CHAPTER 8

I&E ORGANIZATIONS IN AN "OUT-SIDE" WORLD:

IN BETWEEN MARKETS AND HIERARCHIES

Davide Lissoni

Katalin Papp

Khurram Shahab

Amir Sohail

Kinde Tefera

Jan Helge Wolf

Introduction

The next chapters endeavor to place the entrepreneur in an organization: where is his or her place in a complex system of many entities working together and sharing knowledge? What does innovation mean in a context where the innovator is surrounded by other agents with their own agenda? And if innovation is a largely unique and personal experience, why is there a need for organizations at all?

Neoclassical economics, the most prevalent branch of economics taught in higher education, with all its rigorous formulae, is unable to answer these questions. Its impotence lies in the fact that it treats both human and organizational agents as rational decision-makers, with perfect information about the market and each other. This view treats market agents much like behaviorism treats people: as black boxes, with their decisions acting as functions on the input data. And when it comes to reality, their results may be equally misguided.

In this chapter, we will introduce a different branch of economics called new institutional economics. If we assume that humans are not perfect, both in their inability to completely assess the world and in their rather personal hidden decision-making factors, then we will arrive at a much more complex worldview. This is the theory we will reach out to in order to answer our questions. Subsequently, we introduce a number of organizational structures developed to cope with this complexity. Finally, we discuss the impact of these structures on the process of innovation as well as the role of the entrepreneur within it. To ease the understanding, extensive examples are given where necessary.

Transaction costs and the emergence of organizations

Today's mainstream economics is dominated by the neoclassical approach. It is based on a number of fundamental assumptions about human behavior, namely (Weintraub, 2007):

1. People have rational preferences among the possible outcomes of their actions.
2. Individuals and firms choose their actions as to maximize their utility and profits, respectively.
3. People choose their actions independently of each other and on the basis of complete information.

These assumptions allow the application of mathematical tools and theories when analyzing and predicting the behavior of individuals. However, they often do not hold when compared to the reality

of human behavior[1]. Additionally, and more relevant to our point, neoclassical economics does not give any justification for the existence of organizations, but accepts it as given.

We therefore focus on the so-called new institutional economics, another theoretical framework derived from the neoclassical one, but distinct in a variety of ways. Even though the term *new institutional economics* was only coined in the 1970s, its basic ideas were born in the 1930s (Williamson, 1992, p. 335). It takes a combined economics, law, and organization perspective, while borrowing from other social sciences like sociology, cognitive, and political science, thus making it a more holistic approach than neoclassical economics (Williamson, 1989, p. 137; Ménard et al., 2005, p. 1 ff.).

The *institutions* examined by this approach include explicit rules about contracts and corporate governance as well as constitutions, laws and other rules governing society, and implicit rules like codes of conduct or social norms. New institutional economics rejects the neoclassical assumption of individuals possessing perfect information and unlimited mental capacity, instead assuming bounded rationality and uncertainty about future events and outcomes of their action, and assumes the described institutions to be the measures devised by humans to reduce the amount of uncertainty[2] (Ménard et al., 2005, p. 1).

One of the building blocks of new institutional economics is the concept of transaction costs, which was first introduced by Coase (1937). It is obvious that in non-self-contained (autarkic) production processes, multiple production steps must be coordinated between a number of individuals and/or organizations. Coase posed the question of why in some occasions, this coordination is happening on the market (e.g., by buying certain raw materials), while in other occasions, it is done within the same organization (e.g., by producing the raw materials that will later be processed).

The neoclassical approach states that the usage of the market is free and instantaneous (Ménard et al., 2005, p. 1). If that were true, there would be no need to ever form an organization, because every individual could - and would - dedicate himself or herself to the work they can do most efficiently, while obtaining all tools and materials needed for it on the market. This, however, is clearly

[1] Dan Ariely, professor for Psychology and Behavioral Economics at Duke University, has written a whole series of books demonstrating that humans indeed neither consistently act rationally nor maximize their personal gain, see Ariely (2008; 2010; 2012).

