

Business Model: a theoretical concept or a necessary business tool?

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Abstract

The new network economy is characterized by the continuous introduction of innovative both telecommunication services and business application services, which run on powerful fixed and mobile network infrastructures. The exploitation and the profitability of these network infrastructures depend heavily on the commercial success of the services running on them. One of the most critical preconditions for the success of these services is to be based on sound business models. For this reason, the concept of 'business model' has become quite popular among business consultants, managers and entrepreneurs, especially today, in the dawn of the new networked economy. However, despite the extensive use, and sometimes misuse, of the business model concept, only limited scientific research has been conducted in this area. Moreover, there is still some ambiguity concerning the exact meaning of this concept, which results in a diversity of definitions and a confusion in terminology. In the present paper, initially we present a literature review on the definitions, the components and the theoretical foundations of business model. Then we focus on emerging business models for telecommunication and business application services and their success factors. Finally, we review the limited research that has been conducted so far concerning methodologies for designing new business models, we identify its shortcomings and we propose a new framework for 'digital' business model design.

Keywords

Business model, business model definitions/components, emerging business models, business model design, e-commerce/business, telecommunication/business application services.

1. Introduction

The new network economy is characterized by the continuous introduction of innovative both telecommunication services and business application services, which run on powerful fixed and mobile network infrastructures. The exploitation and the profitability of these network infrastructures depend heavily on the commercial success of the services running on them. One of the most critical preconditions for the success of these services is to be based on sound business models. For this reason the business model is one of the most common factors encountered for, when Internet firms succeed in business. The same hold for all telecommunication and network-based business application services.

In general, it is common belief that a good business model remains essential to every successful organization, product or service; it incorporates the underlying economic logic that explains how value is delivered to customers at an appropriate cost¹⁵ and how revenues are generated. Business model is a concept so fundamental to business performance that clarity is compulsory and no misunderstanding is tolerable. A survey-study¹⁴ conducted by the Institute of Strategic Change of Accenture in 2000 concludes that "developing a sound business model

matters for making money. However business models wear out, and firms must alter them in order to remain viable. A step further, Magretta states that when a business model changes the economics of an industry and is difficult to replicate, it can by itself create a strong competitive advantage. Especially, in the new network economy business model are of critical importance. Stephen Chen⁶ in his study of 453 successful websites, which were considered as the best by the leading magazines, concludes that their good business models were the most critical factors of their success. Also, Vickers²⁸ argues that many failures of e-ventures are the result of the lack of a sound business model or a flawed business model.

However, despite the significance of the business model concept, only limited research has been conducted in this area. It consists mainly of descriptions of emerging business models, which are based on the Internet and the information and communication technologies (ICT) in general; also it includes abstractions in order to clarify definitions and components of this concept, and produce business model classification schemes. In the present paper, initially in section 2 we present a review of the definitions and the theoretical foundations of the business model concept, while in section 3 we elaborate on its discrete components. Then, in section 4 we focus on emerging business models in the areas of telecommunication and business application services and on their success factors. In section 5 we review the limited research that has been conducted so far concerning methodologies for designing new business models; we identify shortcomings and areas where further research is required, and we propose a new framework for business model design. Finally, in section 6 the conclusions are presented.

2. Business model definition

The business model concept in general unifies important enterprise decision variables from the areas of economics, operations and strategy, which are important for the success of entrepreneurship; in this sense it constitutes a useful unifying unit of analysis that can facilitate theory development concerning entrepreneurship. However, although the roots of business model theory are discernible in the above areas, the same does not hold for the definition of a “business model”, as there exist many diverse definitions of the term. At the most fundamental level the business model is limited to the economic model, namely how revenues and profits are generated; for example Stewart and Zao²³ define the business model as “a statement of how a firm will make money and sustain its profit stream over time”. Other approaches include value proposition and value generation architecture as well. Linder and Cantrell¹⁴ define a business model as “the organization’s core logic for creating value”. According to Petrovic¹⁸ “a business model describes the logic of a business system for creating value that lies behind the actual processes”. Magretta¹⁵ defines business models as “stories-stories that explain how the enterprises work”. She argues that business model is not the same as a strategy, even though many people use the term interchangeably today; business models describe, as a system, how the pieces of a business fit together, but they don’t factor in one critical dimension of performance: competition.

