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Running While Standing Still: Rethinking ICT Business Model Decisions for the New Cloud Economy

Trevor Clohessy
National University of Ireland, Galway, trevor.clohessy@nuigalway.ie

Thomas Acton
National University of Ireland, Galway, thomas.acton@nuigalway.ie

Lorraine Morgan
Maynooth University, lorraine.morgan@nuim.ie

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Trevor Clohessy
J.E. Cairnes School of Business & Economics, National University of Ireland Galway,
trevor.clohessy@nuigalway.ie

Thomas Acton
J.E. Cairnes School of Business & Economics, National University of Ireland Galway,
thomas.acton@nuigalway.ie

Lorraine Morgan
Maynooth University, Lero: The Irish Software Research Centre,
lorraine.morgan@nuim.ie

Abstract

Cloud computing has underpinned an accelerated business model evolution for delivering ICT solutions. However, some established business model mature ICT providers are experiencing substantial difficulties related to the formulation of effective business models. Currently, there is dearth of IS research relating to deciphering how large business model mature ICT providers can effectively formalise and sustain competitive cloud enabled business model decisions. Thus, in order to extend the extant research, we derive a conceptual framework as a reference model which is based on business model and decision making theory. We then apply our framework to an in-depth case study of an established large ICT provider (Alpha) who have been provisioning cloud services for the past five years. Our findings reveal how the case organisation are executing their core business model decisions along increasingly specific decision making levels in order to effectively sustain their competitiveness. Our analysis provides new insight into the role of using the business model as a focusing device for enabling the effective provision of cloud technology.

Keywords: Cloud Computing, Business Model, Decision Making, Large ICT Provider

> *"All of our cloud business model decision-making strategies are founded on agility. The company are focused on making new or improved services faster than they did in the past. All new software offerings must be cloud-based in order to be provisioned at low cost."* Cloud R&D Leader, Alpha

1. Introduction

Cloud computing encompasses a recombination of existing and new technologies, and has built its foundations "on decades of research in virtualisation, distributed computing, utility computing, networking and more recently web and software services" (Vouk, 2008). Cloud computing enables information technology services providers to virtualise their computational resources and concurrently provision them, via a service orchestration process, typically in the form of Software-as-a-Service (SaaS), or Platform-as-a-Service (PaaS) or Infrastructure-as-a-Service (IaaS) (Mell and Grance, 2011). An organisation's ability to successfully commercialise early-stage information and communication technologies (ICT), while concurrently differentiating themselves from competitors in order to achieve sustainable competitive advantage, is largely dependent on their ability to repeatedly execute tactical business model decisions in the face of changing digital market landscapes (Porter, 1996; Linder and Cantrell, 2000; Teece, 2010). In the context of provisioning cloud computing, this ability is crucial as ICT providers' business model arrangements are in a constant state of flux due to the evolving cloud technology landscape (Ojala and Tyrvainen, 2011). This is also compounded by an increasingly overcrowded marketplace and the customer-oriented nature of provisioning cloud technology (Iyer and Henderson, 2010; Marston et al, 2011). ICT providers are currently experiencing substantial difficulties in their attempts to effectively leverage the transformational business capabilities afforded by cloud computing (Conboy and Morgan, 2012; Linthicum, 2012; Da Silva, Trkman, Desouza and Lindič, 2013). Recent international surveys of ICT providers have identified that lack of business model innovation and differentiation (CSA and ISACA, 2012) compounded by an inability to produce compelling business cases for customers (KPMG, 2012) represented salient challenges which are currently stagnating customer uptake of cloud technologies. According to Linthicum (2012) "the core problem is that most cloud technology providers believe what they do is innovative. To them, that means adopting the strategies of the market leaders, replicating their features and APIs (call for call), and hyping the market". The author argues that while such as a "fast follower" ethos may have worked effectively in the past, modern technological savvy business customers require concrete assurances pertaining to the business value of adopting a cloud computing solution. The IS literature's understanding of organisational business models and its relationship with cloud computing is still limited (Ehrenhofer and Kreuzer, 2012; Khanagha, Volberda and Oshri, 2014). Recently, there has been an increased focus by IS researchers on the business value afforded by cloud computing (Marston et al., 2011; Iyer and Henderson, 2012). While extant research has explored the impact of cloud computing on small and medium born on the cloud ICT providers' business models (Chang, Walters and Wills, 2013; Morgan and Conboy, 2013; Clohessy, Acton and Morgan, 2016), to the best of our knowledge no research exists which has explored this impact from a large business model mature (e.g. extant pre-cloud business models) ICT providers' multi-level decision-making perspective. Additonally, the cloud computing paradigm has reached a level of maturity which lays the foundation for information systems (IS) researchers to investigate how ICT providers have moulded and sustained their cloud computing business arrangements over time (Iyer and Henderson, 2012). Thus, the objective of this research is to:

Explore how a large business model mature ICT provider formalises cloud-enabled business model decisions in order to sustain their competitiveness.

Specifically, we present a decision-making focused research model which we subsequently use in an exploratory case study of a globally recognised ICT provider in order to shed light on our research objective. In lieu of the difficulties currently being experienced by ICT providers, and given the dearth of existing discussion in the IS literature, the study outlined here will serve as an initial step of a future larger empirical study. The remainder of the paper is structured as follows: The next section builds the theoretical foundation for the study. Then, we present our research model which is subsequently followed by an elucidation of our research method. Next, the case study results are presented and

discussed. Finally, we conclude with some limitations of the study and a delineation of the next steps to be taken in order to complete the study.

2. The Business Model Research Lens

For the past 25 years, the business model concept has been used extensively in IS research to examine how organisatons can create and capture value with new ICT (e.g. the internet, ecommerce applications, mobile applications, and so on). Driving factors such as the emerging knowledge economy, the restructuring of global financial services, increased outsourcing of business processes and IS, rapid advancements in ICT and the repeated failure of organisations to capitalise on the capabilities afforded by these ICTs have catapulted the business model concept back into the public arena (Teece, 2010; Zott, Amit and Massa, 2011). The IS literature is in general consensus that the business model is a multi-faceted concept. Business models can (i) serve as a holistic, system-level approach at characterising how an organisation does business, the concepts of value creation and capture and the activities that take place between the focal organisation and its partners (Teece, 2010, Zott et al., 2011), (ii) represent an "architectural blueprint" for the formation and execution of an organisation's IT strategic objectives (Rajala, Rossi and Tuunainen, 2003; Patelli and Giagls, 2003; Richardson 2008; Zott and Amit, 2008; Casadesus and Ricart, 2011), (iii) serve as a "conceptual tool of alignment" to fill the gap between corporate strategy and business processes in order to provide a crucial harmonisation among these organisational layers (Al-Debei and Avison, 2010; Osterwalder and Pigneur, 2010), and (iv) assist organisation's to successfully leverage and commercialise early stage promising ICT in order to achieve sustainable competitive advantage (Chesbrough and Rosenbloom, 2002; Rajala and Westerlund, 2007).

For the purpose of this study, we have adapted an existing business model framework (Morris, Schindehutte and Allen, 2005), as a basis for our research model (See Figure 1). This model is appropriate for conceptualising how established ICT providers have crafted their business model decisions, for the following reasons. First, the framework is comprehensive, coherent and comprises constructs which are similar to other widely cited business models frameworks such as the business model canvas (Osterwalder and Pigneur, 2010). Second, a core element which differentiates this framework from other existing theoretical approaches, which merely provide a static snapshot of an organisation's business activities at a given moment in time, are three increasingly specific levels of decision-making (foundation, proprietary and rules). These three levels can serve as a customisable iterative tool for executing the six business model decision variables in the pursuit of creating sustainable competitive advantage.

