

How innovation climate drives management styles in each stage of the organization lifecycle

The human dimension at recruitment process

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Abstract

Purpose – Organizations that offer services based on knowledge and innovation consider their recruitment process as strategic. The purpose of this paper is to consider that organizational lifecycle is related with the management styles through innovation climate and human dimension of recruitment.

Design/methodology/approach – The authors utilized two methods proposed by Adizes (1976, 1979, 2004). The first one is an inductive, exploratory method with a quantitative approach. The second one utilizes a qualitative approach through semi-structured interviews. The quantitative approach was performed with a questionnaire via internet. The target was executive managers from organizations with more than ten employees, which are offering professional, scientific and technical services. The authors obtained 170 responses.

Findings – Results show that the majority of organizations balance open innovation and control, trending to the first one. During the first stages of the organizational lifecycle, decision-making principally relays on the founder's open innovation strategies, whereas in the last stages administrative-based control is predominant.

Research limitations/implications – The authors must highlight that this study has been performed for the case of services companies placed only in Mexico. Then, the extrapolation and generalization of results should be dealt carefully.

Practical implications – The authors consider the questionnaire very useful for the introduction of open innovation strategies for human resources managers, since it takes into account organizational lifecycle in their human dimension of recruitment processes, it helps to design training and retention programs for employees, and avoids premature aging of the company.

Social implications – Given that today, knowledge management and innovation have become strategic assets of companies, it is necessary a change of mentality in many organizations that facilitates a new perception on the development of innovation. This will only be possible with the firm support of the management of the company and the involvement of all employees in this new task.

Originality/value – Several studies analyze management styles in each stage of organization lifecycle, although they do not link the obtained information to open innovation and human dimension of the recruitment process. The authors work applies the questionnaire of Adizes (1976, 1979, 2004), which relates the organizational life cycle and the management style and discloses the proper management styles with recruiting, training and retention programs to keep flexibility above control to nurture open innovation.

Keywords Management styles, Innovation climate, Human dimension, Organizational lifecycle, Recruitment process

Paper type Research paper



Introduction

Drucker (1955) analyzed the problems that managers had regarding technological development, long-term decision-making, and the balance between innovation and stability. Those problems are still occurring with greater intensity and impact on organizations that offer professional, scientific and technical services, since these services demand specialized knowledge and open innovation. Thus, decision-making in the human resources recruitment process, training and retention is a key strategic issue for organizations that generate knowledge and new innovations.

Even though several studies review the management styles in each stage of organizational development and their relation with open innovation (Del Giudice and Maggioni, 2014; Muzamil, 2016; Khalili, 2016), the information they provide has not been related to the general human dimension of the recruitment process yet, particularly in the case of top management positions. Furthermore, more recently, other studies review the value generation of open innovation (Vrontis *et al.*, 2017; Santoro *et al.*, 2017; Del Giudice *et al.*, 2017; Meissner and Carayannis, 2017) but they do not link open innovation with managerial styles.

Given that innovation is always generated and developed by people who combine knowledge and technologies (Carayannis and Meissner, 2017), as companies achieve greater technological development, it is possible to use tools that facilitate the decision-making of managers. Our paper intends to advance in this line, introducing the following two research questions:

- RQ1. How management style drives innovation climate in each stage of the organization lifecycle?
- RQ2. What is the role of the human dimension at recruitment processes in the different organization lifecycle?

Through the answers to these questions, we expect to facilitate the decision-making in the personnel recruitment process, to those human resources managers in services companies.

The methodology used in our research utilizes two different methods. These methods seek to have a statistically tested tool to connect executives' management styles with the corporate lifecycles stages proposed by Adizes. The first is an exploratory method with a quantitative approach and the second utilizes a qualitative approach through semi-structured interviews. The target population is composed of executives from companies offering professional, scientific and technical services in Mexico. We have made survey/interview per company. The size of the target population was 1,415 and 170 surveys were collected, achieving a 95% confidence with an error estimation of 7 percent.