Other researchers adopt the approach of defining the business model by specifying its primary elements and their interrelations. A characteristic approach is the one of Timmers²⁶: he defines a business model as an architecture for the product, service and information flows, including a description of the various business actors and their roles, the potential benefits for these actors and the sources of revenues. According to Timmers’s definition the business model includes competition and stakeholders. In the same line, Weill and Vitale³⁰ define a

business model as a description of the roles and relationships among a firm's consumers, customers, allies and suppliers that identifies major flows of product, information and money and the major benefits to participants. Tapscott et al²⁵ describes business innovation models, named business webs (b-webs), which "are inventing new value propositions, transforming the rules of competition and mobilizing people and resources to unprecedented levels of performance.... A b-web is a distinct system of suppliers, distributors, commerce services providers, and customers that they use the Internet for their primary business communications and transactions".

Although there is not a consensus among researchers for the exact business model definition, all of them do agree in the inconsistency of the existing definitions. However, it is evident that the business model is related to a number of managerial concepts; it captures key components of a business plan, but a business plan deals with a number of additional start-up and operational issues that transcend the model; it is not a strategy but includes a number of strategy elements; similarly, it is not an activity set, although activity sets support each element of a model. In conclusion, a business model can be defined as a blueprint, or a story, of how an interrelated set of enterprise variables, in the areas of strategy, operations architecture and economics are addressed and fit as a working system. In this sense business model represents the framework for conceptualizing a value-based innovative idea.

The main theoretical foundations of the business model concept come from the area of business strategy, being associated with the value chain concept²⁰, the extended notions of value systems, strategic position¹⁹ and resource-based theory⁴. Moreover, as the business model concept also incorporates the fit of the firm within a wider value creation network, its theoretical foundations come also from the areas of strategic network theory¹², cooperative strategies⁸ and transaction cost economics³¹.

3. Components of a business model

The latest literature emphasizes the importance of defining the components of a business model. A pioneer in business model, Horowitz¹¹ argues that the main components of a business model are price, product, distribution, organizational characteristics and technology. According to Staehler²² a business model consists of three major components: the value proposition, the value architecture and the revenue model. Alt and Zimmerman² increase the number of components to six: Mission, Structure, Processes, Revenues, Technology, Legal Issues. Afuah and Tucci¹ adopt a wider approach of business model by defining eight components of a business model, namely: Customer, Value, Scope, Pricing, Revenue Source, Connected Activities, Implementation, Capabilities, Sustainability. Chesbrough et al⁷ argue that the business model mediates between the technical and economic domains and specify business model components through their definition of the six principal functions that a business model has to address:

- Articulate the value proposition, i.e. the value created for users based on the technology;
- Identify the market segment targeted
- Define the structure of the value chain required to create and distribute the offering
- Estimate the cost structure and profit potential of producing the offering, given the value proposition and value chain structure chosen;
- Describe the position of a firm within the value network linking suppliers and customers, including identification of potential complementors and competitors;

– Formulate the competitive strategy for gaining and holding advantage over rivals.
 Taking into account the various approaches concerning the definition and components of business model that exist in the current literature we finally selected to use in this paper and in our relevant research the following basic business model components: The value proposition to the customer, the sources of revenues and the cost structure and the value production architecture (value chain and actors). The above components selection is interrelated with the business model definition mentioned in the previous section 2.

4. Emerging Business Models

It was electronic commerce, especially over Internet, that actually redefined the traditional models of many industries, gave rise to new business models and created new business space.

E-shop	the preliminary approach to promote a company and its goods/services. It is considered as web marketing.
E-procurement	refers to electronic tendering and procurement of goods/services. It includes electronic negotiation, contracting and possibly collaborative work in specification.
E-auction	they offer an electronic implementation of bidding mechanisms. They may also offer integration of the bidding process with contracting, payments and delivery.
E-mall	in its basic form it consists of a collection of e-shops, usually enhanced by a common umbrella, such as a well-known brand, or/and enriched by a common-guaranteed payment method.
Third party marketplace	a suitable model for companies, which wish to leave web marketing to a third party. They offer at least a user interface to a supplier's product catalogues and several other features.
Virtual community	the ultimate value of virtual communities is coming from the members (customers or partners), who add their information onto a basic environment provided by the virtual community company.
Value chain service provider	specializes on a specific function for the value chain, such as electronic payment or logistics, with the intention to make that into their distinct competitive advantage.
Value chain integrator	it focus on integrating multiple steps of the value chain, with potential to exploit the information flow between those steps as further added value.
Collaboration platform	it provides a set of tools and an information environment for collaboration between enterprises.
Information brokerage	it includes providing information services and consultancy to add value to the huge amounts of data and available on the open networks or coming from integrated business operations.
Trust and other services	trust services concern a special category of third-party services that are provided by certification authorities, electronic notaries and other trusted third parties.

