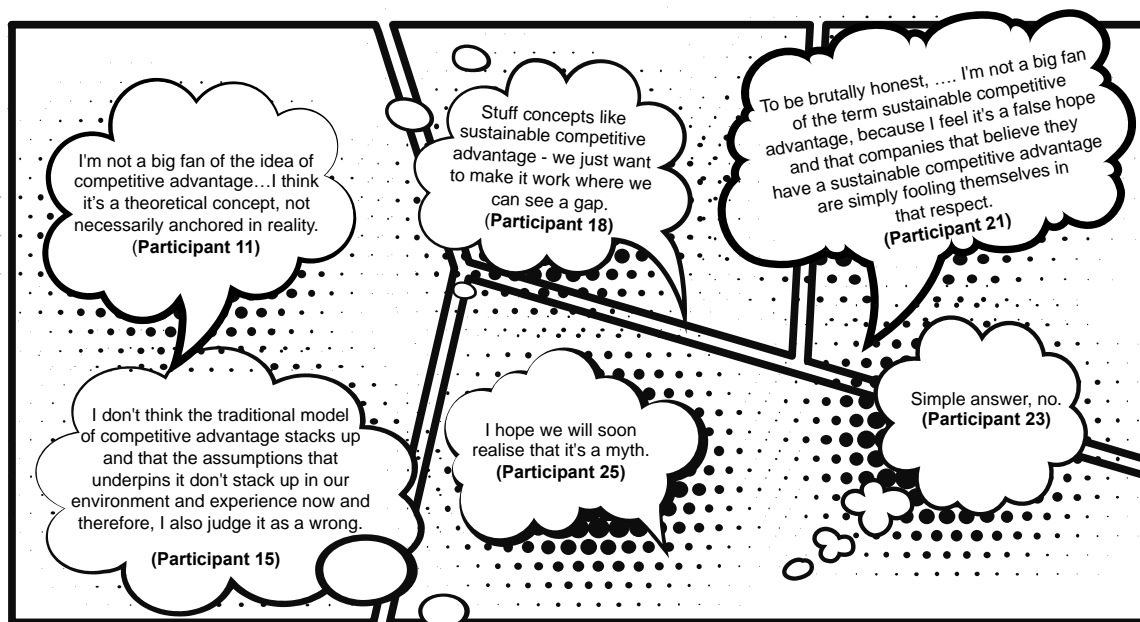


Figure 2. SCA is not relevant in contemporary business management

Source: Participants' quotes

Sub-theme 2: SCA has qualified relevance

Notable among those participants who initially stated that SCA is still relevant, was that they almost immediately qualified this comment by questioning the generally accepted underlying assumptions of SCA, being stability, imperfect imitability and imperfect mobility. Participants might have just accepted the relevance of SCA without questioning it and as the discussion progressed, they modified their original position (Figure 3).

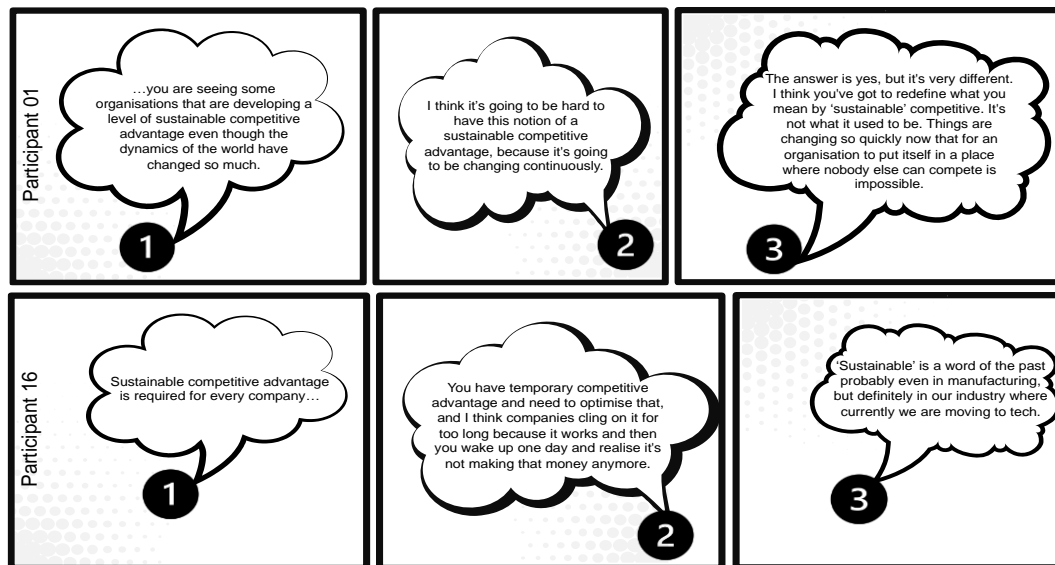


Figure 3. The relevance of SCA evolved during conversations

Source: Participants' quotes

Sub-theme 3: SCA is still relevant is a minority view

The minority of participants were of the opinion that SCA is still relevant because without it a business will cease to exist, it will not make profits and will become irrelevant. It was noted that there is no real alternative to SCA and therefore, it is still relevant (Table 1).