The findings include that 75 percent of the organizations have precise and clear indications on decision-making, with internal rules on what it is allowed or forbidden. These controls sound like they inhibit open innovation, but are aimed only at operational and functional activities, since other finding showed that 76.5 percent of these companies take risks and tend to flexibility which enhances open innovation. Other results showed that 91.2 percent of the companies keep growth expectations and 38 percent of the companies have the goal of penetrating new markets or offering new products in those markets which imply innovation and reshaping strategies.

With this tool companies not only may find their predominant management styles according to their organizational lifecycle stages but are able to design executive recruiting, training and retention programs accordingly.

Our work has been structured in the following sections: first, the theoretical framework on which our research is based is developed and the Adizes model is described, the model used in our study. Subsequently, the methodology used, including sample information

and variables, is described. The results of the empirical research are then analyzed. Finally, we present the conclusions and implications of the study, along with the limitations of the research.

Theoretical framework

A large number of works have depicted the essential traits that the managers of organizations must have. In the 1950s, Drucker (1955) asserted that company managers should consider three elements in pursuing competitiveness: technological development, long-term decision-making, and the balance between open innovation and stability. Equally, he pointed out that automation and process integration, and long-term decision-making demand stability at the organizational structure. Within this context, open innovation is required to change that structure and take advantage of the technological development. In this way, technology increasingly appears as a source of competitive and sustainable advantage. However, the determinant of its effectiveness is the quality and quantity of the innovation developed by the organization (Carayannis and Campbell, 2011).

The prevalent management style varies based on the combination of the existing innovation and stability.

Adizes (1976) proposed four management styles, each one requires a different level of innovation: the producer, the administrator, the entrepreneur, and the integrator. The producer seeks short-term effectiveness in the organization and demands innovation. The administrator is focused on organizational efficiency and prefers stability. The entrepreneur acts proactively to position its organization and solve future needs, and requests higher level of open innovation. Lastly, the integrator develops an interdependency and affinity culture, building a unique corporate culture for the organization, and prefers stability.

Likewise, Adizes (1976) points out that entrepreneurial style visualizes future needs and, when an organization starts, producer style is commonly utilized. Afterwards, when the company grows, the number of employees and their interdependence increase, and the administrator and integrator styles are predominant. Considering this, Adizes (1976) suggested a relationship between different management styles and different stages in the lifecycle of the organizations.

During the last years, technological development and open innovation has significantly modified the business ecosystem, proposing new job positions and businesses whose products or services are based on knowledge (Drucker, 1993; Santoro *et al.*, 2017).

The new innovation processes, made up of increasingly complex processes, force us to reinvent modes and means of production, in the context of the knowledge society (Carayannis and Campbell, 2011; Del Giudice *et al.*, 2012; Santoro *et al.*, 2017). For this reason, we can affirm that today innovation is absolutely necessary not only to progress, but even for the mere survival of organizations (Carayannis and Meissner, 2017). The management of the organization must establish and maintain a culture that supports innovation and apply tools that facilitate its development. Companies often use the Open Innovation model, introduced by Chesbrough (2006). "The notion of 'open innovation' aims to capture the combined effects of the most important of these changes: more distributed, multidisciplinary, trans-border, cross-institutional and inter-temporal innovation processes. Reinforcing transformations that make open innovation to a new paradigm" (Carayannis and Meissner, 2017, p. 237).

According to the open innovation paradigm, much useful knowledge to develop new products and services is outside the boundaries of the company (Gassmann and Enkel, 2004). Therefore, companies need to collaborate with other players (customers, suppliers, competitors and financial entities) to improve their innovation capacity and the performance of the company. These collaborations help companies to access ideas, knowledge, skills and technologies from their environment (Vrontis *et al.*, 2017).

Thus, the emerging “open innovation paradigm” aims to generate and efficiently use the internal and external knowledge necessary to meet needs and solve known or unknown problems (Del Giudice *et al.*, 2017). It aims to achieve these objectives through the use of strategic management tools that link technology and innovation (Caetano and Amaral, 2011).

