When S-D logic Meets Web 2.0: An Integrative Framework for a Service-Based Web

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ABSTRACT

Purpose

The service dominant (S-D) logic has been developed as a novel conceptual framework for the creation of value that emphasizes the role of the customer. The purpose of the paper is to explore for business practices that are compliant with the S-D logic and to contribute in the development of new business models that adopt the S-D logic. Relating the S-D logic with particular business practices will help in the dissemination of S-D logic and the establishment of a new service-based economic paradigm.

Approach

This paper relates the S-D logic to the business models of the Web 2.0, a term that is used to describe the business and human activity that takes place currently on the Web. The paper analyzes the relationship between the S-D logic and the Web 2.0 with the intention to outline a conceptual basis for the development of service-based business models.

Findings

S-D logic and the Web 2.0 are both based on similar customer-oriented and collaborative concepts on how to interact with customers and how to create value. The comparison of the foundational premises of the S-D logic with the key properties of the Web 2.0 reveals that the Web 2.0 complies well with the S-D logic. Based on this, we outline a framework for a service-based Web that adopts the S-D logic and transfers the customer-oriented, participative and collaborative spirit of the Web 2.0 to other domains of business activities, beyond social interaction and the creation of content.

Originality and value

The paper addresses the need to explore for business models that are based on the S-D logic. In this effort, we integrate concepts of the Web 2.0 with the S-D logic, which both aim at changing the traditional business mindset to quicken business innovation.

Keywords

S-D logic, Web 2.0, customer-oriented, value co-creation, business model, serviced based economy

INTRODUCTION

The service dominant (S-D) logic has been developed as a novel conceptual framework for the creation of value that emphasizes the role of the customer and, consequently, opposes to the traditional, goods-dominant logic, which focuses on the role of the producer in the creation and dissemination of value. The S-D logic is based on the concept of service, which is developed as a universal concept that applies to the performance of any kind of activity by the producer for the benefit of the customer. The foundational premises of the S-D logic (Vargo and Lusch, 2004) suggest for a paradigm shift that would set business practices, organisational patterns and economic relationships, in general, on a new basis.

Similar propositions that challenge the traditional business thinking have been exposed in other fields, too. Vargo and Lusch (2004) claim that the S-D logic unifies some disparate literature streams in areas such as customer and market orientation, services marketing, relationship marketing, quality management, value and supply chain management, resource management and network analysis. In addition, S-D logic is acknowledged as the philosophical foundation for a service science (Lusch et al. 2008; Maglio and Spohrer, 2008; Spohrer et al., 2008), which is conceived as a multidisciplinary effort to understand the nature of services and to innovate in a service-based economy (Chesbrough and Spohrer, 2006).

The purpose of the paper is to explore for business practices that are compliant with the S-D logic, that will "materialize" it, and to contribute in the development of new business models that adopt the S-D logic. Relating the S-D logic with particular business practices will help in the dissemination of S-D logic and the establishment of a new service-based economic paradigm.

In this effort, we utilize the example of the Web 2.0, which is an all-embracing term that is used to describe the business and human activities that takes place currently on the Web. The basic argument here is that, even though the general uses of the Web remain the same, such as communication and collaboration with others, publishing content and making economic transactions online, the way that businesses and human beings perform these activities has changed in the last years. In sum, the Web 2.0 is user-centered, community-driven, interactive, participative and collaborative; it enables people to create, integrate and personalize content and applications that originate from various sources; it modifies the traditional roles of the provider and the receiver, rendering the former facilitator of the latter in the production and value creation processes. All these changes are enabled by a set of technologies and methodologies, among which the we single out the concept of "software as a service" (SaaS), that is as a resource that somebody does not own, but receives by the provider when needed through the Internet. The Web 2.0 clearly signifies a shift in the attitudes of both the business firms and the customers or the users. The development of e-commerce in the first stages (i.e. before the advent of the Web 2.0) followed the business-oriented tradition and sought to transfer the established business models from the physical to the digital world. The general idea was that business firms didn't really need do anything other than simply establish some Web presence.

At first glance, S-D logic and the Web 2.0 are both based on similar customer-oriented and collaborative concepts on how to interact with customers and how to create value. However, S-D logic is a conceptualization for the creation of value by providing service and transferring benefit to the customer, while the Web 2.0 refers to the attitude of business firms and humans regarding their activities on the Web. As such, S-D logic serves as a new business philosophy, while the Web 2.0 refers to the way that practice takes place currently on the Web. The paper seeks to analyze the relationship between S-D logic and the Web 2.0 with the intention to outline a conceptual basis for the development of service-based business models.

