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Operational excellence as a means to achieve an enduring capacity to change – revision and evolution of a conceptual model

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Abstract

The efforts to develop a visual framework that depicted the relationships between the concepts of operational excellence, organizational culture and organizational agility concluded with the development of an early conceptual model depicting each concept, their enablers, the links between them and their results. However, as research advanced and theory and discussion cumulated, doubts were generated over the capacity of the model to clearly depict the true nature of some of the relationships between concepts. At the same time, this model seemed to focus too much in each of the concepts and their components, neglecting other factors with possible influence in their relationships. In face of these limitations, a broad revision of the model was performed, with efforts to reinforce its accuracy. In this paper we present the revised version of the model, aiming to offer a broader perspective of the phenomena. In this sense, it keeps its focus on culture, excellence and agility and revises the links between them, but also considers other factors that can influence these relations and their results.

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1. Introduction

Quality tools have long been used as drivers of improvement and competitiveness. In the past 30 years, special attention has been given to the social and cultural side of organizations, a key move for the success of excellence programs and initiatives, fostering uniqueness and differentiation [1]. However, as the world watches the unfolding of true revolutions both at social and technological levels, existing approaches start to come short. Technology, globalization, and social and political change are threatening classic ways of working in industries and services alike. Industrial organizations, having a central role in the economic and social configuration of modern societies, are forced to deal with these changes at similar paces, as they are happening, under the risk of otherwise being left behind. And the most technical industries, with concepts such as industry 4.0 adding to the customer pressure for short lead time, high-quality products, need to be especially quick in reacting to survive. In face of this reality, quality tools and philosophies need to propose valid answers to these changes, in order to remain value adding.

Despite being undeniably able to obtain positive results, operational excellence initiatives are not always enough to ensure competitiveness over time. Many organizations that were branded as excellent have found themselves in difficult situations, sometimes even getting to the point of filing bankruptcy. Dominating a market by having the best products of their generations or outstanding customer service proved in many cases not to be good enough for guaranteeing an enduring capacity to strive in increasingly changing markets. Operational programs are often used to react to well-determined circumstances and to pursue a new desired state, but they do not have a clear focus on the development of organizational agility capabilities. Although "change" is in fact happening, and there is an improvement on business processes and their results, the emphasis often lies in meeting a pre-defined set of criteria, after which the change process will be given partial to definitive conclusion. Meeting such criteria will allow organizations to overcome several issues and shortcomings, and even provide answers to some of the demands that the business environment might have in a certain, at a well-defined time. However, it does not leave the company in a position where it can be considered agile, i.e., further reaction to change will be severely constrained in time and in range by the scope, vision and reach of the implemented operational excellence program, and its capacity to perceive the correct market opportunities and needs at a given moment.

This paper spawns from a research project aiming to understand the relations between organizational culture, operational excellence, and organizational agility, and to study the achievement of organizational agility as a natural element of a sustainable operational excellence approach based on a culture that as adopted the ability to change as part of its way of being. Before advancing to present our theory, we wished to have a visual tool that comprised the relationships between the concepts of culture, operational excellence and agility; and from there develop and expose the central ideas to be studied. The objective of this paper is thus to present a conceptual model that depicts these relations as they are currently presented in the literature and that later will be used to support the presentation of our research questions. This conceptual model aims to be easy to understand and as less prescriptive as possible, in order to allow its discussion in organizations regardless of their context, industry, size or location.

In the pursuit of these goals, an early version of the model was developed (Fig. 1), mainly based on a literature review that considered the fields of operational excellence, organizational culture and organizational agility. The focus of this review was in comprehending each concept and their respective elements or enablers, and find some evidence of the typical features and capabilities that are found in (or sought by) organizations that have reached a mature and successful level of engagement with these concepts. From that point, a set of theoretical links was proposed having as basis the wish to promote through culture and excellence the achievement of organizational agility, leveraging each concept towards the ability to adapt to highly volatile business environments.

