

# BUSINESS MODEL CONCEPT FOR CONSTRUCTION BUSINESSES: A LITERATURE SYNTHESIS

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## ABSTRACT

*Despite the importance of a business model (BM) to an organisation's success, clearing up the fuzziness of the concept of BM before applying it to any business or sector is worthwhile. Since definitions are expected to bring clarity, this paper attempts to analyse various definitions given to BM by different authors. Accordingly, eight notions around which 31 definitions of BM have been centred were identified. These notions are based on stakeholders, value, revenue, strategies, process, causality, elements and dynamicity of the business with which all the BM definitional views are associated. In addition to its two key roles, value creation and value capture, BM plays several other roles as well. Some of these roles relate to being an opportunity facilitator; a common language; a source of industry change; a source of competitive advantage and an exemplar. The paper also distinguishes the term BM from the other commonly used term in the business language, 'strategy'. Once the basis on which the preliminary views expressed by past researchers on the concept of BM is understood, it will be necessary to review the literature once again to get an understanding of the BM elements, BM design, BM changes and BM innovations, so that the concept of BM in the construction business environment and culture could be fully grasped.*

**Keywords:** Business Model; Construction Business; Definitional Views; Strategy.

## 1. INTRODUCTION

Construction industry caters to several distinctive markets such as new building works; civil engineering works; specialist works; repairs and maintenance; and decoration works. There is a demand for the products and services provided by the construction industry from its customers to meet their own business and operational needs (Brady *et al.*, 2005). Therefore, in order to acquire a long term business perspective, construction firms can develop and offer total solutions for their products throughout their life-cycles including their design, construction, operation and maintenance with a view to enhancing the sustainability of the products (Kujala *et al.*, 2010). However, businesses will fail to either deliver or capture value from their products, services or their business perspectives if they do not have a well-developed Business Model (BM) (Teece, 2010). To put it more strongly, businesses in spite of having adequate resources, market opportunities, new business ideas and talented staff, can fail in the absence of proper business models that can drive them towards success (Morris *et al.*, 2005). According to Stefan and Branislav (2016), every company that makes money has a functioning BM (p.72), because BMs satisfy customers by producing value while getting the companies to earn profits through revenues that exceed costs.

Construction businesses continuously confront challenges that arise from outside due to economic uncertainties, the globally competitive construction market and the influence of the regulatory bodies: they also face challenges that arise within the businesses themselves due to increased features and complexity of project scopes, tightly programmed and shorter construction deadlines, increasing number of project participants and limited budgets (Antunes & Gonzalez, 2015). Thus, compared to their counterparts in other industries, construction businesses are in a risky situation and are required to adapt themselves continuously to the complex and changing construction business environment (Odediran *et al.*, 2013). The application of

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BMs will help to deal with these complexities and provide a means of identifying, describing, and analysing the different value networks available (Arend, 2013).

With the basic understanding of the importance of BMs for businesses irrespective of the industry or sector in which they operate, there has been an increasing interest in understanding the concept of BM fully. It is obvious that a good understanding of the BM concept will provide for improvements in company and industry applications. Zott *et al.* (2011) have stated that the use of the business model concept can tackle different research questions in different contexts as well as in management areas like construction business management. However, the concept of BM has, at times, been misperceived due to its newness and the unfamiliarity of the disciplines (such as information systems, e-Business and e-Commerce) and sectors (such as telecommunication and software industries) within which the BM concept has been mostly investigated and applied (Al-Debei & Avison, 2010). Therefore, this paper aims to review the existing literature to get a better understanding of the BM concept so that it could be used as a first step towards ensuring the success and sustainability of businesses in the construction industry. The paper also highlights, (a) definitions and different perspectives of BM concept, (b) difference between BM and the commonly used word ‘strategy’ and (c) the significance and role of BMs which will help to identify the pre-dominant characteristics of BM.

## **2. RESEARCH METHOD**

As stated by Saunders *et al.* (2009), a preliminary search of literature will help to generate and refine a research idea whereas a critical review of the literature will help to give a thorough understanding of previous researches related to the subject. Thus, the goal of the paper is to understand through a preliminary literature survey, the concept of BM while clarifying the term “BM” against the term “strategy”. In order to understand the BM concept more precisely, the definitions given in 31 articles that covered a considerable number of different angles from which the BM concept has been observed over the period from 1998 to 2016 were studied (Table 1). Using content analysis, eight general notions around which the BM definitions given in those 31 articles were centred, were also identified and named as stakeholder based, value based, revenue based, strategy based, process based, causality based, element based and dynamicity based notions.

