# How Do Firms Build and Sustain Strategic Competitive Advantage in the Digital Economy?
# A Case Study in Digital Banking

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A thesis submitted in fulfilment of the requirements for the degree of
Master of Research



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# Abstract

Traditional strategy scholarship has not kept pace with rapid changes in the digital economy. In addition, strategic planning tools and process used in organisations are slow, industry bound, fail to account for global competition and often have an over simplified view of business versus the reality of complex business ecosystems. They are inadequate for the needs of organisations operating in the digital economy. This study addresses these shortcomings, examining the ways in which firms may build and sustain strategic competitive advantage in the digital economy. The global digital banking industry was chosen for qualitative analysis as it is widely considered to be the 'most' digital of any industry and represents an extreme perspective of the digital economy, from which inferences can be drawn. Using case study methodology to examine the practice of strategy approaches to digital transformation, five key dimensions are utilised—digital transformation, business architecture, business models, platforms and strategic planning. Interviews were conducted with eight chief executive officers to provide a broad, integrated perspective on the practice of developing strategic competitive advantage in the digital economy. The study finds that traditional forms of strategic planning are not being utilised and dynamic experimentation-based strategic planning practices dominate. Business architecture that leverages tangible asset-less and asset-light structures lead with significant emphasis on intangible assets. Platforms and complex business ecosystems form an important feature of modern business architecture, but definitions and models are lacking. This study contributes to the body of business strategy knowledge by providing insight into the practice of strategic planning in the digital economy, which will help address conflicting perspectives in the literature, identify implications for strategy scholarship and propose improvements. The findings may be used by practitioners, academics, business leaders, entrepreneurs, investors and managers.

# Statement of Originality

I certify that the work in this thesis entitled 'How Do Firms Build and Sustain Strategic Competitive Advantage in the Digital Economy? A Case Study in Digital Banking' has not previously been submitted for a degree nor has it been submitted as part of the requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and has been written by me. The sources of information and the extent to which the work of others have been utilised in this research work are appropriately acknowledged.

The research presented in this thesis was approved by the Macquarie University Ethics Review Committee (Reference number: 5201837415123).

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David Vander (Student ID: 45042507)

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# List of Abbreviations

| | |
|---|---|
| AI | Artificial Intelligence |
| API | Application Programming Interfaces |
| CEO | Chief Executive Officer |
| DMM | Digital Maturity Model |
| IoT | Internet of Things |
| IP | Intellectual Property |
| IT | Information Technology |
| ML | Machine Learning |
| MVP | Minimum Viable Product |
| ROI | Return on Investment |
| SRQ | Secondary Research Question |

# Chapter 1: Introduction

## 1.1 Background

The digital economy has invented, enabled and inspired tremendous wealth creation, business innovation and creativity at an unprecedented rate (Schwab, 2016; Brynjolfsson & McAfee, 2017). Its potential means that the concept of digital transformation has become one of the most important strategic imperatives on the leadership agenda (Weill & Woerner, 2018; Gupta, 2018; Warner & Wager, 2019; Westerman, Bonnet & McAfee, 2014). The impact of digital disruption is felt across organisations, industries and economies and profoundly in the strategic planning sphere, due to blurred industry boundaries, globalised competition, powerful global infrastructure platform, complex ecosystems, access to plentiful data, low initiation costs and low barriers to entry (Kim & Mauborgne, 2005; McGrath, 2013; Gupta, 2018). Organisations seeking 'sustainable competitive advantage' have been captured by 'transient competitive advantage' (McGrath, 2013, p. 6), in which a more dynamic, emergent, iterative and experimentation based approach to strategy and strategic planning has become predominant.  Many frameworks have been developed to help guide digital transformation and complement more traditional strategic planning tools and process. Digital native firms have adopted modern strategy methods including 'Rapid Experimentation', 'minimum viable product' (MVP); 'Agile Development', 'Build-Measure-Learn' and 'Connected Strategy'. Furthermore, technological advancements will continue to disrupt, to accelerate the pace of change, to create innovation, to facilitate hyper-global competition and redefine the value of real-time data driven business (McGrath, 2013; Kirkpatrick, 2011; Rogers, 2016). The tools for creating and defining strategy will need to evolve and evolve rapidly.

Digital transformation and digital business architecture are now colluding to provide an environment where firms no longer directly own the means of production to capture value, prompting the important question of what is the role of the firm. This question, first posed by

Coase (1937), is increasingly prescient and pertinent in the digital economy (Brynjolfsson & McAfee, 2017; Haskel & Westlake, 2018). Digital native firms that leverage asset-less or asset-light digital business architectures are fast to establish, have low capital requirements and attract high valuations (Parker, Van Alstyne & Choudary, 2016). As of July 2019, CB Insights listed 356 'unicorns' (private companies valued at over US$1 billion) totalling US$1.1 trillion, up from 248 only 10 months earlier, most of which are digital natives. Digital natives are often cited as best practice (Stone, 2017; Ries, 2011; Rogers, 2016), leaving incumbents or established firms at a significant disadvantage due to infrastructure legacy, technology debt and the need to protect existing profit pools (World Economic Forum, 2016; Westerman et al., 2014; Brynjolfsson & McAfee, 2014). Digital business architecture invariably leverage global technology platforms[1] and is some cases, attempt to become platforms in their own right. However, this architecture requires many new business capabilities, innovation dependencies and drives further value concentration (Haskel & Westlake, 2014; Parker, Van Alstyne & Jiang, 2016; Moazed & Johnson, 2016).

Business model innovation and experimentation has become a source of strategic competitive advantage in its own right (Amit & Zott, 2011; Nielsen & Lund, 2018; Chesbrough, 2010; Osterwalder & Pigneur, 2010). Yet there is insufficient linkage and strategic association of business models and business strategy to new organisational forms, ecosystems, value chains and value networks (Zott, Amit & Massa, 2011; Lund & Nielsen, 2014). Business model permutations and combinations continue to proliferate. Gassmann, Frankenberger and Csik (2014) cited 55 distinct business models and growing. Bughin, Catlin, Hirt and Willmott (2018) reported that only 8% of companies believe their current business model will remain economically viable through digitisation. Technological advancements continue to develop in the face of pent-up demand that will continue to impact business strategy such as IoT (Internet of Things), data, artificial intelligence (AI), machine learning (ML) and quantum computing (Kelley, 2016).

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[1] Examples of platforms include Apple AppStore, Uber, Amazon, PayPal, Alibaba, Salesforce.com and Google Advertising.

Intangible assets are forming a larger part of enterprise value, yet accounting definitions are absent, and measurement is proving extremely difficult to achieve (Sveiby, 2010; Lev, Radhakrishnan & Evans, 2016). Platforms provide an ecosystem of capabilities, large and rapid scale advantages, access to market externalities, reduced transaction costs[2] and significant sources of innovation (Parker, Van Alstyne & Choudary, 2016). However, firms need to be aware of the trade-offs between the enormous benefits of leveraging platforms with the corresponding dependencies, skills requirements and increased risk profile this creates (Parker, Van Alstyne & Choudary, 2016; Moazed & Johnson, 2016). New skills and capabilities are required to capitalise on this epoch, and these need to be well understood, developed and sourced (Teece, 2018).

The implications for business strategy are profound, manifold and persistent. The combinatorial effect of technological advancements and business change has created significant opportunity and a commensurate level of confusion (World Economic Forum, 2018; Brynjolfsson & McAfee, 2017). If capitalised on correctly, this transformation will yield tremendous new sources of value creation, employment and economic expansion (Haskel & Westlake, 2018; Weill & Woerner, 2018), or at the very least significant reductions to cost structures, time to market and revenue growth (Parker, Van Alstyne & Choudary, 2016; Gupta, 2018). Digital transformation is difficult and not always successful (Westerman et al., 2014; Loonam, Eaves, Kumar & Parry, 2018), so better planning and execution is necessary to avoid failures and provide more assured growth (Bughin et al., 2018; Weill & Woerner, 2018).

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[2] Average savings of 40% of total cost of ownership can be realised from cloud computing. See
https://www.cloudtp.com/doppler/cloud-economics-getting-bigger-picture/ .

Traditional strategy scholarship has not kept pace with these rapid changes in the digital economy. Table 1.1 outlines how the language of transformation reflects a gap between practice and the academic literature in relation to business strategy.

Table 1.1

*Impact of Digital Transformation on Business Strategy Dimensions*

| From | To |
|---|---|
| Industry | Arenas |
| Planning | Experimentation |
| Own | Rent |
| Control | Orchestrate |
| Supply chain | Ecosystem |
| Competitive analysis | Uncontested marketplaces |
| Brownfield | Greenfield |
| Tangible assets | Intangible assets |
| Monolithic execution | Modular execution |
| Optimise | Opportunity |
| Exit is bad | Exit is good |

In very real terms, practice is far ahead of theory (Porter, 2001; Zott et al., 2011). There is a lack of academic rigour in management science and opportunities for businesses, employees and economies are being missed (Nielsen et al., 2018; Teece, 2018). Popular discussion on digital transformation is overwhelmingly positive; however, the academic research is broad, anecdotal, not timely and multi-directional. A detailed review of the literature reveals there is much circumnavigation of the issues surrounding the impact of digital transformation, including implications for business strategy, models, capabilities and architecture. Much of the current

research is correlational as opposed to causational (Dierickx & Cool, 1989), silo based (Zott et al., 2011) and leverages specific case studies that are highlighted as best practice businesses in this digital era (Gupta, 2018; Weill & Woerner, 2018; Brynjolfsson & McAfee, 2017). Modern strategy methods and processes are poorly explored in the literature and there is a lack of research into scholarly methods.

This study aims to address this gap, asking the research question: how do firms build and sustain strategic competitive advantage in the digital economy? It utilises the Gioia Methodology (Gioia, Corley & Hamilton, 2013) to triangulate first-order concepts and second-order themes to arrive at five aggregate dimensions of analysis: digital transformation, business architecture, business models, platforms and strategic planning.

## 1.2 Analytical Approach

Due to the explorative nature of the research question, the research methodology selected allows for both investigation of the topics and theory building. This study is a qualitative comparative case study analysis of the digital banking industry. Digital banking was chosen because it is widely considered to be the 'most' digital of any industry (Ghandi, Khanna & Ramaswamy, 2016), with most firms being digital natives. As such, it represents an extreme perspective of the digital economy from which inferences can be drawn. Semi-structured interviews were conducted with the chief executive officers (CEOs) of eight global digital banks. Significant analysis and synthesis was undertaken to identify patterns, insights and consensus in developing strategic competitive advantage in the digital economy.

## 1.3 Motivations

There are three motivations for this study. Firstly, to examine the practice of leading edge firms. Secondly, to develop a better framework for strategy and strategic competitive advantage to better inform practitioners and improve business outcomes in the digital economy. Thirdly, to

explore if the approaches used in digital industries can be extended to other industries. These motivations are discussed below.

Ascertaining and examining current practice will inform and advance the literature. Many companies are employing leading edge strategies such as asset-less or asset-light business architectures, leveraging of platforms and new and innovative business models, and this practice needs to be better understood. Firms that employee asset-less or asset-light business architectures are able to be formed quickly and require low levels of capital. Start-ups embody many of these architectural features and are becoming an increasingly large segment of the economy, with US$2.8 trillion in value created in the last two years alone (double that of five years ago).[3] These firms continue to enjoy significantly high valuations and large-scale government investment, and are becoming major employers. Consequently, they are of great interest to governments and corporations as they provide a robust source of innovation, economic growth and commercial success. Popular discussion, literature and commentary on asset-less business strategy is overwhelmingly positive. However, the academic research is broad, anecdotal, lagging behind practice and multi-directional. There is no clear consensus on the relative merits of the approach and limited examination of how it works in practice.

This study contributes to our understanding of digital transformation frameworks and strategic planning tools and techniques to better inform researchers and practitioners. The research explores if and why these frameworks have not industrialised or matured to a point of mass adoption. This study also focuses on the accuracy, insight and usefulness of such tooling, processes and techniques.

Finally, this study explores the potential of future research, leveraging the insights and learnings from a leading edge digital native industry to other industries that are more asset heavy or less digital. This study tests the cross-industry extensibility of modern tooling, processes and techniques.

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[3] See Startup Genome (2019). *Global startup ecosystem report 2019*. Available from
https://startupgenome.com/reports/global-startup-ecosystem-report-2019

## 1.4 Contributions

The primary contribution of this research is to provide insight into the practice at leading edge digital firms. The results will help address the conflicting perspectives in the literature and identify implications of digital transformation as it pertains to the role of the firm, business models, business strategy and the capacity of firms to take advantage of such strategy.

The research evaluates digital transformation and strategic planning frameworks, processes and tools and proposes improvements. The study explores the cross-industry potential of these improvements and, thus, their cross-industry relevance. In doing so, this study aims to provide a foundation for future research. This study focuses on a purely digital industry, digital banking, with a view to extending the research to other digital and non-digital industries.

The findings are expected to assist practitioners, academics, business leaders, entrepreneurs, investors and managers in commercial industries. This research will help business practitioners understand digital business architectures, patterns and insights to enable more advantageous and predictable business outcomes. This research will also assist investment decision-making by providing insights into business models and strategic planning to aid investment yield and addressing risks.

## 1.5 Thesis Structure

This research utilises the Gioia Methodology (Gioia et al., 2013) to triangulate first-order concepts and second-order themes to arrive at five aggregate dimensions of analysis: digital transformation, business architecture, business models, platforms and strategic planning. A summary of the research question and sub-questions and thesis structure is shown in Table 1.2. As will be shown, the five aggregate dimensions become the five research areas, the five sub-questions and, thus, the guidance for the investigation in this thesis. Investigation and analysis of topics are presented in terms of these five dimensions (see Sections 2.1–2.5, 4.1–4.5 and 5.1–5.5).

Table 1.2

*Research Question, Sub-Questions and Thesis Structure by Aggerate Dimension*

| Research question | | |
|---|---|---|
| How do firms build and sustain strategic competitive advantage in the digital economy? | | |
| | Research sub-question | Aggregate dimension |
| SRQ1 | Are existing digital transformation frameworks plausible and utilised? | Digital transformation |
| SRQ2 | Are intangible assets driving business architecture? | Business architecture |
| SRQ3 | What role does business model analysis play in business strategy? | Business models |
| SRQ4 | How are platforms affecting digital businesses? | Platforms |
| SRQ5 | Are current strategic planning tools adequate and useful? | Strategic planning |

The remainder of the study is organised as follows. Chapter 2 reviews the literature on digital transformation and strategic competitive advantage. From this analysis gaps in the literature are identified and the research question and sub-questions generated. Chapter 3 discusses and justifies the qualitative analysis and case study research methodologies and outline the design used. Chapter 4 presents the research findings. Chapter 5 discusses the findings and their implications. Chapter 6 identifies directions for future research.

# Chapter 2: Literature Review and Theoretical Framework

Traditional views on strategic planning (e.g., Ansoff, 1965; Porter, 1985; Barney, 1986a) are popular, well explored and well utilised. Digital transformation has disrupted the fundamental principles or foundational elements of these strategic planning methods due to its fast pace, technological disruption, complex ecosystems of value, abundance of data, highly competitive global marketplaces and software-laden value-generation methods. How firms build and sustain strategic competitive advantage in the digital economy is now a complex, emergent and evolving topic. The fact that digital transformation is a technology-driven process, with continuous upheaval, ensures that the literature struggles to keep pace with real-world developments. As the pace and volume of change is high, a plethora of articles has appeared in the contemporary popular press, but many are of questionable quality. Accordingly, a task of this literature review is to separate rigorous scholarly works and analysis from those that can be defined as 'faddish' (Yin, 2018). As the scope of this research is potentially broad, the research utilises a data-driven structure and analysis framework to ensure good support from the literature. Rogers (2016, p. 308) argued that 'digital transformation is fundamentally not about technology, but about strategy', and the temptation will be to enlarge the scope of research. To focus the analysis, this study utilises the Gioia Methodology (Gioia et al., 2013) to triangulate first-order concepts and second-order themes to arrive at five aggregate dimensions of analysis: digital transformation, business architecture, business models, platforms and strategic planning. As previously stated, these five aggregate dimensions guide the research. Accordingly, the literature review below is presented in terms of these dimensions (see Sections 2.1–2.5).

## 2.1 Digital Transformation

Digital transformation is defined as the new means of creating business value by leveraging digital technologies such as smart devices, cloud computing, growing abundance of data, business platforms and high-speed internet communications (Schwab, 2016). Fitzgerald, Kruschwitz, Bonnet and Welch (2014, p. 2) defined digital transformation as 'the use of new digital technologies (social media, mobile, analytics or embedded devices) to enable major business improvements such as enhancing customer experience, streamlining operations, or creating new business models'. Digital transformation has become one of the most important strategic imperatives on the leadership agenda (Weill & Woerner, 2018; Gupta, 2018; Warner & Wager, 2019; Westerman et al., 2014). Digital transformation is an organisation-wide transformation impacting all facets of business including business processes, models, scope, operations, marketing, sales, supply chains, skills, capabilities and customers (Brynjolfsson & McAfee, 2017; Gupta, 2018). Digital transformation continues to be an active research area[4] and a powerful source of business disruption, innovation and value creation (World Economic Forum, 2016; Westerman et al., 2014; Brynjolfsson & McAfee, 2014, 2017).

