

Innovation and digital social networks in micro, small and medium enterprises

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ABSTRACT

Innovation is a key element that shifts competitive advantages for enterprises not matter their size and activity. For small and medium enterprises (SME) the challenge is imperative, they have to acquire the ability to develop innovation and technology as a resource to develop their strategies and achieve goals. The Internet has become a virtual place where customers are sharing and communicating information about their experiences with the enterprises. One important tool that offers a platform to make this interaction is digital social networks. The SME sector in Mexico has an important participation in the economy of the country. Finding a model to improve the management of innovation and technology will allow giving this sector the opportunity to take advantage of the information and interactions that are taking place in digital social networks.

Keywords: Innovation, innovation and technology management, small and medium enterprises, digital social networks.

1. INTRODUCTION

Nowadays, organizations face increasingly complex challenges. An adequate resources management and being at the forefront in technology issues are examples of these challenges, therefore, the enterprises should be constantly innovating in order to fulfill requirements and needs of their clients. Innovation has, then, an intentional character. Organizations must be aware of the environment to realize trends, new gathering places, needs and desires of their customers. One of the new places where people get together is the Internet, a completely virtual place which has reached unimaginable dimensions and interactions. From being a static network, where information only can be consulted, now with the Web 2.0, communication happens both ways, the user is not a simple spectator and depository of the information posted by the enterprises. Right now, people have found in digital social networks the platform to share information, knowledge and opinions. Interactions and conversations between consumers are taking place, with the participation or not of the enterprises. The enterprises have to take their place in the interaction. For small and medium enterprises is easy because using the basic features of digital social networks does not represent any cost, but what it takes is having a clear strategy.

This paper is an initial approach of a whole research about how small and medium enterprises (SME) use digital social

networks to enhance their strategy, focused in getting the customer engaged and then increase sales and productivity. Managing innovation and technology will be an important element to implement digital social networks to the business model of each enterprise.

Concepts that support innovation and technology management will be defined to present afterwards, an innovation model that can be applied to small and medium enterprises. Making the connection between qualitative information and quantitative data of how SME can achieve benefits from digital social networks will allow reconsideration of strategies and plans for the future.

The importance of this sector for a country like Mexico will be explained later, but right now the focus is that innovation, technology and social networks as a tool to help these enterprises to get closer to their customers and to obtain valuable information to build strategies, will allow their growth and development.

2. METHODOLOGY

The research will have a mixed method design. First, the qualitative phase is about finding the characteristics of a model of innovation and technology management and how they apply for SME. SME as object of study have unique characteristics as well. In addition, digital social networks are taken as the innovation element for these enterprises to implement. This paper shows the literature review done to find a model and how is adequate for SME and digital social networks.

3. INNOVATION AND TECHNOLOGY MANAGEMENT

The activity of development and innovation in organizations is fortified and increases its relevancy when is managed properly. Enterprises can maximize their competitive advantages based in their ability to develop innovation, and getting the technological and organizational means.

Technology management

Administration and management have been often taken as synonyms, nevertheless, differences exist. Though, administrating supposes a process guided by specific theories and techniques, managing is translated into carrying out a set of

tasks directed to achieve certain effects or objectives and possible social impact.

According to Albomaz and Fernandez quoted by Ortiz Cantú & Pedroza Zapata, management involves the ability to operate over key dimensions of a variety of systems and processes modifying their conditions and courses. Thereby, the reflection mentioned before, that this management has to be intentional, how ideas can become innovations through the process of management and achieving a favorable competitiveness margin.[1]

Management activities can be classified in three groups:

- a) Sporadic: These activities solve an extraordinary problem, with limited actions and normally executed by a single person.
- b) Intermittent: The activities are applied to similar situations, with the same procedure that has to be followed and no analysis tasks required.
- c) Systemic: The activities are performed multidisciplinary, proactive and creative activities are promoted through collaboration networks to encourage the reconstruction of traditional ways of action, concepts, theories, in order to lead towards new ways to get things done. [1]

Systemic management activities cannot be related to urgent problems or situations to solve, they have to be oriented to analyzable and improvable situations that involve a holistic vision of relationships among the stakeholders.