[2] It is obvious that the assumptions of new institutional economics are closely related to the concept of uncertainty introduced in the previous chapters. We will see how this concept is directly related to the very existence of organizations.

not the case, for companies do exist. Thus, there must be costs to using the market (Coase, 1937, p. 388).

The most obvious of these costs is the cost of finding appropriate trade partners. Depending on the method of conducting this search, this may cost time (when performing the search in person) and/or money (when outsourcing the search). After the search, information about the possible transaction must be exchanged, and negotiations about the exact terms take place, before a decision for one specific partner can be made. Even after the agreement is settled, compliance with the agreement must be monitored in order to prevent opportunistic behavior by the trade partner. In case of disputes, additional negotiations must take place, and/or the issue must be brought to the courts. These are the three main categories of transaction costs: search and information costs, bargaining and decision costs, and policing and enforcing costs[3] (Dahlman, 1979, p. 148).

It is these costs that every entrepreneur has to consider when answering what by many is regarded the basic organizational question: to make or to buy?

So far, it seems like "to make" might be the go-to answer in all circumstances. This would, in the long term, lead to one single enterprise producing every conceivable good, which in reality is clearly not the case either. This is due to the fact that the entrepreneur, who takes the coordinating function from the market whenever the production of a good is internalized, is of limited mental capabilities, too. At some point, the entrepreneur is simply not able to allocate the internal production factors in the most efficient way. It is then that additional bureaucratic overhead is introduced, which in turn decreases the efficiency of the firm (Coase, 1937, p. 394 f.). The specific factors that influence the optimal degree of vertical and horizontal integration of an enterprise are up to this very day subject of extensive discussion and research and are out of scope of this chapter[4].

So, what kind of costs can an entrepreneur try to lower by enlarging his/her business, by choosing "make" instead of "buy"? Let us take the example of a shoemaker, who produces beautiful handmade shoes out of leather. She, of course, needs to buy leather in bulk, and as she cares about the quality

[3] It is interesting to note that the assumptions of neoclassical economics widely coincide with the concept of certainty that was introduced in the previous chapters. In a certain world, we exactly know the price of every good, we know in advance whether our potential trade partners will act opportunistically (and if they do, we won't engage in trade with them), and so on. In a certain world, we can therefore induce, there are no transaction costs, and thus, no organizations.

[4] For a transaction-cost-economics-based review of this topic, see Joskow (2005), and Klein (2005), among others.

of her product, needs high-quality leather. To support her one-man business, she makes up a contract with a tanner as a supplier, let us say she wants to buy ten meters of leather each month.

In order to contract a supplier, first, she has to look for one. She searches on the internet, asks her contacts, and tries to balance out her bounded rationality. Bounded rationality means that she has incomplete information about the market: she does not know all the tanners, and she may have problems evaluating and comparing their products. Decreasing this kind of uncertainty takes an effort, it takes resources and time, so it is an inherent cost.

After finding a suitable tanner, she has to negotiate a contract: she wants to pay a certain amount of money for the monthly supply, the tanner may ask for more. This takes additional effort, another transaction cost. This kind of cost, and the one described in the previous paragraph constitute the so-called ex-ante transaction costs: the implicit costs of finding and negotiating a contractor.

When the contract is done, the business continues as usual. She receives her leather every first day of the month, and she pays for the next month's leather in the last week of every month. Then, one month, the supply does not arrive. She calls the contractor: "What happened? Where is my leather?" and the contractor says "Oh I forgot to send it, it will arrive tomorrow", and it may arrive the next day - or not. The contractor is human, after all, and maybe he simply forgot to send the leather. Even in this case, for the shoemaker it is an additional effort to contact the contractor and remedy his mistake. But what if the contractor's mistake was intentional? What if he planned to take the money and run off? Or, what if he keeps up with the leather supply, but changes to a lower quality leather than he used to sell in the beginning?

