A Literature Review on the Relationship between Disruption and Business Model Innovation: What Choices do Incumbents have?

Full Paper

Ronald Addo-Quaye
School of Information Systems
Queensland University of Technology
Brisbane, Australia
Email: ronaldniiarmah.addoquaye@hdr.qut.edu.au

Erwin Fielt
School of Information Systems
Queensland University of Technology
Brisbane, Australia
Email: e.fielt@qut.edu.au

Abstract

In many industries, incumbents face or are aware of the threat of disruption because of ongoing digital innovation. Disruption literature, prior to the late '90s', alluded to incumbents' failure or success for reasons such as the technology deployed by the organisation. However, a few years after the first publication of Christensen's theory on disruption (1995), researchers, including Christensen, began to attribute the success or failure of organisations to business models and not to technology per se. Thus, how organisations innovate their business models explain how they will fare in the market. A systematic literature review of the extant literature on disruption and business models, between 1997 and 2019 was conducted. The content analysis revealed three key relationships between disruption and business model innovation: (1) Entrants deploying disruptive business models, (2) Incumbents creating new business models, and (3) Incumbents adapting existing business models.

Keywords Disruption, disruptive technology, disruptive innovation, business model, business model innovation, incumbents.

1 INTRODUCTION

Digital innovation brings opportunity to disrupt industries such as Amazon in retail, Netflix in entertainment, Uber in transportation and AirBnB in accommodation. According to McKinsey (2017, p. 1) '*Digitally-enabled innovations are creating opportunities and disrupting business models across all sectors of our [Australian] economy.*' Moreover, Deloitte Australia (2012, p. 1) reports that '*One-third of the Australian economy faces imminent and substantial disruption by digital technologies and business models [...].*' To better understand digital disruption, this study takes a look at the broader disruption literature, in particular in relation to business model innovation. We take this broader approach as the relationship between digital disruption and business model innovation has received limited attention so far in the specific IS literature, with notable exceptions being, for example, Karimi and Walter (2015), Carlo et al. (2011) and Lucas and Goh (2009).

Disruption in this study describes a situation in which an entrant business model competes with incumbents' business models, ultimately threatening the existence of incumbent firms. Disruption "is less a single event than a process that plays out over time, sometimes quickly and completely, but other times slowly and incompletely" (Wessel and Christensen 2012, p.4). "A business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers" (Teece 2010, p. 173). According to Habtay (2012), there are at least three stakeholders involved in disruption; incumbents, customers, and entrants. An entrant from our viewpoint is an organisation (disruptor), which enters the market of an incumbent, offering new value propositions to customers. A framework for capturing and offering value propositions differently defines a business model innovation (Afuah 2014). An incumbent in this paper is described as an established organisation which is the market leader in a particular industry. For instance, an entrant such as Netflix used digital technology (online streaming) to disrupt Blockbuster, an incumbent in the film retail industry (Christensen et al. 2015). Entrants (disruptors) typically pay attention to getting the business model right and not just product delivery (Christensen et al., 2015). Additionally, entrants continue to demonstrate how business model innovation can prove successful in a competitive environment against incumbent organisations (Casadesus-Masanell and Zhu 2013).

Researchers suggest that a prudent approach for organisations to guard themselves against the threat from disruptors is to undertake business model innovation (e.g., Hwang and Christensen 2008; Karimi and Walter 2016; Zhang et al. 2018). Although studies have been conducted on disruption and business model innovation (e.g., Schiavi and Behr 2018), little or no attention has been given to consolidating the several works of literature and advancing the understanding of the relationship between these concepts. Therefore, the objective of this study is to explore the relationship between disruption and business model innovation. Furthermore, a proposed conceptual framework will be developed to extend the literature on disruption and business model innovation. This research seeks to address the following question; what does disruption literature say about business models and business model innovation? This study critically reviews previous publications relevant to this research. This paper will draw from existing literature on disruption. The subsequent chapters discuss the theoretical background, the research methodology, findings, discussion, conclusion, limitations and future research direction.