The rest of the paper is organized as follows: in section two we analyze the business and the social aspects of the phenomenon of the Web 2.0 in order to identify the properties of the underlying business mentality. In section three we examine if the mentality of the Web 2.0 fits well in the framework of the S-D logic. In section four we outline a framework for the

development of service-based business models on the Web. The paper concludes with some remarks about the future of electronic business.

AN ANALYSIS OF THE BUSINESS MENTALITY OF THE WEB 2.0

The Web 2.0 is a term that is used to describe the business and human activity that takes place currently on the Web. The notation "2.0" is used to denote "a second version" of the Web and to transmit the meaning that the Web has changed and has moved into a next level of technological and usage sophistication, which enables the development of new business models. However, there is an inherent difficulty in defining what the Web 2.0 really is, with the majority of the chief executives of the most famous Web 2.0 companies to doubt for the exact meaning of the term (Jones, 2008). The widespread dissent and the lack of a clear meaning in the existing definitions (e.g. O' Reiley 2005; O' Reiley 2006) urge some to believe that the term was coined after the failure of the dot.coms as a buzzword, in order to re-launch some technologies and resurge e-commerce.

There seems to be a convergence in the understanding of the Web 2.0 as the intersection of a set of social, business and technology trends that collectively have changed the use of the Web by people and business firms (Musser, 2006; Smith 2006). Among these, we believe that the social and business trends are the most important for this transformation of the Web, because the role of technology is to act in general as an enabling factor for the transformation of the prevalent procedures and the development of new paradigms. Besides, most of the technological foundations of the Web 2.0 (e.g. Ajax, RSS, APIs, etc.) are not new, but they existed for years. What is really new on the Web 2.0 is the way that these technologies and concepts are all combined together to enable for new uses. Consequently, the Web 2.0 emerged from a different mindset on the way that people and business firms can use the Web.

Trying to analyze this different mindset for the use the Web, we deduce that the most important properties of the Web 2.0 are the following:

The Web 2.0 is customer-oriented. In the Web 2.0 the power shifts to the customer, who is able to participate in the creation process, to control the usage process, to search for new choices, to discover new relationships and new ideas, to combine things together and to develop new outcomes and solutions. Hence, the Web 2.0 is epitomized by the concepts of user-driven creation and user-controlled consumption.

The Web 2.0 is based on service provision. The concept of service here has the meaning of resources that are not owned by the customer, but accessed each time he wants to make use of them. A typical type of such resources is the Web Services (WS) that are used for the delivery of computing capabilities and the related with them business functionality from the provider to the customer. Some widespread service-based provision models include the "application service provider" (ASP) model, the "software as a service" (SaaS) model and the "software plus service" (S+S) model.

It is common knowledge that the Web 2.0 is a medium for the publication, dissemination and use of content (i.e. data) and software. Hence, the basic activities on the Web 2.0 are mostly related with the creation of content, the development of knowledge, the communication with others and the entertainment. For this some may believe that the Web 2.0 is a non-business. However, all of these activities and offers of the Web 2.0 are service, too (i.e. information service, software service, knowledge service, communication service, entertainment service, etc). Consequently, the data-intensive nature of the activities on the Web 2.0 does not alienate it from the business world and does not exclude it from being service-based.

The Web 2.0 is community-oriented. The Web 2.0 is about interaction and collaboration among the members of a community. People's activities take place in an online social environment, in an online community. Blogs as online diaries that people maintain to express

their opinions and communicate with their friends and others are an example of the social character of the Web 2.0.

The Web 2.0 is a platform for participation. The Web 2.0 favours action and interaction with the business firms and the community. Everybody can contribute and everybody is invited and encouraged to do so. The basic assumption is that people are not stupid or incapable, in order to receive everything ready from the providers; on the contrary, they are creative, capable of and willing to perform value-adding activities for themselves and for their community. Their motive for participating is that they do not want pre-fabricated and standardized solutions, but customized solutions that meet their real needs and wants.

As a result, people are not passive receivers, but they become co-producers of the service they receive. In addition, they become the producer or providers of service and experiences to others. Hence, the distinction between the consumer and the producer is blurring, with people adopting both roles under different circumstances. Examples of the participative character of the Web 2.0 are the wikis and the open source software, which are respectively content and software created by users with the purpose to cover their needs and the needs of their community.