Management oriented to innovation and technology needs a systemic approach because different areas of the organization are involved. The intention of generating innovation, the proposal of new ways to get things done and articulate ideas of a variety of participants will lead the organization to a creative work environment.

Innovation

The Organization for Economic Co-operation and Development (OECD) in the Oslo Manual, defines innovation as “the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”. [2]

According to Schumpeter, innovation goes beyond technology, the definition Schumpeter proposes, covers the following cases:

- a) The introduction of a new product into a market.
- b) The introduction of a new production method.
- c) The opening of a new market in a different country, even though if that markets already exists in another country.
- d) Find a new source of raw material or semi elaborated products, without consideration if that source exists or has to be created.
- e) Implementation of a new structure in a certain market. [3]

Innovation definitions have in common the element of being successful in a market. If the new products, procedures or services are not accepted by a market, innovation does not happen. Innovation implies competitiveness. Innovations

become an attribute to generate value. Innovation’s goal is the improvement of the results of an organization through the obtaining of competitive advantages.

Technology

Technology allows the solving of concrete problems by the effective application of knowledge. According to Benavides, quoted by Ortiz Cantú, technology is defined as an information and knowledge system results of research, experimentation or experience, joined with production methods and commercialization, creates a reproducible way of generation new and improved products, procedures or services. [1]

4. BUSINESS MODEL

A business model enhances better planning for enterprises. Business models are taken as a reference or administration guides, actions are based in the business model to accomplish the enterprises’ goals. Enterprises have been forced to improve their business models, this means, to innovate them. Globalization and dynamism in all sectors are competitive factors that have made the enterprises renew their competitive advantage and have an understandable business model. A lot of enterprises focus in the everyday operation and forget to define their strategy because in an apparent way “business is doing well”.

Here is mandatory to introduce the concept of competitiveness: is an organization’s characteristic that allows it to differentiate from its competitors through superior performance of one or more attributes of its processes, products or services. The result is expressed in sales and market share increase; entry to new markets; increase in profit and productivity margins, cost reduction, among others.[4] With this definition basis, innovation through an effective business model can be a driver to competitiveness and productivity.

5. A MODEL FOR INNOVATION MANAGEMENT

Alvarez Falcon proposes a model to manage innovation. This model is easily adaptable to different types of enterprises because it includes relevant elements that all enterprises not matter their size and activity have. The description of the model for management innovation taken as the reference for this paper can be seen in Figure 1.

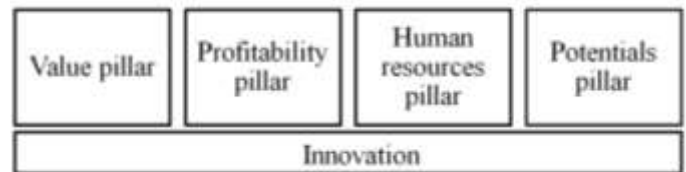


Figure 1. Management innovation model.

- a) Value pillar: The profit buyers receive in return for what they pay for a product or service.
- b) Profitability pillar: Revenues generated from a specific offer minus what is needed to produce and deliver it.
- c) Human resources pillar: The motivation to get commitment from the human resources of the business.
- d) Potentials pillar: Rational use of resources. [5]

The base of the four pillars is innovation, understood as the adaptation to changes in customer's behavior, increases results and faces the ever-changing environment and market where the enterprise develops.

Enterprises that decide to get into an innovative process must build and improve routines and ways to do things. Successful management innovation routines are not easy to accomplish and have to be adapted to each enterprise. Implementing these routines can face obstacles because of the lack of an innovation strategy that guarantees investment, enable work for the people involved in innovation and redefine plans according to opportunities that could arise in the business area of action. There are some common elements in innovative enterprises, as of:

- They have a clear strategy; each person in the organization knows how this strategy is represented in the everyday work.
- Customers participate in the innovative process.
- Recognize their strengths and leverage them, they identify their weaknesses too and try to avoid them. If they are needed for the innovation, they subcontract them.
- A support system for innovation is generated, assigning human, financial and technological resources.
- Persistent evaluation and measurement of activities and strategy results are made. [6]

To take action, businesses have to develop a clear, understandable, precise and implementable strategy, aligned to the mission and vision of the enterprise. Then, define the organizational structure in order to launch the processes specially designed for that enterprise and define the control media for the activities generated for those processes. A change in culture is also needed inside the organization. Innovation has to become a way of life.