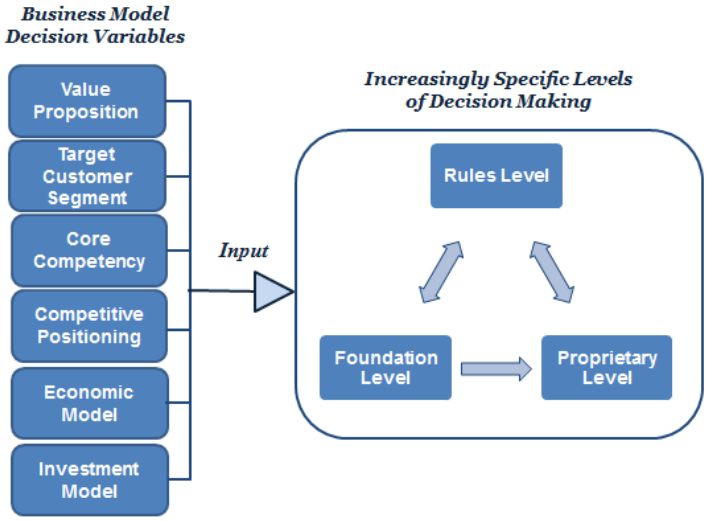

Figure 1: Research Model (adapted from Morris et al., 2005)

The first business model decision variable addresses the value proposition (how an organisation creates value). Organisations operating in voracious business environments are constantly striving to meet customer's multifarious demands by developing unique innovative value propositions in their endeavours to yield a profit. A value proposition constitutes an aggregation, or bundling, of products or services that create value for a particular customer segment (Osterwalder and Pigneur, 2010). Value propositions may be quantitative (service speed, price) or qualitative (offering design, customer experience).The second decision variable addresses target customer segments (for whom the organisation will create value). This question addresses defining the market in which the organisation intends to sell their offering and their positioning in a value chain. The third decision is concerned with the economic model (how the organisation generates revenue). An organisations long-term success and longevity is dependent on the successful implementation of "commercially viable architectures for revenues and costs" (Teece, 2010). Two closely related decision variables include core competency (internal capabilities or skillset which differentiates an organisation from others) and competitive positioning (how the organisation intends to position itself in the market). Competitive positioning can be achieved through operational effectiveness or strategic positioning. Operational effectiveness involves an organisation utilising superior technologies, superior raw materials, superior management structures, and highly trained staff in order to differentiate themselves from competitors. Strategic positioning involves organisations producing unique value to customers by adopting a novel approach to other competitors. This novel approach may take the form of different logistical arrangements, provisioning distinctive features, provisioning distinctive catalogue of services and so on. The final decision area addresses the investment model (organisation time, scope and size ambitions). Examples of investment models include subsistence, income, growth and speculative models. These business model decision variables can serve as input for execution at three increasingly specific levels of decision-making. At the foundation level, basic decisions concerning the general characteristics of what the business is and what the business is not are addressed. The proprietary level applies unique combinations of business model decision variables in order to achieve a competitive advantage. This level can serve as a customisable tool, which enables organisations to focus on means of creating and capturing unique value in each of the six business model decision areas. Whereas the foundation level can be easily replicated by competitors, the proprietary level cannot due to the interaction of the individual business model components entrenched within that level. Finally, the rules level enables the alignment of operative rules with the foundation and proprietary levels to ensure long-term success (e.g. delineates governing principles regarding decisions executed at the foundation and proprietary levels).