Business firms become enablers and facilitators of the customers in their creative and value adding activities. The business firms are not afraid of the new roles of the customers, but they accept their new roles and try to innovate in their service provision in order to exploit the strategic opportunities that appear in the new environment.

The Web 2.0 is a platform for integration and creativity. The development of individualized solutions that meet the people's personal needs and wants are based on the integration of separate elements of content, applications, services and products. People have the opportunity to take something, modify it and adjust it to their needs, combine it with other elements and then consume or disseminate it. Hence, integration gives people more choices for consumption and allows the customization of offers. Mashups, for example, are applications that aggregate content and applications from different sources and allow for their composition in new and innovative ways.

The Web 2.0 is a platform for value co-creation. Co-creation of value extends the concepts of the Web 2.0 as a platform for participation, integration and creativity. O' Reilly (2005) states that "one of the key lessons of the Web 2.0 era is this: Users add value" with their activities or simply with the use of applications. The customers create value either for themselves (e.g. when customizing provider's offers) or for consumption by others (e.g. in wiki-style applications). An example of value co-creation is the opportunities for personalization of their blogs, web pages and access they have on services.

Value creation is a collective process. It derives from the community-oriented nature of the Web 2.0 and the co-creation of value. Co-production and co-creation of value take place in networks with the participation of other business firms and peers. The Web 2.0 tends to harness collective intelligence for the development of improved solutions.

The Web 2.0 is open. Openess refers both to the technological standards and an attitude that permeates both the business firms and the users, referring to their willingness to share with others and support the others. Openness in technological standards is based on modular design and production patterns and supports compositions and integrations.

FITTING THE WEB 2.0 INTO THE S-D LOGIC

S-D logic is based on ten foundational premises (Vargo and Lusch, 2004; Vargo &b Lusch, 2006; Vargo and Lusch, 2008) that explicate economic activities in a service-based setting. In this section we try to find out if the activities of enterprises and people on Web 2.0 can fit in the

conceptual framework of the S-D logic. For this we use the foundational premises of the S-D logic and we argue for the relevance of the attributes of the Web 2.0 with them.

- 1. Service is the fundamental basis of exchange. The Web 2.0 is inherently participative and collaborative, with the one sharing his resources, skills, capabilities and knowledge with the others. The specialization of the offers on the Web is huge, either they refers to content, software or products and services, as well as of the knowledge that is required for their creation. As a result, both the enterprises and the users tend to aggregate and integrate inputs in order to create value. This service-based mentality is visible in some prevailing models of activity on the Web 2.0. For example, the SaaS model, the S+S model and all the access-based models consider software and content a service that is received when needed in order to be used or to perform an activity, rather than a good that is owned by the user. The reason here is that apparently software and content have little value, unless they are used. Similarly, the open source movement and the open innovation models are based on a reciprocal relationship, in which the participants provide and receive service from the other contributors.
- 2. Indirect exchange masks the fundamental basis of exchange. The meaning here is that goods, organizations, markets and money mask the fundamental basis of exchanges, which is service, in fact. Even though goods, organizations, markets and money still exist in a Web 2.0 economy, their significance is reduced. That is because transactions tend to be direct in most times and to be based on the concept of service. The open and distributed nature of the Web, along with the increased searching capabilities, favour direct relationships with the producers of service. Besides, a great part of transactions on the Web 2.0 are not made for money, but for fun, for social or for sheer altruistic reasons. In general, the participation of the users in co-production and co-creation activities makes them more knowledgeable consumers, who seek the service that really meets their needs.
- 3. Goods are distribution mechanisms for service provision. The importance of goods as tangible outputs is reduced on the Web 2.0 and the concept of service, as the application of specialized skills and knowledge, is prevalent. The models of SaaS and S-plus-S are clear examples of this situation: software is not an asset, but a service that will be accessed and used when needed, for the execution of an activity and the fulfillment of a purpose. Likewise, even when product-like offers are present (e.g. application packages), their role is usually to enable other activities to take place. In general, goods are not ends, but means for doing something that brings benefit.
- 4. Operant resources are the fundamental source of competitive advantage. Operant resources, pre-eminent examples of which are knowledge and technology, are employed to act on operand resources (as well as on other operant recourses) for the creation of value (Vargo and Lusch, 2004). This premise may hold for all business activities in all sectors, however, it is particularly relevant for knowledge-intensive activities. On the Web 2.0, the activities of the enterprises, such as the development of software and content, are knowledge-intensive and require both technical knowledge and customer-related knowledge, regarding the way that users are going to make use of the produced outputs. The rivalry between Google and Microsoft can serve as an example that supports the premise that operant resources are strategically more important than operand resources (e.g. products). Google bases its strategy on "service provision", while Microsoft on "product development" (Windows and Office). To ease the competitive pressures, Microsoft mixed its strategy lately by launching the "software plus service" operational model.
- 5. All economies are service economies. The Web 2.0 is a service economy, because the basis of any economic transaction is the service and the benefit that a producer offers to the consumer. The Web, in general, is not something to be owned, but something to be accessed.
- 6. The customer is always a co-creator of value. Value creation on the Web 2.0 is usually a participative, collaborative and sometimes social process that takes place in the context of the customer's life, according to the personal needs, preferences and objectives. The customer here is