6. SOCIAL NETWORKS AND INNOVATION

The concept of social network as a way to explain the relations between agents of a same system has been widely used. When the concept is used for a specific enterprise, the social network is limited by the organizational structure, other networks can exist in the same organization, and maybe they are departments or areas connected.

Social networks revolution has come beyond, opening the limits is necessary, because taking ideas from the outside for innovation is important to keep the customer interested in the business. Open innovation concept from Henry Chesbrough is appropriate: "Open innovation is the purposeful use of inputs and outputs of knowledge to accelerate the internal innovation and expand markets for the external use of innovation. This paradigm assumes that enterprises can and have to use both internal and external ideas in order to reach their target markets and do a considerable advance in technology issues".[7]

Social networks in the Internet follow an inclusive model, homogeneity exist inside the group. Danah Boyd describes a social network sites as web based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and

nomenclature of these connections may vary from site to site. [8]

Open innovation looks up for new possibilities towards the external environment. A contradiction can merge because what characterizes a digital social network is a closed group of "friends" with similar interests and characteristics connected by a technological resource. Nevertheless, for the enterprises the common aspects help to provide valuable information of a target market that exists on the outside of the organization. The new perspective is taking decisions and actions based in the relationships that happen among individuals participating in a certain process, consequently, a complete analysis of the system is made. This systemic approach leads to a better vision of reality and represents a new paradigm in entrepreneurial activity. [9]

The opportunity that opens for the enterprises is about the social nature of the information provided by the social networks. The information shared in these sites is stored and the accelerated traffic that occurs makes this information be updated in a very short period of time. The issue here is to identify which information is relevant for the business model of each enterprise that decides to interact with their customers in a social network. The customer's behavior in these digital networks can be highly heterogeneous that is why the precise definition of the useful relations is so important for the entrepreneurial processes. Complexity can be reduced with tools used to measure, understand and predict the users' behavior. Digital social networks have all those tools, logs of activity is available for the social network manager, Facebook, Twitter, Google+, store the interactions with a high level of detail, from a single post to activity in a certain period of time.

Digital social networks are essentially participative, reflect the interest of the users and can be included in a very flexible way in a traditional business structure. They become an open innovation example in which employees, customers, partners, suppliers, can participate. That is why the aligning with goals of innovation is so important. The posts in any social network have to follow an editorial policy in order to produce useful effects for the enterprise. [10]

Marketing innovation

Connecting innovation with the enterprise using social networks requires defining marketing innovation. This kind of innovation is understood as a process starting with the recognition of a new idea or covering a need, with this base, new strategies are developed to reinvent messages or the communication channels to deliver them to a target market in order to increase revenues and interest in the products or services. Technology in marketing innovation is not a key element, creativity is more important. It is not enough to develop a new product, setting communication strategies for the customers is a complement to generate and maintain the engagement with them. [11]

Digital social networks are an excellent media to communicate with the customers and launch a marketing innovation. Using social networks represent low investment, wide scope, immediate information generation and feedback from customers. Innovation that involves using digital networks will bring the enterprises closer to their customers.

Just to reinforce this idea, according to a study of Habits of Mexican Internet Users made by the AMIPCI (Asociación Mexicana de Internet), the average daily connection to the Internet of the Mexican user is five hours and one minute. The use of social networks has increased and it is the principal online activity for Mexican users, 9 of each 10 use social networks as an entertainment source. 93% of Mexican users of Internet have access to at least, one social network site. The most popular sites are Facebook, You Tube, Twitter and Google+ in that order. [12]