## **3. BUSINESS MODEL DEFINITIONS AND PERSPECTIVES**

Since there is no generally accepted definition for the term “Business Model”, it is challenging to identify the nature and components of a BM and determine what constitute a good BM (Morris *et al.*, 2005). Hence, this section will focus on identifying the various perspectives of the BM concept. Fundamentally, BM is concerned as sense of profit generation. In this backdrop, Stewart and Zhao (2000, p. 290) have defined BM as a statement of how a firm will make money and sustain its profit stream overtime. In broad terms, BM can be described as the architecture of revenues, costs and profits connected with the business that creates and delivers value to customers while providing data and evidence that demonstrate how to create such value (Teece, 2010). Zott and Amit (2008, p.3) have defined business model as a structural template of how a focal firm transacts with customers, partners, and vendors: that is, how it chooses to connect with factors and product markets. According to Arend (2013), BM is a useful way of showing how an organization creates value through transforming and transferring substances using available factors. Frankenberger *et al.* (2013) have defined BM simply as a unit of analysis that describes how the business of a firm works while Beattie and Smith (2013) have identified it as a system-wide description of how companies do business. Thus, in the literature, different researchers have given different definitions to BM. However, as can be seen from Table 1, most researchers define BM as a way of creating value for customers (Magretta, 2002; Kallio *et al.*, 2006; Rajala & Westerlund, 2007; Chesbrough, 2007; Johnson *et al.*, 2008; Teece, 2010; Casadesus-Masanell & Ricart, 2011; Arend, 2013; and Mutka & Aaltonen, 2013). In the next section, a further clarification of the BM concept is given through the notions identified.

## **4. NOTIONS IDENTIFIED FROM THE BM DEFINITIONS**

Table 1 indicates that all BM definitions are related to one or more of the notions identified: as stakeholder based, value based, revenue based, strategy based, process based, causality based, element based and dynamicity based notions. Stakeholder based notion come into play when the various stakeholders of a business such as customers, partners, competitors and the government and their associated roles are considered

when defining BM (Timmers, 1998; Hedman & Kalling, 2003; Rajala & Westerlund, 2007; Casadesus-Masanell & Ricart, 2011; and Mason & Spring, 2011). Authors like Timmers (1998); Magretta (2002); Osterwalder (2004); Kujala et al. (2010); Teece (2010); Baden-Fuller and Mangematin, (2013); and Boons and Lüdeke-Freund (2013) have connected their BM definitions with the generation of revenue, profit and money for the business and the associated notion is thus considered as a revenue based notion. The most common key word found in BM descriptions/definitions is ‘value’ which is in the form of value creation, value proposition and value capture. Accordingly, “value based” notion is taken into consideration as a fundamental notion.

Successful companies have operational and managerial processes which include recurrent tasks that deliver value to their customers (Johnson et al., 2008). Processes also yield performance benefits with more clever deployment of resources to offer superior efficiency and effectiveness of the firm (McGrath, 2010). Accordingly, some definitional views such as those provided by Hedman and Kalling (2003); Rajala and Westerlund (2007); Chesbrough (2007); Johnson et al. (2008); McGrath (2010); Onetti et al. (2012); Beattie and Smith (2013) and Stefan and Branislav (2016) comprise firms’ processes and tasks of business actors, lead to the process based notion.

The use of BMs either in a static sense or in a dynamic sense is essential for the success of a business (Beattie & Smith, 2013). Furthermore, as stated by Cavalcante *et al.* (2011), the two main purposes of a BM are to provide stability to develop a firm’s activities and to provide flexibility to allow changes. Therefore, to survive and succeed in dynamic business environments filled with internal changes and exogenous shocks like changes in technology and regulations, businesses including construction businesses are required to design BMs to suit optimal changes (Martins *et al.*, 2015). Hence, it could be argued that the “dynamicity based” notion is somewhat important to BM definitions. However, only few authors namely; Hedman and Kalling (2003); McGrath (2010); Demil and Lecocq (2010); and Arend (2013) have included the perspective of change in their BM definitions.

Some authors have explained their perception about BM based on its elements (Hedman & Kalling, 2003; Osterwalder, 2004; Johnson *et al.*, 2008; Demil & Lecocq, 2010; Sabatier *et al.*, 2010; Stefan & Branislav, 2016) which lead to the element based notion. Baden-Fuller and Mangematin (2013) have stressed that embedding the cause and effect relationship into BM would provide a better understanding of the world of business and have therefore defined BM as a stripped-down characterization that captures the essence of the cause–effect relationships among customers, the organization and money, which leads to the causality based notion.