Digital transformation is fuelled by the falling costs of technology, advanced new technologies and ever-accelerating rates of technology adoption, and, as such, it is creating a compounding dynamic innovation phenomenon that is vastly accelerating the pace of innovation. These combinatorial effects, 'the capability of technologies working in tandem far exceed their capabilities when deployed separately' (World Economic Forum, 2018, p. 6), underpin the digital era and digital transformation. This combinatorial effect of technological acceleration and compounding change is presented in Figure 2.1.

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[4] According to Google Trends, the use of the term 'digital transformation' has increased steadily over the past five years and is now hovering at peak popularity.
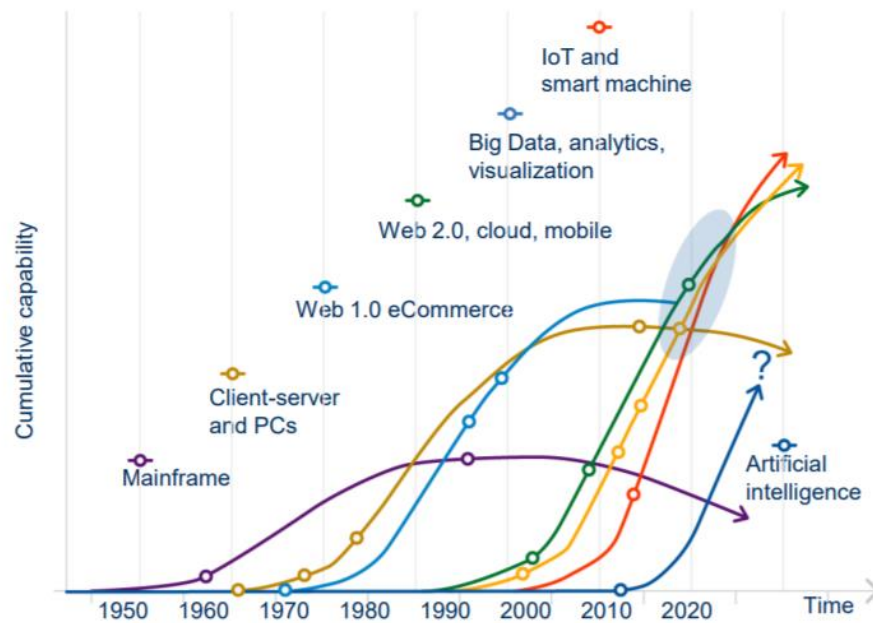
Figure 2.1. The combinatorial effect of technological acceleration and compounding change

*Source. World Economic Forum (2018, p. 6).*

One of the first concepts to contend with when researching digital transformation is the notion of 'transformation', as opposed to more sedentary terms such as 'adaptation'. Warner and Wager (2019, p. 126) highlighted that 'digital transformation goes far beyond functional thinking and holistically considers the "comprehensiveness of actions" that must be taken to exploit the opportunities or avoid the threats that stem from digital technologies'. To many incumbent firms, this level of effort is unrealistic, while new organisations are formed without the burdens of legacy technologies, existing profit pools to protect or established organisational power structures. Thus, new firms are inherently better able to capture this new value. This situation is often referred to as 'greenfield' (new firms and approaches) versus 'brownfield' (old firms and approaches), yet these contrasting approaches to transformation are poorly explored. Exemplified by start-ups, digital native organisations are almost entirely greenfield and set new standards for benchmarks, valuations, technological intensity and creativity, and are now considered best practice (Ries, 2011; Rogers, 2016; Teece, 2018). Greenfield refers to investment in physical company-related structures in an area where no previous facilities exist. Brownfield refers to renovating, purchasing

or leasing existing production facilities to launch a new production activity.[5] The literature does not adequately explain the tensions between the two transformation modes and often uses dynamic start-ups (often greenfield) in mixed-method analysis with lethargic incumbents (often brownfield transformation). Identifying and assessing the advantages of greenfield over brownfield is a significant challenge for scholars given the pace, breadth and innovation of greenfield firms.

Despite an abundance of literature extolling the correlation of business performance with digital transformation (Westerman et al., 2014; Allen, Root & Schwedel, 2017; Weill & Woerner, 2018) there remains significant causal ambiguity, which needs to be examined (Dierickx & Cool, 1989). There is also little consensus in the literature on how to measure a firm's digital intensity— a key measure for ascertaining levels of digital transformation. Digital intensity represents the degree to which a business is leveraging digital technologies, methods and processes, but also conveys the growing reality that many products and services are being digitised and delivered digitally (Vendrell-Herrero, Bustinza, Parry & Georgantzis, 2017). Digital Maturity Models (DMMs)[6] have evolved from the Capability Maturity Model literature (Paulk, 2009) as a proxy for digital intensity; they help firms evaluate their digital intensity status and provide a means for firms to create new roadmaps for their business. However, these models are inadequate due to their need to be continually updated and are often self-serving and subjective. These models lack deep rigour, are often not enterprise wide and are non-durable given the compounding dynamics of digital competition and pace of technological innovation.

Digital transformation frameworks are an extension of DMMs and include business models, customer connection design elements and market factors in their constructs. Digital transformation frameworks often originate from empirical studies and continue to evolve and improve based on real-world usage and testing. A framework is defined as 'a broad overview,

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[5] Greenfield investment. (n.d.). In *BusinessDictionary*. Retrieved from http://www.businessdictionary.com/definition/greenfield-investment.html .
[6] Examples of DMMs include those of MIT (https://sloanreview.mit.edu/2017-digital-business-interactive-tool/ ), Forrester (https://forrester.nitro-digital.com/pdf/Forrester-s Digital Maturity Model 4.0.pdf ), Deloitte (https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Technology-Media-Telecommunications/deloitte-digital-maturity-model.pdf) , TM Forum (https://www.tmforum.org/digital-maturity-model-metrics/how-it-works/) and CMMI (https://cmmiinstitute.com/products/cmmi/dev) .

outline, or skeleton of interlinked items which supports a particular approach to a specific objective and serves as a guide that can be modified as required by adding or deleting items'.[7] There are over 30 potential digital transformation frameworks that an organisation could use to help identity, track, plan measure and implement digital transformation strategies. Many firms develop their own customised digital transformation frameworks, often using expensive and time-consuming consultants. Five examples of highly cited digital transformation frameworks are shown in Table 2.1. These frameworks all have challenges, including the inability to handle a portfolio business. Many are only useful for analysis of a single line of business, cannot demonstrate how to progress across time, do not factor in the business's objective (e.g., exit strategy versus a long-term growth), are exclusively focused on brownfield versus greenfield transformation, and are non-durable given the high flux in business and technological advancements. Further, a gap exists in the literature with insufficient coverage of the linkage and strategic association of business models and business strategy to new organisational forms, ecosystems, value chains and value networks (Zott et al., 2011; Lund & Nielsen, 2014).

Table 2.1

*Examples of Highly Cited Digital Transformation Frameworks*

| Framework | Author | Citations[1] |
|---|---|---|
| Digital Business Model Framework | Weill and Woerner (2018) | 307 |
| Redefining Industry Boundaries | Porter and Heppelmann (2015) | 2,054 |
| Framework for Digital Leadership | Gupta (2018) | 4 |
| Digital Transformation Compass | Westerman et al. (2014) | 867 |
| Activity System | Zott and Amit (2010) | 7,846 |

*Note*. [1] Number of citations per Google Scholar as at July 2019 (combined citation based on framework topic mentions).

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[7] Framework. (n.d.). In *BusinessDictionary*. Retrieved from
http://www.businessdictionary.com/definition/framework.html

Digital transformation imparts tremendous new momentum to the durable notion that 'Culture can be a source of sustainable competitive advantage' (Barney, 1986b, p. 663). Digital firms must operate at high speed, are often greenfield (i.e., building teams from scratch), intimately connected to the consumer, must respond in real time and highly iterative in nature (Hemerling, Kilmann, Danoesastro, Stutts & Ahern, 2018). Rogers (2016, p. 134) highlighted that 'thanks to digital tools, all companies are able to run more experiments - cheaply and quickly to accelerate the pace of innovation'. However, this remains unrealisable unless the organisation has embraced a culture of learning, feedback, speed, innovation, measurement and failure. A strong positive culture is a competitive advantage and hard to imitate (Barney, 1986b). 'Culture trumps strategy' (taken from Merchant [2011] and often attributed to Peter Drucker) is a strong, principled and energising element for digital transformation. 'The business strategy is important, however it will be the culture that executes it' (Bughin, 2017, p. 1). Outlining that the main bottleneck for digital transformation is the lack of a strong and common culture, which includes the ability and support for taking risks, Bughin (2017, p. 2) highlighted the need to experiment: 'in a digital world, one of the biggest risks is not taking risks'. Speed, skill, capabilities, creativity and alignment requirements are amplified in the digital economy, thus creating a new front in the war on talent. Attracting and retaining talent is a core component of a strong digital strategy. Talent is a strong source of competitive advantage and good digital talent—including technical skills, digital transformation experience and customer experience design skills—are at a premium in the digital era (Bughin, 2017). The importance of culture in developing and executing business strategy is explored as part of this study.

Overall, we should expect to see practice ahead of theory as a result of the continuous pace of technology-driven change. Frameworks can be a helpful guide as to what approach should be taken for digital transformation. Digital transformation will not be successful without the right digital culture, and culture is a strategic competitive advantage. Based on the above discussion, it is important to see if the literature, embodied in the logic of the latest and most complete digital

transformation frameworks, is supportive of what is occurring in practice. Therefore, a secondary research question is proposed: Are existing digital transformation frameworks plausible and utilised? (SRQ1).

## 2.2 Business Architecture

Business architecture is defined as 'the conceptualisation of a boundary-spanning activity system that includes the mechanisms that connect these interdependent activities and the identification of the party that carries out each of the activities within the system' (Amit & Zott, 2015, p. 332). Most traditional business architecture is focused on the internal activity system, while in the digital era business architecture is concerned with external, dynamic and boundary-spanning exchanges. The strength of a firm's business architecture can confer strategic competitive advantage in the digital economy (Gupta, 2018; Weill & Woerner, 2018). Business architecture focuses on the process, technical, organisational and financial infrastructure to drive the mechanisms employed to capture value and is closely connected to a firm's business model (Teece, 2010). In the digital economy, firms no longer have to directly own the means of production to capture value, raising the question of what is the role of the firm? This provocative but fundamentally important question was first put forward by Ronald Coase in his 1937 article 'The nature of the firm'. Jensen and Meckling (1974, p. 374) advanced this notion with the view that a firm can be considered a 'nexus of contracts', which is particularly pertinent in the digital economy given that digital natives are asset light and do not need to own anything in particular. Operationally, business architecture theory advances even further as processes, workflows and contracts can be automated via the use of Application Programming Interfaces (APIs) that become digital value chains over wide geographic and industry boundaries. Pettey (2016) defined this era as the 'API economy', and AI has the potential to make these processes dynamically constructed, executed and even negotiated via digital value chains.

A common strategy for digitally intense firms is that they have little to no investment or expenditure in physical or tangible assets. These asset-less or asset-light firms assemble value from collections of suppliers across the entire value chain, including sales, marketing, design, manufacturing, finance, human resources and service. Asset-less or asset-light strategies are often espoused as 'best practice' in digital-era business models and, in many cases, do deliver consistently stronger financial results (Kachaner & Whybrew, 2014). Evans and Gawer's (2016) definitions of 'asset-heavy' and 'asset-light' architectures are particularly well explored and helpful contributions. The benefits of an asset-less architecture include far lower initial or start-up capital requirements, reduced costs, increased flexibility, strategic optionality, increased speed to market, access to new markets, new sources of innovation, reduced operating capital requirements, increasing returns to scale and rapid growth potential (World Economic Forum, 2016; Westerman et al., 2014; Brynjolfsson & McAfee, 2014, 2017). Digital natives employ an asset-less or asset-light strategy almost exclusively, largely to reduce start-up capital requirements but also to ensure they remain unencumbered by legacy and avoid technical debt or the need to protect existing profit pools. Start-ups and digital natives currently dominate the popular discussion as best practice in the digital era and are achieving significantly highly valuations relative to incumbents.[8] A list of companies characterised as asset less is provided in Table 2.2.

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[8] S. Bamberger et al. (2018, 22 February). *Digital natives lead the battle for value creation*. BCG. Retrieved from https://www.bcg.com/publications/2018/tmt-value-creators-report-2018-digital-natives-lead-battle.aspx .

Table 2.2

*Examples of 'Asset-less' Businesses*

| Company | Industry | 'Asset-less' feature |
|---------|----------|----------------------|
| Alibaba – Tmall | Retail | Wide range of goods without carrying inventory |
| AirBnB | Hospitality | No real estate |
| Uber | Transport | No vehicles |
| WeWork | Office space | No office |
| Seamless | Food | No restaurant |
| Cvent | Event management | No event facilities |
| Rent the Runway | Fashion | No inventory (just-in-time supply chain) |
| LesMills | Fitness and health | No gymnasiums (brand only) |
| Dollar Shave Club | Beauty | No retail location |
| Blue Apron | Food | No shopfront (just-in-time supply chain) |
| Casper Mattresses | Furniture | No retail location (just-in-time supply chain) |

Assets are a feature of any firm and an increasing share of these assets are considered to be intangible (Lev et al., 2016). Intangible assets are defined as assets that have a claim to future benefits that do not have a physical or financial embodiment (Lev, 2001). Intangible assets already constitute a significant component of the value of a firm (Stewart, 1997; Lev et al., 2016), increasingly so in the digital era (Haskel & Westlake, 2014). Intangible assets are also referred to in the literature somewhat interchangeably as 'knowledge assets', 'intellectual capital' and 'organisational capital' (Lev, 2001; Lev et al., 2016; Dumay, Guthrie & Rooney, 2017). The impact of intangible assets on business strategy and success is significant (Haskel & Westlake, 2018). Intangible assets cannot be easily imitated by competitors and, therefore, confer sustained competitive advantage on the firm (Lev et al., 2016). The literature acknowledges the challenges in measuring intangible assets and there is no agreement on a method. Sveiby (2010), for example,

highlighted 42 different methods of measuring intangible assets and concluded that no single method fulfils all purposes. Table 2.3 highlights the differences and nuances in asset definitions and their ease of valuation.

Table 2.3

*Asset Definition and Ease of Evaluation*

|  | Easier to value | Harder to value |
| --- | --- | --- |
| Tangible | Plant, equipment, buildings, land, office equipment, fixtures, vehicles, inventory | Financial assets such as stocks, sovereign and corporate bonds, preferred equity, and other hybrid securities |
| Intangible | Contracts, intellectual property, franchise agreements, market rights, copyright, patents, trademarks, goodwill, software | R&D, design, financial innovation, artistic originals, advertising, data, marketing research, organisational capital, training |

Data as an asset type is not yet widely tracked, and current generally accepted accounting practices do not permit data to be capitalised on the balance sheet, despite it forming a significant proportion of companies' valuation (Akred & Samani, 2018). Wilson and Stenson (2008) examined the valuation of data attempts and there has been some progress in the burgeoning field of study referred to as 'Infonomics' (Laney, 2017). Laney (2017) described six information valuation methods (three foundational and three financial). However, the literature confirms that the valuation of information assets is not widely practised. The present study assesses whether the methods within the literature have credence in practice and identifies any gaps. Valuation techniques for asset-less or asset-light firms are ill-defined. Previously, the attribution of value was based on tangible physical assets and cashflows; currently, this is evolving and is less than precise. Venture capital firms have adopted models for the valuation of intangible assets that they

claim behave well and are widely accepted.[9] Investment models used to create excessive valuations of asset-less or asset-light firms are interesting and speculative, have insufficient track records and are potentially misleading, either from a bullish or a bearish perspective. It is clear that the operational, legal and financial risk associated with asset-less and asset-light business models need further exploration. Having a reliable means or framework to understand, foster and drive such businesses is important from academic, economic and socio-political perspectives.

It is generally accepted that in business architecture a highly customer-centric view of design is necessary (Gupta, 2018; Weill & Woerner, 2018; Brynjolfsson & McAfee, 2017). This includes the product or service but also the architecture for high levels of connected customer interaction. Many firms still approach the market from a product-first perspective. A customer-centric view of design often manifests in firms as a 'customer interaction platform', which can span organisational boundaries, involve many complex partnerships and requires a great deal of sophistication to design, build, implement and support. Customer insights or data obtained create a real-time feedback mechanism and value-creation mechanism. Weill and Woerner (2018, p. 8) have 'knowledge of the customer' as one of the primary axes for their Digital Business Model Framework (see Table 2.1). Customers also play a key role in the business architecture as they often participate in 'co-creation' of products and services and may use a firm's offerings in unexpected ways (Chesbrough, 2006).

Business architecture is a prerequisite for an effective business model. Teece (2010) goes further to state that business architecture and business models should connect as one concept. In the digital era, discussion about business architecture is dominated by asset-less and asset-light business architectures that enjoy significant capital and operational advantages. Intangible assets are fast becoming a primary motivator in business strategy and valuations but are difficult to measure due to data availability and definitional issues. This study explores the treatment of

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[9] J. Archer (2017, 20 November). Global venture capital industry has trebled in size to $160 billion in a decade. *The Telegraph*. Retrieved from https://www.telegraph.co.uk/technology/2018/11/20/global-venture-capital-industry-has-trebled-size-160-billion/ .

business architectures and intangible assets, asking if there is a corresponding overinvestment in intangible asset development. Therefore, a secondary research question is proposed: Are intangible assets driving business architecture? (SRQ2).