In new institutional economics, this kind of behavior is called opportunism. To evade the additional costs invoked by such incidents the shoemaker may try to specify the contract as much as possible, but even then, pursuing the legal ramifications of a contract breach has its own non-negligible costs. These are the so-called ex-ante costs: the monitoring effort to make sure the contractor hold himself to the negotiated contract, and the legal cost in case he does not. In the latter case, the search process begins again.

What the entrepreneur can do to lower these costs is to internalize the market agent he/she is dependent on, establishing an organization. The shoemaker can hire the tanner, so from now on he is part of the new leather-processing department. Since now his income depends on the shoemaker's profit, he is inclined to do his best and produce high quality leather on time. The shoemaker still has to negotiate a contract, but in this case, this is hopefully a one-time cost. Also, she has the additional extra of having a leather expert in-house. Before hiring the tanner, she was susceptible to buying lower

quality leather for the price of high quality, and to be otherwise conned, because of the so-called principal-agent problem.

The principal-agent problem means there is asymmetry in the manner in which information is distributed between the negotiating parties. The agent, the seller, has more information about the product than the buyer: he knows where he got it, or, if he made it, he knows its exact properties. He is able to assess its value better than the principal, the buyer, who cannot be expected to be an expert in the field. This creates a dependence on the agent's goodwill, and the agent, subject to opportunism, may abuse this dependency (Miller, 2005).

If we treat the organization as an establishment for sharing information, then the information capital of the organization is definitely increased by hiring a professional in some key area. In addition, such a hire may open up new business opportunities in itself. The tanner probably produces more leather than what the shoemaker needs, so they can sell the superfluous leather, or hire a bag-maker to produce leather bags out of it. Thus, the organization grows.

So what stops this growth? Why is there a market at all, why is there not only one huge monopoly company conducting all the business in the world? The answer is more or less obvious: as the organization grows, so does its own complexity. The entrepreneur finds it harder and harder to monitor and control all the employees, and soon needs to sustain entire departments that do not actually contribute to production, only help with organizing. The shoemaker has to hire accountants and HR managers, and has to face the increasing overhead.

The internals of the shoemaking firm become so complex that the entrepreneur encounters similar problems as he/she had before he/she started internalizing. Bounded rationality strikes again, and communication costs to keep up coordination increase.

The entrepreneur has to make a decision to find the shape of organization best fit to his/her business. The following section is dedicated to describing these business structures and the hierarchies in which the production process can be organized.

Organizational structures

After laying down the theoretical foundation of why organizations even exist, this section will introduce multiple models of internal structuration employed by organizations to deal with the complexity of an uncertain world. After introducing these models in theory, we follow the example given in the previous section to illustrate our findings.

The most traditional type of organizational structure is the so-called functional structure, in which employees are grouped on the basis of their expertise and duties. For example, there might be a central accounting department responsible for the entire enterprise, or a research & development department concerned with developing new products for all other departments of the company. Each group of people is supervised by a manager called a functional manager (see Figure 1). The functional manager is also expert in the same field and is the responsible person to effectively utilize the skills of employees, which is helpful towards the organization's success (Davoren, n.y.).