Stiglitz (2003) states that knowledge economy implies a change from goods production to ideas production. Teece (1998) and Del Giudice *et al.* (2017) highlight the value of knowledge as an intangible asset. Grant (1996) and Gorman (2002) argue that knowledge is essential to generate competitive advantage. Lara *et al.* (2012) highlight how knowledge management could improve organizational results in knowledge-intensive business services. Darroch (2005) and Santoro *et al.* (2017) consider that the identification and use of knowledge fosters the capacity for innovation of a company. Carayannis and Campbell (2011) emphasize the creation of mutually complementary innovation networks that reinforce knowledge clusters, which facilitate the development of “creative knowledge environments.”

Innovation is the combination of knowledge and technologies that must be developed and generated by people, which highlights the importance of the human factor in the innovation process and the strategic importance for organizations of the recruitment, training and retention process of human resources. Therefore, as people with knowledge, human resources are the most valuable asset for any type of innovation activity (Shipton *et al.*, 2005; Carayannis and Meissner, 2017).

When companies develop innovation activities, such as introducing new products, new processes and/or new practices, they need innovative and creative employees who are flexible, risk-taking and tolerant of uncertainty and ambiguity. For this reason, the implementation of adequate recruitment and selection processes is essential (Jiménez-Jiménez and Sanz-Valle, 2005; Chen and Huang, 2007).

Ling and Nasurdin (2010) affirm that the use of effective personnel selection mechanisms facilitates the recruitment of talented, creative and motivated people with the capacity to develop new ideas and implement changes in the activities of the organization, which will contribute to open innovation.

Also, Shipton *et al.* (2005) point out that recruitment exercises using psychometric testing and job sampling activities are likely to ensure that employees have the appropriate skills and knowledge to foster creativity.

Due to the increasingly faster technological developments, some companies have specialized and some internally provided functions have been outsourced. Thus, during the last years, companies specialized in knowledge generation emerged offering their professional services to other companies.

Outsourcing services considerably rose in the last two decades on account of the following reasons (Cooke *et al.*, 2005; Salanță *et al.*, 2011): a greater focus on company essential functions, the appearance of structures that transform fixed costs into variable costs, the increasing productivity and competitiveness, a broader access to external skills and competences, sharing risks, improved quality, and better access to new infrastructures and technologies.

Long-term decision-making, as well as the balance between flexibility and stability, happens faster nowadays due to the rhythm of technological advances. The case of companies that generate knowledge adds greater intensity to this process (Santoro *et al.*, 2017). Besides, in these companies, management style usually does not take into account the development stage of the company (Čihovská and Hvizdová, 2011).

Hence, it is necessary for this kind of companies to know in which stage of their corporate lifecycle they are, and the appropriate management style to it.

At each stage of the life cycle, organizations often have different objectives: survival, growth, development, specialization, internationalization, etc. Depending on these objectives the company will need to hire employees with particular skills. These objectives can be

determined by the environment, the technology, the competitors, the economic situation of the country in which it operates or the perceptions of the decision makers.

In the early stages, a company is likely to need employees who can take risks (Milliman *et al.*, 1991). As companies grow and grow in size and complexity, they look for efficiency in production. Managers face new challenges and require more sophisticated skills and competencies. Generally, the growth of the company entails greater delegation in decision making.

In the stage of maturity, companies have a high need for measurement and control of costs. Subsequently, the company will seek flexibility and adaptation to the environment.

Every organization needs people who have the skills to solve new challenges and succeed in a competitive environment (Phelps *et al.*, 2007). The company must be able at every stage to attract and retain those who bring value (Jackson *et al.*, 1991).

Since the 1950s, a large number of works have analyzed the characteristics that lead to success or to failure in each one of the stages of the lifecycle of the companies. Thus, Penrose (1952) wrote on existing analogies between natural science and economic phenomena, when he links biological lifecycle to firms as they are born, grow and disappear.