## 2.3 Business Models

The digital era, in combination with hyper-dynamic globalised marketplaces, is radically changing the competitive landscape and has created highly innovative business models (Nielsen et al., 2018, Brynjolfsson & McAfee, 2017). Recent studies argue there must be alignment between a firm's business model and business strategy to achieve strategic competitive advantage (Rumelt, 2011; Christensen, Bartman & Van Bever, 2016) and outline that 'The quest for sustainable advantage may well begin with the business model' (Casadesus-Masanell & Ricart, 2011, p. 100). Significant effort has been made in the literature to provide an appropriate definition of a business model (Johnson, Christensen & Kagerman, 2008), but there is no consensus, with Nielsen et al. (2018, p. 2), in their review of business models, finding that 'that there is still no generally accepted definition of what a business model is'. A good, succinct, modern and highly regarded definition of the 'business model' is 'the way in which a firm creates, delivers and captures value' (Gupta, 2018, p. 31). Zott et al. (2011) identified seven robust definitions of 'business model', while Nielsen et al. (2018, p. 51) provided 16 definitions in a wide-ranging anthology of the etymology of 'business model'.

The literature on business models has attracted significant attention in the last 20 years (Nielsen et al., 2018; Teece 2010), as has the permutations and proliferation of new business models in practice. Very little in the literature indicates the availability of commercially usable and robust theory, tools and techniques for practical business model development (Christensen et al., 2016). Business model research is now a rich vein of study with its own journals[10] and

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[10] For example, the *Journal of Business Models* and *Open Journal of Business Model Innovation*.

community devoted to the subject.[11] Perhaps the most significant commentary on the state of the literature comes from the seminal article by Teece (2010, p. 192):

> The paucity of literature (both theoretical and practical) on the topic is remarkable, given the importance of business design, particularly in the context of innovation. The economics literature has failed to even flag the importance of the phenomenon, in part because of an implicit assumption that markets are perfect or very nearly so. The strategy and organizations literature has done little better. Like other interdisciplinary topics, business models are frequently mentioned but rarely analyzed: therefore, they are often poorly understood. Not surprisingly, it is common to see great technological achievements fail commercially because little, if any, attention has been given to designing a business model to take them to market properly.

Business model research is quite heterogenous and has drawn on various theoretical and practical fields of study including strategy, entrepreneurship, finance, technology, organisation and innovation (Zott & Amit, 2007; Nielsen et al., 2018). Given the dynamic state of the digital era, practice has had to remain far ahead of research and, as a result, some very straightforward attempts have been made to catalogue business models as they have emerged in practice. Ovans (2015) identified 19 types of business models while Gassmann, Frankenberger and Csik (2014) identified 55 types of business models. Examples of well-known business models include Freemium, Fractional Ownership, Lock-in, Open Source, Pay per Use, Razor and Blades, Subscription and White Label. These efforts, detailed descriptions and cases of instantiation are extremely helpful in the absence of any consensus on what constitutes a single analytical business model framework. A notable framework is Osterwalder and Pigneur's (2010) Business Model Canvas, defined as 'a shared language for describing, visualising, assessing and changing business

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[11] See http://www.businessmodelcommunity.com .

models' (p. 12). It is in wide use, particularly by venture capital firms and investors seeking to evaluate potential. An example of the model applied to the firm Facebook is shown in Figure 2.2.
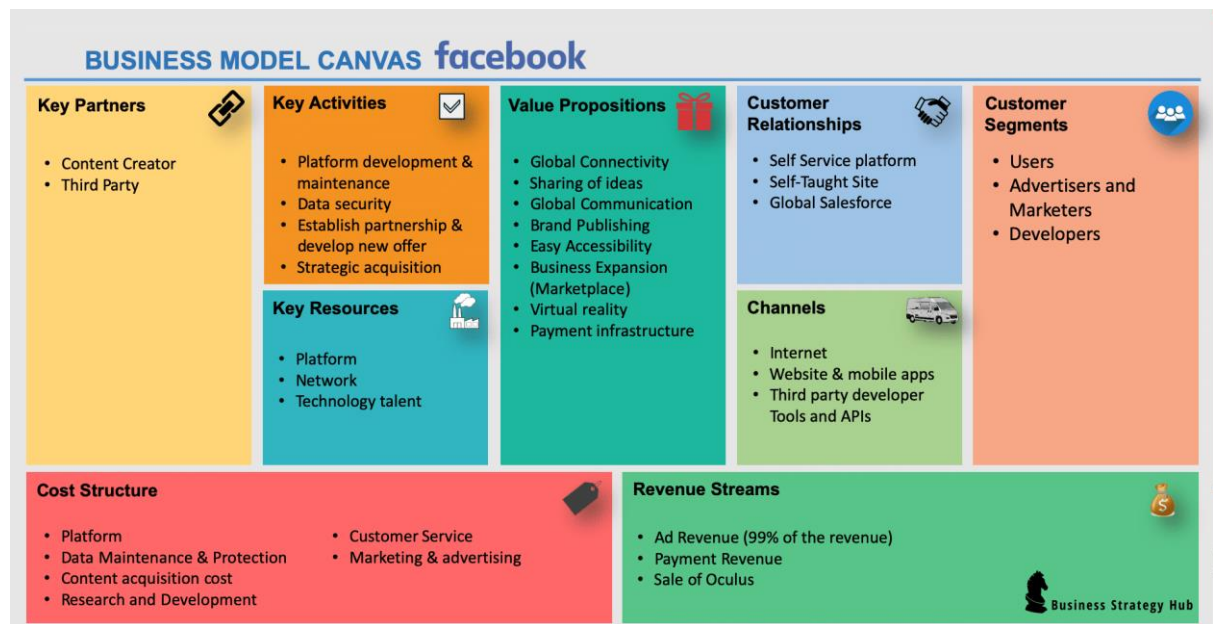


Figure 2.2. Osterwalder and Pigneur's (2010) Business Model Canvas (Facebook example)
*Source.* Business Strategy Hub, August 2019, https://bstrategyhub.com/facebook-business-model-how-does-facebook-make-money/.

Business model reinvention—the process of business model understanding, creation and communication—is similarly ill-defined. Digital transformation accelerates business model innovation and experimentation and has become a source of strategic competitive advantage in its own right (Amit & Zott, 2011; Nielsen & Lund, 2018; Chesbrough, 2010; Osterwalder & Pigneur, 2010; Gassmann et al., 2014). Many firms, and sometimes entire industries, are revolutionising business models (proactive) or having the business model forced upon them (reactive). Bughin et al. (2018) reported that only 8% of companies believe that their current business model will remain economically viable through digitisation. Schön (2012), in a more practitioner-oriented work, goes further to propose a business model framework around 'modularisation' of business models, allowing new configurations to respond rapidly and successfully to complexity. Although Teece (2018, p. 42) warned that 'Pioneering a new business model is not, however, always a path to advantage'. Westerman et al. (2014) made a reasonable attempt at guiding the reinvention process

but argued that more needs to be done to connect theory to practice. The five archetypes of business model reinvention are shown in Table 2.4.

Table 2.4

*Five Archetypes of Business Model Reinvention in the Digital Era*

| Archetype | Example |
|---|---|
| Reinventing an entire industry | AirBnb |
| Substituting products and services | Tesla |
| Creating new digital businesses via new products and services | Nike+ and iPhone |
| Reconfiguring value delivery models within a value chain | Volvo direct services |
| Rethinking value propositions—deploy digital to target unmet customer needs | Paypal |

*Source.* Westerman et al. (2014, p. 78).

The business model literature is not well connected to the strategy literature. Several scholars (Porter, 2001; Amit & Zott, 2015; Teece, 2018) have argued that the business model concept has not been adequately linked to strategy or strategy management. Zott et al. (2011) argued that the rapidly increasing body of literature on business models is being developed in silos and a more holistic study of business models is required. Interestingly, business models are unlikely to be patentable[12] and, consequently, unlikely to assure competitive advantage (as imitation is often easy) (Teece, 2010). This study explores the usage, connection and value of linking strategic planning and business models.

Business models constantly evolve in practice and in theory. Acceleration of technological, global, organisational and social change will mean much energy is devoted to and insight developed in this field of research. Two notable examples of gaps in the business model literature are in regard to the concepts of business ecosystems and AI-based businesses. Business ecosystems

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[12] A. Ovans. (2000). Can you patent your business model? *Harvard Business Review.* Retrieved from https://hbr.org/2000/07/can-you-patent-your-business-model .

are defined as a 'network of organisations—including suppliers, distributors, customers, competitors, government agencies, and so on—involved in the delivery of a specific product or service through both competition and cooperation'.[13] A recent survey (Accenture, 2018) indicated that 76% of business leaders agree that current business models will be unrecognisable in the next five years and that ecosystems will be the main change agent. Ecosystems are an increasingly important area of focus for business strategy and models in the digital economy. However, a gap exists in the business model literature, with insufficient coverage of the linkage and strategic association of business models to new organisational forms including ecosystems, external value chains and external value networks (Zott et al., 2011; Lund & Nielsen, 2014). Business models must articulate how value is captured not just for firms but for all stakeholders within the ecosystem, including the firm, partners, suppliers and customers, and what role they play in creating and capturing value (Zott & Amit, 2013). Similarly, emerging data and AI business models are not well covered in the business model literature, despite becoming commonplace in practice, especially in the investment community and marketplace (Nguyen-Huu, 2018). Data and AI business models require vast amounts of data, are very time consuming, build competitive moats and lend themselves to upselling and continually improving the quality of service. The return on investment (ROI) from a data and AI business model will be significant. Interestingly, as of July 2019, 32 of the 351 unicorns (private companies valued at over US$1 billion) are AI companies—up from 17 in 2018 and zero in 2015.[14] This study explores the practice and progress of data and AI-based businesses in terms of business model development and business strategy.

Overall, the literature on business models is broad, emerging and with no clear consensus on definitions or approaches. Practice is increasingly outpacing theory with real-world experimenting, innovation and, by default, defining of the role and direction of business model. Importantly, there is no clear theoretical connection to business strategy or strategic planning and

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[13] Business ecosystem. (2019, 13 June). In *Investopedia*. Retrieved from
https://www.investopedia.com/terms/b/business-ecosystem.asp .
[14] See https://www.cbinsights.com/research-unicorn-companies.

this gap needs to be addressed. Therefore, a secondary research question is proposed: What role does business model analysis play in business strategy? (SRQ3).

## 2.4 Platforms

The definition of a platform is evolving, but a generally accepted definition is 'a business based on enabling value-creating interactions between external producers and consumers' (Parker, Van Alstyne & Choudary, 2016, p. 5). Platforms not only provide offerings that are delivered digitally (e.g., banking, software, movies and music), but importantly leverage network effects for physical goods and services that involve physical products or services (e.g., taxis, accommodation, food, healthcare and office space). The concept of a platform business is not a new phenomenon and includes business forms such as ancient marketplaces, shopping malls and exhibition centres. However, today's platforms are increasingly supported by global digital technology infrastructures and transaction capabilities. Platforms are an extremely important enabler of digital businesses, providing an ecosystem of capabilities, large rapid scale advantages, access to market externalities, reduced transaction costs and tremendous sources of innovation (Evans & Gawer, 2016; Van Alstyne, Parker & Choudary, 2016). Platforms are now also a significant portion of the overall global economy, with seven of the 10 most valuable companies globally based on a platform business model.[15] Evans and Gawer (2016) provided an extensive inventory of the types and features of platforms in their survey of 174 platform companies.[16] Figure 2.3 provides some examples of well-known platforms and insights into their structural composition. The current literature on platforms is limited, evolving and would benefit from being more connected to business model theory and business strategy. The literature is also lacking in its distinction between leveraging a platform for competitive advantage and becoming a platform for competitive advantage.

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[15] J. L. Schenker. (2018, 19 January). *The platform economy*. The Innovator. Retrieved from https://innovator.news/the-platform-economy-3c09439b56 .

[16] The total value of these 174 companies exceeds US\$4.3 trillion and they employ at least 1.3 million people—demonstrative of the size, scale and economic force that platform companies have achieved.

| STRUCTURE | Hierarchal Organization + Physical Assets* | Platform ecosystem | EXAMPLES | |
|---|---|---|---|---|
| | | | Companies | Platform |
| Asset Heavy | | | Daimler<br>Johnson Controls<br>GE<br>Samsung | Moovel<br>Panopix<br>Predix<br>Tizen |
| Mixed | | | Apple<br>Amazon<br>Xiami | App store<br>App store<br>MI app store |
| Asset Light | | | Google<br>Uber<br>Airbnb<br>Priceline | Google Play<br>Uber app<br>Airbnb app<br>Booking.com |
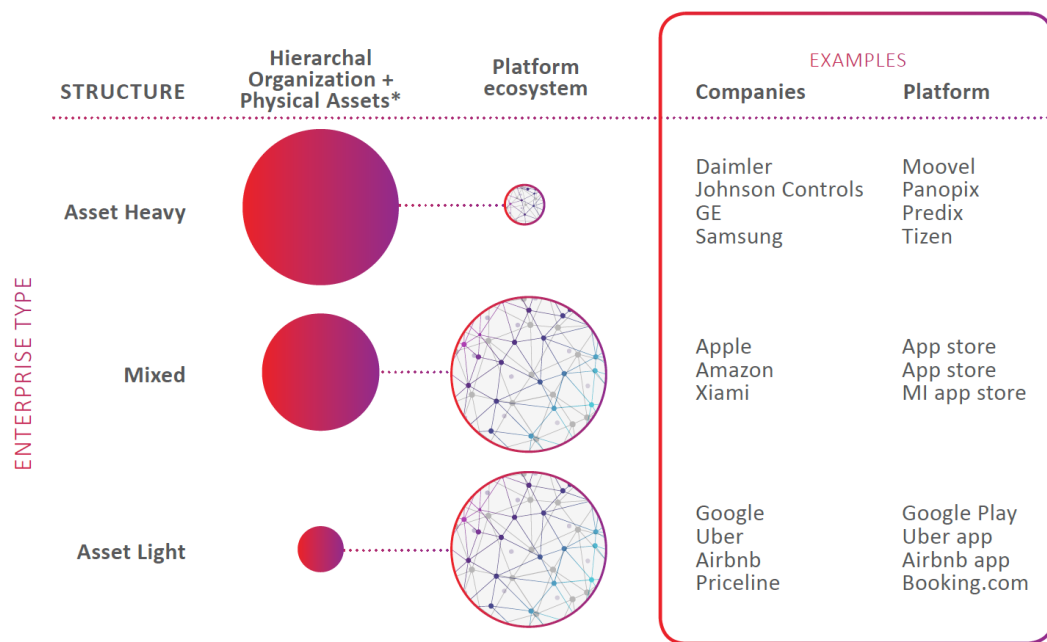
Figure 2.3. Platform by enterprise type and examples

*Source.* Evans & Gawer (2016, p. 20).

A more detailed examination of the definition or features of a platform is beneficial, as there are multiple dimensions to value created and leveraged. At a high level, platforms are businesses that bring together producers and consumers. A business platform is a nexus of rules and infrastructure that facilitate interactions among network users (Eisenmann, Parker & Van Alstyne, 2011). Platforms also provide a governance structure and a set of standards and protocols that facilitate interactions at scale so that network effects can be unleashed (Van Alstyne et al., 2016). Moazed and Johnson (2016, p. 29) defined 'platform' more comprehensively as:

> A business model, that facilitate the exchange of value, between two or more user groups a consumer and a producer. In order to make these exchanges happen, platforms harness and create large, scalable networks of users and resources that can be accessed on demand. Platforms create communities and markets that allow users to interact and transact.

Platforms drive business ecosystems. A significant portion of the literature actively encourages firms to become platforms or 'ecosystem drivers' in their own right (Weill & Woerner, 2018, p. 89; Brynjolfsson & McAfee, 2017). Designing and managing an ecosystem is complex,

entails the development of sophisticated business capabilities and is not without risk. Van Alstyne et al. (2016) provided a good framework to understand the shifts required to take advantage of platform business models—from resource control to resource orchestration, from internal optimisation to external interaction, and from a focus on customer value to a focus on ecosystem value. The role platforms will play in impacting business models, business strategy and the required organisational capabilities is significant. The economics of the platform business model, or 'platform economics' (Evans, Schmalensee, Noel, Chang & Garcia-Swartz, 2011), was initially focused on the two-sided nature of the platform business and platform-mediated network effects (Rochet & Tirole, 2003; Katz & Shapiro, 1994). Now the literature is focused on other key economic concepts such as complementarities, multi-sided markets, intermediaries, pricing theory and legal and monopolistic behaviour (Evans et al., 2011). Given the impressive rise, impact and success of platform businesses, we see an increasing dominance of platform companies in marketplaces and, in some cases, 'natural monopolies' (Teece, 2017; Brynjolfsson & McAfee, 2017; Moazed & Johnson, 2016). Parker and Van Alstyne (2018, p. 3015) went so far as to 'propose that a firm in charge of a business platform is a firm in charge of a microeconomy'. These 'natural monopolies' have the potential to stifle innovation, especially if the platform has a competing offer, as they control access and distribution mechanisms (Galloway, 2017). A good example is the case of the Spotify music service complaint over Apple's favourable access to its own music service in the Apple App Store[17]. Another complicating dynamic is that platforms may be contributing to increasing wealth concentration, with more and more of total sales and profits going to a smaller number of large firms (Haskel & Westlake, 2014).