2 THEORETICAL BACKGROUND

2.1 Disruptive Innovation

The genesis of disruption literature, can be traced as far back as 1942 when Schumpeter described the "gale of creative destruction" as the "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one"(Schumpeter 1994, p. 83). Since Schumpeter introduced the theory of "gale of creative destruction", other authors have explained why established organisations are confronted with disruption (e.g., Abernathy and Clark 1985; Henderson and Clark 1990; Norman and Verganti 2014; Tushman and Anderson 1986). In 1995, Christensen and Bower published their article on disruption, which initiated the term disruptive technologies (Bower and Christensen 1995). The term disruptive technologies later evolved into the theory of disruptive innovation in later publications of Christensen (e.g., Christensen 2006; Christensen and Raynor 2003). In 1997, Christensen published his book, the *"innovator's dilemma"* in which he explained, "why well-managed companies that have their competitive antennae up, listen astutely to their customers, invest aggressively in new technologies, and yet still lose market dominance"(Christensen 1997, p. 7). Well-managed incumbents lose market dominance because entrants enter the market with disruptive innovations that target low-end or new markets (Christensen et al. 2015). The theory of disruptive innovation describes a process where new value propositions introduced by entrants, are initially not attractive to the mainstream market, but improves on the performance of product eventually disrupting incumbent firms (Christensen et al. 2015). This situation occurs when incumbents are focused on the high-end market thereby overshooting the necessities of mainstream and low-end markets (Christensen et al. 2015).

Christensen further stated that innovation could also be sustaining (Christensen 1997). An innovation is sustaining when technology improves the performance of a product (Christensen and Overdorf 2000). Rarely does sustaining innovation cause established firms to collapse (Christensen 1997). These sustaining innovations are what incumbents rely on to reach, high-end customers (Christensen and Overdorf 2000; Christensen et al. 2015). They are often not associated with business model innovation (Mario 2013). Therefore, incumbent firms can stay as market leaders when they deploy sustaining innovation, whiles entrants in a disruptive environment, are most likely to surpass incumbent firms (Christensen et al. 2015). However, disruptive innovations and sustaining innovations are different from radical and incremental innovations, which have characterised the theories of innovation (e.g., Norman and Verganti 2014). Incremental innovation is when knowledge required is existing knowledge (Afuah 2003) while radical innovation is when the technological knowledge needed is different from the knowledge that exists (Afuah 2003). The fundamental relationship between these classifications of innovation being radical, disruptive, sustaining and incremental is that different combinations are possible (Latzer 2009). For example, radical innovations are not necessarily disruptive, but could also be sustaining (Latzer 2009).

The theory of disruptive innovation by Christensen has received criticisms from other researches (e.g., Danneels 2004; King and Baatartogtokh 2015; Markides 2006) even though it has become prominent in the discussion of disruption. For example, Danneels (2004) questioned how the theory of disruptive innovation can identify when technology is disruptive. Additionally, Markides (2006) was particular about how the theory categorised all disruption as disruptive innovation, stating that this should not be the case. Christensen continues to improve the understanding of his theory by demystifying and making changes when deemed necessary (Christensen 2006; Christensen and Raynor 2003). However, in Christensen's later works, he noted that the success or failure of incumbents during disruption "is a business model problem" and not necessarily the technology deployed by a firm (Christensen 2006, p. 43).

This research acknowledges other literature on disruption (e.g., Markides 2006). However, we focused on the theory of disruptive innovation as the fundamental disruption theory for this paper. Therefore, we explore how the business model is described in disruption literature to understand the relationship that exists between disruption and business model innovation.

2.2 Business Model Innovation

Business models have continued to evolve and have been used in different contexts (Osterwalder et al. 2005; Teece 2010; Zott et al. 2011). Authors have coined several definitions for a business model (e.g., Fielt 2011; Osterwalder et al. 2005; Zott et al. 2011). In this paper, we define a business model as "the logic a firm provides data and other evidence that demonstrates how a business creates and delivers value to customers" (Teece 2010, p. 173). Despite the disagreement in the definition, the terms value and/or logic is typical across business model definitions (Fielt 2011; Osterwalder et al. 2005). Some authors, such as Morris et al. (2006), extended the definition to include how firms sustain their competitive advantage. However, most authors see business model and strategy as highly related, but separate concepts (Fielt, 2011).