However, as discussion moved from the foundations of each concept to the relations between them and the outside business environment, we felt that the model was too focused on the understanding of each concept individually and did not consider all the factors that could influence these relations. There were also doubts about the validity of the proposed links, and fears that the bridges being built between concepts could be either wrong or too short.

To face these concerns, we proceeded to critically assess the model, promoting a broad review of the current published knowledge comprising not only culture, excellence and agility but also strategy, leadership and other possible factors of influence.
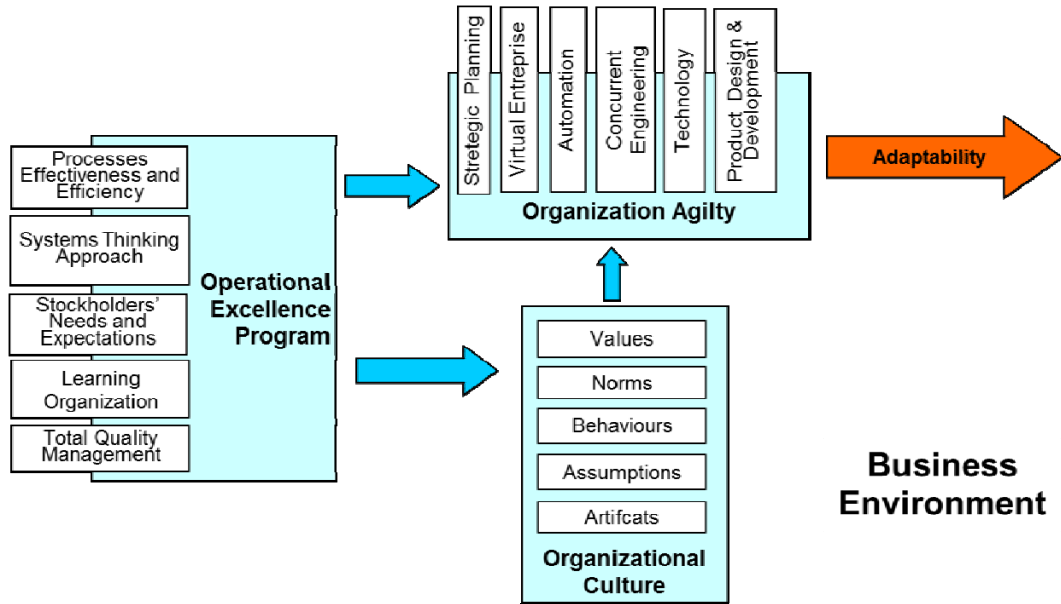
Fig. 1. First draft/ proposal of the conceptual model.

The literature review was promoted with less focus on the characteristics of each concept and more on how they could relate with each other and with the business environment, logically testing the proposed links, and further structuring the model in a solid base. At the same time, and aiming to keep a critical perspective ourselves, and in an effort to avoid the development of bias as the review process evolved, we presented the project and the model at different international conferences and meetings and in industrial organizations, gathering feedback and inputs from experts that helped us to continuously challenge our perspectives. Such inputs were a valuable help in sustaining our theory and in developing a new model that we believe to better fit the state of the art and to best depict the true nature of the phenomena under study.

The goal of this paper is thus to present a conceptual model that will later help us sustain and explain the full theory behind this research project. Section 2 presents a short literature review and the theory development that helped us review the model, a process that is outlined in section 3, and that culminates with the proposal of a new conceptual model. A reflection over this review process and the future work of this research project are addressed in Section 4.