Quinn and Cameron (1983) compared eight lifecycle models of companies' development to organizational effectiveness. They included the researches of Greiner (1972), who broke down development into five stages in which an administrative crises ended each period of growth, and the researches of Kimberly (1979), who performed a longitudinal study on start and development of innovative organizations, where he highlights that, paradoxically, some features that help to succeed at the beginning are not compatible in the long term. The Quinn and Cameron (1983) models suggest similar patterns for each stage in the development cycle.

Jayaraman *et al.* (2000) analyzed 94 companies, linking management style and share value, and they showed that there was not any difference in performance regarding on who was managing the company, the founder or an executive.

Hill *et al.* (2002) analyzed eight SMBs companies, establishing a relationship between stages in development of companies and changes in the management style.

Lester *et al.* (2003) proposed a five stages model: existence, survival, succeed, renovation, and decline. They related them to performance and competitive strategy. These authors asserted that the knowledge of the current position of an organization, or the stage where it is, help executives to understand the relationships between the lifecycle of the companies' development, the competitive strategy and performance.

Rutherford *et al.* (2003) examined a sample of SMBs, where the stage in the lifecycle is not related to their age but to their growth pace.

Franklin de Abreu and Márcio de Castro (2006) affirm that in the first stages of the organizational life, the company does not know the external influences that difficult it's decision-making. As the company matures, it enhances its knowledge and makes better decisions.

Vaseghi and Vaseghi (2011) point out the kind of decisions managers should make varies according to the development stage in the lifecycle of the organization, and, consequently, executives' management style must be related to the stage of the organization.

Finally, we should note that Phelps *et al.* (2007) completed a literature review on models of the lifecycle of organizational development. In particular, they reviewed 33 models. In total, 27 of them break down development in five stages or less, whereas two models establish seven stages, and the model proposed by Adizes describes the cycle with ten stages. This model that Adizes offered is the one we use in our work.

The Adizes model

Adizes (2004a) asserts that behavioral patterns of each stage of the lifecycle of the organizations are different, and the transition from one to another causes regular problems

that can be turned into opportunities. But if these problems persist, they may become abnormal and pathological. Likewise, he affirms that regular problems cannot be avoided, but they can be forecasted and the organization may learn from them, and thus derives into open innovation. Then, he suggests four functional roles so as to make any company really effective and efficient: produce, administrate, innovate and integrate. Besides, he highlights that a confidence and respect culture is imperative to facilitate communication within the firm. Finally, Adizes (2004b) suggests that problems can be foreseen, since they appear following recognizable patterns and common causes. The organization must learn to institutionalize leadership and focus on his core without losing its entrepreneurial and innovative spirit.

Considering what has been previously stated, it can be observed that Adizes model could be the most adequate one to relate the company lifecycle to the leadership styles.

Numerous researches (Bull *et al.*, 2008; Nazemi and Bagheri, 2012; De Carli *et al.*, 2014; Illés *et al.*, 2015; Rahimi and Fallah, 2015; Kermani *et al.*, 2016; Hernández von Wobeser, 2016) have applied the model proposed by Adizes, and utilized the questionnaire, which will be the measuring tool in our work.

Nutt (2004) points out that in troubled times, while some companies have headcount cuts, some other companies transform, taking advantage of new opportunities, as the Adizes model denotes.

Kornor and Nordvik (2004) affirm that effectiveness in leadership can be predicted due to behaviors: results orientation and relationship orientation. They recognize as well that the Adizes proposal of differentiating four roles helps to discern the best leadership style for each organizational stage.

Frielinghaus *et al.* (2005) performed a study in which they connected capital structure of organizations and their stage within their lifecycle, and they found a relationship statistically significant: companies have more debt when they are in their first and last stages, and less debt at their prime stage. This research suggests the use of the Adizes model, in order to show companies that they might change their financial structure as they move to a new stage in the lifecycle.

Boeker and Wiltbank (2005) coincide with Adizes when he state that the growth of the organizations require management capabilities which are different from those needed to start up a business, and they point out that this change is larger if the company is growing rapidly.

