



Paths to Innovate Business Models in an Economic Downturn

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Abstract

Innovation is critical in sustaining business competitiveness and in improving productivity. In today's fast-changing business environment, constant innovation is the key to survival. The long-term viability and prosperity of an organization has a great dependence on its ability to innovate. The current scenario of economic downturn can be seen as the right moment to implement an innovation strategy and to reformulate the business strategy of a company. This article presents nine ways to change the actual business models of companies in order to attend new business opportunities and to increase their flexibility to market changes. The role of innovation in the business model framework is explored, revealing that the business model component will be a greater source of competitive advantage compared to products and services. Additionally, the role of technology on these changes is analyzed, and the increased importance of information technology in the enterprise's organization is explored.

Keywords: Innovation, Business model, Competitiveness, Technology

1. Crisis: an opportunity to innovate

The idea of innovation, both in methods of procedure and in product design, has been one of the key drivers of new businesses and, therefore, the key for profit growth. Innovation can be seen as the process of introducing and exploiting a new idea, or the process of developing and exploiting new products and services on the market. Innovations may be technical, institutional, or cognitive, and may induce changes ranging from incremental to radical (Freeman, 1988).

Innovation during an economic downturn might seem counter intuitive at first sight. However, it is precisely the right moment to implement an innovation strategy. The establishment of a business model innovation is difficult to achieve because it affects so many parts of an organization and also because it needs the support of so many different people. In addition, it requires the right organizational structures and a sense of urgency to make it happen. All of these conditions are, unfortunately, easier to achieve during an economic crisis scenario. According to Osterwalder, in an economic crisis, complacency is gone and everybody feels a sense of urgency to act. He defends that people resist to change much less when the survival of their company and ultimately their jobs are at stake (Osterwalder, 2009).

Not all companies are being affected equally by economic crisis, but regardless of that, all organizations are facing a wealth of challenges and unpredictability as a result of the dynamic market environment that lies ahead 2009. Many organizations struggle to control costs, increase revenue, and maintain their competitive status following mainly a strategy to cut their future investments and operational costs. During down economic times, the focus may change from growth and innovation to downsizing and efficiency. However, this "cut blindly" strategy, without an eye on the future, blinds many organizations to the opportunities that do exist to selectively expand and enhance their ability to meet future challenges.

Innovation and efficiency are not mutually exclusive. Innovation leads to new ways of thinking which, in turn, can lead to controlling costs by creating more efficient ways to develop products, fostering creative ways to collaborate with outside resources, or improving business processes in ways that reduce spending while also improving performance and outcomes. The secret is in knowing what to focus on, making the right decisions with the right information, and continuing looking forward (Mooney, 2009).

2. The role of innovation in a business model

2.1 The business model concept

There are a lot of authors that give a definition of a business model and propose a brief list of components that should be included to describe it. There are many scholars naming components to the business model, but Osterwalder and Pigneur (2005) version is one of the most complete and comprehensive work. First of all, they build their main blocks out from well accepted strategy literature, such as Hagel and Singer (1999) and Markides (1999), and second, they have gone through all other scholars lists of components to reveal the total amount of nine components (Hager, 2006). Besides, whatever method is considered to identify components in the business model, there seems to be a fair similarity between the results. Often components vary in its degree of abstraction leading to different numbers of components, but they basically describe the same. A comparison of the components of Osterwalder and Pigneur (2005) and two of the most cited and distinguished research groups on business models, Afuah and Tucci (2000) and Chesbrough and Rosenbloom (2002) is illustrated in Table 1.

Based in Table 1, we can confirm that there are many similarities. There are differences in how the components are named, such as Customer Value and Value Proposition or Target Customer and Scope. The Customer Relationship and Distribution Channels are components included only by Osterwalder and Pigneur. Another component that differs is the Chesbrough and Rosenbloom component called Competitive Strategy, the same component that Afuah and Tucci calls Sustainability. This component can however be defined as a summary of the competitive advantages hidden in the rest of components.