3. Methodology

The central objective of the following study is to determine how a large business model mature ICT provider formalises business model decisions in order to sustain their competitiveness. Due to the dearth of existing research into the focal research phenomena, this study adopts an exploratory qualitative stance (Saunder et al., 2011) Due to the nuances of the focal phenomena under scrutiny in conjunction with the dearth of previous IS research, a process of theoretical sampling was used in order to determine the appropriate study sample size (Myers, 2013). Data was collected until no major new insights were being gained (Cassell and Symon, 2007), at which point theoretical saturation was have deemed to have been reached (Corbin and Strauss, 2008). An interview protocol was prepared based on all of the elements encompassed within the research model depicted in Figure 1. The interview protocol was designed to primarily focus on eliciting contextual knowledge from the interviewees in order to clarify and deliberate about the focal phenomena. For example, while the observation of how cloud technology works is important, knowledge of detailed narratives and concrete examples of why a cloud technology is being used or not being used facilitated the elucidation of salient insight. A pre-test was carried out with several members of the target

population. This enabled the researchers to detect any ambiguities the participants had in answering the questions. Based on the results, the protocol was adapted iteratively. Following the fourth iteration, no further revisions occurred. The research interview sampling was directed by evolving theoretical concepts, whereby the researchers identified a ICT provider and interviewees from which we expected to elicit the majority of insights into the phenomena of interest (Strauss and Corbin, 1998). Data collection took place between January 2015 and August 2015. The study followed the standard practice of involving senior management as data sources for cloud computing IS research (Iyer and Henderson, 2012; Morgan and Conboy, 2013). As such, the interviewees were selected based on the following criteria: first, the person should have experience working with cloud technology. Second, the person should hold a managerial position which would enable them to have an in-depth knowledge of the business model intricacies of their cloud operations. Third, the person should preferably have responsibility for overseeing their organisation's business model. Each interview was recorded (pending permission) and annotated. In order to improve the credibility of the data and provide cross and complementary perspectives on emerging elements, supplementary evidence in the form of archival documents and published materials sourced from the ICT providers' websites (e.g. white papers, specific case studies, brochures, reports) was also analysed. This form of document analysis constitutes natural occurring evidence and serves as a cogent complement to interviews (Silvermann, 1993). Moreover, using several data sources and measures of phenomena provide cross-checks on data accuracy (Denzin, 2012) and enrichment of the conclusions presented by the researchers (Harrigan, 1983). While the study did not undertake a grounded theory approach, in analysing the data, the researcher used an analytical hierarchical data analysis process adopted from Ritchie, Spencer and O'Connor (2003) incorporating open and axial coding techniques based upon the recommendations of Strauss and Corbin (1998).

3.1 Case Study Background

The case study served to (i) illuminate the study's central research objective, (ii) identify ambiguities contained within the research instrument, and (iii) identify issues which point to salient variables for further investigation. The case is an established large (>10,000 employees) multi-national business model mature ICT service provider who has been at the forefront of the advancement and provision of cloud computing technologies for the past five years. For company confidentiality, we will pseudonymously refer to the company as "Alpha". Alpha's business model has sustained company technological growth for the past thirty years and the company have consistently featured in Gartner's magic quadrant for provisioning cloud technology. Thus, the organisation is very suitable for operationalising our research model as a means of exploring our research objective. Data was collected on site through eight semi-structured, face to face and video conference interviews with senior managers (Table 1). The participating interviewees were employed by the firm for an average of ten years and had an average of 20 years IT service experience. Interviews were recorded in instances where permission was granted by the interviewee. The interviews ranged in duration from 60 to 120 minutes. Extensive field notes and observations were compiled immediately following each interview. The interviews were then later transcribed.

Interviewee Role	Interview Duration	Type
Senior Cloud Architect	62 mins	Face to Face
Cloud Product Manager	75 mins	Video Conference
Cloud R&D Director	87 mins	Face to Face
Cloud Strategy Leader	120 mins	Face to Face
Cloud Technology Officer	92 mins	Face to Face
Cloud Datacentre Manager	60 mins	Face to Face
Senior Cloud Engineer	77 mins	Video Conference
Cloud EMEA Leader	83 mins	Video Conference

Table 1: Overview of Interviews

4. Findings

In this section, we report the empirical results obtained during the analysis of the semi-structured interviews (denoted as sanitised quotes), archival documentation and published materials. Figure 2 depicts alpha's business model transformation since the organisation first commenced provisioning cloud services in 2010. Table 2 portrays how Alpha is strategically operationalising their business model decision variables (DV) along the *foundation, proprietary and rules* decision-making levels (DML).