Rutherford and Buller (2007) studied 11 companies and agree with Adizes in stating that all of them have problems in common that could be anticipated.

Bull *et al.* (2008) analyzed the development of three social firms and concluded that the transition from one stage to other occurs similarly in the three of them. Therefore, they stated that the Adizes model is useful to analyze the development of this kind of companies.

Shetach (2010) considers that the use of the Adizes model facilitates organizational change, innovation, the project achievement and the transition from one development stage to other.

From Adizes model, Nassif *et al.* (2010) developed a model that shows the importance of cognitive and affective aspects of entrepreneur in decision-making, and how they change in the first stages of the lifecycle of the organizations.

Providing what has been previously exposed, we may conclude that Adizes model relates management roles to the stages in the lifecycle of organizations, and describes the behavior that the manager or the leader of the firm should pursuit in each stage.

Adizes model studies the degree of participation of the four management styles that he proposes in each one of the ten stages, which allows to analyze the complexity in each stage of the lifecycle of the organizational development. Problems and typical patterns can be identified in each one of them as the organization grows and the relationship between flexibility and stability changes.

This relationship of management styles with different stages in the development of organizations lifecycle allows identifying which management style should prevail in each stage, as well as the more convenient combination of management styles they need.

Adizes (1979) elaborated an organizational development lifecycle, with the aim of describing organizational styles, helping to determine in which stage the company is, and providing the next steps to reach the optimal one, the prime stage. With that purpose, he proposed a ten stage model (Figure 1).

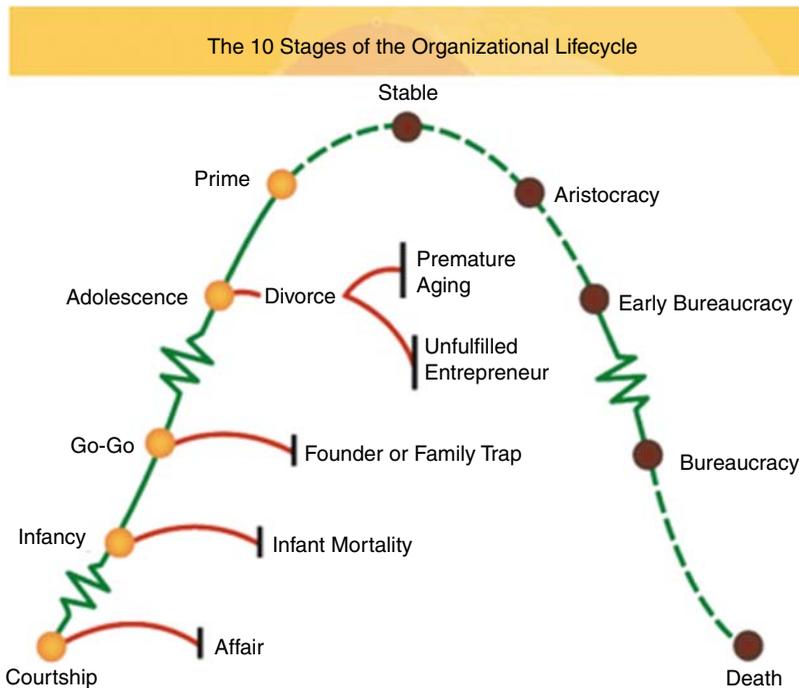
Adizes points out that each stage does not depend on the age, sales, assets or the number of employees, but on the relationship between the innovation and the management control. The optimal stage is called "Prime," where the companies achieve the balance between two elements.

The questionnaire developed by the Adizes Institute asks deficiencies or common problems in each stage, and evaluates the relationship between open innovation and control in order to know in which stage of the corporate lifecycle the company is. The questionnaire is organized in two sections. The first one has 11 nominal questions and the second one has 30 dichotomous questions.

Methodology

The general objective of this work is to provide the human resources managers of the companies with a statistically validated tool to help them designing training, retention, and recruiting programs for executives, taking into account the stage in the corporate lifecycle and the management style.