In fact, all conceptualizations of a business model try to formalize informal descriptions into building blocks and describe their relationships. While many conceptualizations exist, Osterwalder proposed a synthetization of different conceptualizations into a single reference model based on similarities of a large range of models, which constitutes a business model design template that allows enterprises to describe their business models.

2.2 The evaluation process

Clearly, as identified before by Osterwalder, Afuah and Chesbrough, the identification of the “who”, “what” and “how” forms the core elements of a business model. After we have described the business model in detail, we have elements to start assessing it.

One common tool used to evaluate a business model is the SWOT methodology. SWOT analysis entails portraying a business' internal context in terms of strengths and weaknesses and scouring its external context for opportunities and threats.

SWOT analysis has been a framework of choice among many managers for a long time because of its simplicity and concise depictions of the strategic landscape. Yet, despite its popularity and longevity, the SWOT approach for situation assessment is, sometimes, ineffective. Firstly, due to its simplicity, some managers have the tendency to use it without a great deal of thought, conducing to useless results. Secondly, typical SWOT guidelines promote superficial scanning and improper categorizing. They leave the false impression that noteworthy particulars can be spotted at a glance and their likely impact (favorable or unfavorable, major or minor) is obvious and independent of context (Valentin, 2005). Finally, SWOT analysis does not cope very well with some of the subtler aspects of modern strategic theory, such as trade-offs (De Witt and Meyer, 1998).

To address these problems, the SWOT analysis can be complemented with a Defensive/Offensive Evaluation (DOE) analysis. Like SWOT analysis, DOE requires delving into a business' internal and external contexts. However, DOE is much more focused and theory-driven than SWOT analysis (Valentin, 2005). It is grounded in the premise that a business venture's ultimate purpose is creating shareholder value, which requires generating profits by creating customer value and controlling costs. The defensive evaluation involves probing an extant venture's vulnerability and looking for ways of strengthening the business. On the other side, the offensive evaluation applies to startups and extensions of existing businesses. Offensive evaluation of an apparent pioneering opportunity entails subjecting a contemplated pioneering venture to vulnerability probing as if it has been launched. If pioneered turf cannot be defended or affords insufficient profit potential, then the venture's attractiveness is in doubt. Offensive evaluation of an apparent poaching opportunity entails subjecting rivals whose turf is coveted to vulnerability probing with the intent of discovering their disadvantages and exploitable weaknesses.

2.3 The innovation role

After being assessed and described, the challenge of a business model remains in its renewal. The most important steps towards business model improvement and innovation are already made once a clear picture of the current business model has been drawn. Besides that, innovation scenarios and improvement proposals can be built on the conclusions of the previous considered business model evaluation. Therefore, a business model innovation can be seen as a strategic initiative to configure or reconfigure various elements of the nine components of the business model ontology presented by Osterwalder to enhance value creation potential of the firm and sustain it over a longer time.

One of the crucial factors for market success of a new product is referring to the level of innovation that the product incorporates. Typically, the product or service innovation involves the introduction of a new good or service that differs from others in terms of functional characteristics, such as technical abilities, easiness of use, durability or reliability. However, besides product innovation, other three dimensions of innovation must be considered when a new product is going to be developed. These other three dimensions of innovation include the production process innovation, the marketing innovation and the organizational innovation. Brad proposes a conceptual model of comprehensive innovation that integrates the four dimensions of innovation: product innovation, marketing innovation, production process innovation and business model innovation, within an aggregated model called “comprehensive innovation”, depicted on Figure 1.

In this model, dynamics of each type of innovation, as well as the coupled effects of these dynamics, should be considered in the equation of commercial success. Thus, life-cycle model of the aggregated innovation should also be taken into account when developing new products, especially for those in the category of high technology.

Any successful business model innovation requires three important ingredients: recognizing the need to migrate the business model to the next cycle as value shrinkage occurs, exploiting new value creation opportunities for crafting the next business model and sustaining the innovation sufficiently long to appropriate value ahead of the competition through careful choices of the business model components (Mahadevan, 2004). The process is repetitive as diffusion of innovation happens over time.