Platforms are tremendous sources of innovation and can create compounding increases in combination value. Creation, leverage and use of platforms require firms to manage innovation and production that occurs externally (Parker & Van Alstyne, 2018). Managing and leveraging open innovation is a science in its own right and requires the capabilities of the organisation to

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[17] R. Toplensky, (2019). *Brussels poised to probe Apple over Spotify's fees complaint*. Retrieved from
https://www.ft.com/content/1cc16026-6da7-11e9-80c7-60ee53e6681d

increase significantly (Chesbrough, 2006). Going forward, platforms will create significant spill-over effects for data-driven businesses, creating a virtuous cycle of learning that will position them at the forefront for further technological advances in AI-, ML- and IoT-based business opportunities. For example, Amazon Alexa and Google Voice are platforms to leverage for natural language interfaces. Given the pace at which these technologies are evolving, it is understandable that this has not yet been covered in the literature, and this is explored as part of this research.

Most of the literature, for good reason, positively endorses the leveraging of platforms for competitive advantage and often encourages firms to become platforms in their own right. The definition of a platform is broad, nested and evolving, with consensus still forming. Platform economics is a growing and important field of research with significant wealth concentration manifesting. The impact platforms, platform economics and management of platforms in practice forms a rich and important topic of examination. Therefore, a secondary research question is proposed: How are platforms affecting digital businesses? (SRQ4).

## 2.5 Strategic Planning

Strategic dynamics are changing and the pace of change is accelerating, with the average age of firms within the S&P 500 projected to be 12 years by 2027, down from 33 years in 1964 (Anthony, Viguerie, Schwartz & Van Landeghem, 2018). However, before understanding how strategy is changing, it is important to establish a definition of what is strategy. This has been hotly debated (see, for example, Chaffee, 1985). Mintzberg, Ahlstrand and Lampel (2009) defined 10 'schools' of strategy: strategic formation, process, analysis, vision, cognition, emergent strategy, negotiation, culture, environment and transformation. Rumelt's (2011, p. 9) definition is simpler: 'strategy is the application of strength against weakness'. Similarly, strategic planning processes have been widely discussed, since Igor Ansoff's 1965 book *Corporate Strategy* (excluding the literature on military strategic planning, which goes back much further to Sun Tzu and Von Clausewitz). The literature on strategy has grown from the 1980s onwards, with the likes of

Mintzberg, Barney, Chaffee, Porter, Kaplan and others (McGrath, 2013). For the purposes of this study, 'strategy' is broadly defined as a plan for achieving a particular goal over a long period of time and 'traditional strategic planning processes and tools' are considered the body of work developed since the 1980s and largely based on the principles of industry views, competitive analysis, resource-based views and product differentiation (Porter, 1985; Barney, 1986a). Table 2.5 provides several examples of traditional strategic planning processes or tools. The contemporary literature (Teece, 2010; McGrath, 2013; Casadesus-Masanell & Zhu, 2013; Ries, 2011) criticises traditional strategic planning processes or tools for the following reasons:

- linear whereas the business world is messy and complex;

- slow, static and lacking in agility;

- overdependence on assumption-making versus real-time testing;

- too far removed from the customer;

- speed of imitability;

- unable to leverage failure;

- top down versus bottom up.

These criticisms are particularly interesting in light of digital disruption, which is impacting traditional business strategic planning primarily due to blurred industry boundaries, globalised competition, powerful global infrastructure platform, complex ecosystems, business model innovation, access to plentiful data, low initiation costs and low barriers to entry (Kim & Mauborgne, 2005; McGrath, 2013; Christensen et al., 2016). Digital transformation and technological intensity will continue to inexorably shape business strategy and the firm's ability to respond competitively (Schön, 2012; Loonam et al., 2018). Traditional views of competitive analysis require adaptation to the digital context, as they largely focus on intra-industry

competition[18] and supply-side driven logic (Teece, 2010; Zott et al., 2011). Gupta (2018) and Siggelkow and Terwiesch (2019), take this a step further and ask that firms define their business strategy around their customers and not their products or competitors. Strategic planning or analysis tools, theories and models need to factor a more dynamic, externalised, networked and complicated business ecosystem (Teece, 2010, 2017; Van Alstyne et al., 2016; Porter & Heppelmann, 2014). However, the literature has been slow to adapt, with practice outpacing theory.

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[18] A good example of the complexities of modern strategy analysis and cross-industry competition is to ask oneself, 'What business is Amazon in?' Retrieved from https://www.therobinreport.com/amazonification/

Table 2.5

*Examples of Traditional Strategic Planning Processes or Tools*

| Process or tool | Author | Brief description |
| --- | --- | --- |
| Ansoff's Matrix | Ansoff (1965) | Four growth alternatives for markets and products |
| BCG Matrix | BCG | Strategic position of the business brand portfolio and its potential |
| Benchmarking | Various | Competitive positioning on explicit business processes |
| Blue Ocean Strategy | Kim and Mauborgne (2005) | Focus on creating uncontested marketplaces |
| Business Model Canvas | Osterwalder and Pigneur (2010) | Visualise all the building blocks of starting a business |
| Five Forces Analysis | Porter (1985) | Identify the forces within an industry and supply side–driven logic |
| PESTLE | Generic | Political, economic, social, technological, legal, environmental |
| Real Options Analysis | Mun (2016) | Defer, abandon, expand, stage or contract a capital investment |
| Scenario Planning | Schoemaker, Day and Snyder (2013) | Proactively identify uncertainty and manage response |
| Strategy Maps | Kaplan and Norton (2004) | Document and communicate the strategic goals of an organisation |
| SWOT | Generic | Strengths, weaknesses, opportunities and threats |
| Three Horizons | McKinsey (1999) | Assess growth options without neglecting performance in the present |
| 7 S Model | Peters and Waterman (1982) | Structure, strategy, systems, style, staff, skills, shared values |

With strategy heavily impacted by the pace of technological change, software based businesses and business processes, multi-vectorial competition, the opportunity to leverage connected ecosystems, an abundance of data, usage of data as a competitive advantage and digital connectivity to the customer (Kirkpatrick, 2011; Siggelkow & Terwiesch, 2019), a new approach is needed. Unlike traditional methods of strategic planning, modern techniques are orthogonal to large-scale, long-cycle and incremental-only strategic planning efforts and have become synonymous with digital-era strategy and innovation (McGrath, 2013). Table 2.6 provides several examples of contemporary strategic processes. Many of these contemporary strategic processes are heavily influenced by software development methodologies, as many businesses and business processes are more and more software based, reinforcing the impact digital transformation has on building and sustaining strategic competitive advantage. The literature acknowledges there is also a lack of formal linkage of strategy planning processes with business model development, which many see as interdependent (Teece, 2018). Digital transformation and technology intensity are compelling force multipliers of change in the strategic planning process. The literature does not yet adequately include discussion of converged courses of action to impact on established strategy processes and frameworks.

The rapid pace of change has given rise to the trite question, is strategy dead? (Smith, 2014). McGrath (2013, p. xi) stated that 'Strategy is stuck' and offered the perspective of 'transient competitive advantage'. McGrath (2013, p. 7) argued that 'The deeply ingrained structures and systems that executives rely on to extract maximum value from competitive advantage are liabilities – outdated and even dangerous – in a fast-moving competitive environment'.

Table 2.6

*Examples of Contemporary Strategic Processes*

| Process or tool | Author | Brief description |
| --- | --- | --- |
| Rapid Experimentation | Rogers (2016) | An iterative process (convergent and divergent) of learning what does and does not work. |
| Fail fast, learn fast, fix fast | Khanna, Guler and Nerkar (2016) | Failures are an important source of experimentation and organizational learning |
| Minimum Viable Product | Dobrila Rancic Moogk (2012) | Bringing a product to market as soon as possible in order to test its value and growth projections |
| Agile Development | Alahyari, Svensson and Gorschek (2017) | Method for create new value through cross functional teams. Twelve principles are included in the Agile manifesto[19] |
| Continuous Software Engineering | Fitzgerald and Stol (2017) | Continuous activity between strategy, design, development and deployment |
| Dev Ops | Westerman, Bonnet and McAfee (2014) | Integration between development and operational deployment |
| Build-Measure-Learn | Ries (2011) | Turn ideas into products, measure how customers respond and learn whether to pivot or persevere |
| Connected Strategy | Siggelkow and Terwiesch (2019) | Connected customer relationships and Connected delivery models |

This evolution in business strategy and strategic planning has provoked business model innovation and experimentation (McGrath & MacMillan, 2009), providing a significant and perhaps overwhelming advantage to start-ups over traditional firms due to a lack of legacy and fewer barriers to entry. This potent mix of start-ups, entrepreneurialism, greenfield and access to capital to create business innovation has given rise to the new term 'effectuation', which attempts to encapsulate 'the logic of thinking, discovered through scientific research, used by expert

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[19] The Agile Manifesto. Retrieved from https://www.agilealliance.org/agile101/12-principles-behind-the-agile-manifesto/

entreprenuers to build successful ventures'.[20] Perhaps presciently, Mintzberg (1994, p. 107) stressed that 'strategic planning is not strategic thinking'—which, as a notion, could easily be extended to a more dynamic action-oriented stance of dynamically creating strategy, made easier, real and relevant in the digital economy.

It is important to recognise that there is still a durable role, often well developed in traditional strategic planning processes, for effective communication and engagement of the organisation (Hamel, 1996). In other words, regardless of the context, strategic planning and execution relies on organisational culture, defined as 'a set of core managerial values that define how they conduct business' (Barney, 1986b, p. 656). Barney (1986b, p. 663) concluded that 'a firm's culture can be a source of sustainable competitive advantage if that culture is valuable, rare, and imperfectly imitable'. Mintzberg et al. (2009) referred to this as the cultural school of strategic planning. The role of culture is compounded in the digital era via the pace of change, competitive responses, dynamic technology, access to specialist skills and external dynamics (see Section 2.1). As Hamel argues (1996, p. 75), 'Change is not the problem; engagement is'. The present study examines the priority and process firms place on culture, not only in terms of strategic planning but also strategic execution. Overall, the tension between pre-digital and post-digital strategic planning processes, tools and techniques is inadequately explored in the literature and practice is ahead of the theory. Therefore, a secondary research question is proposed: Are current strategic planning tools adequate and useful? (SRQ5).

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[20] See https://www.effectuation.org/ .

## 2.6 Chapter Summary

This chapter provided an overview of the previous research and literature on the factors influencing how firms build and sustain strategic competitive advantage in the digital economy. Using the Gioia Methodology (Gioia et al., 2013) to arrange a data structure for this research, the literature review was conducted in terms of the five aggregate dimensions. The literature review revealed many digital transformation frameworks are available but all have shortcomings. It is widely acknowledged that intangible assets form a larger part of firms' enterprise value, but these assets are difficult to measure due to definitional and data availability issues. The lack of connection between business model and business strategy is acknowledged in the literature. Platforms are generally considered as an important enabler of the digital economy, but definitions and models are limited. Finally, there is a gap between traditional strategic planning tools and process and more modern techniques. Where possible, definitions were provided and concepts explained, but the literature is evolving rapidly as are the phenomena under study. The next chapter discusses the research methodology.

# Chapter 3: Methodology

The purpose of this study is to explore how firms build and sustain strategic competitive advantage in the digital economy in practice. Due to the explorative nature of the research question, the research methodology must allow for both investigation of the topics and theory building (Corely & Gioia, 2011). Accordingly, qualitative analysis is an appropriate research tool for this study, as it seeks to explain 'how' and 'why' questions (Eisenhardt & Graebner, 2007; Yin, 2018). Given the dynamic and technologically intensive nature of digital transformation and digital disruption, it was decided that the research should focus on a scenario or industry that most closely resembled a 'pure' digital firm. From this ideal, generalisations could be formed and then tested in more hybrid businesses. Firms that have digital product only and are digital natives (i.e., start-ups using the latest-level technology and architecture) would represent a best-case scenario for analysis. Accordingly, digital banking was chosen (a new industry represented by leading edge start-ups whose product is wholly digital). To explore this topic fully, a qualitative analysis comparative case study method was chosen as the method of analysis (Yin, 2018). An evaluative quantitative analysis was considered but was rejected as unfeasible due to the lack of publicly available data, burgeoning and early-stage industry dynamics, definitional issues and measurement difficulties surrounding intangible assets. An analytical framework and a research data structure was developed to help guide the research, ensure thoroughness and completeness, and communicate the process employed. The analytical framework developed for this study is presented in Figure 3.1. This analytical framework is based on the Gioia Methodology (Gioia et al., 2013) and allows this inductive research process to 'apply a systematic conceptual and analytical discipline that leads to credible interpretation of data' (Gioia et al., 2013, p. 15).

```
Problem description
        ↓
Literature review          • Emergent and evolving topics
                           • Differentiate the rigorous from the simply popular
                           • Broad and inclusive initially
        ↓
Identify focused research area  • Identify high-impact areas
                                • Pose generalisations
                                • Identify themes and codes
        ↓
Sample definition          • Focus on one digital native industry (digital banking)
                           • Define target companies finely and eliminate potential for error
                           • Target CEOs for semi-structured interview
        ↓
Data collection            • Semi-structured interviews conducted
                           • Data recorded and stored
        ↓
Data analysis              • Interviews transcribed (NVivo and manually)
                           • Patterns identified
                           • Themes analysed using NVivo v12
                           • Coding schema utilised
        ↓
Emergent findings
```

Figure 3.1. Analytical framework

## 3.1 Research Design

This study used a qualitative comparative case study method to understand how firms build and sustain strategic competitive advantage in the digital economy. The rationale for the selection of the case study method is to *explain* the contemporary circumstance being experienced in practice (Yin, 2018; Creswell & Creswell, 2018; Gioia et al., 2013). This research aims to understand the experiences, lessons and motivations of target firms, and case study method is suitable for this purpose (Huberman & Miles, 2002; Siggelkow, 2007). According to the Gioia Methodology, 'Studying social construction processes implies that we focus more on the means by which organization members go about constructing and understanding their experience and less on the number or frequency of measurable occurrences' (Gioia et al., 2013, p. 16).

The comparative case study method was also chosen because gaining access to key information was identified as difficult. Many of the companies analysed are private companies and much of their data is commercially sensitive or provides a competitive edge. The industry analysed is at an early stage, with a rapidly evolving landscape in which large-scale patterns of success have yet to formalise. Researching intangibles assets was also identified as a challenge, with data not readily available and definitions still evolving. As this study seeks to explore and gain cultural insight into the digital banking industry, the case study methodology is appropriate. Finally, using the case study method establishes a method and benchmark that can be used in future research, for example future longitudinal studies.