Table 1. Minority views on the relevance of SCA

Participant #	Quote to support SCA relevance	Reason for endorsing SCA
02	"Yes, I think it is... sustainability for me is linked to continuously enhancing and improving, the products and the services and the systems and the digitalisation that goes with those things that you are offering."	Continue to evolve as a business.
07	"Oh, it's the only relevant thing... If you're not building a sustainable competitive advantage of some sort, you're going to be out of business, quite frankly."	Creating value to stay in business.
10	"The other part about sustainability, I think, is continuing to be relevant...So, the other reason of sustainability is being relevant to the current products and services and at the same time find the right pathway to get through that which we were always doing."	Stay relevant in the market.
14	"I think it's very relevant. So, sustainability is asking: Am I relevant to the marketplace and have I morphed my capabilities to continue to make a profit?"	Making profits.
19	"I reflected on: Is it really still applicable? And for me, it's a resounding yes. But the question is, if not a competitive advantage, what then? If we don't have that, what do we have to sustain the business, because our organisation cannot just function on year-to-year performance, there must be something that will take them over the long term in the future and take care of the stakeholders."	No real alternative.

Source: Analysis of participants' quotes

Theme 2: Disruptive change has diminished the relevance of SCA

Disruptive change is relational to the relevance of SCA because it results in organisational changes that impact the underlying assumptions of SCA. Disruption is defined by Kivimaa et al. (2021) as:

... a high-intensity effect in the structure of the sociotechnical system(s), demonstrated as long-term change in more than one dimension or element, unlocking the stability and operation of incumbent technology and infrastructure, markets and business models, regulations and policy, actors, networks, and ownership structures, and/or practices, behaviour, and cultural models. (p.119)

Given the timing of the research, the COVID-19 pandemic was only superseded by technology as a category of disruptive change. The findings on disruptive change are grouped into three sub-themes:

- technology
- social (socio-economic, socio-political, consumer power, government actions, culture)
- environmental (Covid, ecological environment).

Sub-theme 1: Technology is the pre-eminent disruptive change for SCA

Participants explained the disruptive force of technology in general. Almost all then continued to provide examples of specific impacts of 4IR technologies (Figure 4):

- 3D printing as a form of additive manufacturing in contrast with conventional manufacturing which is subtractive (Jadhav & Jadhav, 2022). “You would make a mould and do injection moulding and you can go from concept to prototype in a 3D environment, increasing speed to market.” (Participant 14).
- Cloud computing as a system that is scalable and accessible anywhere and provides, as needed, access to technology services and resources. ”I think the one biggest thing that disrupted the world over the last decade, is the fact that you must be cloud based.” (Participant 09).
- Artificial intelligence (AI) that can perform tasks, which are usually within the human intelligence sphere, such as visual perception, speech recognition and language translation. “AI just makes everything far easier to manage... AI then frees up the people to think of new ways of doing things differently that can then be automated.” (Participant 02).