The specific objectives are, in turn, the following: to know the usefulness of the Adizes questionnaire, to relate management styles to the stage of the corporate lifecycle, to place the



Source: Available at: <http://adizes.lv/about-adizes/adizes-lectures/>

Figure 1.
Adizes organizational
lifecycle

companies of our research in the different stages of their corporate lifecycle and to identify the management styles that prevail in those firms.

With the aim of having a statistically tested tool so as to allow us to connect executives' management style and the corporate lifecycle stages, in our investigation we utilized the questionnaire "The Adizes Lifecycle Assessment Survey™" questionnaire, designed by the Adizes Institute. This questionnaire has been improved since 1979, it is usually employed in consulting services and it is available via internet.

The Adizes Institute diagnosis delivers two graphics: one showing the stage of the corporate lifecycle for each organization, and other presenting the degree of accuracy of that diagnosis. If the responses are inconsistent, it sends a message saying that, with the provided information, it is not possible to perform a diagnosis of the stage of the corporate lifecycle.

The Adizes Lifecycle Assessment Survey has been used in several studies relating managing styles in different organizational lifecycle stages (Bull *et al.*, 2008; Nazemi and Bagheri, 2012; De Carli *et al.*, 2014; Illés *et al.*, 2015; Rahimi and Fallah, 2015; Kermani *et al.*, 2016; Hernández von Wobeser, 2016).

Bull *et al.* (2008) used the Adizes model to investigate the organizational development of three small- and medium-sized social enterprises. This work highlights the critical stages of development that have led to change, growth and success for these enterprises.

Nazemi and Bagheri (2012) used it to justify the implementation of information systems and information technology in the early stages of an organization and to ensure alignment and collaboration in the following stages.

De Carli *et al.* (2014) identify the communication skills and knowledge required during the first five stages of the organizational life cycle of Adizes.

Illés *et al.* (2015) used it to examine the different behaviors of managers regarding their decisions to achieve superior efficiencies and profitability in small- and medium-sized firms in Hungary.

Rahimi and Fallah (2015) used the survey to collect data from a sample of experts from the Iranian banking system. The findings support the benefits of maintaining a balance among flexibility and control to facilitate innovation, creativity and the possibility of growth. Excessive controls hinder innovation and are related to stages of premature aging or bureaucracy in the Adizes life cycle model.

Hernández von Wobeser (2016) used the ten stages of the Adizes Model to analyze the life cycle of a micro-sized business in Cancún, Mexico. The micro-sized business has three stages that it calls: the beginning, the expansion and the foundation stages.

In order to carry out a rigorous and consistent research, in our work we have used two methods: the first one is an inductive, exploratory method with a quantitative approach. The second one utilizes a qualitative approach through semi-structured interviews.

The first method was performed via internet forms. The target was executives from companies with ten employees or more, which are offering professional, scientific and technical services in Mexico, and regularly provide economic information to the *Instituto Nacional de Estadística y Geografía* (National Institute of Statistics and Geography of Mexico, INEGI).

The main characteristic of the companies of the study is that their main product is to generate knowledge and innovation, and their main asset is the human capital. These companies utilize information technologies and communications as a regular tool, and use to be receptive to answer questionnaires via internet.

In Mexico, the industry sector that embraces these companies is called "Professional, scientific and technical services." The number of companies of professional, scientific and technical services that the INEGI has registered is 8,869. The information on this kind of firms was obtained from the *Directorio Nacional de Unidades Económicas* (DENUE), which is the National Directory of Economic Units.

Initially, a pilot study was performed in Mexico City with companies with more than 50 employees. The number of companies was 446. E-mails of executives from those companies were selected from DENUÉ database. We obtained 134 addresses.

An electronic invitation was issued to each one of those managers, sending the questionnaire, and validating the reception of only one response per participant.

We considered the sample size for finite population size with $n = 134$, 95% confidence level ($z = 1.96$), and $p = q = 50$ percent with an estimation error of 10 percent, which corresponds to 56 companies.