A formal data structure was developed for this research based on the Gioia Methodology (Gioia et al., 2013) (see Figure 3.2): 'The data structure not only allows us to configure our data into a sensible visual aid, it also provides a graphic representation of how we progressed from raw data to terms and themes in conducting the analyses' (Gioia et al., 2013, p. 20). The first-order concepts try to remain faithful to informant terms (Gioia, et al., 2013; Strauss & Corbin, 1998). These are then reduced to manageable concepts, with a technique similar to axial coding (Strauss & Corbin, 1998) used to arrive at the second-order themes (Gioia et al., 2013). Using the constant comparative method, these second-order themes were then distilled further and compared against the literature as a set of conceptual building blocks or aggregate dimensions (Gioia et al., 2013). As previously discussed, these five aggregate dimensions became our five research areas, guiding the research in this study.
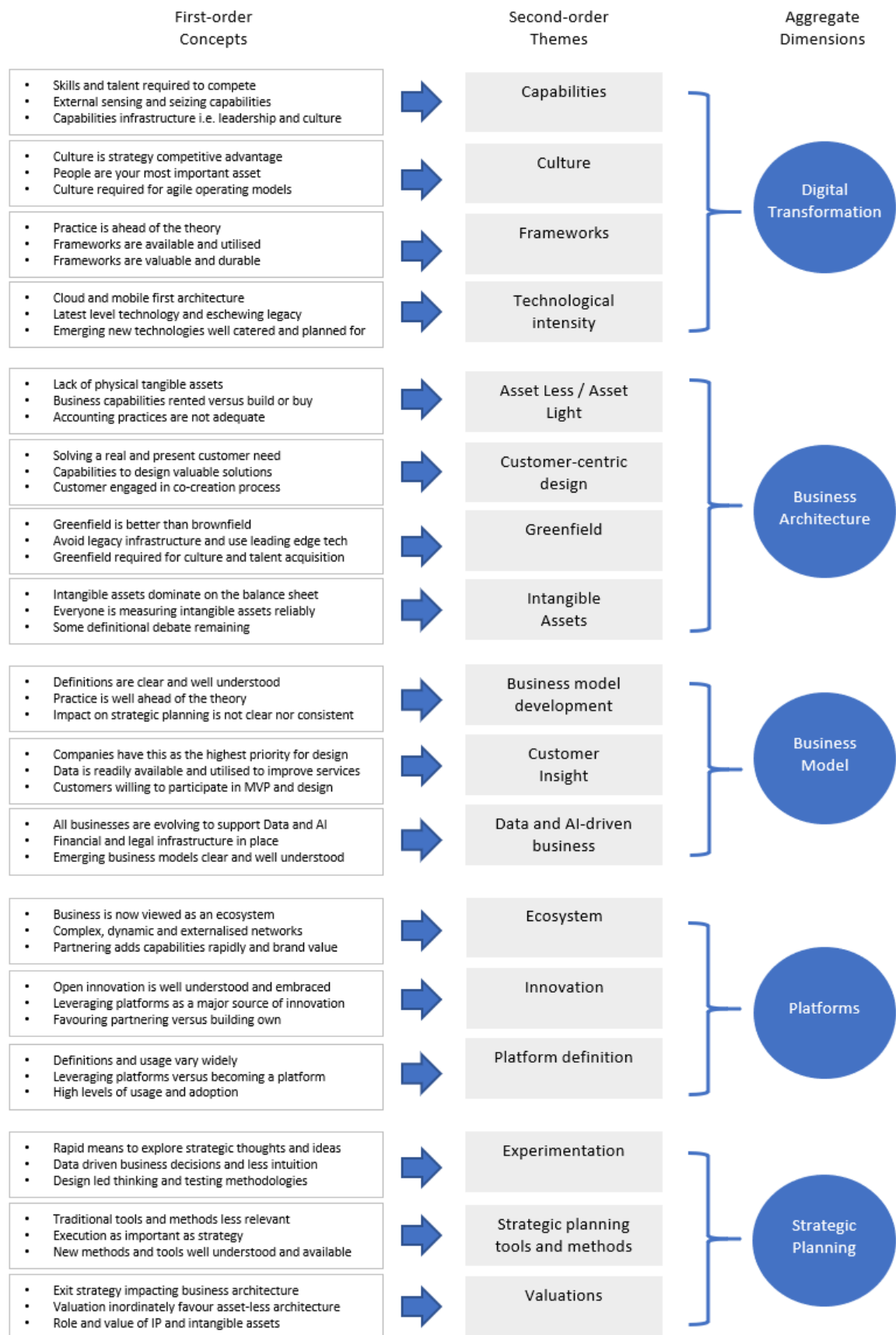
| First-order Concepts | Second-order Themes | Aggregate Dimensions |
|---|---|---|
| • Skills and talent required to compete<br>• External sensing and seizing capabilities<br>• Capabilities infrastructure i.e. leadership and culture | Capabilities | Digital Transformation |
| • Culture is strategy competitive advantage<br>• People are your most important asset<br>• Culture required for agile operating models | Culture | |
| • Practice is ahead of the theory<br>• Frameworks are available and utilised<br>• Frameworks are valuable and durable | Frameworks | |
| • Cloud and mobile first architecture<br>• Latest level technology and eschewing legacy<br>• Emerging new technologies well catered and planned for | Technological intensity | |
| • Lack of physical tangible assets<br>• Business capabilities rented versus build or buy<br>• Accounting practices are not adequate | Asset Less / Asset Light | Business Architecture |
| • Solving a real and present customer need<br>• Capabilities to design valuable solutions<br>• Customer engaged in co-creation process | Customer-centric design | |
| • Greenfield is better than brownfield<br>• Avoid legacy infrastructure and use leading edge tech<br>• Greenfield required for culture and talent acquisition | Greenfield | |
| • Intangible assets dominate on the balance sheet<br>• Everyone is measuring intangible assets reliably<br>• Some definitional debate remaining | Intangible Assets | |
| • Definitions are clear and well understood<br>• Practice is well ahead of the theory<br>• Impact on strategic planning is not clear nor consistent | Business model development | Business Model |
| • Companies have this as the highest priority for design<br>• Data is readily available and utilised to improve services<br>• Customers willing to participate in MVP and design | Customer Insight | |
| • All businesses are evolving to support Data and AI<br>• Financial and legal infrastructure in place<br>• Emerging business models clear and well understood | Data and AI-driven business | |
| • Business is now viewed as an ecosystem<br>• Complex, dynamic and externalised networks<br>• Partnering adds capabilities rapidly and brand value | Ecosystem | Platforms |
| • Open innovation is well understood and embraced<br>• Leveraging platforms as a major source of innovation<br>• Favouring partnering versus building own | Innovation | |
| • Definitions and usage vary widely<br>• Leveraging platforms versus becoming a platform<br>• High levels of usage and adoption | Platform definition | |
| • Rapid means to explore strategic thoughts and ideas<br>• Data driven business decisions and less intuition<br>• Design led thinking and testing methodologies | Experimentation | Strategic Planning |
| • Traditional tools and methods less relevant<br>• Execution as important as strategy<br>• New methods and tools well understood and available | Strategic planning tools and methods | |
| • Exit strategy impacting business architecture<br>• Valuation inordinately favour asset-less architecture<br>• Role and value of IP and intangible assets | Valuations | |

Figure 3.2. Research data structure framework based on the Gioia Methodology

*Source.* Gioia et al. (2013)

## 3.2 Research Dimensions

The digital banking industry was chosen for this phase of the research to enable focus and containment of complexity to one industry. Digital banking is defined as the digitisation (or moving online) of all traditional banking activities and programs historically only available to customers when physically inside a bank branch. This includes money deposits, withdrawals, transfers, lending and chequing and savings account management. Digital banking was chosen because it is widely considered to be the 'most' digital of any industry (Ghandi et al., 2016), and thus represents an extreme perspective of the digital economy from which inferences can be drawn. Digital banking has a lack of physical embodiment—its product, distribution, sales and service are digital. Digital banking has no need for any physical presence for value exchange. Digital banking has a very strong consumer connection, which has massive potential for digital innovation and disruption. Digital banking has a very high degree of technological intensity, which is also a factor in defining digital intensity. Digital banks are also experiencing high valuations compared to incumbents,[21] which makes investigation of their business strategy to enterprise value or ROI more interesting. Finally, the researcher has relevant industry experience, having spent 23 years in technology and banking, thus reducing the potential for misinterpretation and accelerating pattern identification.

This research only focuses on the CEO-level perspective. As recommended by Zellmer-Bruhn and Gibson (2006), the highest possible senior managers were selected for the sample, in this case, CEOs. These individuals hold positions of power and influence at the corporate level. These 'knowledgeable agents' (Gioia et al., 2013) clearly have knowledge, lived experience, breadth and perspective that is invaluable to this research. The CEO 'informant' would also be able to traverse the many interrelated concepts of strategy, valuation, architecture, culture and execution. The selection of an individual is considered to provide a more 'concrete' manifestation

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[21] Digital bank Monzo doubles valuation to over £2bn in 8 months. (2019, June). *Financial Times*. Retrieved from https://www.ft.com/content/31527e48-9689-11e9-8cfb-30c211dcd229 .

of any abstraction (Yin, 2018). A requirement of this research was that the CEO was not able to delegate the interview as this would void the analytical foundations of the research. The researcher also had extensive contacts in the digital banking industry and was able to access a sufficient number of these CEO practitioners to make the research robust.

Semi-structured interviews were chosen as the method of data collection. Semi-structured interviews guarantee a certain degree of consistency in questions, enabling us to build robust theory by constantly comparing respondents and cases. They are also suitable instruments for explorative purposes, as they leave enough flexibility for interviewees to bring up important and unanticipated issues (Myers, 2009; Gioia et al., 2013). Interviews were constructed around the concept of the problem-centred interview. The problem-centred interview is a highly efficient way to gather rich data, as it permits the informant to reflect comprehensively on critical incidents from their working environment (Tenzer & Pudelko, 2017). Interviews were conducted over a five-month period, which enabled transcription and analysis to be conducted in parallel to interviews. This axial comparative method (Corbin & Strauss, 1990) enabled patterns, trends and concepts to be developed in subsequent interviews (Gioia et al., 2013). The semi-structured interview consisted of 12 open-ended questions (see Appendix 1). These questions were sent to interviewees prior to the interview (see Appendix 2), but no preparation by interviewees was required or requested to enable more candid and spontaneous responses to reduce the potential for reflexivity bias (Yin, 2018). The questions were piloted with one target CEO and one subject matter expert, and were subsequently improved before conducting interviews with sample CEOs. The approach and the interview questions were approved by the University's Ethics process (see Appendix 3). To explore additional dimensions, each interviewee was asked at the end of the interview process, 'Was there a question I should have asked?' In most cases the response was (interestingly), 'No, I think you have covered everything well', but in all cases the question prompted additional open dialogue. This helped reduce the potential of missing key insights or 'aspect(s) of their

sensemaking by imposing our preordained understandings on their experience' (Gioia et al., 2013, p. 17).

## 3.3 Sample Design

Eight interviews were conducted. In qualitative research, there is no rule as to how big a sample size should be. This research followed the guidance of Creswell and Creswell (2018, p. 186) that, for phenomenology, a sample size of 3–10 is good. This sample size allowed for saturation, as no major new themes or concepts were addressed in the eighth interview. The sample size was also determined by the pragmatic issue of subjects' availability. The sample size fits well with the total population of high-profile digital banks globally at the time of writing (26; see Appendix 4). A sample size of eight firms (i.e., 30.7% of current digital banking firms) was considered adequate to obtain patterns and insight. It is expected that the number of such firms will continue to grow over time, as they are relatively easy to establish (and low-profile digital banks are quick to arrive and difficult to verify).

A strict definition of 'digital banking' was applied. Incumbent banks' 'digital channel only banking' was not classified as a digital bank in this study, as this is a marketing veneer (i.e., banks masquerading as digital-only banks). Future research could undertake a comparison case study between digital and incumbent banks, which would be interesting given that the incumbents would be focused on brownfield digital transformation compared to greenfield digital banks. Firms referred to as 'FinTechs' were not included in the sample. The rationale for their exclusion was that FinTechs often focus on providing specialised financial transactions and not necessarily the full customer relationship, hence they have an insufficient coverage of a value chain. FinTechs often partner with banks and digital banks, and future research could cover FinTechs and undertake comparative analysis with digital-only banks.

## 3.4 Data Collection and Analysis

Structured interviews were conducted over the period October 2018 to February 2019. During the entire process of data collection and analysis, an iterative process of cycling among data, literature and emerging theory was undertaken (Corbin & Strauss, 1990). Interviews were conducted in person, over the phone or via video conference (Zoom) (see Table 3.1). All interviews were recorded with permission and no direct attribution was assured. The researcher actively took notes during interviews. All eight interviewees were CEOs and seven were male. The average interview length was 42.2 minutes. All interviewees indicated that they were available for follow-up if required without prompting by the researcher.
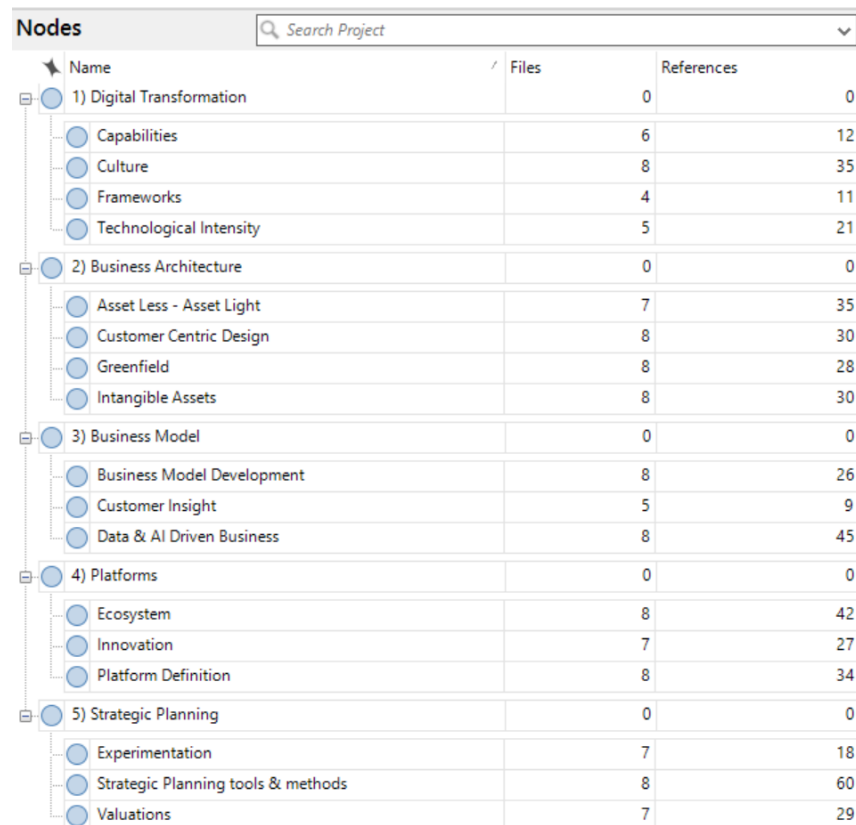
Table 3.1

*List of Participant Organisations (CEO Interviewed)*

| No. | Firm name | Website | Country | Firm age (years) | Interview length (mins) | Transcript length (pages) |
|-----|-----------|---------|---------|------------------|-------------------------|---------------------------|
| 1 | ClearBank | https://www.clear.bank/ | UK | 4 | 46[a] | 12 |
| 2 | Judo Capital | https://judocapital.com.au/ | AU | 2 | 36[b] | 9 |
| 3 | Moven | https://www.moven.com/ | US | 8 | 35[b] | 8 |
| 4 | uBank | https://www.ubank.com.au/ | AU | 11 | 42[c] | 12 |
| 5 | Up | https://up.com.au/ | AU | 2 | 55[a] | 18 |
| 6 | Volt Bank | https://voltbank.com.au/ | AU | 2 | 41[c] | 12 |
| 7 | Xinja | https://www.xinja.com.au/ | AU | 2 | 28[b] | 9 |
| 8 | Lendful | https://lenful.ca | CA | 5 | 55[a] | 14 |

*Note*. [a] = video conference (Zoom), [b] = phone interview, [c] = face-to-face (in-person) interview.
UK = United Kingdom, AU = Australia, US = United States, CA = Canada.

All interview audio recordings were transcribed using NVivo Online Transcription service and manually edited for verification and accuracy. The transcripts were then uploaded into NVivo 12 software for theme analysis. The second-order themes were used iteratively to collate concepts, themes and insights systematically. Figure 3.3 outlines the coding schema used to link passages in interviews with the second-order themes from the data structure. The number of times a concept was identified and linked is indicated in the figure.

| Nodes | Files | References |
|---|---|---|
| 1) Digital Transformation | 0 | 0 |
| Capabilities | 6 | 12 |
| Culture | 8 | 35 |
| Frameworks | 4 | 11 |
| Technological Intensity | 5 | 21 |
| 2) Business Architecture | 0 | 0 |
| Asset Less - Asset Light | 7 | 35 |
| Customer Centric Design | 8 | 30 |
| Greenfield | 8 | 28 |
| Intangible Assets | 8 | 30 |
| 3) Business Model | 0 | 0 |
| Business Model Development | 8 | 26 |
| Customer Insight | 5 | 9 |
| Data & AI Driven Business | 8 | 45 |
| 4) Platforms | 0 | 0 |
| Ecosystem | 8 | 42 |
| Innovation | 7 | 27 |
| Platform Definition | 8 | 34 |
| 5) Strategic Planning | 0 | 0 |
| Experimentation | 7 | 18 |
| Strategic Planning tools & methods | 8 | 60 |
| Valuations | 7 | 29 |

Figure 3.3. Coding scheme for linking interview passages. Screenshot taken from NVivo12. The number of 'Files' is the number of interviews that mentioned a concept, and the number of 'References' is the number of times a concept was referred to. See Figure 3.2 for the data structure and explanation of the second-order themes.

## 3.5 Addressing Weaknesses in the Method

The comparative case study method is not without its weaknesses. Some of these weaknesses are addressed by the multiple case study interviews, study design, analytical

framework and developed data structure. The researcher has relevant industry experience, reducing the potential for misinterpretation. There are several weaknesses inherent in the semi-structured interview process, including bias due to poorly articulated questions, response bias and inaccuracies due to incorrect recall and reflexivity (Yin, 2018). To overcome these, confidentiality and anonymity were assured, questions were opened ended and elaboration on answers was requested, potential multiple and contrary findings were identified and addressed, and the researcher created a friendly and non-threatening environment. The researcher also actively took notes during the interviews and did not rely solely on the audio recording.

## 3.6 Chapter Summary

This chapter discussed the chosen research methodology, the reasons for its selection, the data collection method and data analysis process. To explore this topic and the surrounding issues fully, a qualitative analysis comparative case study method was chosen as the method of analysis (Yin, 2018). An evaluative quantitative analysis was considered, but rejected as unfeasible due to the lack of publicly available data, burgeoning and early-stage industry dynamics, definitional issues and measurement difficulties surrounding intangible assets. An analytical framework and research data structure based on the Gioia Methodology (Gioia et al., 2013) was utilised. Fourteen second-order themes were identified and five aggregate dimensions developed, which subsequently formed the basis of the secondary research questions and structure of this thesis. The digital banking industry was chosen for investigation as it is one of the 'most' digital industries and provides an extreme perspective of the digital economy from which inferences can be drawn. Twenty-six potential digital banks were identified and eight CEOs were interviewed (representing 30.7% of current digital banking firms). All interviews were audio recorded, transcribed and analysed.