3. Innovation challenges

3.1 Changing the business model

Currently, business models are under constant pressure to change. Innovations in technology, changes in the laws, competitive moves, or shifts in consumer tastes can sap an operating model's profitability. The Economist Intelligence Unit, a worldwide research and advisory company, conducted in 2005 a survey to estimate what would be the greater source of competitive advantage during the next five years. In that survey, 55% of executives said new business models will be a greater source of competitive advantage than new products and services. In the public sector survey, 54% of respondents said success in 2010 will hinge more on the ability to innovate with delivery channels than with services themselves. There are sectoral variations: new business models will be keenly important for financial services, while the majority of manufacturing firms will seek advantage through new products and services (EIU, 2005). Despite these differences in some activity sectors, we can consider that the overall message is clear: the way that companies do business will often be as or more important than what they really do.

The rising importance of business models is a logical reaction to too many choices in the market. For consumers and companies alike, it's getting harder to distinguish between many products and services in a purely functional basis. The task will get tougher still as local companies in emerging markets get smarter, faster and more aggressive. In the future, companies in many sectors will distinguish themselves by innovative business models, such as their new pricing models, a shift to selling products as services or another model that will differentiate their offering from those of global competitors.

There is no evidence that one type of change or another inherently improves profit. However, we can easily see a difference between firms that appear to change frantically and without direction and those who are on a charted course of change. It's precisely in this point where innovation models come in, attending that the innovation model is the core logic for how a firm will change over time to remain profitable in a dynamic environment

3.2 Guidelines for change

In response to the environment changes, some firms are totally reformulating their business models in a wide variety of ways. Some of the most predominant and emerging ways are presented below.

3.2.1 Increase adaptability

Firms can establish a single generic capability that lets them easily plug in new models and retire old ones. It operates like a personal computer's bus architecture, allowing any of a range of components to be added, even those that were not initially foreseen (Linder and Cantrell, 2000). Some examples of companies that already implemented this strategy are Nike and GAP. Nike has a plug and play architecture that enables it to effortlessly add new product and service lines;

GAP uses the same approach, but its platform involves retail store management, format innovation, mall real estate management, and merchandising expertise (Linder and Cantrell, 2000).

3.2.2 Establish partnerships

Rather than inventing and investing in developing all the parts of a working model, firms can establish alliances and partnerships with other companies. This approach isn't new, but the current number of well succeeded established partnerships deserves to be mentioned and has conducted firms to very successful worldwide strategies. The idea is not let the company do it all on its own, but define a business model in which partners help with innovation and growth. The intention is to create an environment that is more like an open-source model. This doesn't mean that innovation in business models can't still be proprietary, but it should involve creating a community of interest in which companies support each other's businesses.

Partners aren't just organizational units that can be seen isolatedly. The partners' organizations also bring business model components to the business model of a firm. The business model of a firm should incorporate their unique timing and pace, their cost structure, the way they collaborate, their hiring practices, and the flexibility to shift gears.

3.2.3 Create spin-offs or joint-ventures

Firms can reach out to new business domains by building a new model around the seed of an existing product, set of customer relationships, acquisition or special capability. They can establish a separate unit, either by carving it out or by acquiring it, and give it the latitude to chart an independent course. Two popular ways to implement this concept are through a spin-off or a joint venture.

The spin-off involves the creation of an independent company through the sale or distribution of new shares of an existing division of a parent company. Newly independent companies are no longer constrained by the overall strategic direction of their former parent, which gives them forces to develop their own roadmap for success. Spin-offs often result in a higher aggregate value for the constituent pieces (Buenstorf, 2007). The joint venture involves two or more businesses pooling their resources and expertise to achieve a particular goal. The risks and rewards of the enterprise are also shared. A joint venture can typically bring more resources to the participated companies, increase their capacity, technical expertise and access to established markets and distributions channels.

As an example of this implemented approach, Critical Software launched in early of 2006, a new spin-off company called Critical Links. This new company has successfully become a global player with edgeBOX solution, a converged multi-function device that consolidates data, voice and IT services for small and medium sized businesses. The edgeBOX is distributed through channel partners (Value-added resellers, system integrators and service providers) worldwide in countries such as UK, USA, Spain, Portugal, South Africa, China and India (CLK, 2009).