Subsequently, the final study analyzed those companies with ten or more employees in the country. In this case, we considered $n = 1,775$, 95% confidence level ($z = 1.96$), and $p = q = 50$ percent with an estimation error of 10 percent, which corresponds to 91 companies.

In the pilot test, we invited to respond the questionnaire to the 134 executives of companies with more than 50 employees in Mexico City that were previously identified. We received 23 completed questionnaires (17 percent). With the information, we identified the stage in the corporate lifecycle of each one of the responsive companies.

The pilot test contributed to improve the validity of the questionnaire and evaluate its reliability. In particular, a content validity test was performed, so as to check if it evaluated what it was aimed, and a construct validity test, in order to know if the measurement is right through the proposed scale.

Since the works of Flores (2012), it is considered that the mean, error and kurtosis correspond to a standard distribution.

Through the analysis of the distribution of data frequencies, mean, standard deviation, error and kurtosis are observed for each one of the items of the questionnaire. It was defined as valid standard deviation according to the results, as well as an error and kurtosis less than or equal to 1.5.

We compared the means of the responses of extreme groups, split in quartiles, via Student *t*-test for independent samples and Levene test, with the purpose of assuring that each item of the questionnaire really discriminates. It was evaluated whether the two groups are different.

The factor analysis groups those variables that relate with a certain degree of consistency. The factor loading of an item was established over 0.30. Likewise, the variance that explains each one of the factors was calculated. The matrix was rotated to maximize the commonalities by factor. Finally, we calculated the consistency in each one of the factors and the Cronbach's α of the questionnaire.

In total, 23 companies of eight kinds of activities replied to the questionnaire. After applying criteria of standard deviation, error, kurtosis, *t*-test and Levene test, the second section of the questionnaire was reduced from 30 items to 11. We obtained a Cronbach's α of 0.767. The factor analysis identified three components that explained the 70.9 percent of the variance.

In order to measure interviewed perception adequately, we modified the items in the second section of the Adizes questionnaire, making them dichotomous in a Likert scale with five options (totally agree, partially agree, indifferent, partially disagree, totally disagree). The items of the first section were not modified since they are categorical and mainly used to identify the stage of the corporate life cycle.

Once the results of the pilot test were studied, we broaden the population to companies over ten employees, from the whole country, with available working e-mail address. Therefore, from the 8,869 companies registered in the DENUÉ, we considered 1,775 firms that included their contact e-mail in the register. We sent them a letter explaining the purpose of our research. We obtained 170 replies.

The 62 percent of the companies that answered the questionnaire have 30 employees or less. We identified 26 different business activities among such firms.

We detected 360 cases of inactive e-mail addresses, which reduced population to 1,415 companies. The size of the sample for this population is 90 with 10 percent estimated error. If the error were set to 5 percent, the size must be 302.

The initial goal was to obtain more than 302 answers, so as to reach the level of confidence of 95% and 5 percent error estimation for the sample. After sending ten reminders, we obtained 170 answers, with a 95% confidence and 7 percent error estimation for a population of 1,415 companies with active e-mail, and 95% of confidence with 7.5 percent error estimation for the whole population (8,869 companies).

Results

Initially, we studied the information of 170 companies that answered the questionnaire. We removed data of 37 of them due to inconsistencies or incomplete results. Figure 2 shows the relative position of them according to their stage in the organizational life cycle.

The obtained results show that the 26.5 percent of decisions are made in finance, accounting or legal departments; the 37.1 percent of decisions are made in marketing, sales or operations departments; and the 36.5 percent of decisions depend on executive managers and are not subject to any specific department.

Besides, 75.3 percent of the organizations have precise and clear indications on decision-making, with internal rules on what it is allowed or forbidden.

Equally, the results show that the 76.5 percent of the organizations take risks and tend to flexibility, whereas the rest of them avoid risks and prefer a higher degree of control.