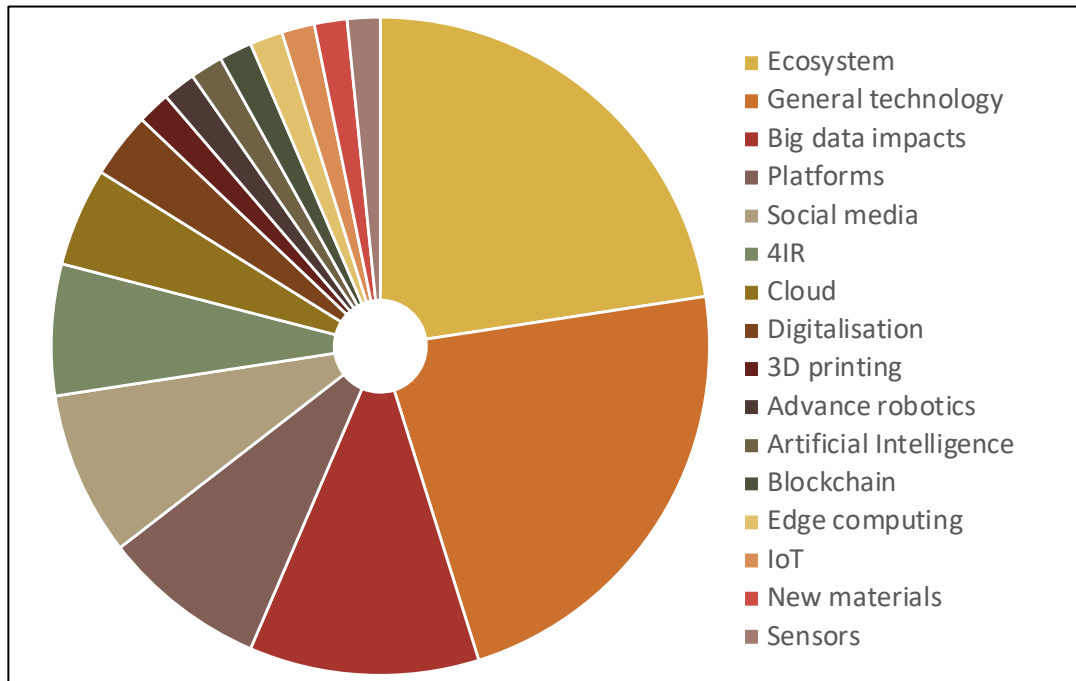


Figure 4. Examples of technologies causing disruptive change

Source: Analysis of the participants' interviews

Ecosystems created by platforms received special mention as a primary driver of the digital economy (Figure 5).

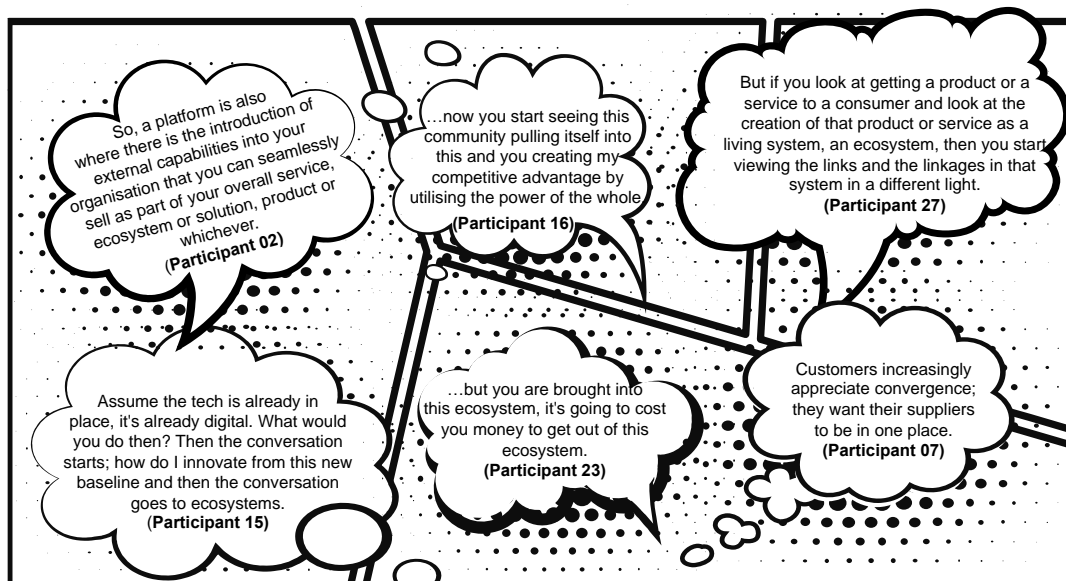


Figure 5. Platforms and ecosystems are drivers of disruptive change

Source: Participants' quotes

Digitisation allows for the creation of digital platforms, which replace the traditional seller-buyer relationship and are linked to various partners that work cooperatively to deliver value. The modular structure of digital platforms allows for a recombination of new services into ecosystems (De Reuver et al., 2018). This ecosystem creation was touted as a major technology disruptor. Organisations should now be viewed as part of an ecosystem that crosses industry boundaries and is no longer a member of a single industry.

Sub-theme 2: Social drivers of disruptive change

Social drivers, as the interaction among social, economic and political factors, are arranged into three clusters: changes in consumer power, changes in the nature of work, and changes in how one does business, as represented by born global businesses.

Consumer power is increased over time as a result of the sophistication of digital interactions (Labrecque et al., 2013). This increase in consumer power is seen as a driver of disruptive change, which shifts the focus of any SCA from an internal organisational view (which is controllable) to an external consumer (which is less controllable). "I therefore think the sustainable competitive advantage is moving away from the organisation into the hands of the market, the consumer." (Participant 01).

The nature of work has changed since the strong move from the manufacturing economy to the service economy over the last few decades. The gig-economy deals with service delivery through consumer-to-consumer interaction and includes purchasing personal services (Frenken & Schor, 2017). The gig-economy changed the nature of work, allowing for flexibility, work-life balance, and part-time work during adverse conditions, such as the COVID-19 pandemic. "This concept of gig-economy, hustlers are becoming more common...which is a concept that scares people who want stability." (Participant 13).