4.1 Foundation Level

At the foundation level, the focus is centred on defining the six core business model decision variables which all enterprises must address. This level defines what the organisation is doing, as opposed to how it is doing it. Thus, it enables the generalisation across ICT providers in order to capture the essence of their cloud business models. The main danger for early stage cloud providers is "*that they have this rough implicit idea of what their business model is"*. However, by constantly *"pushing similar value propositions and pricing mechanisms to other service providers",* they fall short of ever evolving their basic business model beyond the foundation level. When the company first started provisioning cloud technology, it "*afforded the organisation a brief period of success, it was clear that, prior to jumping in the deep end of the cloud ocean*", the company would have "*to innovate their business model in a way which would be hard to replicate by competitors*". Prior to adopting cloud technology, Alpha's business models gravitated towards the development of consumer technologies and the provision of professional business services such as IT consulting. Alpha have has specifically focused on business markets, in particular, larger enterprises clients, which encompass high margins and low growth levels. The study particpants revealed that the primary reason for the company deciding to provision cloud technologies was motivated by fundamental changes that were occurring across the technological industry landscape. "*Around 2010, the strategy of the organisation was to re-orientate itself towards provisioning technology as a consumable service e.g. IT as a service (ITaaS) as there were indicators this was the way the industry was going. The company were witnessing a growing need for scalable elastic computational resources based services*". Cloud computing has rendered Alpha's traditional method of technology service provisioning obsolete. The analysis reveals that in the past five years, Alpha have undergone a large scale transformation. They are currently restructuring the company so that cloud technology touches on every element of their business practices.The analysis also reveals that the increasing demand from customers for customisable cloud services has resulted in both organisations having to transform from their 'ivory tower' service centric mentality to a 'customer-facing' service centric philosophy. The participants acknowledged how this transformation has coincided with the increasingly interoperable and service-orientated nature of cloud services and the popularity of hybrid cloud deployment models. Alpha's traditional business models encompassed stable, predictable revenue arrangements and growth levels. However, the company have had to develop innovative means of coping with the unstable and uncertain revenue arrangements and growth levels encompassed within their cloud computing business models. In order to migrate to the next proprietary level Alpha have had to evaluate consistencies and trade-offs between the business model decisions.

4.2 Proprietary Level

Next, the proprietary level reflects the manner with which Alpha has applied unique innovative configurations to the foundation level components in order to differentiate itself from competitors and sustain their competitive advantage in the cloud market. Whereas the *foundation level* is generic, the *proprietary level* is strategy specific. Specifically, the *proprietary level* focuses on Alpha's core competencies and competitive positioning decision variables which make possible a range of unique value propositions (e.g. breadth and depth of cloud portfolio services/API and service customization

capabilities and so on). For decades "*Alpha have been first to the market with technologies which are robust, scalable, highly available and secure, that is the route of our software heritage, ultimately it is what differentiates us from our competitors. The depth and breadth of Alpha's cloud offerings really distinguish the company from other ICT providers."* Alpha possess "*a lot of core expertise to call upon in order to develop state of the art cloud offerings. They strategically develop teams to ensure that they are competent in cloud, mobile and analytics. As every business case is different, the learning process with cloud technologies is a constantly evolving one."* Alpha "*are investing vast amounts into the configurability of their cloud services. Customers must be able to configure and customise cloud modules as they see fit."* While the provision of cloud technologies constitutes one of the company's core competency areas*, "as the company continue to sell cloud products they are learning and evolving organically based on those experiences."*