Table 1: Main electronic business models according to Timmers²⁶

The main electronic commerce business models, according to Timmers²⁶, are shown in Table 1, while their classification based on the degree of innovation and the functional integration is shown in Figure 1:

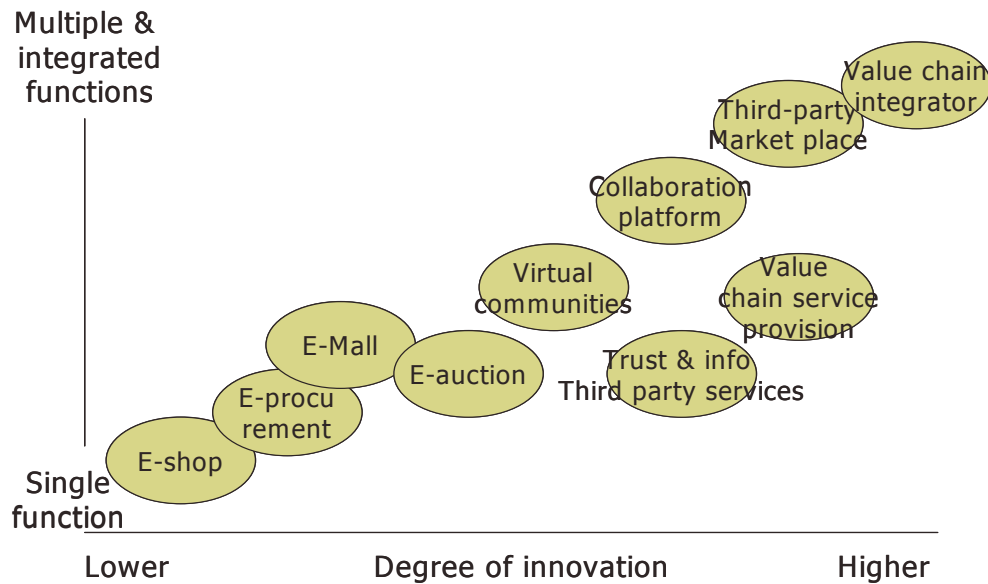


Figure 1: Electronic commerce business models classification²⁶

Applegate³ identifies the following four categories of digital business model and gives a number of examples under each category:

- a. Focused Distributor Models: retailer, marketplace, aggregator, infomediary, exchange.
- b. Portal Models: horizontal portals, vertical portals, affinity portals.
- c. Producer Models: manufacturer, service provider, educator, advisor, information and news services, custom supplier
- d. Infrastructure Provider Models: infrastructure portals.

As presented above, researchers address e-commerce business models by defining them from their control or their position in the value chain. Further studies should be done in this area. A different approach would be, to define and categorize e-commerce business models, as traditional ones, by examining their components, namely, the value proposition to the customer, the sources of revenues and the cost structure and the value production architecture (value chain and actors). By this holistic approach an interrelation among definition of business model, its components and classification could be achieved, which could pave the way on identifying the theoretical mechanism that creates an innovative business model not only in e-commerce but also, in the sphere of networked services.

Also new business models are emerging in the mobile communications industry; advances in wireless network technology and the continuously increasing number of users of hand-held terminals give rise to a wide set of innovative mobile business application services (e.g. m-commerce, m-banking etc)^{17,27}. Accordingly, new business models appear in the telecommunications industry, which has undergone a radical change due to the advent of new

technologies and market deregulation; the established value chains are reconstructed, evolving into complex value networks, with the entry of powerful new players and the transformation of the role of the traditional players⁹.

5. Methodology of Business Model Design

Business model design is an issue that has been extensively discussed but is only to a small extent understood by managers. The popular myth is, the “unique” business model, that surprises the market, is completely different from existing ones and results in a stream of profits. Despite the common beliefs, the design of successful business model it does not happen accidentally, but on the contrary as a result of a systematic work. However, limited is the research that has been conducted so far concerning methodologies for designing new business models.

Morris M. et al¹⁶ propose an integrated framework for characterizing and designing business models, which is based on six significant decision components (questions):

- Component 1 (factors related to the offering): How do we create value?
- Component 2 (market factors): Who do we create value for?
- Component 3 (internal capability factors): What is our source of competence?
- Component 4 (competitive strategy factors): How do we competitively position ourselves?
- Component 5 (economic factors): How we make money?
- Component 6 (personal/investor factors): What are our time, scope and size ambitions?