Additionally, the business model is described by components for creating and delivering value proposition to customers. Afuah (2014), categorised the business model components into four: customer value proposition - which involves customers buying from a firm and the firm offering the appropriate value proposition; revenue model - which concerns an organisation putting economic value on the value proposition it delivers for customers; growth model - whereby an organisation's financial progress focuses on how it will achieve profits; market segment - which defines how organisations value propositions are targeted to the right customer, to capture value. These components are inter-linked to capture and deliver the appropriate value proposition to customers.

Managers are forced to rethink how their business models can continue to be viable (e.g., Chesbrough 2007) due to the ever-growing effects of market and technological threat from disruptors (e.g., Christensen et al. 2015; Habtay 2012). Consequently, business model innovation serves as a successful solution for organisations to address these threats from disruptors (Karimi and Walter 2015). Business model innovation involves creating a new business model or modifying an existing business model (Johnson et al. 2008; Schiavi and Behr 2018). Foss and Saebi (2015) explain that incumbents' simply adopting a disruptor's business model is not viable for achieving success. An Incumbent who creates a new business model may consider creating a separate unit, including methods to ensure synergies with the existing business (Foss and Saebi 2015). This creation of a separate unit, aligns with the thinking of authors such as Porter who advocates creation of separate units for organisations looking to grow (Porter 1996).

Industries who fail to innovate their business models often see a decline in their business. "One of the most consistent patterns in business is the failure of leading organisations to stay at the top of their competitors when technologies or markets change" (Bower and Christensen 1995, p. 43). An example of such failure is that of the traditional music industry. The traditional players in the music industry were unable to innovate their business model and were taken over by Apple, as the most significant selling music company (Lindgardt et al. 2009). This suggests that the critical role of business model innovation in an established organisation facing disruption cannot be overlooked. Therefore, for organisations to undertake business model innovation, they must understand what it is, and then find an appropriate path to improve upon it (Chesbrough 2007).

3 RESEARCH METHODOLOGY

A systematic literature review was conducted on existing disruption literature, to understand how disruption literature describes business models, with an objective of exploring the relationship between disruption and business model innovation.

Selected journal articles relevant to this exploration were retrieved from the Scopus and Web of Science databases. The scope of this study included publications from papers which were related to the business and management field, specifically, on disruption and business model innovation. Among 361 identified articles, a total number of 30 articles fulfilled the criteria for selection: (1) Selected publications for this research were between the period 1997 and 2019 (Papers were selected from 1997 based on Christensen's first publication on disruption to mention business models). (2) Each article explicitly mentions and explains into detail, disruption and business model. (3) Selected papers were related to the business, management, and information system field. (4) Each article is a journal paper.

A search criterion was defined to select pertinent articles. Boolean operators such as "AND", and "OR" was used in combination with keywords of the study to search for articles: (Disruption OR Disruptive innovation) "AND" Business Model. Disruptive innovation was added to the search string to ensure that no relevant paper was omitted from the study. The initial database search criteria produced 361 papers. The second stage assessed the title and abstract of each of the 361 papers to conform to selection criteria. 221 and 77 articles were rejected after reading through the title and abstract, respectively. The third stage verified how disruption and business model innovation was mentioned with a text search query. This resulted in 33 papers discarded out of the remaining 63 papers. The reason being the concepts were mentioned once or twice without a full explanation. The latter stage resulted in the final 30 journal publications used for the review.

Content analysis was used to identify how existing disruption literature described business models. The coding method used for this research was influenced by prior knowledge of literature in the subject area through an abductive approach. Nvivo software was used to facilitate the coding process. Three levels of coding were undertaken to achieve the three themes from the findings. The first stage involved identifying how business model is described in the selected publications with a text search query. The second stage involved classifying the concepts of business models from the papers into different classifications codes. The third stage included recoding and merging similar themes to generate the final themes for the study.