The emergence of born global organisations causes a shift in how business is done by moving the focus from the larger multi-national firms to newer, smaller organisations (Hennart et al., 2021). Born global means organisations serve clients worldwide, compete or create global markets from the start, focus on growth potential and respond at speed to global demands. "It's interesting that globalisation, at times in our industry is a market force that opens the door for us because data sovereignty requirements are opening the door for us to deploy our solutions in country." (Participant 17).

Sub-theme 3: Environmental drivers of disruptive change

Climate change has been identified as one of the central sources for zoonotic diseases, being diseases that spill over from animals to humans, such as COVID-19 (Nath et al., 2021), which was a major concern for most participants, with numerous mentions of it being a disruptive force. "I think what the pandemic did for us was to amplify those disruptive changes that were happening anyway, but we were ignoring because we were just running in the hamster wheel." (Participant 18).

Theme 3: Organisational changes are a consequence of disruptive change

The impact experienced by business is pervasive, and almost in equal measures on strategy, business model and culture.

Sub-theme 1: Strategy changes impact SCA

Digitalisation, as a driver for disruptive change, modifies the strategic context, reshapes competition and the implementation of strategies through which organisations traditionally created a SCA. Participants expressed changes in the strategic context of organisations in three clusters: markets, competition and products or services.

Markets are impacted by increased ambiguity because of fast and fluid cycles and changing customer expectations. Higher levels of transparency allow for increased consumer power impacting market structures. The competitive landscape is in perpetual motion with boundaries being lowered and blurred. "...business models and business lines are also becoming a lot more merged, so you can't say, I'm a bank, and that's all I'm going to be. Lines are becoming a lot more blurred; industries are crossing into other industries. If you look at how most mobile operators are disrupting banking, as well as insurance operators." (Participant 13).

The increased competition and changing customer-power diminishes the SCA assumption of stability. Digitalisation has allowed for the development of new products that blur product boundaries (Koch & Windsperger, 2017) and erode imperfect imitability as a SCA assumption. This is best explained by Participant 14 describing the evolution of a civil engineering business (Figure 6):

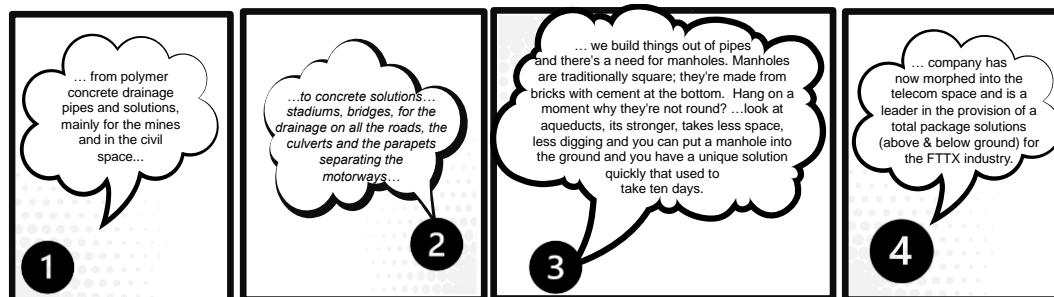


Figure 6. Example of the evolution of new products

Source: Adapted from Participant 14's description of new products

Sub-theme 2: Business model changes impact SCA

Changes were identified across all the elements of the business model (Figure 7), with changes in the value proposition highlighted.

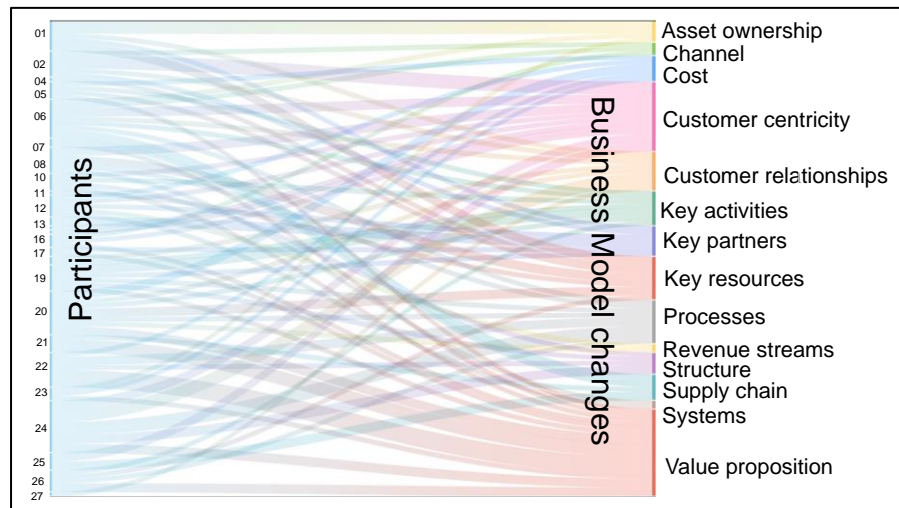


Figure 7. Impact of disruptive change on business models

Source: Researcher's analysis of the participants' interviews

Traditionally, value was added to products by increasing the product features, a practice that was seen as adding quality that could demand a higher price. Through digitisation a product's nature changes into separate components with an independent value, which can then be used in different combinations because the product boundary is no longer fixed. Value in the digital environment is co-created by multiple stakeholders. This permits increased innovation and value propositions to change from products to services, and provide customisation (Prem, 2015).