the determinant factor that decides what has value and participates actively in finding, developing and integrating inputs that produce the desired outcomes. Hence, the customer has an essential role as a co-producer of the outcomes and a co-creator of value. Sometimes the customer does not consume the outcome, but disseminates it, either for free or for money.

- 7. The enterprise cannot deliver value, but only offer value propositions. Business offers do not have value unless a customer decides to use them; the final and the total value for the customer depends on how effective use he will make of the service received. In other words, the enterprise supports and facilitates the customer by providing a platform for participation and value co-creation. Between competitive offers, people tend to select based on their knowledge for the use of the product (e.g. how friendly or comprehensive it is, what resources or skills requires its use, etc.). For example, many people may use the same applications or services, but each of them makes a different use, according to his needs, preferences or knowledge on how to exploit their features.
- 8. A service-centered view is inherently customer-oriented and relational. In the Web 2.0 the power shifts to the customer, who takes control on the production and value creation processes. The role of the enterprise is to support the customer in performing these activities. The development of a supportive relationship with the customer generates trust, which is extremely important for online transactions.
- 9. All social and economic actors are resource integrators. Production processes on the Web 2.0 are based on open standards and the modularity of outputs, in order to support re-use and integration. For example, the software development is based on the concepts of Web Services as software elements that provide some business functionality, Service Oriented Architectures (SOA) as a organizing framework for the management and integration of Web Services and mashups as technologies that combine multiple sources into a single environment. People, on the other hand, receive multiple inputs and use tools in order to combine them together, modify and adjust them to their needs. The opportunity for integrations boosts creativity and multiplies the choices for production and consumption.

10. Value is always uniquely and phenomenologically determined by the beneficiary.

The customer is the utmost determinant of value, which is created and evaluated in the context of the customer's life. The final and the total value for the customer depends on how effective use he will make of the service received

The conclusion is that the spirit of the Web 2.0 complies with what is dictated by the foundational premises of S-D logic. However, there are also some concepts on the Web 2.0 that are not compliant or are doubtful if they are compliant with the S-D logic. An example of a non-compliant concept is the so-called "wisdom of the crowd", which is supported by "folksonomies", according to which the choices of the majority or a critical mass become the best solutions, which tend to be adopted by everybody. Such an approach expresses the traditional business thinking, that the customer is stupid and could/ should be manipulated in his consumption activities. An example of a doubtful concept is the Semantic Web, which refers to adding meaning to data, so that intelligent software agents can recognize what is suitable -or even the best solution- for any different person. The question here is if the application of intelligence will stay at supporting the customer and making recommendations or if it will proceed to manipulate the customer and dictate consumption and uses.

AN INTEGRATIVE FRAMEWORK FOR A SERVICE-BASED WEB

In the previous sections we argued that the Web 2.0 has evolved as a business environment that complies with the foundational premises of the S-D logic. The fact that the Web 2.0 is inherently related with the creation of content, social interaction and entertainment does not restrict or cancel the potential of the S-D logic; on the contrary, it provides evidence for its potential to

bring real world effects. The question here is if the spirit and the practices of the Web 2.0 can be applied in other fields of economic activities and in sectors other than the media and the entertainment.

We consider that the Web can be an extremely fertile field for the application of the S-D logic, because the Web technologies can enable innovative ways in the interaction with the customer and the participation and engagement of the customer in value co-creating activities that extend beyond content creation. Information technologies process data not only for the creation of content, but also for the execution of information-intensive processes, such as the coordination and the integration of business processes. Since service includes the execution of some productive processes, then information technologies and the Web, as the environment in which electronic transactions take place, can be used for the integration of service elements and the creation of value.

In this section we outline a framework for the development of a service-based Web, that is service-based business models on the Web (table 1). We contrast the service-based Web (third column) with the Web 2.0 (middle column) in order to show what is necessary to happen in order to move from the Web 2.0 to the service-based Web. A description of the properties of the service-based Web follows.