As stated by Teece (2010), a strategy assures a competitive advantage for a business while BM is about creating and delivering values to customers to ensure a competitively sustainable business. Moreover, according to Stefan and Branislav (2016), BM has a strategic importance to a company as it is a fundamental and existential phenomenon on which strategy grows. Therefore, it could be argued that most of the BM definitions have a hidden strategy based view and thus the strategy based notion can be considered as an important definitional view of BM. Meanwhile, the term “Strategy” in business literature is required to be distinguished from the term BM.

Table 1: Business Model Descriptions Identified from the Selected Articles

Reference	Description given to BM
Timmers (1998, p.02)	An architecture for the product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various actors; and description of the sources of revenue.
Petrovic <i>et al.</i> (2001, p.02)	Organization's core logic for creating value.
Magretta (2002,p.04)	A story that explains how enterprises work and answers the questions: Who is the customer and what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?
Hedman and Kalling (2003, p.49)	A term used to describe the key components of a given business; customers, competitors, offers, activities and organization, resources, supply of factors and production inputs as well as longitudinal process components to cover the dynamics of the business model overtime.
Osterwalder (2004, p.15)	A conceptual tool that contains a set of elements and their relationships and which allow for expressing a company's logic of earning money.
Shafer <i>et al.</i> (2005, p.203)	A model that facilitates analysis, testing, and validation of a firm's strategic choices.
Osterwalder <i>et al.</i> (2005, p.05)	A conceptual tool containing a set of objects, concepts and their relationships with the objective of expressing the business logic of a specific firm.
Andersson <i>et al.</i> (2006, p.01)	A model created to identify the main actors in a business and the values transferred among them.
Kallio <i>et al.</i> (2006, p.282 and p.283)	Means by which a firm is able to create value by coordinating the flow of information, goods and services among the various industry participants including customers, partners within the value chain, competitors and the government, with whom it comes into contact
Rajala and Westerlund (2007, p.118 )	A way of creating value for customers through which a business turns market opportunities into profit through a set of actors, activities and collaboration.
Chesbrough, (2007, p.12)	A model that performs value creation and value capture while identifying and capturing value from a seriesof activities, from procuring raw materials to satisfying the final consumer.
Johnson <i>et al.</i> (2008, p.60)	A model consisting of four interlocking elements that taken together create and deliver value.
Zott and Amit (2008, p.03)	A structural template of how a focal firm transacts with customers, partners, and vendors: that is, how it chooses to connect with factor and product markets.
Kujala <i>et al.</i> (2010, p.98 )	A model used for describing the underlying logic for supplier's revenue and profit generation.
McGrath (2010, p.248)	A model that suggests a change to the way that strategies are conceived created and executed.
Teece (2010, p.173)	Architecture of revenues, costs and profits connected with the business creating and delivering value to customers.
Demil and Iecocq (2010, p.231)	A blueprint for the coherence between core BM components and a tool to address change and innovation.
Sabatier <i>et al.</i> (2010, p.433)	A recipe in which BM elements characterize ingredients, and then 'match' these elements to the business model portfolio concept which highlights the specific combination of resources required to deliver value propositions.

Reference	Description given to BM
Casadesus-Masanell and Ricart (2011, p.09)	Logic of the company as to how it operates, creates and captures value for stakeholders in a competitive marketplace.
Mason and Spring (2011, p.1033)	A frame for action which allows front-line workers to translate, adapt and act in contextually appropriate ways and practices
Onetti <i>et al.</i> (2012, p.24)	Way a company structures its own activities in determining the focus, locus and modus of its business.
Baden-Fuller, and Mangematin (2013, p.419 and p.424)	A stripped-down characterization that captures the essence of the cause–effect relationships among customers, the organization and money A ‘manipulable instrument’ which can be used to explore cause and effect and understand the world of business better.
Boons and Lüdeke-Freund (2013, p.10)	A plan which specifies how a new venture can become profitable and a reference point for communication among different actors.
Arend (2013, p.2)	A useful representation of how the organization creates value through transforming and transferring matter, and by drawing on available factors, fuelled by an identifiable economic engine.
Beattie and Smith (2013,p.15)	A system-wide, description of how companies do business.
Frankenberger <i>et al.</i> (2013)	A unit of analysis to describe how the business of a firm works.
Mutka and Aaltonen (2013, p.168)	A model that conceptualizes the way in which a firm creates and captures values and comprises of the strategic choices, the organizational architecture and the economics of the firm.
Kindström <i>et al.</i> (2015)	A tool to visualize changes, which should increase internal transparency, understanding, and awareness of service opportunities and necessary changes.
Martins <i>et al.</i> (2015, p.17)	A distinct and strategic construct that explains the logic for a firm’s value creation and capture.
Wirtz <i>et al.</i> (2016, p.41)	A simplified and aggregated representation of the relevant activities of a company which show marketable information, products and/or services generated by means of a company's value added components.
Stefan and Branislav (2016, p.72)	A model that portrays and displays the picture of company resources, which are grouped and arranged in a process to produce values to customers and earnings for firm and thus solves an elementary sense of company existence.