# Chapter 4: Findings

Data analysis illustrated a high degree of consistency for the design premise of digital firms, common challenges faced, firm direction, firm motivation and business architecture. Most firms felt their practice was ahead of theory in most areas and were heavily focused on speed and the ability to execute fast to capture markets, talent and brand value.

To answer our research question—how do firms build and sustain strategic competitive advantage in the digital economy—we followed the data structure (see Figure 3.2) and the five aggregate dimensions (digital transformation, business architecture, business models, platforms and strategic planning). Table 4.1 provides a summary of the data occurrences by aggregate dimension and Table 4.2 provides indicative quotes supporting the aggregate dimensions by second-order theme.

Overall, the findings were consistent, enlightening and thought provoking. The interviewees were strong 'knowledgeable agents' (Gioia et al., 2013) with the capacity to span topics, concepts and experiences. The CEO-level informant was a solid role type to leverage for this fast-paced, dynamic research area and their communications skills were highly valued. The data collected and insights obtained were astute, interesting and a rich baseline to continue this line of study.

Table 4.1

*Summary of Findings by Aggerate Dimension and Number of References*

| Aggregate dimension | No. of references within aggregate dimension |
| --- | --- |
| Digital transformation | 79 |
| Business architecture | 123 |
| Business models | 80 |
| Platforms | 103 |
| Strategic planning | 107 |

Table 4.2

*Data Supporting Aggregate Dimensions and Second-order Themes*

| | Second-order theme | Source | Indicative quotation |
|---|---|---|---|
| **Digital Transformation** | Capabilities | CEO 5 | Everybody else is literally an engineer or a product designer or whatever, and so highly qualified people all working towards an outcome which is aligned. |
| | | CEO 2 | And now that means your whole recruitment process has to change because the amount of creativity you need in those people is so much greater than what you would normally technically recruit for. |
| | | CEO 3 | You really need good-quality, high-calibre staff, that know what they're doing. |
| | | CEO 8 | You know, the people I have in my bank are only 50% cent of them are bankers [sic]. The rest are from other industries that banking desperately needs. |
| | | CEO 5 | It's miles faster because of our technical prowess than any other any other bank or financial institution |
| | Culture | CEO 3 | It's a culture that you have to foster and you have to develop to show people that it's safe to share. And go wrong or get it right. |
| | | CEO 5 | We would say our human capital, and our team, our culture is our number one asset. |
| | | CEO 8 | Our culture is trying hard to drive ego out—it's trying hard to drive personal opinion out. |
| | | CEO 8 | Obviously, the culture [of incumbents] is not set up for innovation or design or change. |
| | | CEO 4 | And we see our competitive advantage being driven by the extent that which our culture and strength of our human capital will be a very difficult thing for people to replicate. |
| | | CEO 2 | We're a regulated institution and we cannot behave like we've been bootstrapped. |
| | Frameworks | CEO 8 | It's about shifting focus from old school—old cultural mentalities where you are guarding assets, you're guarding stability, you're guarding you know the same outcomes year after year churning out super profits. |
| | | CEO 6 | So in almost all respects we think banking has been a laggard in terms of getting with the digital disruption. Banks have had digital channels digital processes, apps and capability but fundamentally they've used it as a channel—they've missed the whole picture that the world has changed. |
| | | CEO 6 | We'll copy all of those sorts of things that work well for them [UK digital banks]. But avoid where we can some of the things that didn't work for them. |
| | Technological Intensity | CEO 3 | I think technology will become table stakes to some extent, where you just expect, the customers would just expect a certain level of functionality. |
| | | CEO 5 | In November last year we actually achieved an average of 10 times a day that we deployed software updates to our customers live into production … there's no bank in the world that we know doing that. |
| | | CEO 1 | Financial services is *the* industry that lends itself to true 100% digitisation globally. |
| | | CEO 1 | We can do sterling Euro transactions in 300 milliseconds, 24 hours a day, seven days a week. No other bank in the world can do that with settlement finality. |
| | | CEO 6 | But as technology moves we've said, 'Okay well let's get right to the contemporary end of it'. |
| | | CEO 6 | Internally though, we see ourselves much more of a data or technology company who just happens to have a balance sheet. |
| **Business Architecture** | Asset Less/Asset Light | CEO 8 | However, you know the business strategy to own as little as possible and to be responsible for maintaining as little as possible is absolutely, is absolutely prevalent and has been one of our guiding principles. |
| | | CEO 8 | However, was I going to build a core banking platform from scratch. No I'm not, because there's about six or seven people on the market that have built incredibly brilliant modern ones. And why on earth would I shoulder the risk of doing that when I don't have to. |
| | | CEO 4 | because the world will keep on evolving and you don't want to be trapped in your own infrastructure. |
| | | CEO 4 | You don't have to be the owner of physical assets. You don't have to have a highly capitalised business to operate in a highly competitive way. |
| | | CEO 1 | I've gone through the infrastructure build, you know I've spent millions of pounds on Sun equipment, millions of pounds on Oracle. Knowing that as soon as I'd written the cheque out and bought the equipment it was obsolete. |
| | | CEO 1 | What that customer should be entitled to do is to go into the open market and procure the financial services from the market, from a provider of their own choice. |
| | Customer-centric Design | CEO 7 | The next level of that pressure is going to be on pure economics. Acquisition costs, relationship costs, servicing costs, etc., where the digital guys all ... are better at that. |
| | | CEO 7 | but more so it's a design premise around ... What is the core service that a bank provides? |
| | | CEO 8 | And so we are trying to revolutionise the idea of a theory that's, you know, stakeholders are shareholders and customers are opposing and warring factions and we believe actually that their interests can be and should be very closely aligned. |
| | | CEO 8 | Neo banking isn't all about the digital. It's not about the technology. It's about using that to refocus the business on customers and their problems. |
| | | CEO 2 | I want it to be an experience that is fast and simple and efficient. I certainly don't have to want to wait until I walk into a branch to have to do business with you. |
| | Greenfield | CEO 8 | Obviously the culture [of incumbents] is not set up for innovation or design or change. Most financial services institutions cultures are set up for stability compliance keeping everything the same. |
| | | CEO 8 | In what used to cost tens of millions of dollars or even hundreds of millions of dollars in terms of back-end banking platform technology has now come down to a pay for service of 10, 15, 20 grand a month. |

| | Second-order theme | Source | Indicative quotation |
|---|---|---|---|
| **Platform** (Business Model / Platform spanning left) | | CEO 8 | I don't want the legacy IT [information technology]. I don't want the legacy infrastructure. The only type of bank you might be able to buy would be an old credit union. Why would you buy all of those problems? Why not start the business yourself? |
| | | CEO 1 | You actually need to bring something up that's completely brand new rather than relying upon the incumbents to change. … because rarely they will change, and even if they do change, they'll only change and morph into what they already were. |
| | | CEO 6 | When you have a look at those typically their employees are not the sorts of ones who are going to transform a bank. They have yesterday's thinking as do most banks in the world. |
| | | CEO 6 | So we made the decision to start a blank sheet of paper—recruit the skills the capability and the attitude in from day one and partner with best in class firms. |
| | Intangible Assets | CEO 8 | Not at this stage. I mean, we're still probably still too early in our journey to spend time and effort and focus on measuring intangibles. We know they are incredibly important ... we keep a close eye on them and we make sure we grow them and protect them. |
| | | CEO 7 | … and yet those companies who are struggling the most right now because they haven't been able to shift to the intangible elements of value creation. |
| | | CEO 7 | When you're trying to value those intangible assets as you're developing it, it is almost impossible. |
| | | CEO 7 | That data is the most valuable intangible asset of all time. |
| | | CEO 4 | How do you measure your success in developing intangible assets? [long pause] I am going to have to reflect on that question. I don't have an easy response to that. |
| | | CEO 6 | It's a good point and one I haven't applied a whole lot of thinking to. I guess there will be common measures return on equity. |
| **Business Model** | Business Model Development | CEO 8 | I would say they are the same thing. If your business model doesn't follow business strategy, one of them's wrong. |
| | | CEO 8 | We're trying to take old business model and not just stick it through a phone. That's not the idea at all, but actually to completely revolutionise the way people interact with money—how the think about money, what they think a bank is. We're trying to completely change that so innovation is the core of what we do. |
| | | CEO 2 | We think there is a business model in there that says people will pay for simplicity of understanding their financial opportunities. |
| | | CEO 6 | What we do know is because we are breaking new ground here. There isn't a model per se for us to follow at least in the financial services world. So we fully expect that we will morph … our business model will morph over time. |
| | | CEO 6 | Had you asked us, day one, from a business model perspective what will you look like and we would say we'll be 95% direct to consumer before we get out the gates. That view has changed. |
| | Customer Insight | CEO 6 | Banks of the future will use data analytics to understand what customers have got going on in their lives and then they'll provide the full range of solutions to help customers get to that outcome and the best possible shape. |
| | | CEO 6 | They haven't used data analytics well at all and we think starting with a clean sheet of paper there is an opportunity to transform the way that banking is done, not just in Australia but globally. Genuinely understand what customers need and bring those tools, services and support to help customers. |
| | | CEO 6 | It is the weird cats [on our team] who will understand how our customers think and act and who will make us famous. |
| | | CEO 7 | … and yet those companies who are struggling the most right now because they haven't been able to shift to the intangible elements of value creation - their customer experience data. |
| | Data- and AI-driven Business | CEO 8 | Certainly. I'm not sure the algorithm is the only sustainable competitive advantage ... it seems a little a little over simplistic to me, but I think data is an essential and vital part of any modern business that wants to work and survive. |
| | | CEO 5 | So as part of the collaboration we have joint ownership of data and with all the partners we are ... We're very upfront about who owns what. |
| | | CEO 8 | So no, you always need more data. There's never enough. |
| | | CEO 8 | You know if you don't make your decisions based on the data then you're effectively guessing. |
| | | CEO 1 | I don't believe AI is silver bullet. I think to use AI correctly you have to actually pump it with new data rather than stuffing it full of old data and hoping it's going to produce a miracle. |
| **Platform** | Ecosystem | CEO 5 | I can have all those products with the next few months through four partnerships that we're currently sort of percolating. I don't necessarily have to originate those products or build those products myself. |
| | | CEO 5 | And then there's a bunch of APIs that we'll open up through the open banking regime and through our own processes mechanisms so that other people can use our infrastructure to build solutions that we might not have thought of or that we don't have the capacity or the time to build. |
| | | CEO 6 | So leveraging partnerships has been more of an opportunity than we had expected from day one as well. |
| | | CEO 6 | We will manufacture banking products, but other things like access to energy, refinancing all of those things we all import right are access to those tools, services, products for customers. So we will become a platform in that respect as well. Right. |
| | Innovation | CEO 7 | One, we are a smaller team so we can deploy capital more efficiently. We don't have leadership process or legacy systems that slow down our process of innovation. |
| | | CEO 8 | Innovation is the core of what we do and everything else supports that—it's not the other way around. We don't do something and then find a way to innovate. It's the other way 'round. |
| | | CEO 4 | Open to the idea of operating in an ecosystem where there is a lot of innovation taking place that you can benefit from and also where there are other people that can benefit from your innovations. |
| | | CEO 2 | And so what I find fascinating is companies that think they have to look outside for innovation, but what they could be doing is encouraging a culture of innovation and empowering people to actually bring their ideas in. |

| | Second-order theme | Source | Indicative quotation |
|---|---|---|---|
| | | CEO 6 | What we have found is a much better hearing from partners big firms like the Microsofts and the Salesforces, the FISs and the MasterCards, but also with smaller firms—incredibly innovative. Wanting to bring something to market, struggling with the major banks. We're very very happy to partner with them. Help give them oxygen and really differentiated. |
| | Platform Definition | CEO 2 | Yes, the bigger picture is a brand with a platform. |
| | | CEO 8 | Am I ever going to offer insurance? No I am not. Am I ever going to offer wealth management services or robo advice? No I'm not. But am I going to make those things available to my customers through our platform in a sort of walled garden environment? Yes I am, absolutely. |
| | | CEO 8 | I will want look after my customers and make sure that everything they could need financially is in one place. And it's not just there because we want to make money out of it, it is there because we think it's a really good product for them and we'd probably give them the choice of two or three curated products in each category. |
| | | CEO 8 | Yes absolutely we're looking to become a platform and not just in Australia either. This is a global ambition, global play. |
| | | CEO 1 | So we decided that we would be much better off letting Microsoft spend a billion a year for us than trying to raise a billion from shareholders each year to do that job. Because the billion from our shareholders to do that job would result in a very simple 'no' answer from them. |
| | | CEO 1 | No. We will become a scheme, not a platform. Because of the nature of what we do, and it goes back to the fine point of money and money being the easiest thing in the world to digitise, is that in relation to the way that Visa or MasterCard operate payment schemes, we will become a payment scheme. And those discussions are already reasonably well advanced. |
| Strategic Planning | Experimentation | CEO 3 | Early on we ran a lot of experiments around customer acquisition. |
| | | CEO 3 | But. I would never write a business plan. Like I would write kind of like what my hypothesis would be with respect to rolling out the business but the reality is it won't be until we run a number of tests that the actual tests will start to tell us where the opportunities are. |
| | | CEO 8 | So you know the idea that strategy is dead and you just stick a product out there in some crappy form and innovate on it and people will come. I think it's probably a little blinkered. |
| | | CEO 6 | … take advantage of being a close follower rather than ground breaker. |
| | Strategic Planning Tools and Methods | CEO 3 | So you can ... you can write a beautiful 42-page business plan that says you know, this is the whole execution strategy. But it's like an army, you know, once you're out there on the field, like, you're getting real-time information that your competitors have all changed their tact. |
| | | CEO 7 | I think strategy and execution of strategy ... tend to be much more closely correlated ... So you can have a great strategy, but if you can't execute on it, in real time ... then ... you know ... I think that's a challenge ... |
| | | CEO 5 | So we saw opportunity based on what was happening overseas. |
| | | CEO 5 | Now we have created business plans along the journey ... we've created business plans, we've documented visions and all of that sort of stuff. A lot of that stuff ends up in the shredder. |
| | | CEO 8 | Strategy isn't dead. If you're just going to hand your business over to engineers and let them iterate of MVP, you can end up with a business that solves a whole bunch of problems that no one cares about. |
| | | CEO 8 | … if you turn up to an investor and say, 'hey, give me 20 million bucks. I'm just going to innovate on it and iterate and see what happens'. You know you're going to get laughed at. |
| | | CEO 2 | No, I think people that say strategy is dead are probably not good strategy. They are not willing to put a stake in the ground this here's what the future could be and they are happier to just say if we do an MVP we won't necessarily fail. |
| | Valuations | CEO 5 | But the more things we build in house, the more valuable we are to a potential suitor or investor in the future where our intellectual property could be sold or licensed. |
| | | CEO 7 | Which is why the stock market today, the best-performing companies are all tend to be technology based. It is bang for buck, in terms of their deployment of capital and its ability to generate returns. Traditional companies cannot compete on the basis of tangible assets versus intangible in terms of conversion for their return. |
| | | CEO 2 | So I think there's a premium in those valuations because of their mystery … around where consumers will go next. |
| | | CEO 2 | I think our valuation is absolutely one of customer growth. |

*Note*. The number ascribed to CEOs does not in any way correspond to any list order, interview timing or alphabetical order, to ensure anonymity.

## 4.1 Digital Transformation Findings

All interviewees felt their firms were playing a significant role in the digital economy and were at the leading edge of digital transformation. Yet, none of the interviewees were using a formal digital transformation framework of any kind. Many felt that there was no need as they were living digital transformation and were 'in the eye' of the digital transformation 'storm' and, as such, were sceptical of the value of any digital transformation framework due to their theoretical nature, outdated thinking and a penchant for slowing down firms. Many of the interviewees spoke eloquently about the quest for finding and targetting 'uncontested marketplaces' (Kim & Mauborgne, 2005), but mixed this with a healthy dose of observing, leveraging and replicating business success from other parts of the world. Many referred to replication as a strategy in lieu of using frameworks (e.g., 'We'll copy all of those sorts of things that work well for them [UK Digital Banks]' [CEO 6]), as this was faster, proven and cost effective (Teece, 2018), and all were leveraging the ground-breaking work of British digital banks.

Interviewees were concerned with speed, opportunity, capturing the customer's mindshare, first-mover advantage and the compounding positive effect this has on brand value and strategic competitive advantage. None of the interviewees were using or mentioned knowledge of any of the five digital transformation frameworks reviewed in Chapter 2. All respondents felt that the practice of digital transformation is well ahead of the theory and that most analyst or research firms look to their firms for insights.

Given the high-speed nature of the digital economy and digital banking, all interviewees felt that a digital culture was critical and a strategic competitive advantage. There was a belief among the interviewees that a high-performing culture will address, in real time, strategy issues. Almost all interviewees preferred greenfield over brownfield, as they found it easier to create a new strategically competitive culture, rather than transform an existing culture. Many referred to a 'culture of innovation' and being highly focused externally, not internally:

Culture is an incredibly difficult thing to replicate. (CEO 4)

Obviously, the culture (of incumbents) is not set up for innovation or design or change. (CEO 8)

The quality of talent and the ability to attract and retain the best talent appeared frequently in the data, with a tendency to seek high-order technical and business skills than domain-specific skills. New digital capabilities such as technology, customer insight and experimentation were discussed, but were treated as more fundamental and foundational than transformational—it is to attract and develop these new digital capabilities that these banks have established themselves. Interviewees indicated that it was going to be difficult for incumbents to transform, for example, 'You know, the people I have in my bank are only 50% of them are bankers [sic]. The rest are from other industries that banking desperately needs' (CEO 8).