After a careful read of all articles, selected papers for the study which qualified as disruption literature included main topics such as, disruptive innovation, business models, business model innovation, technology, disruptive business models, and disruptive technologies. Out of the total 30 papers, 7 involved Christensen as an author. This is because the theory of disruptive innovation has become formidable in the discussion of disruption since its inception (King and Baatartogtokh 2015) and has been referenced in several studies. Additionally, 7 publications focused on technology and disruption, 4 papers were on business model innovation. 10 papers focused on disruptive innovation and 4 papers on disruptive technologies. Furthermore, 5 papers focused on business models as their main topic. In addition to the main topics classifications, 21 articles were conceptual research, while 9 articles were empirical research which employed the case study and survey methodologies. Table 1 summaries the main topics of selected publications.

Main topics of selected publications	Number of publications
Technology and disruption	7
Business model innovation	4
Disruptive innovation	10
Disruptive Technologies	4
Business model	5
Total	30

Table 1: Summary of main topics from selected papers

4 FINDINGS

This section presents the results of reviewing 30 journal articles selected for the literature review. These findings synthesis with earlier research on disruption and business model innovation (e.g., Markides and Oyon 2010; Schiavi and Behr 2018). The paper consolidates several works of authors to generate a conceptual framework for advancing the understanding of the relationship between disruption and business model innovation. The three main issues identified are as follows; (1) Entrants deploying disruptive business models, (2) Incumbents creating new business models, and (3) Incumbents adapting existing business models.

4.1 Entrants Deploy Disruptive Business Models

The research found that entrants primarily enter the market with disruptive technologies and disruptive business models. Earlier works of Christensen defined disruptive technologies as technologies with attributes that can cause incumbents to collapse (Bower and Christensen 1995; Christensen 2001). However, Christensen and other scholars noted in later publications that, it is not the technology per se that causes disruption, but the availability of the business model that enables the technology (Christensen 2006; Paap and Katz 2016; Worlock 2007). As such disruptive business models are new business models that tend to disrupt an established business model (Christensen 2006; Cozzolino et al. 2018). Consequently, “the disruptive business model in which the technology is deployed paralyses the incumbent leader” (Christensen 2006, p. 43).

Entrants are successful in disrupting a market because they introduce new business models that effectively create and capture value propositions different from the incumbent’s business models (Cozzolino et al. 2018). However, the value propositions from entrants are initially not attractive to existing high paying customers enjoying sustaining innovation, but with time the value proposition improves, eventually luring the incumbents’ mainstream customers (Hwang and Christensen 2008). Thus, the “disruptive business model, when well established in the marketplace, can lead to shifting customer expectations” (Dewald and Bowen 2010, p. 212).

Raynor (2011) explained a typical example of an entrant business model enabled by technology: Southwest Airlines, which operates a unique business model, the Low-Cost Carrier model, to disrupt the market. Southwest Airlines was successful because it introduced; (1) a “unique business model that appeals to the needs of segments of customers on which dominant incumbents place relatively little value” and (2) an enabling technology that eventually allows this business model to appeal to valuable mainstream segments” (Raynor 2011, p. 31). Thus, Southwest Airlines business model can be elucidated as a disruptive business model enabled by technology (e.g., Cozzolino et al. 2018). It is worth stating that not all entrants necessarily deploy disruptive business models enabled by disruptive technology (e.g., Proctor and Gamble’s Febreze).

E-commerce, as a disruptive business model enabled by digital technology, has disrupted traditional brick and mortar retail firms (Xiao et al. 2019). Traditional brick and mortar retailers such as Tower Records and Hollywood Video, over the years, have witnessed disruption from online entrants. Furthermore, traditional taxis have been disrupted by Uber via a multi-sided platform business model with mobile application for booking rides (Freeman and Parmar 2018). In the newspaper industry, the Internet and main news and information companies have disrupted traditional newspaper companies (Karimi and Walter 2016). In the tourism accommodation sector, Airbnb is seen to invade the market space of traditional hotels with its internet-based multi-sided platform business model (Guttentag 2013).

4.2 Incumbent Organisations Create New Business Models

Among 30 studies, 10 mentioned that incumbents undertook business model innovation by creating a new business model (Berman and Hagan 2006; Christensen 2006; DaSilva et al. 2013; Gilbert et al. 2012; Hwang and Christensen 2008; Johnson et al. 2008; Kim and Min 2015; Koen et al. 2015; Markides and Oyon 2010; Osiyevskyy and Dewald 2015). Adding a new business model improves the performance of the incumbent organisation (Kim and Min 2015).