## 5. BUSINESS MODEL VS STRATEGY

According to Magretta (2002), when BM acts as a system that explains how the pieces of a business are integrated, the strategy will deal with the real critical dimension of performance like competition. Similarly, Casadesus-Masanell and Ricart (2010) have considered BM as the logic of the firm in terms of how it creates value for its stakeholders whereas strategy refers to picking the business model through which the firm will compete in the marketplace. As stated by Teece (2010), BM is more generic than strategy due to its features; transparency and ease of imitation. Thus, combinations of business models could be used by strategists to create new strategies for new or existing businesses by blending and matching various combinations of business models (Seddon & Lewis, 2003). The strategies in turn can be used as contingency plans to decide on the business models to be used or even the modifications required to BMs when contingencies take place (Casadesus-Masanell & Ricart, 2010). Specifically, Ho (2016) describes a strategy, in relation to the construction industry, as a mechanism by which the contractor is linked to the competitive industrial environments. However, BM can also become a source of competitive advantage through BM innovation (Boons & Lüdeke-Freund, 2013) which is a consequence of strategy. Hence, the competitive advantage of designing a new BM can be protected by combining strategy and BM (Teece, 2010).

## 6. ROLE OF THE BUSINESS MODEL AND ITS SIGNIFICANCE

It is evident that the high quality business decisions that will enhance competition and provide the ability to face rapid environmental changes can be supported by implementing suitable BMs (Al-Debei & Avison, 2010). Some of the examples of this as highlighted by Baden-Fuller and Morgan (2010) are South-West Airlines, Google, Disney and Toyota. According to Table 1, the definitional views given to the business model vary widely: it is referred as an architecture (Timmers, 1998; Teece, 2010), a logic (Petrovic *et al.*, 2001; Kujala *et al.*, 2010; Casadesus-Masanell & Ricart, 2011; Martins *et al.*, 2015), a story (Magretta, 2002), a structural template (Zott & Amit, 2008), a stripped-down characterization (Baden-Fuller & Morgan, 2010), a recipe (Sabatier *et al.*, 2010), a tool (Osterwalder, 2004; Osterwalder *et al.*, 2005), a system-wide description (Beattie & Smith, 2013) and a ‘manipulable instrument’ (Baden-Fuller & Mangematin, 2013). Thus, this section focuses on identifying the multipurpose nature of BMs. Aho (2013) highlights the key points that a BM addresses: how the value proposition of the enterprise is defined, to whom value is created, how value is created, what resources and competencies are utilized and how revenue streams are created. Casadesus-Masanell and Ricart (2011) have introduced three characteristics of a good BM which can benefit a company. They are; the alignment with the company’s goals; self-reinforcement; and robustness. Cavalcante, Kesting and Ulhoi (2011), on the other hand, have highlighted, creating stability for the development of a company’s activities and flexibility for allowing changes as the two interlinked functions of a BM.

In Table 2, the different roles of BM as stated by various authors are presented, which indicates that BM can have many characters. According to Baden-Fuller and Morgan (2010), BM can play different roles for different firms and for different purposes, often playing multiple roles at the same time. An organization will be able to benefit by using the BM that is most appropriate to its business. Especially, when operating in complex and information-intensive environments and when dealing with parties who differ widely in their interfaces, capabilities, and motives as those in the construction industry, the characteristics of BMs such as transparency, transferability, scalability, tracking, and robustness would become useful (Arend, 2013).

It could be proved that a good BM can become a powerful tool for improving the running of a company (Magretta, 2002). Magretta (2002) further explained this with the “story of Dell Computers”, i.e. “BM of Dell Computers”, which is used by Dell as a basis for employee communication and motivation resulting everyone in Dell to see their own jobs within a large context thereby creating the kind of value required by the firm. Nokia’s Mobile phone business declined mainly due to its failure to grasp the market accurately, deviations made in the business tactics of the company and lack of teamwork (Jia & Yin, 2015). Thus, to avoid such decline, businesses need to have proper BMs which function as a source of competitive advantage (Zott & Amit, 2008), a source of change (Martins *et al.*, 2015), a cognitive tool of visualization and a common language (Arend, 2013).