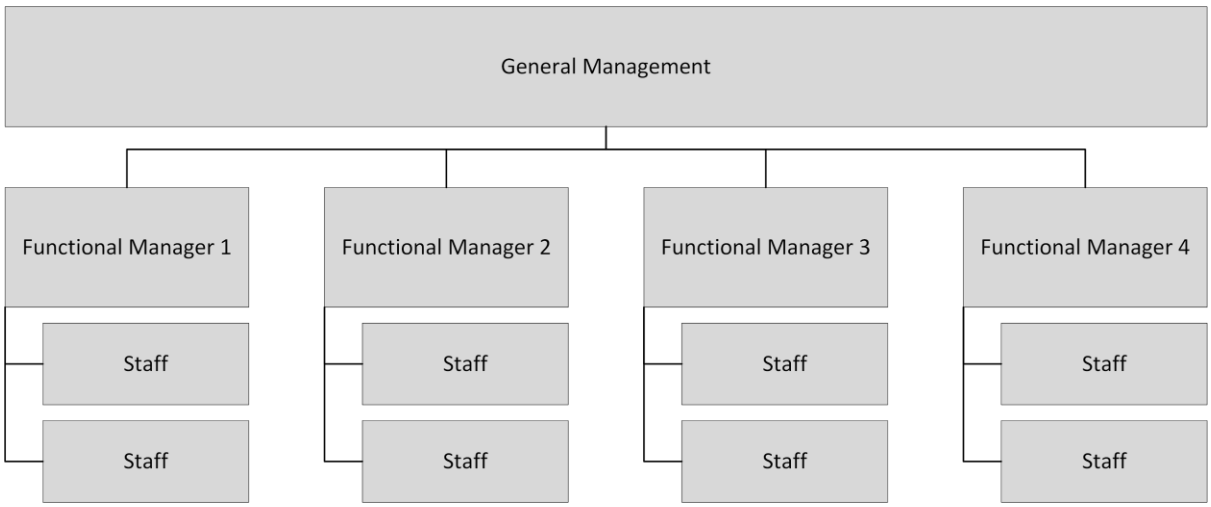

Figure 1: The functional structure with four departments

By centralizing expertise, this structure allows companies to obtain efficiency gains by pooling similar resources. By pooling people who share a common expertise and responsibility, better utilization of resources is achieved. Furthermore, the flow of information within each part of the organization is made simple due to common background, terminology and interests of the people in each group (Shtub et al., 2010, p. 19 ff.). Additionally, more specialized personnel can be hired when centralizing functions in this manner. Therefore, this structure is well suited for companies that develop and sell a low number of high-technology products, while it poses major problems for companies maintaining a broad variety of product lines (Galbraith, 1971, p. 30; Miles et al., 1992, p. 54).

In the middle of the 20th century, the divisional structure – also referred to as multidivisional or the M-form – was developed. It involves restructuring the enterprise into multiple semi-autonomous divisions that are allocated a certain budget and certain objectives to be achieved by the central governing unit. This central unit therefore only makes long-term, strategic decisions, while operational decisions are made with great autonomy on the division level. Control is exercised and compliance with the assigned objectives is usually ensured by an incentive mechanism tied to division performance (Teece, 1971, p. 174 f.).

The divisions contain a complete set of functions, and are typically organized according to product lines, but divisions according to customer groups, geographic areas or other criteria are also possible (Galbraith, 1971, p. 30; see Figure 2). The divisional structure is considered to be well suited for companies with multiple and diverse types of products and/or target markets (Miles et al., 1992, p. 54).