2. Literature review

2.1. The influence of organizational culture in the deployment of excellence initiatives

There is enough evidence in literature of the relation between excellence models and quality, namely with the concept and frameworks of Total Quality Management (TQM) [2][3]. Such a relation is visible in the more than 100 national and supranational quality and excellence awards [4], many of which were tested against the core concepts and approaches of TQM programs with strong positive correlation [5]. Throughout the time, TQM programs proved to be valuable in leveraging business results and organizational performances, providing competitive advantages for companies that engaged in them [6]. Nevertheless, as more and more organizations started to implement TQM programs, criticism appeared in face of high failure rates and cultural rejection. Such failure was repeatedly blamed on the lack of adaptation of TQM tools to the cultural context of organizations, being considered as deeply prescriptive and mechanist tools with little search for context fit [7][8]. In face of this reality, the promoters of the main quality initiatives decided to review their approaches, giving more attention to the structural importance of

organizational cultures and making improvement approaches more context aware and adaptable. The word "excellence" started to dominate the lexicon of programs and awards previously named as "quality" [9]. This increased focus on a more descriptive and context concerned approach was based on the realization of deep influence that human and social factors – the culture of an organization – have in excellence approaches. The culture of an organization is a "set of shared assumptions that have been developed by a group over time as a positive response to problems" [10]. Culture orients and influences the way people work and relate with each other and with the surrounding environment [11], while reducing the perceived risk of failure and anxiety in face of new or critical situations [10]. In this sense, the successful implementation of an excellence program cannot be dissociated from it, under the risk of being nothing but an unstructured and unsustainable set of tools of limited use. In face of its importance, this relation between culture and operational excellence programs was a central one on the first model that was designed in the scope of this project. However, an import axis of this relationship was missing: the strategy making process, which needs to be carefully addressed as strategic choices are one of the most obvious ways how an operational excellence program actually deploys its principles and tries to promote changes. Schein [12] sets strategies as an essential vehicle for the setting of an organizational culture, viewing them as the operational output of a vision promoted and shared by the leadership or top management in an organization. Strategy formation is a collective process that is based on the beliefs and understandings shared by all members of an organization. Strategy formation will be rooted in collective and conscious intentions that clearly transmit these beliefs into actions. The deep influence of the organizational culture and the challenges of changing it will normally have the effect of limiting also the reach of strategic changes [13]. This means that the external factors will have an influence in the strategies of an organization, but that they will not create change *per se*. Instead, they will be perceived by the members of an organization, which will filter and process them in accordance with their cultural paradigm, "translating" them and framing them in the current cultural context and perceptions. Moreover, the fact that the culture of an organization evolves over time and is reinforced by the success of previous actions will also have a deep influence in strategy development, as it will have defined a set of actions that will be traditionally favored as answers to external signals. The cultural paradigm cannot be separated from the actions of an organization, and its influence grows stronger in direct proportionality with the strength of the cultural context under which it is established. In such cases, development of a strategy will become more and more dependent upon the existing culture, leading even to the risk of strategic inertia and resistance to strategic change [14]. Culture will lead an organization to stick with the beliefs they have used in the past and to find answers within their context, being able, in extreme cases, to "blind" managers and strategy makers to the changing external environment [15]. The deployment of an excellence program is dependent on strategic choices made in its scope. If they are not in line with the existing culture, it will be very difficult for them to be effectively followed, limiting their reach and jeopardizing its results.

2.2. Managing change vs promoting agility

The perspective on the link between organizational culture and excellence programs has emphasized the need of cultural fit for the successful implementation and deployment of excellence-bound strategies, adapting the program prior to its implementation [16]. At the same time, the use of excellence programs and organizational learning capabilities has been proven to provide some room for (limited) cultural change [17]. But the fact is that neither of these approaches is enough to promote in organizations sustainable operational excellence, i.e., an engagement with operational excellence initiatives and approaches that remain valid throughout time and give an organization an enduring capacity to change and adapt to the business environments. Although there are clearly successful examples of the implementation of excellence programs and in their use in promoting change and overcoming challenges, there are very few examples of organizations that were able to use excellence as a means to become more flexible and adaptable over a long period of time, being able to continuously respond to sudden changes in the marketplace. If excellence programs are to be seen in a perspective of quality development and performance improvement, then they should be able to help organizations transform themselves and become more easily adaptable, being able to recognize changes in the external environments and to do the necessary shift to answer these changes by themselves.