Some well-known incumbents have been successful with the creation of new business models (Mateu and March-Chorda 2016). For example, Microsoft (office software) created a new business model (online office software) to resist the threat from Googles online “Google docs” software (Hang et al. 2011). Consequently, the primary goal of the new business model is to attract new customers into the market or motivate existing customers to purchase more from the organisation (Markides 2006). However, other incumbents had technologies but failed to develop or link it to new business models (Hwang and Christensen 2008; Koen et al. 2015), causing their collapse. Example, Kodak (see Koen et al. 2015). Furthermore, some incumbents are reluctant in creating new business models to address disruption (e.g., Cozzolino et al. 2018), even though there are well-documented successes (e.g., Hang et al. 2011). Few organisations understand when their existing business model has reached its limit, and the need to create a new business model (Johnson et al. 2008). They continue to hook up to past successes of their existing business model (Mateu and March-Chorda 2016). However, with time, the existing business model must determine what value proposition it can provide and what it cannot (Hwang and Christensen 2008). Incumbents firms must be eager to experiment by creating new business models that can challenge emerging technological changes (DaSilva et al. 2013).

For incumbents to create new business models, they need open-minded people that are resolute to discover new business models (Mateu and March-Chorda 2016). They must ask questions such as “What kind of culture, structures, incentives, and people do we need to put in place in our organisation to promote and encourage ambidextrous behaviours on the part of employees?” (Markides and Oyon 2010, p. 31). They must reject the previous thinking that gave them success in sustaining their businesses (Koen et al. 2015, p. 59). This is because business models built around past successes are being surpassed by new and innovative business models (DaSilva et al. 2013).

Johnson et al. (2008) proposed five circumstances which necessitate the creation of a new business model. 1) When current solutions are too costly or complex for potential customers, who can be served through disruptive innovation. (2) The opportunity to capitalise on new technology by developing a new business model around a product, (3) The chance to deliver what customers hope to accomplish, emphasising where one does not yet exist. (4) The need to deter entrants who would like to capitalise on the low-end or niche market. (5) The need to respond to competition.

Additionally, how incumbents perceive the market and customers’, including the size of the new market influences the creation of new business models (Markides and Oyon 2010). If the organisation views customers as a new market, they probably create a new business model. Habtay and Holmén (2014), suggest that incumbents should create a new business model separate from the existing business model when confronted with technology-driven business model innovation.

Cozzolino et al. (2018) explained that it is challenging to replicate entrants’ disruptive business models. However, Markides and Oyon (2010) disapprove replication because incumbents replicating entrants business models will be competing with entrants head-on, and often such approach fail. Alternatively, incumbents who want to tackle disruption and threats must innovate their business models, which must be disruptive (Markides and Oyon 2010; Zhang et al. 2018). Thus, the new business model created becomes the disruptive business model for incumbents (Kim and Min 2015; Markides 2006).

Additionally, Hwang and Christensen (2008) explain that the only time an incumbent surpassed an entrant in a disruptive environment was through the creation of a separate unit. However, the new business model must share synergies and resources with the existing business (Christensen and Overdorf 2000; Markides and Oyon 2010). Gilbert et al. (2012, p. 61) termed these shared synergies as “capabilities exchange”. Koen et al. (2015) further suggest that, for the separate unit to leverage expertise and resource from the established unit, they must share one senior manager.

4.3 Incumbents Adapt Existing Business Models

An incumbent undertaking business model innovation can decide to adapt their existing business model instead of creating a new one. An existing model will usually require “modest enhancement to accommodate updated processes” (Gomber et al. 2018, p. 2228) or “exploit ways to strengthening it” (Osiyevskyy and Dewald 2015, p. 58). Consequently, adaptation includes finding new ways to create and capture value through altering the strategies, structures and resources of the organisation (Cozzolino et al. 2018).

Markides and Oyon (2010), explained that the decision of incumbent organisations not to create a new business model but maintain their existing business model is "subjective". They further explained that this depends on the market size and how the incumbent views new customers. That is to say; an incumbent can view new customers as a new market or just another segment. If the incumbent sees new customers as the latter, enhancing an existing business model is an appropriate option (Markides and Oyon 2010). An example is the banking industry, where most banks treat internet banking as another segment of the market (Markides and Oyon 2010). Habtay and Holmén (2014) concluded that when incumbents are confronted with disruptive market-driven business model innovation, they perform well when they rely on their existing business model. An incumbent considering introducing an established business model to a new market, require adaptations or modifications that may improve the organisation's competitiveness (Wu et al. 2010).