3.2.4 Establish a convergence

Firms with multiple business units operating with different models can merge these to drive mindset change. This step goes beyond the initial concept of cooperation between the units of a company that intends to break down the divisional form of its formal organization. The intention is to force business units to consolidate products and services and reframe the value they offer to customers. For example, DuPont brought together three independent divisions to form a market-focused textile group. The three previous units called on many of the same customers, but each had been measured on the profits it generated from its own proprietary textile fiber, such as Lycra, Dacron or Nylon. The new organization can more easily offer customers options that combine all three types of products. In addition, the combination takes better advantage of DuPont's global brand franchise, its operational scale, and its market knowledge (Linder and Cantrell, 2000).

3.2.5 Shift from products to services, services to solutions and experiences

Firms can avoid commoditization by shifting from selling products to offering customer-management services or total solutions. Boeing and Pratt & Whitney are two examples. Their products must continue to perform at competitive standards, but the firms now make their money on the services they wrap around their products. Boeing even attracts airline customers with a total solution that implements the concept "do whatever it takes to keep planes in the air" (Carson, 2005).

Nowadays, the next competitive battle-ground lies in staging experiences. Instead of an amorphous construct, an experience is so real as an offering, as any service, product or commodity (Silveman, 2004). In today's service economy, many companies simply wrap experiences around their traditional offerings to sell them better. An example is the iPod created by Apple. In reality, what customers buy is not just a product, but a total experience. In fact, what turns exceptional the experience in iPod is its holistic marketing, its total experience perspective that becomes part of the customer's lifestyle and its great service after purchase (Kingdom, 2005).

3.2.6 Expand geographically

One of the fastest ways to accelerate profitable growth is by expanding into new geographies. It allows companies to introduce their most successful product lines in other countries after they have fully developed their home markets. Developing countries often are the typical geography of choice because of their relatively high population growth and un-addressed market needs, although local business practices in these countries are typically less well understood. Geographic expansion comes with both significant rewards and certain risks. Corporate executives find they need to navigate unfamiliar territory, establish business partnerships that have the right connections, and tailor their product lines to the country's culture and market dynamics. A successful expansion requires in-depth knowledge and know-how in several key areas: the regulatory environment, political climate, business opportunities, potential risks, prospective customer base, among others. Besides that, speed to market is also critical, so companies need to select channel partners and establish distribution networks that will give them access to the right markets.

SAP is one of the biggest software companies in the world that is expanding its presence in the world's emerging markets, especially in Eastern Europe, Africa and Asia. They follow this strategy to be less dependent of matured technologic markets, such as North America and Central Europe, and to face the new opportunities provided by high-grow markets in Asia and Africa. SAP has more than 3000 software installations and more than 2000 local customers in Greater China, including such prominent businesses as Lenovo, China Telecom and Shanghai Power. To support those customers, SAP decided to open a new SAP Global Support Center (GSC) in Dalian, China. Staffed with native speakers in a number of languages, GSC China has becoming the primary hub for delivering services and support to SAP customers in Asia-Pacific countries (IBT, 2008).

3.2.7 Redefine channel concept

Firms can redefine their channel concept, creating or deleting intermediate channels. We can see that the establishment of new sales or service channels on the Internet is quite common today. Many of the biggest worldwide banks already have online banking, which attracts customers by making their products widely available.

Another emergent concept is the introduction of a multi-channel service. The idea is that different channels will be used to provide high quality and cost-effective services for customers. Different channels can be used for distinct niches and each channel is physically separated. However, it should always be possible to develop synergies between the channels. For example, the Salford City Council's services are designed to be multi-channel with different channels serving different market niches, where a key concern is to decide upon the appropriateness of each channel for an identified niche (CO, 2009).