Interviewees expressed that they often felt they were a software company that happens to operate a bank. The data indicates their passion for technology intensity and acumen is high, balanced with the need to maintain trust, security and reliability when managing people's finances and regulatory requirements. They leverage experiences and insights from other industries, automate most (not all) processes and seek the latest technological advancements (directly or via partnering). Many referred to software or technology platform companies (e.g., Apple and Amazon) as their major competitors and the places from which they obtain most of their strategic insights and patter observations:

> What we want to be is a software company and we want to have what we call technology-led banking and solving problems with technology, rather than being a banking-led technology solution which is what anyone else is doing. (CEO 5)

> But as technology moves, we've said, 'Okay, well let's get right to the contemporary end of it'. (CEO 6)

## 4.2 Business Architecture Findings

All interviewees supported asset-less or asset-light business architecture. Digital banks do not want to own infrastructure or physical/tangible assets. Reasons cited were cost, flexibility, speed and evergreen/latest-level capabilities. All interviewees had a preference for partnering as opposed to building their own solutions. When an asset is a deep source of competitive advantage, interviewees indicated that they will tend to build their own. All interviewees went to great lengths to explain their decisions for their business and the technological architecture, supporting the notion that architecture is strategy. For example:

> The world will keep on evolving and you don't want to be trapped in your own infrastructure. (CEO 4)

> In what used to cost tens of millions of dollars or even hundreds of millions of dollars in terms of back-end banking platform technology has now come down to a pay for service of 10, 15 or 20 grand a month. (CEO 8)

Customer-centric design and a strong focus on solving true, deep and valuable customer problems was considered a core competency. There was acknowledgement that this is a difficult yet rewarding capability to develop. Interviewees highlighted the need to be heavily externally focused, and not just on the competition, but to use data to understand deeply what is the true customer need and how they can meet this need better than others:

> Neo banking isn't all about the digital, it's not about the technology. It's about using that to refocus the business on customers and their problems. (CEO 8)

> I want it to be an experience that is fast and simple and efficient. (CEO 2)

Four of the interviewees stated that they were using design-led thinking (Martin, 2009) as a means to design and capture the true and raw need of the consumer as well as a strategic process (Mintzberg, 1994). Proximity to the customer was vital, as was usage data and telemetry. Customer expectations quickly rise to the best experience they have had, usually from an alternate industry's online or digital experience.

All informants preferred greenfield transformation over brownfield. They felt greenfield to be faster, more effective and to generate higher ROI via creating a 'start-up' business architecture, culture and approach, rather than attempting to transform an existing operation. The primary reason for this was technological, as they did not want to be encumbered by legacy technology. The secondary reason was cultural, as they found it easier to create a new strategically competitive culture, rather than transform an existing culture. For example:

> I don't want the legacy IT [information technology]. I don't want the legacy infrastructure. The only type of bank you might be able to buy would be an old credit union. Why would you buy all of those problems? Why not start the business yourself? (CEO 8)

All interviewees considered intangible assets to be extremely important, strategic and valuable but none were measuring them per se. Most saw the value of intangible assets as arriving via proxies like return on equity, growth, number of new customers and Net Promoter Score. It is important to note that deposits and loans are considered current tangible financial assets but are excluded from this analysis as they have little bearing on this study. All interviewees saw culture as an intangible asset and a strong source of competitive advantage. For example:

> Our primary and most important assets are our IP [intellectual property], our ability to attract customers, our brand and our ability to handle and manipulate data. (CEO 4)

> We would say our human capital, and our team, our culture is our number one asset. (CEO 5)

Four respondents indicated that they had patents, while those who did not felt that patent protections were inadequate or insufficiently enforceable to create a strategic moat.

Classifying and measuring data as an asset was acknowledged as important but challenging and was not yet being undertaken. Interviewees saw data as a strategic intangible asset but did not elaborate on the challenges of data sharing with partners, platforms or within ecosystems. CEO 7 commented:

Data is the most valuable intangible asset of all time … and yet those companies who are struggling the most right now because they haven't been able to shift to the intangible elements of value creation….their customer experience data.

## 4.3 Business Model Findings

None of the interviewees were using formal tools or frameworks for business model development, but all believed that they articulated a strong vision and business case that substituted or acted as their business model. The connection of business model(s) to business vision generation and business case development was weak. There were varying levels of understanding among interviewees as to what a business model is and how it is used. As such, there remains a disconnect in the understanding and practice of business models and associated tools. All interviewees claimed their firms were experimentation heavy and felt that their business models would morph over time. For example, one business had initially wanted to be a white label[22] platform for other banks and had since changed this. The spectre of Amazon and the 'Amazon-ifcation'[23] of banking loomed large among all interviewees, yet many were also leveraging Amazon as a platform.

Only a few of the interviewees highlighted that the business model can depend on the business's objective(s), particularly the exit strategy. For example, would one make as many investment decisions if the objective was to be purchased by a slow-moving incumbent? Interestingly, many respondents linked the business model to business operations and felt that the design and capabilities of the operations environment have to match the business model. This is due to the fact that, in the digital economy, real capabilities to deliver must match the product promise and business model, and the business model must be informed via a constant feedback loop from operations:

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[22] White label products are sold by retailers with their own branding and logo but the products themselves are manufactured by a third party. Retrieved from https://www.investopedia.com/terms/w/white-label-product.asp
[23] FinTech Futures (2019, 5 June). *The Amazon-ification of banking*. Bank BLCP Blog. Retrieved from https://www.bankingtech.com/2019/07/the-amazon-ification-of-banking/ .

What we do know is because we are breaking new ground here. There isn't a model per se for us to follow at least in the financial services world. (CEO 6)

You can acquire customers more cheaply using a digital experience and technology. And there ... and that leads into the business model. (CEO 3)

Everyone's comfortable in the subscription economy. (CEO 5)

All agreed that a deep intuitive understanding of the customer and gathering usable insights was a critical element of any business model. Digital business modelling is driving a much more granular and intense focus on the end user and end customer usage of products and services as they connect with a digital process. This includes full customer lifecycle activities including post-sale, reporting and servicing. Many interviewees highlighted the need to be skilled at human behavioural economics and partnering with the customer. They felt that co-creation was an important part of their business model. All interviewees looked to industries outside of banking for guidance, insight and ideas on customer experience insight:

So you've got experience innovation and you've got product innovation and they are quite different things. (CEO 2)

Banking is a set of behavioural activity rather than a product. … Banks will tell you that they provide banking products or services … whereas I think disruptors in this space will say … that we can help you with money moments in time. (CEO 7)

All interviewees felt that 'data' was a unique strategic sustainable competitive advantage and espoused the use or intended use of data to create new and compelling offers to consumers based on real-time inputs and insights. Interestingly, many interviewees mixed the classification of data between customer data and organisational data (e.g., Key Performance Indicators) and used both to inform customer value proposition development. All interviewees indicated that data was critical to their business, for example, 'So no, you always need more data. There's never enough' (CEO 8); however, only one interviewee outlined the size and scope of their data and analytics practice. Most saw AI as interesting and mentioned the potential or early usage of AI, but most

believed it was too early to create fully fledged digital banking businesses based on AI despite it consistently being a high priority. Conceptually, interviewees believed data, AI, ML and algorithms need to be developed and tracked as an asset but were not currently undertaking this in practice.

## 4.4 Platform Findings

Six interviewees stated that they are or want to be a platform business; however, almost all had a different definition for what a platform business is. These definitions included being a platform for others, having access to a large number of customers, leveraging suppliers rather than build, increasing the range of products and services offered, and buy versus build. Clearly, more work is required to define platforms and platform economics.

Four interviewees mentioned the evolution of schemes or buying clubs where content or product would be curated for its members. For example,

> Am I ever going to offer insurance? No I am not. Am I ever going to offer wealth management services or robo advice? No I'm not. But am I going to make those things available to my customers through our platform in a sort of walled garden environment? Yes I am, absolutely. (CEO 8)

Platform effects and ecosystems were predicted to have an increasingly large effect on business models and business architecture.

Most interviewees understood the capabilities profile of the organisation changes significantly when a platform business model is the target business model as the aim is not only to attract customers, but also suppliers and partners on a global scale. Further, to be a platform business, an organisation must open up and become information technology developer friendly, which is a new motion for many companies in which the primary audience is the customer and not the ecosystem.

All interviewees believed in partnering, typically via leveraging platform providers, and indicated that partnering was a critical and a massive source of innovation. Partnering provides different types of thinking, is quicker and cheaper to get to market, provides a better solution and provides massive scale advantages. There was some caution about leveraging platforms and partnering for innovation regarding data ownership and emerging AI capabilities. For example:

> Open to the idea of operating in an ecosystem where there is a lot of innovation taking place that you can benefit from. (CEO 4)

> You could have potentially these massive companies (personal AI like Amazon Echo, Google Home) that are sort of gatekeepers of access for customer, through these AI. (CEO 7)

As previously discussed in the literature review, platforms also provide a governance structure and a set of standards and protocols that facilitate interactions at scale so that network effects can be unleashed. Many interviewees indicated that Open Banking[24] is going to be a significant enabler of platform access and innovation for consumers that will disrupt the banking industry, and digital banks want to lead this disruption. All interviewees were eager to capitalise on this market dynamic and felt it provided significant competitive advantage against incumbents. CEO 5 remarked, 'There's a bunch of APIs that we'll open up through the open banking regime'.

## 4.5 Strategic Planning Findings

Only one interviewee used any form of traditional strategic planning tools or technique. Interviewees felt that the marketplace environment moves too fast for existing strategic planning processes and tools. All felt having a strong vision or mission was important and used business cases to obtain investment and align teams and culture but felt the need to move fast. CEO 3 remarked, 'You can write a beautiful 42-page business plan that says, this is the whole execution

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[24] M. Han. (2019, 1 July). Open banking to rewrite the rules of lending. *Financial Review*. Retrieved from https://www.afr.com/business/banking-and-finance/open-banking-to-rewrite-the-rules-of-lending-20190624-p520so .

strategy. But it's like an army, you know, once you're out there on the field, like, you're getting real-time information that your competitors have all changed their tact'. All interviewees were undertaking a fast follower strategy from the pioneering efforts of digital banking in the United Kingdom.

Almost all respondents were using one or more of the following modern approaches to strategy development: Fail fast, learn fast, fix fast; Rapid Experimentation; MVP; Real-time competitive analysis; and Agile and Real-time strategy approaches. Table 2.6 provides a list of contemporary strategic processes. There was significant alignment on these modern techniques and consistent lack of support for traditional strategic planning processes, approaches and tools. Consequently, most interviewees felt they spent a lot of time on constant real-time competitive analysis and creating a culture that in which trying new things was safe.

Dynamic strategy was a common theme. Not only did interviewees feel the need to be extremely flexible, agile and responsive, but that the strategic planning process was itself a dynamic process and did not have a start or an end. The connection between strategy and execution of strategy was tightly correlated in their minds. When asked the trite rhetorical question 'Is strategy dead?', there was no real consensus. However, several respondents were adamant that a strategic vision and a business case are still required to garner investment, manage stakeholders and drive organisational alignment and this was especially true for any company in need of capital raising. Given the high-speed nature of the digital economy and digital banking, all interviewees felt that culture was a critical strategic competitive advantage. All interviewees believed that a high-performing culture will address, in real time, strategy issues. Understanding the linkages between a business strategy and business model was not so clear and was largely a definitional discussion. CEO 8 simply stated, 'I would say they are the same thing. If your business model doesn't follow business strategy, one of them's wrong'.

Technology-based business and valuations were of great interest to most interviewees, particularly the high multiples currently being experienced by tech firms. The valuation of

intangible assets such as intellectual property, patents, data and designs is less important to digital banking than growth in customer numbers, customer satisfaction and customer usage (e.g., 'I think our valuation is absolutely one of customer growth' [CEO 2]). Only one interviewee mentioned the connection of strategy to exit strategy as many digital banks are expected to be acquired by incumbent banks that simply cannot transform fast enough:

> The best-performing companies all tend to be technology based … in terms of their deployment of capital and its ability to generate returns, traditional companies cannot compete on the basis of tangible assets versus intangible in terms of conversion for their return. (CEO 7)

## 4.6 Chapter Summary

The research question asked how firms build and sustain strategic competitive advantage in the digital economy, and the research was guided by the data structure (see Figure 3.2) and five aggregate dimensions. Eight CEOs of digital banking firms were interviewed and 94 pages of resulting transcripts were analysed. Interviewees confirmed that they seek insight from current practice over developed theory or literature, including practical ideas, patterns and concepts from industry, reflecting the fast pace of development. Significant definitional issues exist regarding key concepts such as business models, platforms and ecosystems. There also exists a distinct lack of business model tools and techniques useful for these firms. New techniques to develop and execute strategy are emerging and would benefit from further formalisation. Culture and its relationship to strategy and strategic execution was identified as a very strong factor in creating unique sustainable competitive advantage.

# Chapter 5: Discussion and Conclusion

An examination of how firms build and sustain strategic competitive advantage in the digital economy is important as the pace of change is impacting economic value creation, success rates, capability development, economic policy and technological decision making (Westerman et al., 2014; Brynjolfsson & McAfee, 2014, 2017). This study contributes to the literature by providing new insight into the practice of digital transformation, identification of gaps in the literature and suggestions on how to close these gaps. Using the Gioia Methodology (Gioia et al., 2013), the comparative case study provides valuable analysis as to the major factors impacting sustainable competitive advantage in the digital economy and the surrounding issues of digital transformation frameworks, business architecture, business model development, leverage and use of platforms, and strategic planning tools and techniques (see Figure 5.1). Each of these aggregate dimensions are rich, nested and complex areas and detailed discussions of each are undertaken below. The discussions in the sections below correspond to and answer the research sub-questions (see Table 1.2); Section 5.1 answers SRQ1, Section 5.2 answers SRQ2, Section 5.3 answers SRQ3, Section 5.4 answers SRQ4 and Section 5.5 answers SRQ5.
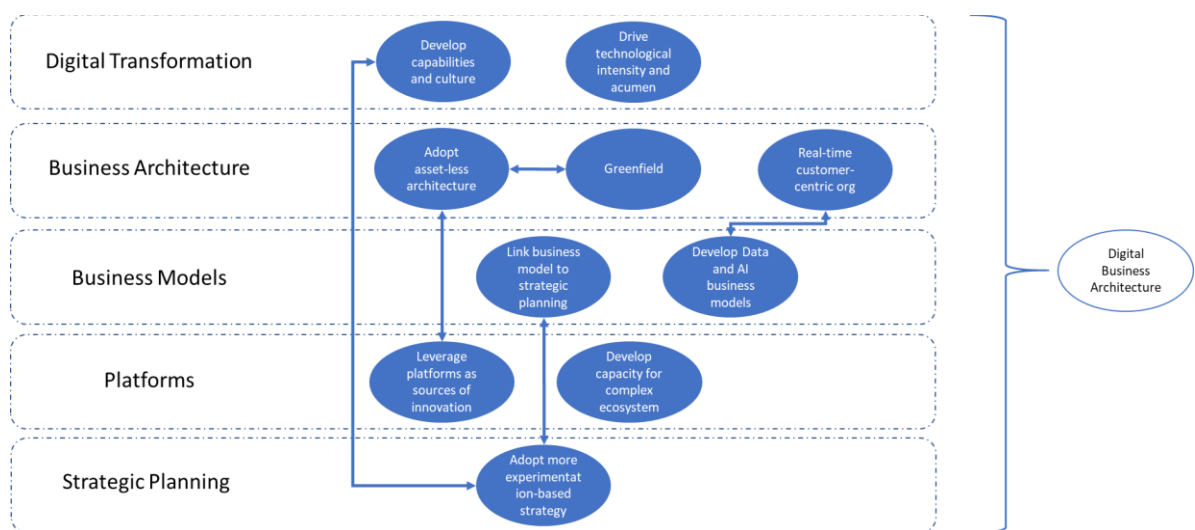


Figure 5.1. Conceptualising improvements to digital transformation models. Arrows indicate 'strong bonds' between core concepts

## 5.1 Digital Transformation

Digital transformation frameworks are not being used by leading edge digital natives. The digital transformation frameworks analysed did not fully fit the needs of digital natives, nor were they capable of providing sufficient guidance. The gaps in these frameworks include: 1) portfolio business management, in that many are only useful for analysis of a single line of business; 2) limited ability to plan progression over time versus point in time; 3) the objective impacts of the business strategy (e.g., building a business for a given exit strategy versus a long-term growth strategy); 4) a focus on brownfield transformation as opposed to greenfield guidance; and 5) durability of frameworks given the high flux of technical change.

The findings of this study suggest that greenfield is trumping brownfield as a transformation strategy. Significant acceleration and cultural benefits stem from a greenfield approach including avoiding the burdens of legacy technologies and existing profit pools to protect or establish organisational power structures. Greenfield or digital native start-ups are widely examined in contemporary literatures due to valuations, case studies and new business models, yet significant gaps in the theory exist, especially in the connection of business model development to business strategy planning, tooling and techniques. The power and advantages of greenfield transformation has prompted the question of whether brownfield transformation is worth the investment.