The recognition of the vital importance of adapting in order to keep competitive in face of sudden and unexpected business environment alterations sets the ground for the pursuit of organizational agility [18]. Factors for

change can come from the marketplace, be promoted by a competitor or by new customer requirements, be a result of a new technology or the outcome of a series of social transformations. As these changes become more common, agility gains importance as a survival kit for turbulent markets [19]. But organizational agility is more than a tool of resilience and subsistence in unpredictable environments. It is also a way of being more competitive; it is about cooperating and improving partners, about managing change and using people and information as a competitive leverage [20]. Agility can help companies to prosper in different ways: improving process and product development times, streamlining project management, or providing customers with customized products or services. Although efficiency and discipline are a demand in most technical industries, agility must not be a threat to those methods: developing agile capabilities means balancing more rigid approaches with improvisation capabilities that foster competitiveness. Being able to innovate and to creatively produce responses to solve different challenges is critical to success in a scenario of rapidly changing business environments [21]. At the same time, agility is also context dependent, adapting to the specific differences, strengths and weaknesses of organizations in what regards their customers, competitors, markets and products [22]. Since implementing and creating a true agile organization will demand large changes in the organization, it is necessary not only to be conscious about the implications in the structure and culture of the company, but also to consider the impact over the ones of it partners with, and, consequently, on the market itself. Every company must thus be able to identify and foster change in its culture, business practices and technology to become agile [23].

3. Model Revision

3.1. Model critique

The pursuit of a high quality and superior performance drives the efforts of those companies that wish to truly develop an organization-wide cultural orientation towards sustainable excellence. The implementation of operational excellence programs, while showing successful results in achieving organizational improvement, has proven to not be enough to ensure long term success. Excellent companies have fallen before, losing sometimes outstanding market shares and profit margins in a matter of years as they showed not to be able to adapt – not only strategically and operationally, but also culturally – to the new market requirements. Such companies were able to achieve great accomplishments in stable, predictable markets. But globalization, the democratization of technology and higher level of demands from clients worldwide created shock waves that many organizations are not able to absorb. The complex business environments that are now the rule, creating circumstances where change is always present, and where the capacity to adapt becomes vital. If explored in a limited way, operational excellence programs will not be able to help organizations develop these capabilities and to promote an enduring capacity to change, nor to develop agile capabilities that are able to deal with sudden shifts in the external business environments. We have discussed how there must be enough focus on the need to find cultural fit for organizational excellence programs to be implemented successfully [16], and provide the ability of organizational excellence programs to promote organizational learning that orients a culture towards the criteria of a determined excellence program [17]. But there is almost no evidence of the ability of excellence programs to help organizations becoming operationally excellent in a sustainable way, i.e., in embracing change as part of their *modus operandi* and in developing agile capabilities to better do react to these changes and consequently stay competitive in the long term.

It is based in this gap that the first version of the model, presented in section 1, was developed, wishing to understand how to create the necessary capacities to promote agility in organizations, while making it a natural outcome of a long-term operational excellence oriented culture. However, as the process advanced and theory and discussion cumulated, doubts were generated over the capacity of the model to clearly depict the true nature of the relationship between concepts, and such doubts made us feel renitent to proceed with our research without first promoting a broad revision to the model. We started this revision by addressing the culture of an organization and the influence it has over the implementation of excellence programs. In the first version of the model we had proposed a direct link between operational excellence programs and organizational agility, in parallel with another path where this relationship was to be mediated by the culture of an organization. This meant that two possible ways of achieving agility were considered: one through the simple implementation of an excellence program, and its use