Table 2: Multivalent Characteristics of BM

Character/role	Function	Reference
Narrative device	Describes and validates the selection of entities to be taken into account focusing on story-formation and cataloguing.	Doganova and Eyquem-Renault (2009)
Calculative device	Connects or disconnects existing entities to create new entities which will then play the characters of the BM story.	Doganova and Eyquem-Renault,(2009)
Generic level descriptor	Provides how a firm organizes itself to create and distribute value in a profitable manner.	Baden-Fuller and Morgan (2010)
Conceptual tool of alignment	Fills the gap between corporate strategy and business processes to provide central coordination among those organizational layers.	Al-Debei and Avison (2010)
Interceding framework	Mediates technological artifacts and the fulfillment of strategic goals and objectives.	Al-Debei and Avison (2010)
Strategic-oriented knowledge capital	Demonstrates the ways in which businesses are performed and strategic objectives are achieved.	Al-Debei and Avison (2010)
Cognitive tool of visualization	Spots and addresses gaps and inconsistencies in the overall set of operations of a business.	Arend (2013)
Opportunity facilitator	Intermediately assists in the opportunity creation process.	Amit and Zott (2001)
Common language	Combines stakeholders by reducing complexities and improving understanding.	Arend (2013)
Source of change	Responds to internal changes of the organization and external shocks.	Martins <i>et al.</i> (2015)
Source of competitive advantage	Supports strategic decision making in gaining a competitive advantage.	Zott and Amit (2008)
Exemplar role	Might be copied, imitated or compared.	Baden-Fuller and Morgan (2010); Doganova and Eyquem-Renault (2009)
Scientific role	Acting in the scientific sense as model organisms for investigation.	Baden-Fuller and Morgan (2010)
Scale model	Shows feasibility and worth to the partners of new business enterprises.	Baden-Fuller and Morgan (2010); Doganova and Eyquem-Renault (2009)
Recipe	Combines resources to produce a particular outcome to deliver value proposition.	Sabatier <i>et al.</i> (2010)

## 7. CONCLUSIONS AND THE WAY FORWARD

This literature review first obtained a preliminary understanding of the concept of BM and thereafter on finding answers to vexing questions such as “What is BM?” and “What does BM do?” The paper also briefly discusses the relevance and importance of BM to the construction businesses. Irrespective of the nature of the business or industry in which the company is engaged, a sound BM will be fundamental to the success of a company whether it is new or established (Magretta, 2002; Johnson et al., 2008; Teece, 2010). The main BM of a company or an industrial sector basically defines and evaluates the service that company/ industry sector is actually delivering to their customers and how the price level of that service is defined (Aho, 2013). It was revealed from the review of 31 articles that definitions given to the BM are focussed around eight notions which are related to stakeholders, value, revenue, strategies, processes, causality, elements and dynamicity. Also, the researchers believe that BMs are based on one or more of these notions. Even though value creation and value capture are the two key functions of BM, it is evident from the literature that BM has a multivalent character as a model. To be more precise and as presented in Table 2, it acts as a cognitive tool of visualization; an opportunity facilitator; a common language; a source of industry change; a source of competitive advantage; an exemplar etc.

Although the concept of BM is relatively new, it has already been used in various contexts: in the manufacturing industry, telecommunication industry, software industry and e-Government (Al-Debei & Avison, 2010). Towards enabling research on the merger of the construction business with the BM concept, this paper attempted to converge into one common understanding the different perspectives that different researchers from various disciplines have on BM. However, further studies will be necessary to identify the different components of BM, interactions among the individual components of BM, key players of BMs and their roles which will depend on the nature of the business and the industry. In addition, factors affecting the decency and quality of a BM in relation to the success and sustainability of the associated business also need to be verified. It will also be important to study BM innovations and changes as it will help to identify the economic value of new products, new services, new ideas and new technologies (Chesbrough, 2010).

It has also to be noted that this study was focussed on the preliminary issues that have been already identified by past researchers, to gain an understanding of the concept of BM while at the same time identifying few other aspects of the concept that need to be given attention in the future to completely eliminate the fuzziness of the concept before it could be applied to construction businesses. In the meantime, as the construction businesses are mainly project-based businesses, clarification of BM concept in both firm level and project level is also required in future. As Rasmussen (2007) tried to enrich the concept of BM with various theoretical concepts based on the theory of the firm by identifying relevant theories and their implications with respect to functions of BM for pharmaceutical industry, a similar research could be done for construction industry as a separate research path.

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