Each of the above six components is further analyzed into sub-components (sub-questions), in this way assisting and structuring the observation, description and design of business models.

A very interesting work in this area is the IDEA framework (named after the initials of its four basic modules) proposed by Shubar A. et al²¹, which supports the development of new business models driven by new and radical technologies. It is based on the hypothesis that the existing business models of an industry are built and optimized on specific industry assumptions; new technologies change these industry assumptions and necessitate the re-design and re-optimization of business models. The IDEA framework consists of four basic modules. The first one identifies the new design possibilities for the existing business models which result from the new technology. The second module concerns the re-design of the existing business models using the new design possibilities identified in the previous module. In the third module the potential business models are evaluated, in order to identify the ones that have a potential to succeed in the market. Finally, in the fourth module, the new business models are aggregated in a value chain. From the above it is concluded that the IDEA framework supports the development of business models not from the beginning, but by evolving existing business models, which might reduce innovative thinking.

In this direction, in order to support innovative design of business models, we have developed a new generic framework for the design of ‘digital’ business models, without having to be based on existing previous ones. Its objective is to design the value proposition, the production architecture (value chain), the actors and the economic model of the business model. Our design framework consists of six stages, as shown in figure 2. Typically, several iterations of these six stages will be required; each iteration provides a better understanding and a more detailed design. Also, the understanding achieved in one stage might necessitate returning and repeating a previous stage(s).

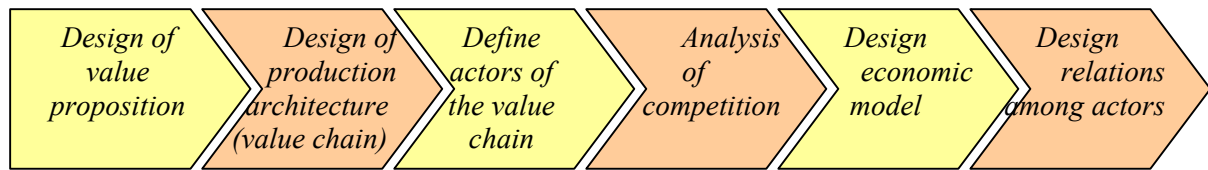


Figure 2: Generic framework for business model design

In the first stage the value proposition is designed; the basic elements of the product/service that will be offered to each customer segment addressed are defined, based on the “Buyer Utility Map” framework developed by Chan Kim et al⁵ and the “Value Chain Model” developed by Walters et al²⁹. In the second stage the production architecture (value chain) is designed, consisting of all the activities that have to be performed in order to deliver the value defined in the first stage; for this purpose we use the Porter’s “Value Chain Analysis”²⁰, the “Value Chain Model” of Walters et al²⁹ and the “Strategic Value Creation Networks Framework of Jarillo¹². Then in the third stage, for each of the value production activities defined in the previous stage, the most appropriate actor, possessing the required resources and capabilities is selected, based on the “Resource-Based Theory”⁴ and the framework of Talluri et al²⁴. In the fourth stage, for each of the layers of the production value chain designed in the second stage, an analysis of the competitive positioning of the potential players is performed, based on Porter’s “Five Forces Framework”²⁰; from this analysis players with extremely high level of power might be identified, which could possibly necessitate the redesign of the value production architecture by returning to stage 2. In the fifth stage, the economic model is designed, taking into account the “Price Corridor Model” of Chan Kim et al⁵. Finally, the relations among the value chain actors are designed by using the e³ - value methodology and its extensions, which have been developed by Gordjin^{10,13}. Further research is conducted towards the elaboration of the above framework into a detailed methodology, as part of the PhD of the first author.

6. Conclusion

Business model is a concept fundamental to business performance, particularly for the numerous telecommunication and business application services of the new digital economy. For this reason, the concept of ‘business model’ has become quite popular, especially today, in the dawn of the new networked economy. However, despite the extensive use of the business model concept, only limited scientific research has been conducted in this area. In this paper we present a literature review on the definitions, the components and the theoretical foundations of business model. Then we focus on the emerging business models concerning telecommunication and business application services. Finally, we review the limited research that has been conducted so far concerning methodologies for designing new business models, and we propose a new framework for ‘digital’ business model design. Further research is in progress towards elaborating the above framework into a detailed methodology.

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