to change strategies and promote enablers of organizational agility; and one which considered that the excellence initiatives would need to go through a cultural filter before being able to efficiently promote the management of strategic change and the development of agile capabilities. The strong cultural bond that was considered in most of the literature made us doubt about the real possibility of considering an independent path towards the development of organizational agility where the tools, strategies and daily actions used to promote it were not influenced by the prevailing cultural paradigm. Although literature regarded this influence in a very strong way, we wanted to shift from its main focus on the perspective of cultural fit for the implementation or the achievement of a better performance against excellence programs to the influence of the culture in any practical outcome of the efforts made in its scope. In this sense, we turned into the considerations that some of the major excellence programs made on this relationship. The Shingo Institute [24] presents a clear answer to this point, referring that operational excellence programs are not self-implemented solutions that run or manage change processes by themselves, but rather tools and models that are used by the people within an organization, and whose actions and outcomes will accordingly be highly impacted by the established organizational culture. Also the European Foundation for Quality Management [25] considers, regarding concepts and practices of excellence, that "maximum benefit is achieved when an organization can integrate them all into its culture". If the focus is put mainly in finding ground for mutual adaptation before implementation, and then cultural integration is forgotten as new strategies are outlined, any results achieved from this relationship will be severely limited. In order to promote long lasting change, it is necessary to incorporate the principles of operational excellence into the culture of organizations, creating a resilient culture that fosters stakeholder and market focus, continuous improvement and quality development and that embeds these principles and philosophies into its values and ways of working. If organizations are able to frame this search for quality and improvement into their cultural framework, all aspects of their work will be influenced by these principles, and organizations will have better capacities to answer to sudden market shifts, adapting to changes and even using them as opportunities. It is in this sense that the concept of organizational agility comes up. Accordingly, the direct link between operational excellence and organizational agility must be seen as poorly sustainable, and maybe a wrongful example on the tentative to install excellence strategies without considering the importance of cultural integration, one that will lead to severely constrained results that do not allow for the full potential of excellence or agility to be released.

At the same time, we felt it was necessary to consider the importance of strategy in influencing and developing an organizational culture. As presented in the literature review, there are very strong links in the relationship between culture and excellence, and considerable discussion has been made in this regard. But it is at the strategy formation and deployment level that the topic gains importance in our project: strategies are an essential vehicle for the setting of an organizational culture, either in the strategy formation in a new organizational unit or upon the development of a new vision being promoted by its leadership – such as is the case of the engagement with an operational excellence program. Strategies are formed as new values espoused by the leadership and settle as a routine once they are perceived as successful ways of dealing with problems. If they prove to work throughout time, then they will be increasingly seen as the correct way to act and to address a problem, starting to be repeated routinely and even taught to new members as the expected pattern of action. In a perspective of continuous improvement, it is expected that an operational excellence initiative promotes some changes which relate to strategy: on the one side the strategies will incrementally add to the culture; on the other their design and outlining will have to continuously improve and adapt to the external environment in which the organization operates. In this sense, it is necessary to consider a cyclical nature to the relation between the organizational culture and strategy as the deployment agent of excellence initiatives, and not to assume that there is only a one way relationship of influence between excellence programs and the organizational culture.

Finally, it is also important to assess the cause-effect relation between operational excellence and organizational agility in order to determine if there is or not a direct link between the capabilities and enablers that support organizational agility and the excellence enablers and dimensions that where developed though the implementation of operational excellence initiatives. Only this way we can prove that there is a direct relationship between excellence and the development of an agile organization, one where the development of agile enablers are a result of well-determined actions that are based on the enablers and capabilities of an excellence program.