Alpha's business partners constitute key differentiators that provide cogent value to their business model stating, *"the business partners have always played a very valuable role in making large companies work for smaller companies."* The company have also recently partnered with a number of competitor service providers. These strategic partnerships, which would have been unthinkable in the past, are necessitated due to the interoperable nature of cloud technology. These partnerships "*are a necessary evil, the company must evolve or perish*". Alpha have also acquired a number of established ICT providers in an effort to maximise their market penetration. The company's recent acquisition of an already established and highly successful IaaS ICT providers has enabled the company *"to rapidly innovate our SaaS and PaaS offerings and also enable the company to rapidly gain a strong foothold in the cloud market."* When the company first commenced provisioning cloud computing services, their business models experienced an accelerated rate of change.

Traditionally the company have sold ICT products at a high cost (e.g. multimillion dollar, multiyear deals) to the customer. These products also encompassed long implementation phases. Thus, because of these cost and time limitations the company's traditional customer segment was relatively small. Cloud technologies have enabled Alpha to dramatically extend their target market reach. The company can *"now target SMEs, non-profit organisations and individual customers."* The transition from the manufacturing of hardware and software which was then sold to globally located distributors to the provisioning of cloud services was facilitated through their ability to successfully experiment and iterate their business models. Prior to provisioning new cloud services or applications, Alpha experiments with cloud technologies in sandbox environments encompassed within their R&D laboratories. The case study has clearly demonstrated that from a ICT provider perspective, considerable scope for innovation exists within each decision variable when operationalised at the *proprietary level*.

