

An Evaluation Approach of the Innovation Culture in a Chinese Multinational Company Located in Brazil

Romulo de S. F. Junior and Eliane Simões

Centro Estadual de Educação Tecnológica Paula Souza, São Paulo, Brazil

Email: romulo.fabricio@gmail.com, eliane@iqeduc.com.br

Abstract—Innovation is the differential sought by companies to survive in a globalized and increasingly competitive market. Studies show that the best way for a company to increase its innovative capability is not looking for its next great innovation, but designing a creative and innovative organizational environment that encourages its employees to become more inventive. Research conducted show which organizational culture factors are more likely to create a culture of innovation. The purpose of this paper is to study and define an approach to assess a culture of innovation in a Chinese multinational company located in Brazil. For that reason, a survey was applied for company managers in order to analyze factors that influence the culture of innovation taken from extant literature. The results showed the importance of some factors from organizational culture to improve the creativity and innovation performance, confirming previous studies about innovation culture.

Index Terms—organizational culture, culture of innovation, creativity, innovation

I. INTRODUCTION

Innovation is a primary factor to gain competitive advantage and ensure business survival in globalized and increasingly competitive markets [1], therefore this issue has received increasing attention from academy and practitioners who seek better and more effective strategies to innovate [2]. The ability to innovate is critical for firms to achieve a sustainable growth and have continued success [3]-[4]. It is hard to predict where innovation will be successful, however, the ability to innovate should be treated as a driver of growth and wealth creation [3].

Although it has given great attention to innovation, especially in the last 10 years, there is a lack of studies investigating the challenge experienced by companies to increase their innovative capacity [5]. One of the reasons that explain this gap is the difficult to measure and evaluate innovation within companies [6], precisely because innovation has a multidimensional character [5] and its performance is linked to technological, commercial, organizational and social uncertainties [7].

One attempt to measure or evaluate the innovative capacity in firms is working within the organizational

context through the correlation between organizational culture and innovation. Researchers have found significant evidence of the importance of organizational culture to achieve technological innovations [8], the results show that an organizational culture of innovation has the ability to transform industries and greatly enhance their performance [9]. Organizational culture is important because it is through it, for example, that employees develop their successful careers and define their personal aspirations [10]. A company with a good culture of innovation has more prone to innovation and is more open to accept new ideas [2]. On the other hand, if the company has a wrong culture, no matter the employees' efforts, few ideas will go forward. For instance, the case of Apple, after the departure of Steve Jobs the company faced problems even though the focus was innovation, one explanations for this is that their leaders were more focused on developing new great company innovation and put aside the groundwork to create and design a suitable environment to stimulate innovation [11].

The purpose of this article is to study and define an approach to assess a culture of innovation in a Chinese multinational company of consumer electronics products located in Brazil. For this it will be done a literature review on the topic with a focus to find the elements or factors that influence the innovative capacity of enterprises, from these elements will be prepared a questionnaire to be applied with some executives of this multinational to know their perception regarding the company's innovation culture.

The aim of this work is to contribute to the validation of some constructors found in previous research and understand the difficulties faced by a multinational company with Brazilian managers, but that has the headquarter in China, which is an emerging country that has been working to improve their innovation performance.

II. THE CULTURE OF INNOVATION

A culture of innovation is an environment where results is very important and whose values are linked to challenges, risk-taking and creativity. In order for this culture to be successful there needs to be a corporate management that encourages entrepreneurship through

creative attitudes and risk acceptance. It is in this scenario that the radical technological innovation is more favorable [8].

The culture of innovation should be defined in a multidimensional context which includes: the intention to innovate; the infrastructure to support innovation; market orientation; and operational level behavior context facing the market and customer value; and the environment to implement innovation [12] (Fig. 1). Those four items influence the culture of innovation and has the ability to improve the organization's results, they must value and encourage creativity, risk-taking, freedom and teamwork [12].

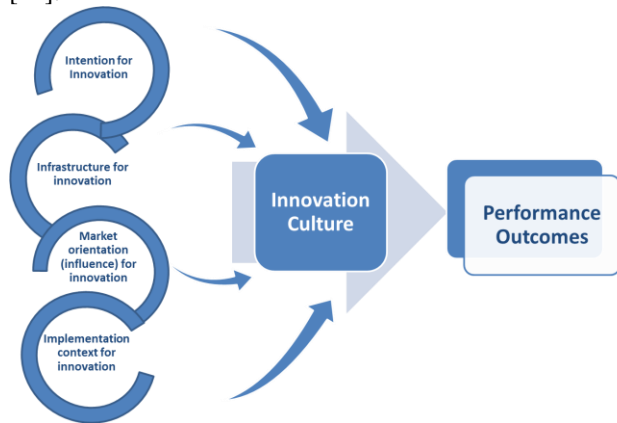


Figure 1. Innovation model of Dobni 2008

Innovation must be at the company's gene [10] and that starts by defining an innovation strategy, the company must share a common vision and guidelines in order to innovate [7]. An entrepreneurial attitude creates a high degree of innovation [2] and this direction will nourish their employees the need to take risks and act proactively. The mission has a positive relationship with the implementation of innovation [13].