3.2. Proposing an updated version of the model

Feeling that the initially proposed model did not quite represent the multiple interferences in the relationships between organizational culture, operational excellence and organizational agility, a critical revision was performed. While the literature review in chapter 2 provides some insights on the multiple sources that can influence and disrupt this relation, in the section above we considered closely the theory that eventually helped us close those gaps and present a stronger, more accurate model. In this sense, a few changes needed to be made to the model as a result of this revision, as there was a need to consider: (1) the indivisible relationship between culture and excellence; (2) the influence of culture on strategy formation and the influence of strategies in the evolution of culture; (3) the cyclical dynamics of the relationships between excellence, culture and strategy; and (4) the cause effect relations between the implementation of excellence enablers and the development of agility enablers and capabilities. Although presenting a new version of the model (Fig. 2), we maintain the objective of creating a visual tool that helps us in understanding the nature of the relationships between the concepts of operational excellence, organizational culture, and organizational agility – as this is the core phenomena that we wish to study as we develop our research project. In this sense, the new version of the model still depicts in a clear way these relations, but, in relation to the first version, it considers the importance of other factors such as leadership or strategy deployment and the influence they have in the links between concepts.
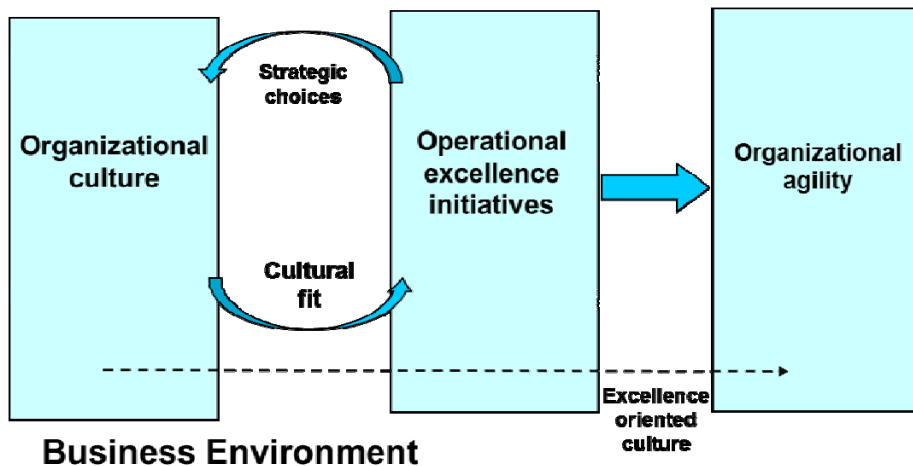

Fig. 2. Conceptual Model after revision.

4. Conclusions and future work

Developing or revising a conceptual model deals, amongst other challenges, with the need to see the broader picture in what concerns the many sources and factors that influence a determined phenomenon. However, at the same time it is also essential in these cases to draw the borders of the phenomena under study, keeping focus on the central concepts to be studied, and not allowing for the scope of the project to grow unlimited. The revision of this model dealt with both, allowing for a more comprehensive perspective on the relationship between excellence, culture and agility by considering factors such as strategy and leadership - but at the same time keeping those factors within a limited perspective. In this sense, it is important to clarify that at no level of this project it is desired to study how each strategy is made, or to evaluate it; neither it is to evaluate the leadership and management styles that are exerted by the people that design and deploy them. Instead, we simply wish to consider the effect that such factors can have over the relationship between the concepts of operational excellence, culture and agility.

Concerning present and future work, the theory development and the research questions of the research project are to be presented, with the help of this conceptual model. Once the project is outlined, and the research model is ready, it will also be necessary to provide practical evidence of the relations and effects that are postulated in our

theory. A set of case studies is planned, where through the analysis of operational excellence initiatives, assessment of the cultural orientation towards excellence and the identification of agile capabilities and enablers we wish to confirm that culturally sustained excellence programs will create a basis for the development of agile enablers and capabilities as a natural answer to changing business environments. In this sense, and in order to gather data from different locations, national culture and legislations, and industry sectors, at least 6 case studies will be conducted for the duration of this project, to be performed in organizations operating within technical industries, both in Europe and in the United States.

Acknowledgements

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