3.2.8 Change price mechanisms

Pricing is one of the four major elements of the marketing mix and also an important strategic issue because it is related with product positioning. Furthermore, pricing affects other marketing mix elements, such as product features, channel decision, and promotion. The most typical pricing methods consists in setting the price at the production cost plus a certain profit margin, setting the price to achieve a target return-on-investment or base the price on the effective value to the customer relative to alternative products.

Independently of the previous considered price method, the firm may seek price stabilization in order to avoid price wars and maintain a moderate but stable level of profit (Benveniste, 1996). In addition to setting the price level, managers should be able to design innovative pricing models that better meet the needs of both: the firm and its customers. For example, software traditionally was purchased as a product in which customers made a one-time payment and then owned a perpetual license to the software. Many software suppliers have changed their pricing to a subscription model in which the customer subscribes for a set period of time, such as one year. Afterwards, the subscription must be renewed or the software no longer will work (Kelly, 2007). This model offers stability to both the supplier and the customer since it reduces the large swings in software investment cycles.

3.2.9 Expand research network

In the search of innovative products and services, companies can expand their research network to include collaborative contributions from customers and partners. At the present time, with technology, any product can be made in a collaborative way on a global basis. In fact, a large amount of top executives expect that one of their company's critical business priorities for the next years will be involving customers in upstream activities, such as product design (Kostecki, 2006).

The present challenge is to bring government agencies and industry to a collaboration pool with the intention to stimulate new research directions, partnerships and training opportunities. As an example, Eli Lilly has established a "research without walls" strategy of partnering with bio-tech companies, academic institutions and others to strengthen their innovation pipeline. In this case, relying solely on internal R&D would likely have been more expensive and slower (Giesen, 2009).

4. The role of technology

4.1 Major drivers

All organizations must always consider the fundamental question of why they exist. And once the why (purpose) is answered; a corporate strategy can be formulated that enables an organization to set the direction in which it will go. Where an organization is made up of many businesses operating in different markets, corporate level strategy is also concerned with how resources are to be allocated across the business units.

Another question at the forefront of corporate strategy is how an organization adds value across the businesses that make up the organization. This is the role of corporate parenting. A corporate parent refers to all those levels of management that are not part of customer-facing and profit-run businesses within the multi-business organization. Corporate parent has no external customers and as such it cannot generate any direct revenues. Given that it incurs corporate overhead costs, the corporate parent must demonstrate that these costs are offset by the tangible benefits it provides to the business units in the portfolio (Henry, 2007).

One of the key elements of a corporate parent strategy is the technology. In fact, technology has dramatically changed the way businesses operate in the last few decades. The Internet, in particular, has changed many business rules and reduced the entry barriers for many industries. In this new technologic world, the customers are kings in an almost transparent market place. At the same time, the birth of Web 2.0 has made communication and collaboration in the Internet an instant reality for all people around the world.

Information Technology (IT) will increasingly play a starring role and will determine deeply how a company innovates, interacts with customers, shapes its business models or governs itself. Senior managers of companies will also come to see IT in a different light. In the past, companies have tended to view IT primarily as a driver of cost-efficiency. However, nowadays companies' top executives look to IT as a key strategic role to boost the company's competitive advantage (EIU, 2005). IT will have a crucial role in achieving two overriding objectives: improving the firm's knowledge of customers and their ability to predict customer behavior and, using networks, help bring collaboration with customers to a new level.

There is already ample evidence that the creative use of infrastructure has helped leading companies to make themselves more efficient, redefine their business models, and improve the customer experience. As an example, insurance companies in Britain and the United States use GPS devices and sensors to record the speed of cars and even their damage in case of accidents. In manufacturing, Radio Frequency Identification (RFID) tags now provide insights into the way goods move through supply chains and thus reduce inventory levels (Hughes and Kaplan, 2009). In both cases, infrastructure supports and manages the sensors and other devices needed to capture information reliably and inexpensively.