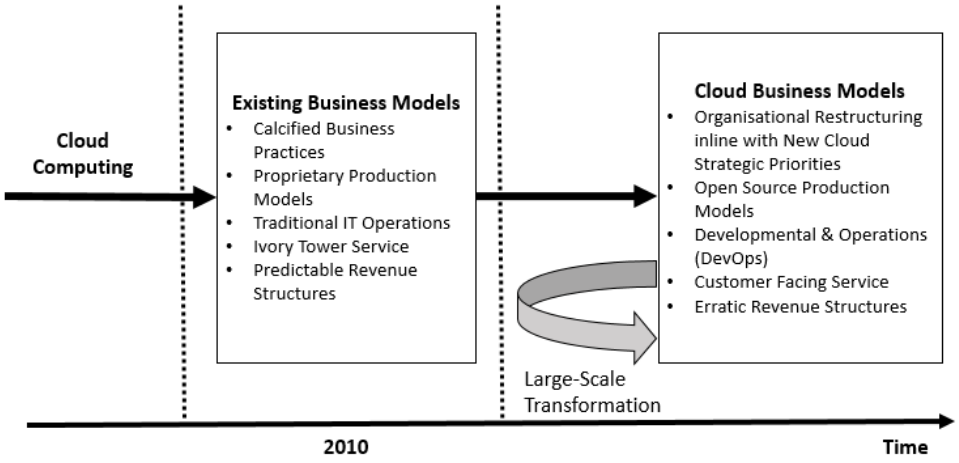

Figure 2: Alpha's Business Models Transformation

DML / DV	Foundation Level	Proprietary Level	Rules Level
Value Proposition	Scalability; Disaster Recovery; Transparency; Remote Access; Agility; Direct rapid provision; Business competitive advantage and innovation; CAPEX to OPEX.	Enterprise grade security, elasticity and availability. Self-service and fully managed cloud offerings. Breadth and depth of cloud services portfolio and API's. Offer SLA's with 99.9% uptime guarantees. Provision of customised ROI and migration strategies. Security assessment and strategy roadmap. Offer a 30 day trial period; Service customisation. Customers can build their own private and hybrid clouds – it's the cloud the way you want it. Open source standards and platforms. Provision sandbox platforms enable CSU to experiment with cloud technologies.	Combine existing legacy product and service offerings with new cloud enabled ones to create unique value propositions for customers. Emphasise customized nature of cloudofferings. Onboard new cloud customers in less than _ hrs/days. Maximum cost of onboarding customers should not exceed Eur €__.
Target Customer Segments	Broad Market; B2C, B2B and B2G (Sell to consumers, SME's, non- profit, large multinationals and governments)	Managed evolution from a leading traditional hardware and software manufacturer to a leading international ICT provider. Targeted focus on SME's and large multi nationals. Careful selection of business partners to expand. Strategically acquire cloud companies to facilitate the targeting of new markets.	Specific guidelines for selecting business partners. Specific guidelines for acquiring cloud companies. Achieve at least ___ customers per day/month/year. Retain at least ___ customers per month/year.
Core Competency	Technology; R&D capability; Innovation; Operational excellence.	Departments specifically tasked with migrating legacy software applications to SaaS. R&D labs specifically tasked with experimenting with cloud based technologies. Invest in new global datacentres. Use of existing hardware and software Infrastructure – data centres and legacy software applications. Careful selection of business partners to innovate and mitigate risks. The company has buttressed its core competencies via a number of recent strategic acquisitions.	New software offerings must be developed as SaaS only. Specific guidelines for acquiring cloud companies. Develop ___ new SaaS offerings per /month/year. Migrate ___ existing software applications to SaaS per /month/year. Test ___ cloud specific technologies per month/year.
Competitive Positioning	Image of operational excellence; Software heritage; Industry experience; Service quality - consistency, security and dependability.	Differentiation is achieved by stressing that the Alpha's heritage and operational excellence enables them to be first to the market with cloud technologies which are robust, scalable, highly available and secure. The company has strengthened its competitive positioning in the cloud market via a number of recent strategic acquisitions.	Become the world's most essential cloud company. Emphasise company heritage and experience. Specific guidelines for acquiring cloud companies.
Economic Model	Multiple revenue sources; Monthly billing; Licensing fees;	Targeted focus on business process outsourcing, IT services management and consulting services revenues. Cloud financing option to enable CSU spread the up-front costs of cloud services over time.	Maintain costs per customer below Eur €__
Investment Model	Growth model	Emphasis on growth opportunities that are consistent with strategy	Managed rate of growth

Table 2: Characterising Alpha's Business Model Decision-Making

4.3 Rules Level

Finally, the establishment of operative rules not only reinforces and embeds Alpha's overall cloud objective in the consciousness of their employees but also enables management to avoid decision-making manoeuvres which may be incompatible with their business model decision variables. The ethos behind Alpha's specific rules level is that that their "*cloud business model decision-making strategies are all founded on agility. The company are focused on making new or improved services faster than they did in the past. All new software offerings must be cloud based and be able to be provisioned at low cost."* The company are currently in the process of implementing a new breed of agile software development within the company called DevOps. The emergence of DevOps has

"enabled the company to respond more effectively to customer requirements and facilitates an accelerated time to market". The analysis also reveals that DevOps methodologies were currently being driven by market forces and were pivotal for the company with regards to developing, deploying and maintaining state of the art cloud technologies. Traditional IT operations philosophies were ineffectual in enabling both the provider and the customer to derive 'continuous' value from cloud computing services. For example, the organisation's traditional IT operations which encompassed agile and or waterfall methodologies worked well with regards "big bang" feature releases whereby upgraded or new versions of their product offering were released on a quarterly or annual basis. However, provisioning cloud service offerings dictates that IT providers must be efficient at transporting cloud source code speedily from the software developers to the customers and be capable of reacting to the continuous feedback received. The company have also invested heavily in OpenStack cloud software development and are currently investigating the merits of releasing their own distribution of OpenStack in order to facilitate the on-boarding of customers in an accelerated manner. Alpha utilise an indigenous business modelling component technique to design governing principles so as to assist with the execution of decisions at the foundation and proprietary levels. This technique decomposes the company into strategic, operational and tactical segments in order to concurrently identify components which bring business value to the company and those that do not. This case study has demonstrated that Alpha have developed cogent operative rules which the enabled the company to gain a strong foothold in a rapidly evolving cloud market.