Table 1: A framework for service-based models on the Web

Parameter	Web 2.0	Service-based Web
Offer	Content	Service
Key process	Integration	Value co-creation/
		integration
Resources	Data/ knowledge	Service
Purpose	Communication and	Satisfaction of needs
	entertainment	though consumption
Consumer	User	Customer
Provider	Company and peers	Business, public agencies
		and peers
Technology	Platform for participation	Platform for value co-
	and integration	creation

The offer on the service-based Web will be service, defined as the benefit that is provided to the customer through the activities of the provider; the offer includes both tangible products and intangible services (information and content, in general, are also kinds of services). The offer is necessary to be developed in a modular way, so that it can be combined with other compatible offers, to create compositions and opportunities for added value and increased benefit.

In a service-based value creation system, the activities of the one party are combined with the activities of the other parties for the creation of value. Each party receives service, modifies or adjusts it and disseminates or consumes it. Thus, a service received becomes a resource in a course of actions for the creation of value.

The key process in service-based systems is the co-creation of value through the integration of service elements. The general concept here is that the definition and the creation of value can take place only in the context of the customer, because, on the one hand, the needs, the preferences and the situation of each customer are strictly personal and, on the other hand, the creation of value is determined by the knowledge of what and how can one do with the service received. The co-creation of value requires that the customer is active in the consumption process, by searching for alternatives, making modifications, if they are necessary, and making compositions that produce solutions to the problems or needs that initiated his activities.

The customer is stimulated to consume service in order to satisfy his needs. Receiving service and consuming are apparently passive processes, but only for the frugal customer. Otherwise, the need for increased benefit urges the customer to enter into value co-creation activities.

The customer has an active role in the creation of value because the complexity and the idiosyncratic character of the personal needs make necessary his participation in activities that refine and complete the business offers.

The typical provider is a business enterprise that produces products or services. However, from the customer's point of view, any party that provides service, either for money or for free, is a provider in the customer's value creation processes. Hence, providers are also the public administration and other customers (peers) that have the knowledge and are willing to contribute.

Technology is the operational enabler for service-based models on the Web. The role of the technology is to support the customer in the integration of offers, the composition of personalized solutions and the creation of value. Users' activities on the Web 2.0 are supported by search engines and other providers of specialized service. In a service-based Web it is necessary to have analogous search engines and integrating service providers that support the customer in finding and integrating service elements.

The derivative propositions to the S-D logic (Lusch et al., 2007) regarding the strategic management in a service-based world are particularly relevant for the development of operational and competitive strategies in a service-based Web. We distinguish, in particular, the strategic opportunities for those that will perform integrating roles (e.g. facilitators in searching for and integrating service elements), the need for collaboration in business networks and ecosystems and the need for open service systems that allow customers to participate and compose solutions by integrating service elements.

In a service-based Web, the traditional models of e-commerce (e.g. B2C, G2C and C2C) lose their meaning, because the question is not who provides the service, but what is the quality of the service provided and what are the opportunities for the customer to co-create value. Hence, service-based Web should allow customers to receive service from any provider and integrate it according to their needs.

A service-based model for the co-creation of value could be based on the example of blogs. Blogs are virtual personal environments that satisfy social needs by allowing persons to express their opinions, communicate, share with others, receive and integrate input, interact, maintain relationship, have entertainment, etc.; rather than being static, such as the typical Web pages, they allow for dynamic and two-way interaction. In a service-based Web, customers should be able to create similar virtual environments that allow them express and communicate their needs, receive service from other parties (i.e. products, services, information, recommendation, etc.) and integrate service in ways that satisfy their needs.

CONCLUSION

The S-D logic proposes a new conceptualization of value creation that is opposed to the traditional, business-oriented economic theories. The development of a new business paradigm that is based on the premises of the S-D logic will be neither straightforward nor imminent, because it necessary that a new, customer-oriented mindset will be established previously. In this paper we presented the Web 2.0 as an example of business and human activity on the Web that is compatible with the S-D logic. The development of the Web 2.0 is based on some social, business and technological trends, which altogether have led to the development of new business models and favour innovative ways in creating value on the Web with the participation of the user. The next phase in the evolution of the Web would be to transfer the customer-oriented, participative and collaborative spirit of the Web 2.0 in other domains of activity, beyond social interaction and

the creation of content. The service-based Web, that is the Web that supports the execution of economic activities according to the S-D logic, is a step forward to this direction.

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