Another important element in the culture of innovation is about leadership, it will stimulate innovation and support the purpose defined in the company's strategy. Values such as mistake tolerance, autonomy of employees, teamwork support and being open to changes should be encouraged in the organizational environment [7]. The leadership also aims to ensure that there is a minimal control of actions, maintaining alignment with the strategy, avoiding initiatives beyond the organization's capacity and unproductive debates [5].

The organizational learning culture is also critical of creativity and innovation, because that is what supports the experimentation [13]. Managers put emphasis on learning as a way to acquire knowledge and develop a knowledge management program within the organization [3]. Innovation is change and its driving force is the knowledge, only through the knowledge the employees will have the ability to think differently and create something new, hence the importance of the company to maintain an appropriate learning program.

To support innovation within the company, it is important to have a good information technology infrastructure with systems that assist collaboration and

processes that not only stimulate the generation of idea, but accompanying the way it will go.

The infrastructure must have not only tools to assist collaboration, but also adequate recruitment and selection systems to choose candidates that will support innovation [14]. Other researchers go further and advocate the need of an organizational structure that allow the employee to create, explore and experience, something like the 15% rule of 3M or the 80:20 Google, which offer 15% or 20% of the week time for employees work in different things from their normal work [7].

The process aims to systematize and regulate the use of the resource. This means that the routine makes possible innovation chain [5]. The process can also be translated as a way to capture, construct, evaluate and develop ideas [15].

And, finally, another factor raised by researchers is related to an external orientation of the operational level [12]. The idea behind this factor is to check whether the company generates and disseminates information about its customer and competitors, considering that it is essential to strengthen the firms' innovation system [16].

So strategy for innovation, leadership, learning, infrastructure, process and external orientation are factors in the literature that address culture of innovation. They are correlated to create a suitable environment to increase the innovative capacity of the company (Fig. 2). Those factors will be used as the basis for evaluating the culture of innovation of Chinese multinational company located in Brazil.



Figure 2. Factors that influence the culture of innovation.

III. METHOD

To carry out this work a literature review was conducted to check which elements researched by other authors influence the culture of innovation and are able to increase the capacity of companies to innovate. The elements were grouped into six factors, strategy, process, learning, leadership, infrastructure and external orientation. From those factors was created a questionnaire that was used in an open structured survey

with some company executives. From the qualitative analysis of the answers it was possible to evaluate the current stage of the innovation culture of Chinese multinational company located in Brazil.

IV. ANALYSIS AND DISCUSSION

The analyzed company has a peculiar characteristic, it is a Chinese multinational company located in Brazil, that is, two developing nations which seek to strengthen their national innovation systems. On the one hand, the subsidiary is located in Brazil, with the stigma that Brazilian companies are considered unlikely to innovate and have trouble managing technologies [5]. On the other hand, being a Chinese multinational company, the direction comes from China, a country in economic transition, now a market economy, but it faces some problems such as resource constraints due to regulatory framework and asymmetric information [3].

To assess the culture of innovation in this company, it was made a survey with some managers from engineering, human resources, information technology, logistics, customer service and top management. The factors analyzed were strategy, leadership, organizational learning, infrastructure, process and external orientation. Regarding the strategy, questions were asked to know whether innovation would be one of the company's values, if there is a long-term strategic planning focused on innovation and if the company has an innovation culture [10]-[7]-[13]. For the leadership factor, the objective was to understand whether the leaders of the company stimulate, influence and instigate their employees to drive innovation [7]-[5]-[14]. Organizational learning focused on whether there is a training and learning program to support innovation and with the goal to create valid knowledge to the company [13]-[3]. Regarding the process, executives were asked whether the company's processes were flexible and if there is a procedure of creation, construction, evaluation and development of ideas [5]. About infrastructure, it was observed if there is a good collaboration tools, and if there is a system of selection and recruitment to attract talent that support innovation [14], in addition to research sought to understand whether employees devoted time to try new things and personal projects [7]. And, finally, the last factor analyzed was the external orientation, whose questioning was wondering if the company was hearing its customers, using the feedback as a source of information to improve their products [16]. It is noteworthy that the first question of the interview was aimed to know the concept of innovation for the company's executives.