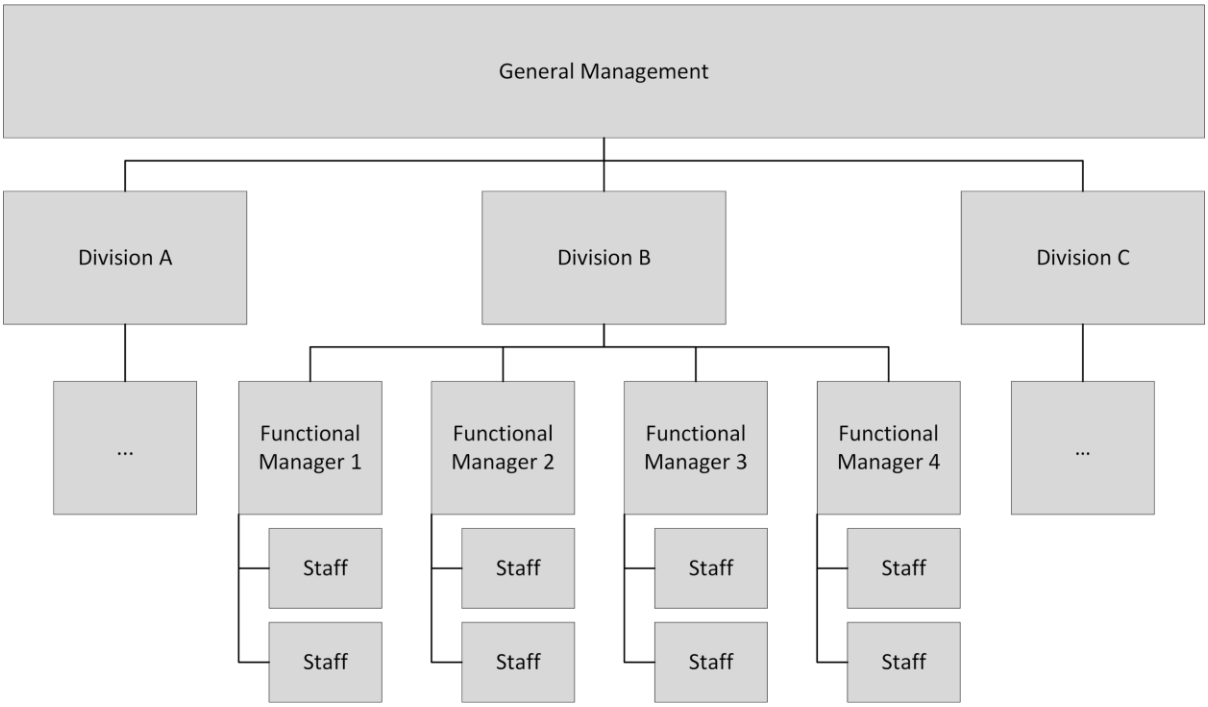

Figure 2: The divisional structure with three divisions and four departments

During the 1960s, a combination of functional and divisional structure was developed and subsequently dubbed *matrix*. While personnel is generally assigned to a specific functional department such as marketing, production, or research & development, it is frequently reassigned to specific project or product teams made up for limited amount of time and a specific purpose. This team generally comprises employees from multiple functional departments and is led by a manager who is responsible for the success of the project and who wields a different type of authority than the leaders of the functional departments involved, creating a dual-authority relationship (Mee, 1964, p. 72; Galbraith, 1971, pp. 35–38; Horney et al., 2009; see Figure 3). This type of structure is suitable for companies that experience a great diversity of product lines and high interdependence between functional units (Galbraith, 1971, p. 37 f.).