However, Snihur et al. (2018), explained that incumbent's maladaptation of their existing business model, such as relying on the successes of their business models and not seeing the urgency to make quick decisions in a new ecosystem, can lead to incumbent's failure.

5 DISCUSSION

This research focussed on entrants invading markets with disruptive business models, which eventually can challenge incumbents' business models. For incumbents to address disruption, they must innovate their business models. Business model innovation can be achieved by (1) Creating a new business model. (2) Adapting the existing business model.

Additionally, the research revealed that managers play a critical role in business model innovation. Considering the market perspectives (e.g., Markides and Oyon 2010) and the dynamics of threat (e.g., Habtay and Holmén 2014), we suggest that managers must have an open mind towards business model innovation. Managers must be ready to address disruption by employing an appropriate perspective in choosing a suitable option of business model innovation (create a new business model or adapt existing business model). This decision must be timely to ensure the organisation benefit from the success of business model innovation. Furthermore, with the case of resistance from staff, managers must develop change leadership skills which will guide them in leading and managing change (business model innovation change) in their organisations. Managers must communicate to the staff its aspirations for achieving success through business model innovation.

The research further showed that the creation of a new business model is a typical option for business model innovation (Christensen 2006; Kim and Min 2015; Koen et al. 2015; Markides and Oyon 2010; Osiyevskyy and Dewald 2015). Furthermore, Christensen has explained that organisations are successful when they create a separate unit for the new business model during disruption (Hwang and Christensen 2008). This assertion by Christensen aligns with Michael Porter, who suggests that "Companies seeking growth through broadening within their industry can best contain the risks to strategy by creating stand-alone units, each with its own brand name and tailored activities" (Porter 1996, p. 20). However, other authors (e.g., Markides 2006; Markides and Oyon 2010) have explained why organisations may not necessarily have to create a separate unit. This suggests that other options such as adaptation of existing business model (e.g., Johnson et al. 2008) or placing the new and existing business model in the same unit (e.g., Foss and Saebi 2015) are feasible alternate options to business model innovation. Additionally, organisations may not separate or integrate their new and existing business model from the onset but may choose to undertake a process of phased integration or separation to curb the disadvantages of implementing either one of the solutions (Markides 2004).

The study additionally showed that separation strategy is not enough for new business models. The new and existing business model must share synergies between them (e.g., Gilbert et al. 2012; Koen et al. 2015; Markides and Oyon 2010). This finding agrees with Foss and Saebi (2015), who stated that just separation is not enough, but methods to share synergies between the established business model and the separate unit is essential.

The study also considered the role of technology as an enabler for business models. We propose that incumbents must be ready to exploit new business models when driven by technology. Organisations must be ready to take a risk with new technologies if they have not already mastered them. However, it is ultimately the new business model and not the technology supporting them to deal with disruption.

Figure 1 conceptualises the relationship between disruption and business model innovation from the literature review findings. The conceptual framework extends the findings from this study by proposing a solution incumbents can undertake to avert disruption.

This framework conceptualises the incumbent's solution as a two-layered decision. (1) A business model decision layer and (2) Organisational decision layer. The business model decision layer includes a choice between adapting an existing business model and creating a new one. Furthermore, the decision to create a new business model has two options. Either the new business model coexists with the existing business model or separated from the existing business model. The coexisting approach explains an integration strategy of putting together the existing and new business model. After the business model layer decision is made, the next step is to make an organisational decision of where the new business model should reside. The organisational decision layer includes either the new business model resides in the existing business unit or a separate business unit. However, if an incumbent makes a decision to adapt an existing business model, the adapted business model will normally reside in the existing business unit. Incumbents may choose to adapt its existing business model if improving or changing a component of their existing business model (e.g., value proposition) makes their existing business model disruptive.