Essentially, IT will have the following broad roles in the innovation of the services provided by companies:

- Provide, change and improve the service delivery platform – presently many services are underpinned by a technological platform. The Internet has given rise to a new generation of web-based services with business models very different from the traditional industries. Google is a classic example of a new business model enabled by Internet. In fact, the Google's business model of Internet-search-driven advertising has become so dominant that incumbent competitors, such as Microsoft and Yahoo, can hardly compete (Mitchell, 2008);
- Facilitating communication and knowledge exchange – information sharing is crucial to the success of any business in a fast changing marketplace. Indeed, mass collaboration, both inside and/or outside an organization, is rapidly becoming a source of innovation for many companies. Grid technologies allow shared diagnosis and analysis of data by teams working in different locations. Rolls Royce, for instance, uses grid technologies extensively to tap on the expertise of a number of university research centers around the world (Innofoco, 2008);
- Adding value to a product – commoditization is eroding the profit margin of many manufacturing companies. To create more value for their offering, more and more product companies are investing in and capturing more value through their service offerings. At the same time, today's customers are spoiled by choice. They want to be in charge of the right place to shape and influence the product or service offering. Technology has enabled the development of mass-customization and co-creation with its customers as the tool to combat commoditization and create more value for the customers and the product. Dell gets the advantages of mass production but also has a high product variety, which let each user to individually configure his/her computer. This is only possible due to its information technology that tightly control activities and achieve a high degree of coordination with suppliers (Klinker, 2006);
- Developing customer relationship – technology enables businesses to segment their customers as individuals through sophisticated customer relationship management (CRM) systems. The loyalty programs widely used by credit cards, airlines and retail businesses are classic examples. For example, Tesco, the UK supermarket chain, runs one of the most successful loyalty programmes. Its Clubcard serves two purposes: first, it is a vehicle for rewarding Tesco shoppers and

encouraging them to increase their purchases; second, it is a rich source of data on the shopping habits and preferences of cardholders that enable the company to manage its supply chain, market its products and develop new offerings (Innofoco, 2008).

4.2 Implications for management

Until recently, the fundamental role of the Chief Information Officer (CIO) in a company was to manage the technology infrastructure for the enterprise, lowering costs and improving productivity along the way. New technologies were acquired as needed to support business activities. But as enterprise IT technology has matured, the CIO's responsibilities also changed, letting today's CIOs focus on transforming business outcomes. Chief Executive Officer (CEO) and other business leaders have learned the enormous impact that IT can have on an organization's strategic decisions and its ability to prosper. As such, many are looking to their IT organizations to fuel innovation efforts and to their CIOs to lead the change. Today's CIO is expected to provide the technology insight to develop corporate strategy, drive innovation and stimulate growth.

In the Global CEO Study conducted by IBM, the majority of CEOs interviewed recognize that innovative ideas cannot be put into play without technology (IBM, 2006). Technology not only enables innovations that benefit the business, but it also enables the business to spot emerging trends that competitors miss. It is also enabling companies to create new distribution channels, integrating customers and partners into larger business ecosystems and uncovering hidden profits.

Nowadays, the CIO is a critical player in a company's business model innovation efforts, becoming an active part of the company's strategy and vision. Toward that end, there are key steps the CIO can take to enable and drive business model innovation within the organization. Firstly, IT automation cannot take place without business understanding. IT managers should systematically break down the business into its component processes and focus on the business value of those individual processes to understand the needs and objectives of the business at a desired depth level. Secondly, IT needs to be viewed as a strategic partner to the rest of the business, and that requires rethinking IT's current business model and managing IT like a business. Finally, IT managers should implement a flexible and responsive infrastructure. By simplifying the infrastructure through technology consolidation and the implementation of open architectures, CIOs can make the infrastructure easier and less costly to manage, but they can also enable innovation. An efficient infrastructure is more adaptable to change, and so, better able to accommodate changes required by innovation. Moreover, the savings realized from lower operations and maintenance costs can be used to fund innovation that truly matters to the business, such as the development of IT-enabled business services.

5. Final thoughts

Innovative practices enable organizations to reorganize themselves, to adapt, to discover new value opportunities and to relate better to other players. The actual financial crisis can, at a first glance, be seen as a bad moment to make investments in an innovation policy, attending to the lack of financial resources available. However, the firm should have a distinct positioning in the market to survive to the strong competition, and innovation is the only way to meet this challenge. The firm should always consider new ways to develop products, to collaborate with its partners and to improve its business models in order to increase its overall performance.