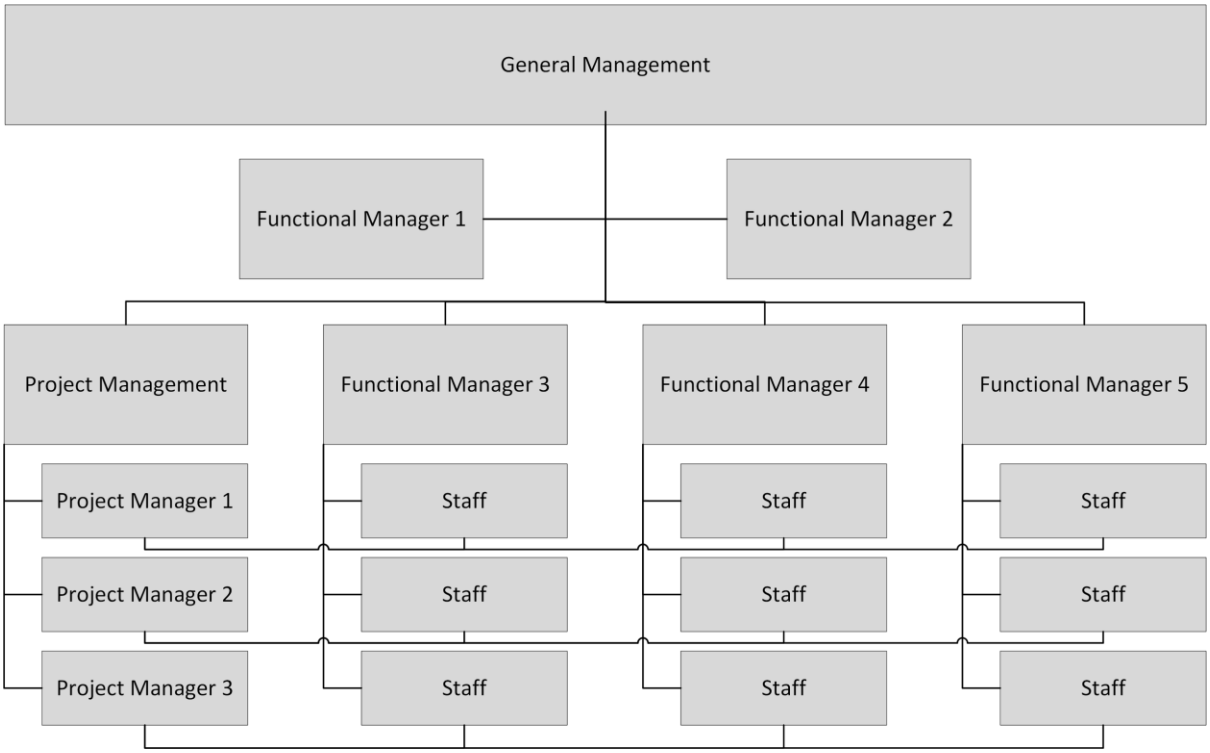

Figure 3: The matrix structure with two project-independent departments and three project-related departments

It is to note that in real-life companies, the structures introduced before are seldom found in their pure form. More often than not, organizations combine the characteristics of functional, divisional and matrix structures. The resulting structures are often referred to as hybrid models of organization.

So what should the shoemaker do, once her shoemaking firm begins to grow? Since she hired the tanner, the company now produces not only shoes, but leather as well, and with the extra leather, she decides to take up making bags. After the addition of some extra personnel to deal with accounting and HR management, now the firm is composed of people with very different professions. How can a tanner, a shoemaker, an accountant and a HR manager most efficiently do all their respective jobs?

If she decides to stick to the traditional functional structure, she can divide her company into production and supportive departments: the shoe, bags and leather departments produce the goods that the company aims to sell, and the accounting and HR department deal with accounting and HR, obviously. This keeps those with similar expertise under the same roof, which decreases the friction caused by communicational difficulties. As she, the entrepreneur, is now the head of her company, she appoints functional managers to represent their departments. She may overlook the shoe department herself.

To create a place for innovation, the entrepreneur decides to start an R&D department. Now, in what relation should this department be to those of production? It houses researchers, not manufacturers, so by functionality it clearly differs from the bags, shoes and leather departments. Still, it needs to

retain a strong connection to them, since it aims to improve and innovate the production methods they use.

A solution to this problem may be employing a divisional structure. Instead of functional departments, the shoemaker's firm is now divided into three divisions, according to the types of goods they produce: a shoe, a bag and a leather department, each with its own R&D focused on the product at hand, and with their accounting and HR. This allows the manufacturers and the researchers to communicate freely and share their knowledge.

The only problem now is duplication. Is hiring personnel to the bag division so different from hiring for the shoe division that every division needs its own HR managers? Hardly. It would only make sense to switch to the third kind of organizational structure, which carries the advantages of both previous ones, the matrix organization.