After reviewing the responses, it was observed that the company seeks innovation, especially those related to cost reduction. Some attempts have been reported to garner ideas for new projects through specific programs such as six sigma, the team of R&D in Brazil has initiatives to improve the flow of knowledge through partnership with universities and research institutes and the development of new technologies, leaders take initiatives with their teams for new ideas and work within

their departments to reduce costs. However, despite the reported initiatives, the innovative capacity of the company is low, precisely because its innovation model is unstructured, evidence shows that the company, although concerned with the subject, have difficulties in dealing with the subject and its attempts are isolated, short-term and discontinued. The following paragraphs show some characteristics that may explain this difficulty.

The company does not have a strategic plan, defining the guidelines, objectives and vision focused on innovation. Because of this, the leaders have difficult to transmit ahead the concept of innovation, as consequence employees become less engaged in the topic. Although there is intention and propensity to innovate, the agenda is still poor and this is felt by the institution. Employees are more focused on everyday activities and do not devote much time to think, experiment and seek new solutions. Senior management and CEOs can create and maintain a culture of innovation and it seems it is not happening in the Brazilian subsidiary [17]. There is little dedication to innovation at all levels, managers understand the importance, but do not give due attention.

As for the training and learning program, according to respondents, it exists, but is much less than expected. There is not enough budget and the management of knowledge is unstructured. Authors describe that organizational learning is essential, being a facilitator for creativity and innovation [13], so the company would need to invest more on the subject to create an enabling environment for innovation. With little generation and flow of knowledge, ideas and experimentation become isolated as a result of some proactive employees.

It is known that bureaucracy and formalized processes tend to decrease the interaction between employees [18], while flexible processes bring greater agility [19]. According to the interviewees, the current processes imprison the system and do not bring the flexibility and agility necessary for innovation. It was also observed that there is not a process to capture, build, evaluate and develop new ideas.

Finally, the interviews also make clear that the company is listening and maintaining a good relationship with its customers, specifically in relation to field issues, however it does not have a system capable of transforming such feedback into effective action to transform the products of the company.

V. RESULTS

Several researchers have devoted special attention to the culture of innovation in order to increase the innovative capacity of enterprises, it is clear from the literature analysis that companies should invest more time in creating an organizational environment conducive to innovation instead of searching for an innovation in itself. Factors such as strategy, leadership, infrastructure for innovation, organizational learning, process and external orientation have a direct and positive relationship with the culture of innovation, how to use them will determine if the firms has more or less likely to generate innovations, those factors are responsible for defining the

climate of the company. If the organization has values and a vision for innovation, has an infrastructure that encourages collaboration and selects employees that will support innovation, has an organizational learning environment and knowledge management, has flexible processes that successfully encourage the creation and capture of ideas and the customer is heard to turn the feedback in action for better products, for sure, the company will have more engaged employees and a greater chance of creating innovations necessary to improve its performance.

The analyzed company has a primary focus on compliance with the headquarter directions and these tasks are geared to produce and sell efficiently the products developed by R&D worldwide. Although local management understands the importance of innovation for survival and better performance of the company, it does not have a structured model of innovation, with only isolated initiatives that keep its innovative capacity lower than expected. To create a culture of innovation more appropriate, it would be necessary to invest more time in creating a plan using the listed factors in this research. Even if the decision of the worldwide group is maintaining a scale economy in Brazil, increasing its capacity for innovation can bring many benefits related to improving the efficiency of the production process, giving feedback to the R&D with important information from the local market, a new business model or opening a market where it does not exist now.

VI. CONCLUSION

The article studied and raised some factors that have a direct and positive relationship with the culture of innovation in order to validate them through a survey with executives of a Chinese multinational company located in Brazil. The results show that if the company does not have a planning to create a suitable climate for innovation, it will have difficulty to become creative and innovative. The interviews confirm the importance of the factors highlighted in this research and show that little attention given to them is related to a low culture of innovation. The result also reinforces previous studies that culture is a primary factor to generate innovation, possessing various elements that can stimulate or inhibit the tendency of the company to be innovative.

REFERENCES

- [1] R. Fzabricio Jr., E. Simões, and G. K. Akabane, "An initiative to implement open innovation in R&D department of a Chinese multinational company located in Brazil," *Journal of Advanced Management Science*, vol. 4, pp. 166–171, 2016.
- [2] C. F. Cheng, M. L. Chang, and C. S. Li, "Configural paths to successful product innovation," *Journal of Business Research*, vol. 66, no. 12, pp. 2561–2573, 2013.
- [3] J. Yang, "Innovation capability and corporate growth: An empirical investigation in China," *Journal of Engineering and Technology Management-JET-M*, vol. 29, no. 1, pp. 34–46, 2012.
- [4] M. Sajid, et al., "Role of innovation in the development of new products for improving organizational performance," *Journal of Advanced Management Science*, vol. 3, no. 3, pp. 261–264, 2015.
- [5] M. S. Nagano, J. P. Stefanovitz, and T. E. Vick, "Innovation management processes, their internal organizational elements and

contextual factors: An investigation in Brazil," *Journal of Engineering and Technology Management*, vol. 33, pp. 63–92, 2014.