At the present time, fundamental business models changes will be needed in the majority of organizations, attending to the intensified competition, globalization and escalating customer expectations. The way that companies make business will be an increased differentiator because such innovation does not invite imitation or commoditization while product and service innovations do. Some guidelines for the change of business models may include the increase of adaptability to attend the customer needs, the establishment of partnerships with other companies and universities/R&D centers, the extension of their business proposition, the geographical expansion to new emergent markets and redefinition of their supply and customer channel concept.

In all circumstances, the technology will have an important role in the innovation process. Firstly, the business model innovation is often dependent upon information technology, where a flexible and agile infrastructure is key to a dynamic business model. Secondly, CIOs and the IT organization are an integral part of the enterprise business models. Therefore, any changes to the enterprise business model encompass the IT organization as well. Successful CIOs must be able to respond quickly to the needs of the business by providing the technology foundation necessary to drive rapid delivery of products and services. They must act as visionaries, totally committed with the business strategy and critical domain experts to provide the solutions and business processes necessary in a 24/7 world.

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Table 1. Comparing components of business models (Hager, 2006)

Chesbrough and Rosenbloom	Afuah and Tucci	Osterwalder and Pigneur
Value Proposition	Customer Value	Customer Segments
Market Segmentation	Scope	Value Proposition
Revenue Mechanism(s)	Revenue Source	Communication Channels
Value Chain	Implementation	Distribution Channels
Cost Structure	Pricing	Customer Relationships
Value Network	Connected activities	Key Resources
Competitive Strategy	Sustainability	Key Activities
	Capabilities	Revenue Streams and Cost Structure
		Partner Network

The table presents and compares the components of the most relevant business models referred in the literature.

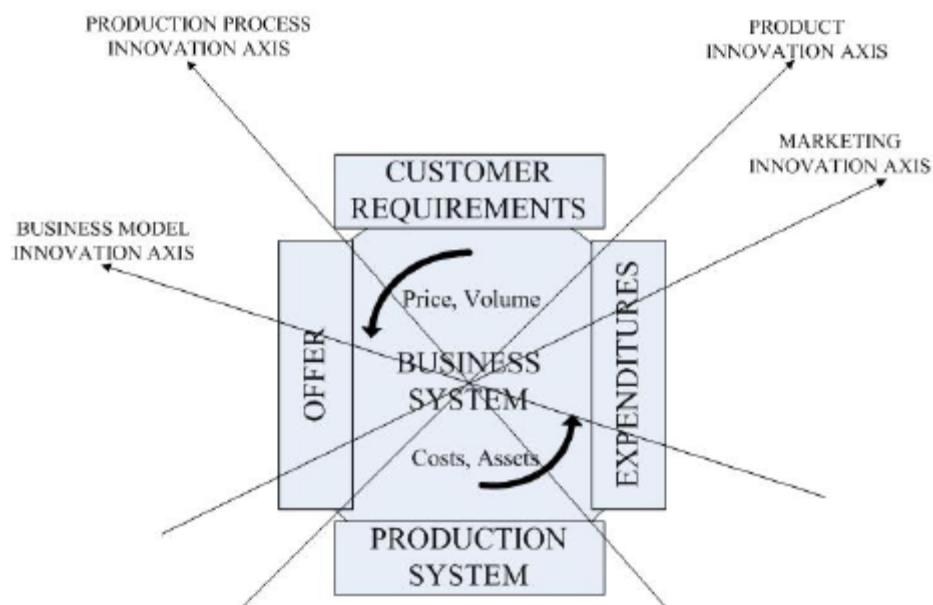


Figure 1. Conceptual model of comprehensive innovation (Brad, 2007)

The figure presents the conceptual model of comprehensive innovation proposed by Brad. This model integrates the four dimensions of innovation: product innovation, marketing innovation, production innovation and business model innovation.