The relationships organisations have with their customers have changed significantly because of the shift in consumer-power. By using AI, big data and customer analytics enables greater customer segmentation sophistication. This is achieved by using real-time data available from a range of digital touchpoints which establish complex customer patterns (Ballestar, 2021). Collecting and analysing these different forms of data, achieves a better understanding of consumer behaviour, and makes better segmentation possible (Lo & Campos, 2018). As digitalisation increases, it enhances the opportunities for interaction with customers. Participant 09 described the change in relationships from directional to multifaceted and even the co-creation of the marketing of content-evolution (Figure 8):

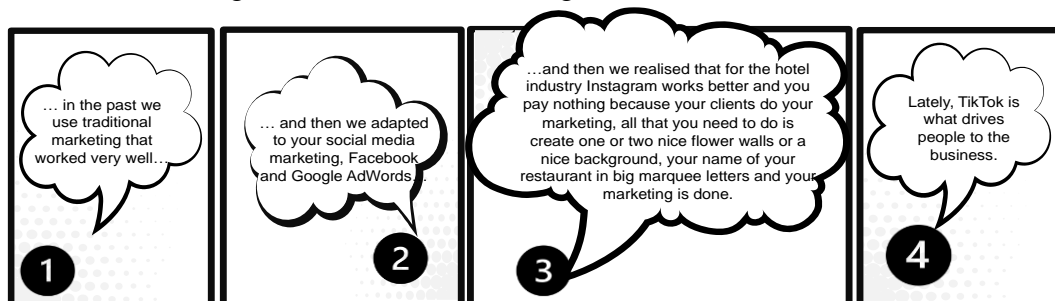


Figure 8. Co-creation as a result of disruptive change

Source: Adapted from Participant 09's description

Channel integration has broken down the silos between online and offline channels, allowing consumers the flexibility to select providers with configurations that match their preferences (Trenz et al., 2020). All these channels are worthless if not properly enabled by processes and people. Digitisation facilitates highly automated processes that increase speed, efficiency and flexibility. A major impact of digitalisation is the disintermediation of the value chain, through which customers can be directly reached without intermediaries (Wirtz, 2019). Participant 11 described how customers use their products on a pay-as-you-go basis without signing up for premiums through an intermediary. Participants also confirmed that to deliver to their customers their organisations are subscribing to a broader partner concept (Figure 9).

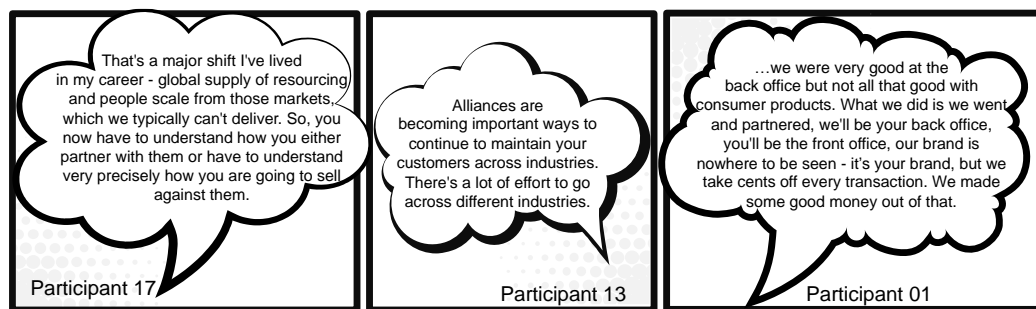


Figure 9. Impact of disruptive change on key partnerships

Source: Participants' quotes from the interviews

To maximise digital technologies, investment in human resources with the correct technical and digital skills is required. The participants shared their practical experience of highly sought-after skills (Figure 10). Most agree that a combination of both technical and soft skills is needed to manage disruptive change.