- [6] A. Segarra-Blasco, J. Garcia-Quevedo, and M. Teruel-Carrizosa, "Barriers to innovation and public policy in Catalonia," *International Entrepreneurship and Management Journal*, vol. 4, no. 4, pp. 431–451, 2008.
- [7] J. A. Hall, "Organizational culture in knowledge creation, creativity and innovation: Towards the Freiraum model," *Journal of Information Science*, vol. 40, no. 2, pp. 154–166, 2013.
- [8] W. Ying and Z. Yang, "Study on the relationship of technological innovation and organizational culture," in *Proc. International Conference on Information Management, Innovation Management and Industrial Engineering*, vol. 6, pp. 292–295, 2013.
- [9] Z. Wei, X. Guopeng, and M. X. Yuan, "Innovation culture, transformational capability and transformational performance: an empirical study of SMEs in China," in *Proc. IEEE ISMOT*, 2012, pp. 51–55.
- [10] G. H. Gaynor, "Impact of organizational culture on innovation," *IEEE Engineering Management Review*, vol. 41, no. 2, pp. 5–7, 2013.
- [11] P. K. Ahmed, "Culture and climate for innovation," *European Journal of Innovation Management*, vol. 1, no. 1, pp. 30–43, 1998.
- [12] C. B. Dobni, "Measuring innovation culture in organizations: The development of a generalized innovation culture construct using exploratory factor analysis," *European Journal of Innovation Management*, vol. 11, no. 4, pp. 539–559, 2008.
- [13] M. S. Sharifirad and V. Ataei, "Organizational culture and innovation culture: Exploring the relationships between constructs," *Leadership & Organization Development Journal*, vol. 33, no. 5, pp. 494–517, 2012.
- [14] J. Rao and J. Weintraub, "How innovative is your culture?" *MITSloan Management Review*, pp. 20–23, 2013.
- [15] S. B. Von, "Leadership for innovation: What you can do to create a culture conducive to innovation," *Strategic Direction*, vol. 25, no. 6, pp. 13–15, 2009.
- [16] J. A. Siguaw, P. M. Simpson, and C. A. Enz, "Conceptualizing innovation orientation: A framework for study and integration of innovation research," *Journal of Product Innovation Management*, vol. 23, no. 6, pp. 556–574, 2006.
- [17] T. D. Hecht and N. J. Allen, "A longitudinal examination of the work-nonwork boundary strength construct," *Journal of Organizational Behavior*, vol. 30, pp. 839–862, 2009.
- [18] B. Felekoglu, A. M. Maier, and J. Moultrie, "Interactions in new product development: How the nature of the NPD process influences interaction between teams and management," *Journal of Engineering and Technology Management-JET-M*, vol. 30, no. 4, pp. 384–401, 2013.
- [19] C. Domprowski, et al. "Managing knowledge in times of organisational change and restructuring," *Knowledge and Process Management*, vol. 14, no. 3, pp. 190–202, 2007.



Romulo de S. F. Junior received the B.S. in Law School from Federal University of Amazonas in 2004 and B.S. in Data Processing from University of the State of Amazonas in 1999. He is Master Degree candidate in Management and Technology in Production Systems at Centro Estadual de Educação Tecnológica Paula Souza in São Paulo in 2014. He has been working with research and development of technological projects since 2000 in partnership with firms, Research Institutes and Universities. Mr. Romulo has an interest in the field of innovation technology, management and culture of innovation, agile project management and virtual teams.

Eliane A. Simões is a Civil Engineer, graduated from State University of Londrina in 1980, with a master degree in Transportation Engineering by Federal University of Rio de Janeiro in 1983, with a doctorate in Construction Management by State University of São Paulo in 1998 and post-doctorate in Distance Learning by University of São

Paulo in 2010. She is now a Professor at Centro Estadual de Educação Tecnológica Paula Souza, as a coordinator of the Master Degree Program in Production Engineering. She is also a Consultant on Management and Education Areas in many organizations in Brazil. The three last publications of Dr. Simões are: 1. Use of the SCOR Framework in service industries: an exploratory research. Georgia (USA): POMS Conference, 2014; 2. Gestão Sustentável do Trânsito em

Cidades Pequenas e Médias: Uma Abordagem para Cursos MBA/EaD, Rio Grande do Sul (Brazil): Revista Tear de Educação, Ciência e Tecnologia, 2014; 3. Preparo Técnico e Profissional em Ead para Gestão de Trânsito: Uma Análise a partir de programas apresentados na Internet. Rio de Janeiro: Revista EaD em Foco, 2013. Dr. Simões has interest in the field of Management and Innovation, Project Management, Education and Services Management.