7. OVERVIEW OF SMALL AND MEDIUM ENTERPRISES (SME) IN MÉXICO

The small and medium enterprises in Mexico represent an economic force for the country. According with information of the Instituto Nacional de Estadística e Informática (INEGI), a national organism responsible of statistics, in Mexico exist approximately 4 million 15 thousand of entrepreneurial units, of which the 99.8% are SME that generate 52% of the GDP (Gross Domestic Product) and 72% of employment. [13]

With the information provided by ProMéxico, some advantages of SME in Mexico can be distinguished: they are a source of development for the country, their recently born organizational structure is flexible so modifications and adaptations can be easily made to their processes, they have growing opportunity, they take a large percentage of the economically active population because SME generates a large amount of jobs. Mexican SME contribute to local and regional development. The owners are frequently the managers of the enterprises so they are aware of the needs of the business. Finally, SME can easily assimilate and adopt new technologies. [13]

On the other hand, some disadvantages are related with administration issues, frequently, SME do not reinvest profits to upgrade their equipment and production techniques. The lack of an efficient organization results in a shortfall of sales and providing inefficient service to customers. SME do not know how to set prices for their products or services because they do not distinguish all the costs involved, lack of inventories control, taxation problems, among others. All these problems can be translated into affectations when these enterprises intend to request financing from government of financial instances. [13]

8. THE MANAGING INNOVATION MODEL AND ITS RELATION WITH SME AND SOCIAL NETWORKS

The following discussion intends to explain how each of the elements of managing innovation model can be related to SME and social networks.

Value pillar: Customers can compare different products and services based on the opinions posted by other customers that have already bought those products or services. The information remains in the social network page so the customers can share, comment or generate their own perception, the results can be compared to the ones a focus group originate, the difference is that the impact is on a larger scale and without being an expense for the enterprise. The value pillar will be how the enterprises get closer to their customers, based in their business model and strategies, to obtain valuable information. Availability of the

information is a considerable advantage for SME, because the platforms of digital social networks provide the tools to easily retrieve useful data for the enterprise.

Profit pillar: Revenues of the SME can be increased in two aspects, (1) increase in sales because of the approximation towards the customer in the digital social network and the analysis of the information generated by the customers in these platforms and, (2) because the advertising and promotion expense decreases by using the digital social network as a tool for this activities, is important to note that using digital social networks in their basic features is free. Nevertheless, the lack of a marketing strategy and a deficient operation of the digital network can cause the inverse effect.

Human resources pillar: The role of human resources of an enterprise that decides to use digital social networks can be providing a person or group of persons dedicated to generate content for the social network and responding to comments and messages of the customers. The specialized role is performed by a community manager, which is the responsible to manage and moderate the online communities around a brand, product or service [14]. In this same line, the community manager is a professional well-informed about what is happening in the environment where the product or service is developed and consumed; only paying attention to these issues the engagement of the customers can be accomplished [15]. The personnel have to be committed as well with the enterprise and ready to listen to the customers, respecting the aligning to the mission of the business. Often, in SME, the owner or manager of the enterprise does the function of the community manager.

Potentials pillar: The enterprise has to count with the resources needed to use digital social networks; the important issue here is that SME do not have to make a high monetary investment. In this case, is more important having the knowledge and good practices about using these tools, in order to get the results of a well-designed strategy. An important resource to manage is time, in a digital social network, seconds and minutes matter, an immediate response eventually is more important than the content of the answer, this is because the customers perceive that they are listened.

9. CONCLUSIONS

After describing in this paper how the four pillars of the management innovation model interact to explain how innovation can be managed by using digital social networks, the first conclusion is that a small or medium enterprise with a clear strategic planning and a defined marketing strategy will be able to connect value, profit, human resources and potentialities. A continuous evaluation of how the model is being applied is highly important because the information that travels in digital social networks is very volatile. Then, SME cannot leave aside technology, is an important asset that these enterprises need, in order to access the information their customers provide in digital social networks and is needed to have participation in the interactions that take place in the social platforms. If mission, strategy and organizational structure are aligned, the enterprises can easily determine their needs of technology, without spending a lot of money. The most important investment an enterprise has to do is in time and dedication to keep the network active and with relevant content for their customers. Customers are a key element to trigger innovation.

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