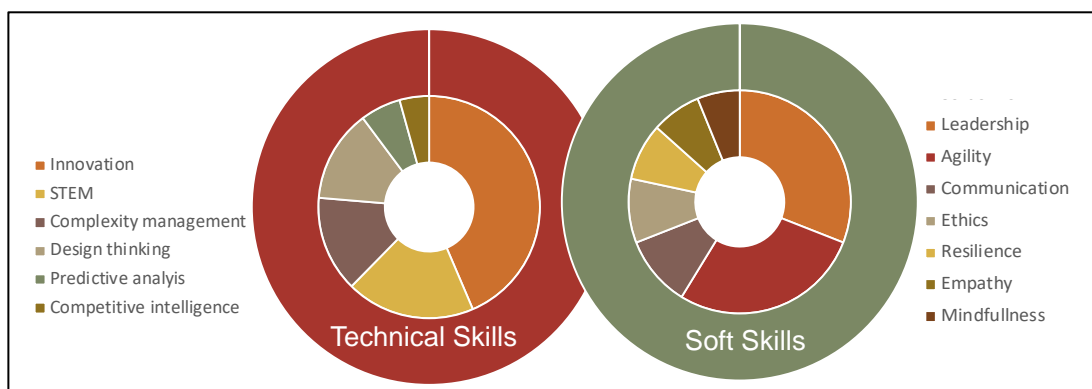


Figure 10. Skills required in the disruptive, interconnected business environment

Source: Researcher's analysis of the participants' views on skills required

These changes to the business model increase the mobility of resources, expand alternative substitutes and diminish the uniqueness of a SCA.

Sub-theme 3: Culture changes impact SCA

Culture is the combination of artifacts, attributes, values, beliefs, norms, standards, and practices in an organisation (Martínez-Caro et al., 2020). The study's findings on the impact of culture, are closely linked to the new skills identified by the participants needed in a disruptive 4IR world (Figure 10). Agility means a quick response to business disruptions, as well as opportunities connected to continuous learning (Ulrich & Yeung, 2019). The move to ecosystems demands more communication, collaboration, trust and transparency (Figure 11). Collaboration, as a joint effort to achieve a common goal, requires significant interdependence in the design of work efforts and a focus on achieving value through the synergy of diverse talents found in teams (Castañer & Oliveira, 2020).

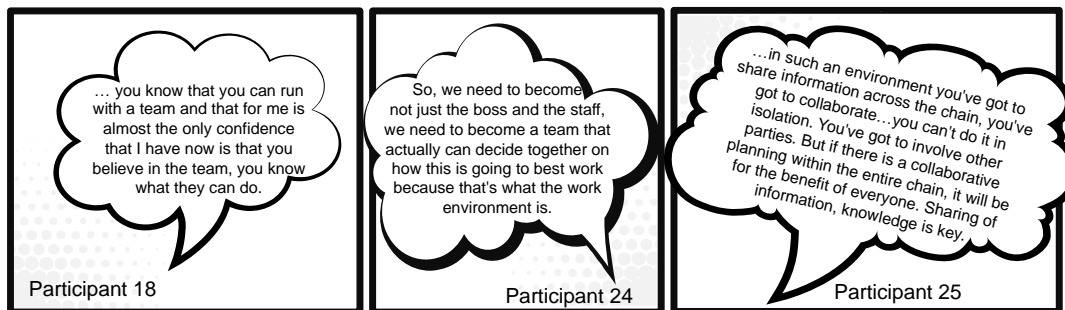


Figure 11. Ecosystems demand collaboration, trust and transparency

Source: Participants' quotes from the interviews

There is little appreciation for central control because work is more fluid and organised around 'jobs to be done' and not people. Competency is valued above authority and a culture of autonomy and mastery is becoming more prevalent. Working globally and in diverse cultures necessitates culture intelligence, which is the understanding of different cultures and adjusting to such norms based on this knowledge:

We do work multi-nationally so cultural intelligence...we've had the same people on EQ training that helps with the development of cultural intelligence and being more empathetic and understanding of different cultures... Embracing of cultural differences to deliver globally was one of the biggest changes that I've seen. (Participant 17).

It was highlighted by the participants that if the culture changes are not accommodated in organisations, one will see more of the 'big resignation' phenomenon that started during the COVID-19 pandemic:

In terms of people, I think that's why you have the 'big resignation'. It's because those people that can think more openly, can connect dots, that are more into complexity thinking, are feeling so stifled by your senior management that thinks more in boxes, and they are jumping out more, moving between businesses and becoming more entrepreneurial. (Participant 18).

Discussion of findings

The major conclusion from the study is that SCA as a strategic management concept is mostly obsolete. The business environment has significantly changed since the first introduction of SCA in management theory and practice. These changes have largely been driven by digitisation in the 4IR. New technology, through digitalisation, is the clear frontrunner for disruptive change with technologies, such as platforms, 3D printing, artificial intelligence, blockchain, cloud computing, IoT and advance robotics impacting organisations.