Now the shoemaking company is divided according to two different aspects, function and product type. The shoe, leather and bag divisions may share their accounting and HR, but they organize themselves into project teams with appointed project leaders. For example, when a new season approaches, the entrepreneur may start a 2016 Fall & Winter Project, where researchers, shoe and bag manufacturers work together to address the challenges raised by the season's fashion.

Application to innovation and entrepreneurship

This section aims to wrap up the previously introduced concepts and to apply them to the process of innovation, answering the following questions: How do certain, uncertain and ambiguous environments as well as the internal hierarchy influence the process of innovation and the person of the entrepreneur? What kind of hierarchy, if any, favors innovation? And what kind of role should the entrepreneur play in an innovation-centric organization?

Innovation in market-oriented organization deals with how organizations adopt to a new environment, adjust the organizational structure based on the environmental constraint and develop competitive advantages. It is about the implementation of new ideas, services, products and processes. Organizations whose cultures emphasize innovation when resources are available tend to implement more innovations and develop competitive advantages.

How do certain, uncertain, and ambiguous environments and our internal hierarchy influence the process of innovation and the entrepreneur?

Some of the features that have an impact on innovativeness of a marketing structure are the flexibility of the communication channels, the speed of exploiting a new business opportunities and the rigidity of the rules and regulations imposed on the workers. In general, flexibility of the employee and absence of strict hierarchy increases creativity and innovativeness of an individual. As the individuals go from a secured and hierarchical structure into an uncertain and ambiguous environment, their ability to create more questions increases which leads to more new solutions to a given problem, which leads to innovation. The more decentralized and non-formalized the structure is, the more authority is given to lower level employees, resulting in a sense of empowerment in the individual. However, when there is a rigid structure, it reduces the creativity and innovativeness of the employee because the individuals are used to behaving in a certain manner. This is associated with reduced motivation and job satisfaction as well as slower pace of decision-making.

Higher levels of innovativeness in the firm culture are associated with greater capacity for adaptation and innovation. In addition, higher levels of innovativeness are associated with cultures that emphasize learning, development and participative decision-making. Market-driven businesses are well positioned to anticipate the developing needs of customers and to respond to them through the addition of innovative products and services. This ability gives the market-driven business an advantage in the speed and effectiveness of its response to opportunities and threats compared to hierarchical structure (Hurley, 1998).

There are fewer conflicts in functional structures regarding each employee's job role and the level of uncertainty within the organization and the ambiguity is very rare. This characteristic reduces the level of risk each employee has to take. The uncertainties in this type of organizational structure are reduced as we go down the hierarchy from the managers to the employees, which in turn leads to non-innovative behaviour of the individuals (Edwards, 2012).

On the other hand, in multidivisional structures, firms are divided into semi-autonomous divisions that have their own support structures with each division being responsible for its own product lines and maximizing its own profits. In this kind of structure, only relevant firms are responsible to accomplish a specified task. This allows quick transaction relative to the functional structure. The uncertainty in this division is driven by customers and product lines. The more flexible nature of this model enables individuals in each division to take a separate action regarding the transaction, which leads to innovativeness of company (Edwards, 2012).

In contrast to the above two structures, matrix structure provides flexibility, enhances communication both in the vertical and horizontal across divisional and functional lines and supports strong teamwork spirit and collaboration between workers. This flexibility, collaboration and multiple levels of communication among employees leads to creativity and innovativeness of each employee. This structure allows each employee to have multiple bosses leading to ambiguity. The employees will be uncertain about who should give them directions in terms of work (Edwards, 2012).

Is there one kind of hierarchy that especially favors innovation?

The different elements making up organizational structure in the form of levels of hierarchy, centralization and rigidness determine whether the market structure is innovative or not.

Mechanistic structures are highly centralized and rigidly structured. The communication channels between the CEO and the lower level managers and employees are formally defined. The job roles and responsibilities of each employee and the managers is clearly stated. This rigidness and change resisting behaviour makes it unsuitable for innovativeness. It inhibits the entrepreneurial action and discourages the employees to take individual initiative.