5. Contributions and Limitations

This study is motivated by the increasing complexity of developing and sustaining effective business models for the new cloud economy. There is evidence to suggest that these complexities have resulted in significant challenges for large business model mature ICT providers. History has shown that with the emergence of any new IS/IT, the inability to operationalise effective business models can threaten the longevity of even the most nascent IS/IT advancements. While extant research has examined the impact of cloud technology on providers' business models, to date, little research exists which has explored how ICT providers can effectively formalise business model decisions in order to sustain their competitiveness in a rapidly evolving digital ecosystem. Taking a post-provision perspective, our findings to date have illustrated how a leading large business model mature ICT provider has strategically executed their business model decisions over a period of five years in order to effectively align with the novel propitious characteristics afforded by cloud computing. The following research is valuable both from the theoretical and practical point of view. On the theory side, we make important contributions to the cloud computing literature. First, rather than taking a conventional static business model lens (e.g. business model canvas etc.) to explore the impact of cloud computing on ICT providers' value creation and value capture processes, we have taken the nuanced step of proposing a new business model decision-making perspective. This nuanced perspective provides new salient insights into how an established large business model mature ICT provider has strategically configured their individual business model components across several increasingly specific levels of decision making. While this study explored the impact of cloud computing provision on an established ICT provider, this new business model perspective could also be used to assist organisations across a range of industry settings to craft competitive and sustainable IS/ICT enabled business models. Second, this study extends the current dearth of research which has explored the long term impact of cloud technology on organisation's business models. We have illustrated how a successful large ICT providers' business models have transformed and evolved over time (e.g. five years post-provision) as a result of cloud computing technology. The study has identified that provisioning cloud services encourage business models which encompass open, devops and customer innovation led practices. Akin to the 'slow train coming' analogy provided by Wilcoks, Venters and Whitley (2013), this study has also identified that even though the concept of cloud computing has been in existence for the past decade, the cloud technological landscape is is still maturing and is currently exhibiting a rapid level

of dynamism. This study has demonstrated that the impact of this technological dynamism can be minimised by operationaling effective proprietary and rule level decision making strategies. On the applicative side, some tentative practical implications may be suggested. We have identified how a leading ICT provider has (1) evolved their basic foundational business model decisions to the next proprietary level in order to compete effectively and (2) designed effective operative rules in order to sustain their competitiveness over the past five years. ICT providers should consider exploring their business models using the new perspective operationalised in this study in order to scrutinise their decision-making methods.

The study has a number of limitations. First, given that the findings are based on a single organisation, this study is naturally limited in terms of it generalisability. However, we took care in relating the idiographic details of the study findings to theoretical concepts. Additionally the primary aim of this case study, which forms part of a larger study, is to inform the next phase of our research. Second, given the complexity and rapidly evolving nature of the business model and cloud computing concepts, the evolution of how ICT providers have arrived at their current mode of operating may be best observed as part of a longitudinal study. However, as an explorative study of complex topics, our central objective in this work is to explore the dynamics of their relationships. Finally, while interviewing senior management has a number of strengths, it can also result in the manifestation of elite bias. Elite bias occurs when a researcher fails to gain a comprehensive understanding of the broader context by overweighting the data elicited from elite study participants. In order to minimize the impact of elite bias, we deployed a number of prescribed tactics in order to ensure the validity and reliability of the research design (e.g. triangulation, multiple interviews and cross-case analysis). We also trust that this study will serve as a basis for future qualitative and quantitative research that can be undertaken to confirm and extend our study. For example, future research could explore tensions encompassed within ICT providers' foundation, proprietary and rules levels which are currently inhibiting the organisations from executing effective business model decisions. Also, while this study focused on the provider perspective, furture research could also provide important insights from the customer perspective.

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