The organisational impacts experienced by businesses are pervasive and in almost equal measures on their strategy, business model and culture (Table 2). Strategy areas impacted, include the change in market structures by lowering barriers-to-entry through technologies that are cheaper, standardised and modularised. Technologies, such as cloud computing and online-marketing platforms, are globally available and level the playing field for smaller organisations. Transparency and lower switching costs shift bargaining power to the end customer. Competition increases as sources of differentiation are diminishing and competitive boundaries dissolve with the adaption of ecosystems. Products are becoming more customised by leveraging big data and cloud computing. Business models are impacted because new value propositions are created through the sharing economy, which grants access to assets and products rather than ownership. Big data assist with customers' understanding and segmentation by analysing complex customer patterns. Channel integration allows businesses to meet the consumers 'where they are'. Platforms that create ecosystems are becoming the norm, which assist businesses to 'buy-in' expertise rather than cultivate their own resources to serve the customer end-to-end. The culture changes are linked to the complexity of an ecosystem where command and control are inappropriate to manage work across functions, organisations, individuals and where achieving results is a collaborative effort. Ecosystems inherently abhor silos as these function across boundaries to achieve success. The consequent result is that teams and autonomous peering is more important than central authority.

The three core assumptions of SCA: stability, imperfect imitability and imperfect mobility are challenged by these disruptive changes as follows:

- Stability: The business environment is experiencing high levels of uncertainty and pervasive competition.
- Imperfect imitability (uniqueness and the difficulty to substitute): Convergence and participatory platforms increase transparency; products are unbundled, developed at speed and cheaper, which makes it easy to imitate and substitute.
- Imperfect imitability (tradeable but more valuable in current organisation): Asset-ownership has been replaced by asset-access by the sharing-economy. Remote work needed for especially skilled resources has become a norm which increases mobility between organisations or own employment as seen through the gig-economy.

Table 2: Examples of the impact of how digitisation and technology of the 4IR impact the organisation

	Examples of the impact of digitisation and 4IR on the organisation
Strategy	<ul style="list-style-type: none"> - Lower barriers to entry increase competition. - Industry boundaries being blurred through ecosystems. - Expanded market-reach through technology. - New markets, such as sharing economy is created through platforms. - Asset ownership no longer needed – access through sharing. - Liquid and transparent markets are created shifting bargaining power. - Diminished sources of differentiation through digitalisation. - Increased customisation of products using big data. - Design for edge using cloud computing. - Servitisation – moving from product to service. - Embedded intelligence in products feeding big data for decision-making.
Business model	<ul style="list-style-type: none"> - Increased value proposition by moving from products to services and providing customisation. - Big data analysis allows better customer understanding and building of relationships that are multifaceted. - Integration of physical, web-based, and mobile channels to create an omni-channel customer experience. - New skills (both technical and soft) are needed. - Alliances to create customer value – one place to serve the customer needs. - Disintermediation of the value chain, where customers can be directly reached without intermediaries. - Customisation created the ‘segment of one’ and as such, individualised pricing is on the rise.
Culture	<ul style="list-style-type: none"> - Agile to respond faster. - Competency is valued above authority and a culture of autonomy and mastery is becoming more prevalent. - Collaboration, trust, transparency. - Team-focussed. - Culture intelligence across boundaries to deliver value-add.

Source: Synthesis from the study findings

The underlying assumptions of SCA are challenged, are no longer relevant and therefore, the relevance of the SCA concept itself is contested. The interpretation of the major findings results in the conclusion that SCA as a core concept of strategy is mostly obsolete, therefore, SCA should no longer be promoted as a key concept in the industry and academia. Alternatives to SCA must be taught and implemented that subscribe to a complex interconnected business environment.

Contributions

The study enhances the body of knowledge in business management and strategic management by:

- Bolstering the critique on the continued use of SCA in contemporary business management.
- The impact of disruptive change of the 4IR on the underlying assumptions of SCA are the first to provide a direct explanation of why these SCA assumptions are no longer relevant.
- Offering additional insights on the most relevant disruptive changes in an interconnected business environment which impacts SCA.
- Highlighting the impacts of disruptive change on an organisation's strategy, business model design and culture, and therefore, SCA.
- Giving organisations sight of potential irrelevant SCA assumptions being used for strategies and plans.

Limitations and avenues for future research

Abundant data from the interviews provided richness to the findings and significance to the research. However, there were limitations that are related to this exploratory and qualitative study. The limitations provide an opportunity to expound on possible areas for future research. Purposive sampling was used and although efforts were made to include more diverse backgrounds (gender orientation, ethnicity, geographic location) the majority of the participants reflect the current management structures in organisations dominated by males. Although data saturation was reached before 27 interviews in accordance with the grounded theory design, a larger group of participants may be needed to validate the findings. The study was conducted in one of the most extreme disruptive changes our generation has ever experienced, being the COVID-19 pandemic. The results might have been influenced by participants' real confrontation with possible death. This fact might make one more reflective in terms of what is important. With the subsiding of this real threat, results may be different if the same or a similar study is conducted, thus, an environmental comparative study might be an avenue for future research.