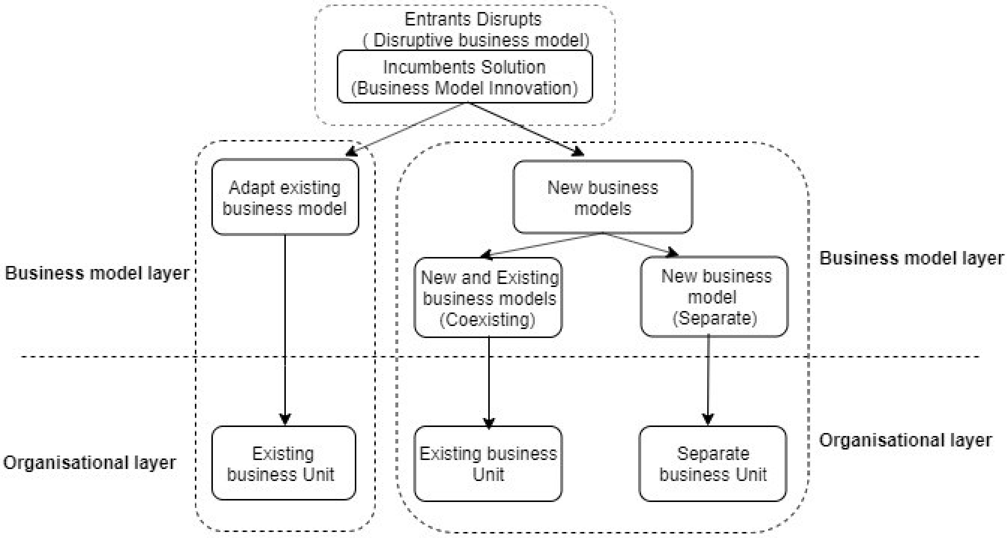

Figure 1. Incumbents' solution for responding to disruption

6 CONCLUSIONS, LIMITATION AND FUTURE RESEARCH

This paper explored the relationship between disruption and business model innovation. Our analysis revealed three main themes from reviewing the relevant literature: (1) entrants deploying disruptive business models, (2) incumbents creating new business models, and (3) incumbents adapting existing business models. Thus, we contribute to the growing literature on disruption and business model innovation by synthesising the existing literature on disruption.

Another contribution includes extending extant literature (e.g., Schiavi and Behr 2018) through developing a conceptual framework. From the findings of the review, we extended the understanding of the relationship between disruption and business model innovation by developing a conceptual framework. This framework conceptualised incumbents' solution as a two-layer decision approach. (1) A business model decision layer which includes to adapt the existing business model or create a new one. Furthermore, to create a new business model involve the coexisting approach and separate approach. (2) An organisational decision layer which includes whether the business model resides in an existing business unit or separate business unit. These two layers are an essential consideration when organisations want to achieve the best out of business model innovation.

Additionally, to tackle disruption, business model innovation has become an option that has proved to be successful for incumbents' organisations (e.g., Osiyevskyy and Dewald 2015). Business model innovation enabled by new technology affects business model performance (Baden-Fuller and Haefliger 2013). Thus, for incumbents to continue to achieve performance and address threat of disruption, they must enable their business models with technologies, through creating a new business model or adapting the existing one (e.g., DaSilva et al. 2013).

However, this research has limitations and opens opportunities for future study. This study reviewed 30 journal publications from two databases (i.e. Web of Science and Scopus). This means that potential papers may have been excluded such as those from conferences. An increased number of publications may elucidate additional findings of the relationship between disruption and business model innovation. As such, this presents an opportunity for further research.

We focussed only on the business model rationale for deciding between existing or separate business units. We acknowledge that there may be other reasons for deciding on business units, such as customer segments or geographical regions. As such, future work could look into how these different factors may interrelate.

Another future research should investigate why researchers seem to focus more on creating new business models than adapting existing business models. Is it that there is a lack of research in the area of adapting an existing business model or does an adaptation of business models not yield success during disruption? The pros and cons of adapting an existing business model should be outlined in such a study.

Finally, future research should explore how incumbents can distinguish between entrants who have deployed a disruptive business model and an entrant who pose no threat. This is important because not all entrants may be deploying disruptive business models, requiring incumbents to respond.

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