Organic structures: In contrast to mechanistic structures, these kind of structures are more flexible and decentralized with low levels of formalization. Communication channels are more horizontal, fluid and flexible. Employees' job descriptions are broader and they are tasked with duties based on the need of the organization. These kinds of structures are conducive to innovativeness and entrepreneurial behavior. The structures are highly decentralized with many small companies. Each division is autonomous and is accountable for their own actions. As the production and services grows up, new divisions are evolved to satisfy the need of the customers (Carpenter et al., n.y.).

What kind of role should the entrepreneur play in an innovation-centric enterprise?

For years, economists viewed entrepreneurship as a small part of economic activity. However, in the 1800s, the Austrian School of Economics was the first to recognize the entrepreneur as the person having the central role in all economic activity. This is due to the fact that it is entrepreneurial energy, creativity, and motivation that triggers the production and sale of new products and services. It is the entrepreneur who undertakes the risk of the enterprise in search of profit and who seeks opportunities to profit by satisfying yet unsatisfied needs (Tracy, 2005).

The principal role of an entrepreneur is to organize the knowledge work of the employees, but how?

Detecting the environment

The term contingency means that "one thing is dependent on other things" and that, in order for organizations to be effective, we need a good match between inside and outside world. The efficiency of an enterprise is given by the organizational capacity based on the value of contingency variables and the capacity to adapt the organizational structure to the change of these (Pignatti, 2012).

Hence, in an outside world view an entrepreneur has to consider all the knowledge he had about the environment, give them a weight depending on the importance and influence that they have had or will have (according to calculations made on the same knowledge) on the company, and act accordingly (making organizational and decisional choice according to the rules/advices described above).

Watching this work step by step (just about the outside world) the leadership has to detect the environment (certainty, uncertainty, risky and ambiguous) putting together the knowledge about this topic and then to adapt his/her organization to its features (Bonifacio et al., 2015a).

We can therefore say that there is no one best way (organization or one best choice for the enterprise), the entrepreneur has to make assumptions about the environment, and his/her actions might change the situation so that another model might become viable (Bonifacio et al., 2015b).

Choosing the right hierarchies and his role

Once the entrepreneur, or whoever is appointed by him, has detected the environment, has to decide which kind of organization and hierarchy to adopt in his/her enterprise, and here, the role of the entrepreneur will be dependent on the decision taken.

We spoke before about the existing kind of hierarchies in the “out-side world” and how to choose that.

Anyway “out-side” world organizations hierarchies (functional, multidivisional, and matrix structure) always include a “boss”, a person in charge, that can be a president (chosen by entrepreneur) or the entrepreneur himself.

The Entrepreneur in an innovation-centered enterprise

An enterprise, once detected the environment, can do innovation transforming the environment from certain to strongly ambiguous (entering in the “inside” world that will be explained in the next chapters), shape it according to the entrepreneur worldview and freeze it (Bonifacio et al., 2015a).

However, in the majority of cases innovation is delegated at the lower level of hierarchy in fact unless there is a protection net for “mistakes”, the most rational behavior is to ask to those at the lower level to innovate (Bonifacio et al., 2015c).

Anyway, an entrepreneur in an innovation centered enterprise, for doing good and useful innovation should be able to be fast moving, willing to try many different strategies to achieve their goals of profits. Similarly, he/she should be flexible, willing to change quickly when they get new information (Tracy, 2005).

In conclusion, we can say that an innovative entrepreneur is someone who regularly asks provocative questions, observing the world like anthropologists, networking with diverse people to get new ideas, experimenting to figure out novel solutions, and connecting the typically unconnected insights to create disruptive new business ideas. By doing so, they add new value to our lives as they find new solutions to the problems we face. That is why our world needs more entrepreneurs who “act different” to “think different” so that in the end they can truly make a difference (Dyer et al., 2012).

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