Concluding Remarks

The underlying assumptions of SCA: stability, imperfect imitability and imperfect mobility have proven to be an illusion in a 4IR business world, where especially digitisation has disrupted the strategy, business model and culture of organisations. The consequence is that SCA, as a management concept, has become mostly obsolete. Therefore, academics and practitioners alike, should stop promoting it as a core concept for organisational success. Because SCA is still such a core concept for the development and execution of strategy, its demise is leaving a vacuum which should be filled by alternatives that address the complexity of the interconnected 4IR business environment. Although this paper's focus was on the theme "SCA is mostly obsolete" it is prudent to conclude with some of the proposed alternatives which emerged through the PHD study to fill the vacuum left by the decline of SCA. A wide

variety of concepts, reasoning principles, and disciplines were identified as alternatives to SCA as seen in Figure 12. These were grouped into alternatives to the competitive focus of SCA (collaboration, cooperation, purpose), alternatives for definitions of success (common good, relevance, value creation, significant impact) and alternatives to the binary logic of SCA as a reasoning principles (agility logic, complexity logic). If there are changes to all of the aforementioned it follows that there will be changes in any tool or framework that uses SCA in one form or another. To further assist with generating alternatives, one should look beyond the business management discipline for relevant inputs in line with the DeMedici Effect that postulates that high impact innovations happen at the intersection of fields, disciplines and cultures (Bogers, et al., 2018). Many and varied alternative disciplines, including additional branches of the social sciences, natural science, formal sciences, arts and spirituality, were offered to supplement economic theory in business management. From these disparate suggestions one can deduce that the contemporary business management discipline with its accompanying frameworks and tools is not, by itself, adequately addressing the complex business environment in which the study participants teach and practice.

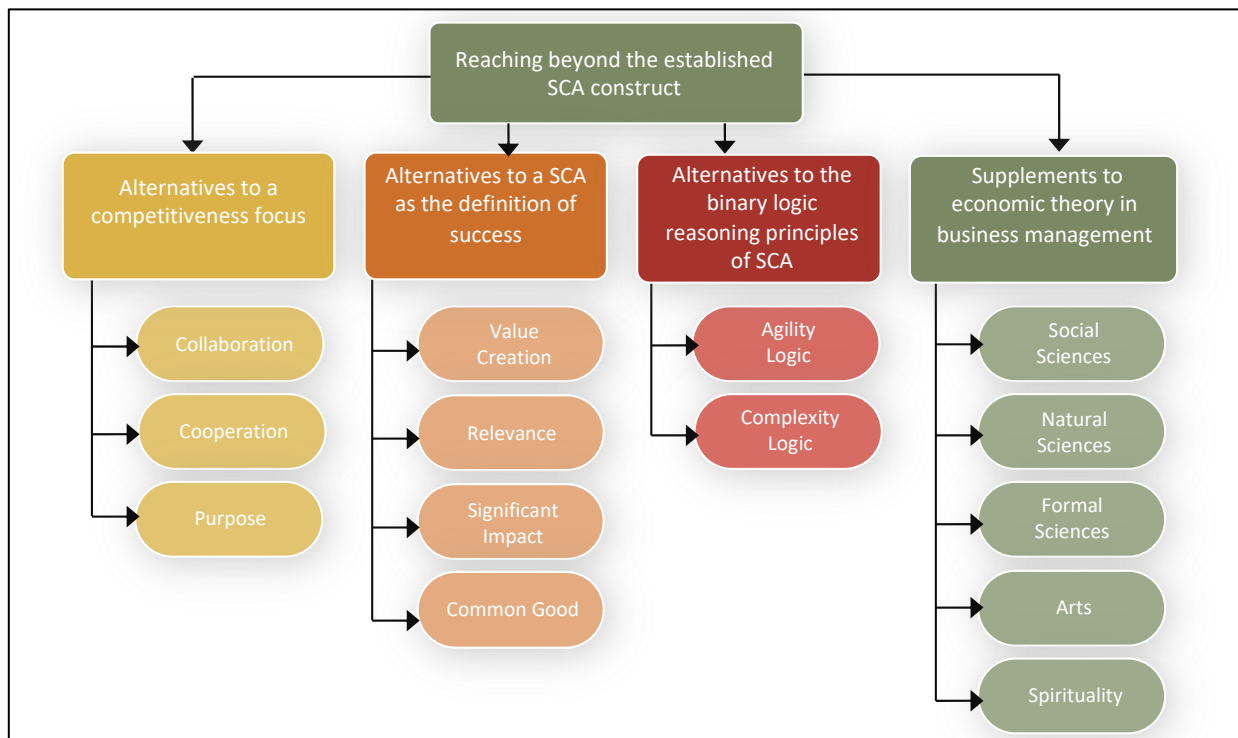


Figure 12. Alternatives to sustainable competitive advantage

Source: Researcher's analysis of the participants' views on alternatives

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