The study also found that data-based business models are somewhat nascent and emergent, but nonetheless valuable and a high priority. Strategically, data estates need to be better planned, designed and invested in, and to employ data collection strategies to take advantage of and create unique sustainable competitive advantage. The interviews with CEOs identified that digital transformation must move on from mobile- and cloud-only transformation to data and AI. Much of the guidance around digital transformation is concerned with the 'digital' or technological phenomenon and needs to be overtly more concerned with business strategy and sustainable competitive advantage.

The findings of the research suggest that technological intensity and disruption will continue inexorably, as will the challenge to recruit and retain the best technical acumen. The digital landscape remains at an early stage of development and significant technological development is still pending (i.e., IoT, AI, ML and quantum computing). Massive innovation will continue from the major platform providers, unlocking further value combinations, and will require technological insight, capacity and skills. We will continue to see the characteristics of 'what is digital' morphing over time.

## 5.2 Business Architecture

Based on the study's findings, it is likely that asset-less and asset-light business models will continue to increase in popularity. There are simply too many benefits when compared to asset-heavy business models. Business architecture will continue to favour asset less and asset light or renting versus owning, and the role of the firm will come in to question more and more. Business architecture is a core element of business strategy and needs to be invested in as such in terms of theory and practice.

The interviewees suggested that capabilities within the firm will need to become more sophisticated, change, adapt or be re-invented to be able to take advantage of this era. Particularly important will be the dynamic capabilities such as sensing, seizing and transforming capabilities (Teece, 2018) and the organisational leadership skills to drive and align the firm. We should expect more suppliers of business capabilities in the marketplace, increasing the potential for combinatorial value chain effects and more disruption and success combination from business ecosystems.

Intangible assets are increasing as a percentage of enterprise value but they are not being measured effectively due to their complexity. There is insufficient literature or accounting guidance to make this a more scientific process at low cost for a firm. Most companies intuitively value their people and culture as their most valuable asset but measurement and reporting is not

keeping pace. Patent protection does not seem to be a sufficient means of developing a strategic moat. Data, AI, ML and algorithms need to be tracked as an asset and appropriate valuation methods developed as these businesses or business components form a growing part of firms' valuations.

It seems likely that the role of the firm will evolve significantly given API-driven processes, open ecosystems, new creative and powerful platforms, and growing acceptance of valuation methods for such firms. Firms no longer need to own the means of production to create value. Consequently, the literature on the firm as a nexus of contracts will need to evolve rapidly and decisively.

## 5.3 Business Models

The research identified that formal tools or techniques for business model planning or development are not being used in practice. There is ongoing significant definitional debate about what is a business model, how to use it and how it fits into strategic planning. Companies are vision and mission driven and are focusing on these when developing a business model and strategy development.

Based on the study's findings, it seems likely that business models will be dynamic in nature, with firms more than happy to morph business models over time depending on market acceptance, competition and technological disruption. Ecosystem business models, tools and techniques need to be developed. Ecosystems are growing in importance for value creation, channel development, sources of innovation and revenue growth. Capabilities required to build and manage ecosystems are rare, complex and need to be developed. Data, security and intellectual property need to be shared in ecosystem businesses and will be complex negotiation and operational items.

The need to focus on an extreme, deep and intuitive understanding of customer needs was discussed by the interviewees, who indicated that it is not the proclivity of digital business models

but is essential to maximise success. Successful firms are spending an inordinate amount of time in close proximity to the customer, obtaining user generated data and insights, rediscovering the raw need of the customer, and testing and co-creating new value with the customer. Sourcing, leveraging and sharing of data is going to be an increasing complex area of exploration and development of business models.

Digital banking firms look towards software or technology companies for guidance, insight and innovation. This modelling of leading-edge technology firms is expected to be prevalent across many industries and is a rich vein of research for future studies. Technology and software will infuse all products and services, will be accelerated even further by IoT and will add validity and credence to the maxim published as far back as 2011: 'Every company is a software company' (Kirkpatrick, 2011).

## 5.4 Platforms

Platforms and platform business models will continue to have a massive influence on the digital economy, according to the interviewees. Firms will continue to leverage platforms and firms will become platforms in their own right. Significant definitional debate and understanding exists as to what is a platform, how platform economics impact and ecosystems. A better taxonomy that can be well understood and adopted is required.

Reliable valuation mechanisms need to be developed. Firms are only starting to use key performance indicators and metrics in the investment management sphere that defines the digital economy better, but this will continue to be tuned, extended and enhanced for platform businesses. We expect to see the emergence of 'buying clubs' on a significant scale, as this provides the ability for firms to create a business model that helps customers reduce search costs, makes the buying process easier, provides loyalty benefits and enables access to the best products and services. Apple and Amazon are great examples of this but they are not the only examples. We will see increasing economic returns to these platforms and more natural monopolies.

Platforms will remain a massive source of innovation and, potentially, access to large marketplaces. Skills and talent are required to leverage these massive pools of capability and potentially contribute to the ecosystem of open innovation.

Platforms, although a compelling value proposition for firms to leverage, will be a double-edged sword as dependency on innovation will increase, technological standards will entail trade-offs and platforms will control certain gateway access points (e.g., voice devices). Platforms will thus accumulate data and insight into customers' behaviours and have the potential to exercise monopolistic behaviour.

## 5.5 Strategic Planning

Based on the study's findings, it is likely that strategic planning or business strategy process tools and techniques will need to change to be relevant to hyper-speed, complex, multi-vectorial competition and high-iterative and bottom-up strategic planning. Digital native organisations are not employing traditional strategy tools, methods or approaches. Experimentation, real-time feedback and data-driven insights are very much in favour of developing business concepts and new and unique sustainable competitive advantage. Formalisation of these methods would be valuable. Ecosystems need to be included in the strategic planning process. Sources of innovation are changing and technology intensity is increasing, which will impact strategic planning. External focus or 'sensing' are going to be critical in creating and maintaining advantage. Culture is trumping strategy within digital natives. Firms are building first for culture and then creating an environment for business strategy to be executed. This again favours greenfield over brownfield and greatly assists with strategic adaptation. Strategic planning is a dynamic process and data, feedback loops, iterative development, experiments and technology shifts all demand that an organisation's strategic processes become highly dynamic. Strategic planning tools and processes that require long cycle times and are relatively static will not succeed

and will reduce organisational agility. The research, literature and theory all need to adapt to accommodate the current and future real-world strategic practices.

## 5.6 Limitations

A potential limitation of this research is that 'digital' is rapidly redefining business models and, coupled with increasing acceleration of technological developments such as AI, IoT and quantum computing (Kelley, 2016), will inexorably shape business strategy and the firm's ability to respond competitively (Schön, 2012; Loonam et al., 2018). Technology may evolve substantially over the next few years.

Another potential limitation of this study is the fact that the many of the firms examined are in an early stage of evolution, with winners and losers still yet to be clearly identified. This has not deterred firms and capital investment from investing heavily in this space, and we are witnessing new pronouncements and launches of digital-only firms every month.

## 5.7 Chapter Summary

This study examines the practice of digital transformation and how companies build and sustain competitive advantage in the digital economy. The conclusions and implications include the suggestion that new frameworks for digital transformation need to be developed, further work on enabling data to be measured as an asset is required, business model tools and techniques need to be created and utilised, platform and ecosystem definitions are required and should be adopted, and modern tools and techniques to develop strategy and for strategic planning at the speed digital natives require need to be formalised.

# Chapter 6: Directions for Future Research

## 6.1 Address Gaps in Strategic Planning

Opportunity exists to improve the durability and applicability of strategic planning tools and processes. Improvements need to focus on portfolio businesses and multi-vectoral competition and factor in a more dynamic, externalised, networked and complicated 'business ecosystem'. Traditional strategic planning tools and processes need to be updated to account for the pace of technological change, extra-industry competition, abundance of data, usage of data as a competitive advantage, digital proximity to the customer and the value delivery mechanisms often being software. Traditional methods of strategic planning are considered too slow and too theoretical and have an overdependence on assumption-making versus real-time testing. The evolution of strategic planning tools must also include a more tightly integrate view of business models.

## 6.2 Comparison to Other Industries

This study focused on a highly digital industry, digital banking, to create extreme, testable and developable propositions. Future research could use this approach and extend it into more physically intense industries and non-digital industries such as manufacturing, retail or primary industries. This extension would help prove the durability of any models or frameworks developed and would also provide interesting points of comparison and insight.

## 6.3 Longitudinal Study

Future research could examine developments over time with the reference cases. Given the high state of flux in this industry, significant changes could be observed. As this industry is also in its infancy and customer adoption cycles still at an early stage, a longitudinal study would be

valuable to observe progress. Future research could also use a larger sample size given the speed at which new entrants are entering the market.

## 6.4 Data and AI business models

Data (owned, co-owned, generated or rented) or algorithms' categorisation as a tangible or intangible asset is currently challenging. However, there is much evidence that data and AI are going to be significant sources of unique strategic competitive advantage. Future research could examine valuation methods, accounting standards and legal clarity for such businesses. There are going to be increasing returns to scale from IoT, AI and ML, which will also impact business models and strategic planning. It would be valuable to explore all of these developments.

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# Appendices

## Appendix 1: Semi-structured Interview Questions

Copy of questions sent to participants prior to the interview.

**Phase 1 – Ice Breaker**

1. Can you briefly describe your organisation and the vision you have?

2. What was the gap you believe existed in the marketplace?

    a. What drove you to build the business in this way?

    b. What was not working in your prior organisations?

3. Why do you believe the time right now for digital[1] native businesses?

    a. Was the opportunity technology lead or was it business led (ie enabled by technology)?

    b. What happens when everyone is digital?

**Phase 2 – Depth Questions**

4. Intro into business models[2] - Do you have a clearly defined business model use it to validate strategic decisions and progress?

5. To what degree do you link your business model to business strategy and strategic planning?

6. Was "asset-less" a key design point for your business model? [3] For example, Simple.com, Volt Bank

7. What role do you see intangible assets[4] playing in your business strategy? And how are you measuring this?

8. Do you see yourself still operating in an "industry" or a "business ecosystem" [5]?

9. Is your ultimate vision to become a Platform company [6]? If not, why not?

10. How do you see yourself managing innovation into the future? What role will external firms have in your innovation? I.e. FinTech's, start-ups

11. What culture are you trying to establish?

    a. What level of willingness does your firm have to experiment and fail?

    b. Where are you in your cultural journey?

12. How does data (internal and external) play in shaping business decisions and your business strategy? Do you have access to all the data you need?

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[1] **Digital** - Digital refers to the new means of creating business value leveraging digital technologies such as smart devices, cloud computing, a growing abundance of data, business platforms and high-speed internet communications (Schwab, 2016).

[2] **Business model** – is defined as "the design or architecture of the value creation, delivery and capture mechanisms employed". Teece (2010, pg191)

[3] **Asset-less** - is defined as a firm with little to no investment or expenditure in physical or tangible assets (Haskell & Westlake, 2018). Examples would be Airbnb, Cvent, Rent the Runway, Uber, Blue Apron.

[4] **Intangible assets** – are defined as assets that have a claim to future benefits that do not have a physical or financial embodiment (Lev, 2001). Examples are R&D, design, financial innovation, artistic originals, advertising, marketing research, organisational capital, training.

[5] **Business ecosystem** - Firms are "opening" themselves up to become more attractive to partners & developers to create new customer interactions, spill-overs and new sources of value which does not occur when a firm internalises all production. A very good example of this is the current momentum around Open Banking and the growth in Fintech firms

[6] **Platform** – a platform company is defined as a provider of capabilities, often digital, with large rapid scale advantages, access to market externalities, often reduce transaction costs and tremendous sources of innovation (Parker et al., 2016). Examples include Uber, Amazon, PayPal, Alibaba, Microsoft Azure, Google Advertising etc

# Appendix 2: Cover Letter for Initial Mail-out

Department of Accounting & Corp Governance
Faculty of Business and Economics
MACQUARIE UNIVERSITY   NSW   2109
Phone: +61 (0) 429 948 426
Email:  david.vander@hdr.mq.edu.au

Chief Investigator's / Supervisor's Name & Title: Professor Stephen Brammer - Executive Dean of the Faculty of Business and Economics.

## Participant Information and Consent Form

Name of Project: The Intangible Firm: In the digital era, are asset-less businesses worth more?

You are invited to participate in a study of business strategy in the digital era.  The purpose of the study is about the role "asset less" as a business strategy has on the business model and valuation of firms in the digital era. We are particularly interested in the growing implications including what exactly is the role of the firm, implications to business models, business strategy and ultimately the capabilities firms will require in order to take advantage of asset-less as a business strategy. For the purposes of this study, an asset-less firm is defined as a firm with little to no investment or expenditure in physical or tangible assets.

The study is being conducted by David Vander david.vander@hdr.mq.edu.au Faculty of Business and Economics at Macquarie University, Sydney, Australia. This project is being conducted to meet the requirements of Master of Research under the supervision of Professor Stephen Brammer stephen.brammer@mq.edu.au Executive Dean of the Faculty of Business and Economics at Macquarie University, Sydney, Australia and Associate Supervisor Professor Rahat Munir, rahat.munir@mq.edu.au Head of Department of Accounting and Corporate Governance, Macquarie University, Sydney, Australia.

If you decide to participate, you will be asked to participate is a 60min interview, ideally face to face or least via Skype, and will be digitally recorded. The recording will be stored securely and only accessible to researcher. Any information or personal details gathered in the course of the study are confidential, except as required by law.  No individual or organisation will be identified in any publication of the results.  Only the researcher will have access to the data. A summary of the results of the data can be made available to you on request.

Participation in this study is entirely voluntary: you are not obliged to participate and if you decide to participate, you are free to withdraw at any time without having to give a reason and without consequence.

I,       *(participant's name)*                    have read *(or, where appropriate, have had read to me)* and understand the information above and any questions I have asked have been answered to my satisfaction.  I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence.  I have been given a copy of this form to keep.


Participant's Name:_____

  (Block letters)


Participant's Signature: _____     Date:_____


Investigator's Name:_____

  (Block letters)


Investigator's Signature: _____ ___  Date:_____


The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee.  If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics & Integrity (telephone (02) 9850 7854; email ethics@mq.edu.au).  Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.


## (INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

# Appendix 3: Final Ethics Approval Letter

Business and Economics Subcommittee
Macquarie University, North Ryde
NSW 2109, Australia

**MACQUARIE University**

19/11/2018

Dear Professor Brammer,

**Reference No: 5201837415123**
**Project ID: 3741**
**Title: MRES The Intangible Firm: In the digital era, are asset-less businesses worth more?**

Thank you for submitting the above application for ethical review. The Business and Economics Subcommittee has considered your application.

I am pleased to advise that ethical approval has been granted for this project to be conducted by David Vander, and other personnel: Mr David Vander, Professor Rahat Munir.

This research meets the requirements set out in the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018).

**Standard Conditions of Approval:**

1. Continuing compliance with the requirements of the National Statement, available from the following website: https://nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018.

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol. You will be sent an automatic reminder email one week from the due date to remind you of your reporting responsibilities.

3. All adverse events, including unforeseen events, which might affect the continued ethical acceptability of the project, must be reported to the subcommittee within 72 hours.

4. All proposed changes to the project and associated documents must be submitted to the subcommittee for review and approval before implementation. Changes can be made via the Human Research Ethics Management System.

The HREC Terms of Reference and Standard Operating Procedures are available from the Research Services website: https://www.mq.edu.au/research/ethics-integrity-and-policies/ethics/human-ethics.

It is the responsibility of the Chief Investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Faculty Ethics Officer.

The Business and Economics Subcommittee wishes you every success in your research.

Yours Sincerely,

Dr Nikola Balnave

Chair, Business and Economics Subcommittee

*The Faculty Ethics Subcommittees at Macquarie University operate in accordance with the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018), [Section 5.2.22].*

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## Appendix 4: List of High-profile Digital Banks

| Bank | Website | Country |
|------|---------|---------|
| 86400 | https://www.86400.com.au/ | AU |
| Atom | https://www.atombank.co.uk/ | UK |
| B | https://www.youandb.co.uk/ | UK |
| BankMobile | https://www.bankmobile.com/ | US |
| ClearBank | https://www.clear.bank/ | UK |
| DigiBank | https://www.dbs.com/digibank/in/index.html | SG |
| Fidor Bank | https://www.fidor.com/ | GER |
| GOBank | https://www.gobank.com/ | US |
| Hello bank! | http://www.hellobank.com/ | FR |
| Judo Capital | https://judocapital.com.au/ | AU |
| Monese | https://monese.com/ | UK |
| Monzo | https://monzo.com/ | UK |
| Moven | https://www.moven.com/ | US |
| Number26 | https://n26.com/en-eu/ | GER |
| Osper | https://osper.com/ | UK |
| Revolut | https://www.revolut.com/au/ | UK |
| Simple | https://www.simple.com/ | US |
| Starling | https://www.starlingbank.com/ | UK |
| Tandem | https://www.tandem.co.uk/ | UK |
| uBank | https://www.ubank.com.au/ | AU |
| Up | https://up.com.au/ | AU |
| Volt Bank | https://voltbank.com.au/ | AU |
| Xinja | https://www.xinja.com.au/ | AU |
| Lendful | https://lenful.ca | CA |
| Knab | https://knab.com | NL |
| Bunq | https://bunq.com | NL |