Amongst the companies that replied to the questionnaire, the 39.4 percent are mature and generally meet the budget, keep their market shares and grow at a moderate pace. The 24.7 percent of the companies are in their first stages of corporate life cycle and, usually, they do not meet results, take more risks and develop changes in products or services to find market niches. Finally, the 34.1 percent of the companies is in the adolescence or prime stages, and they normally meet their targets despite of great difficulties and the needed effort.

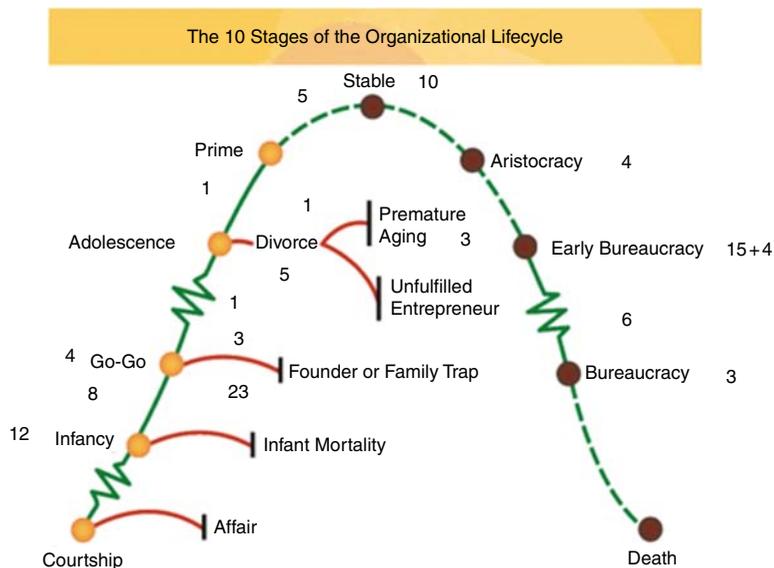


Figure 2. Corporate lifecycle stage of the participant companies

Source: Own elaboration from Adizes Organizational Lifecycle

The 91.2 percent of the companies keep growth expectations.

Likewise, the results showed that the 56.5 percent of the companies are within a growth stage and have liquidity problems, whereas the 37.6 percent of them have significant market shares and no liquidity problems.

The founder, the president or the managing director centralizes decision-making in the 72.4 percent of the firms. This could be necessary during the first stages of the corporate life cycle, but it comes a time when this management style slows corporate growth. Besides, the 21.8 percent of the companies perceive that the founder, the president or the managing director make decisions although there are more capable people and the 94.2 percent perceive that decision-making is centralized in the founder, the president or the managing director.

The results also showed that the 38.2 percent of the companies are in their first growth stages and have the goal of penetrating new markets or offering new products in those they are already working. The 50.6 percent of the companies are in transition from Go-Go to Adolescence stage, and have the objective of developing an internal solid infrastructure to deliver the products they are offering. Meanwhile, the 8.2 percent of the companies are at their mature stage, and seek the improvement of products.

Additionally, the results denoted that the 52.4 percent of the companies have few internal rules and seek flexibility. The 60.6 percent of the firms have an organization chart based on positions and functions, whereas the 27.6 percent bases its organization chart on tasks and people.

Summarizing, the results we obtained in the first section of the questionnaire point out that the majority of the companies that replied are in their first growth stages.

From the 30 items of the second section of the questionnaire, only 11 of them met the Adizes Institute criteria that allow placing companies in their stage of the corporate life cycle. Initially, we obtained the means, standard deviations, errors, and kurtosis of those 11 items. Subsequently, we performed an average-to-average comparison analysis and the quartile distribution.

Afterwards, we performed the Levene test to compare the equality of variances, and the *t*-test for the equality of means (Table I).

The item 14 was discarded from the analysis performed, and we continue working with the remaining ten items of the questionnaire.

Later, we performed a factor analysis that showed the total variance explained (Table II). We considered the three main components that explain 58.6 percent of the variance, and have eigenvalues over 1.000.

The rest of the components correspond to entrepreneurial and integrator roles, and they not are statistically significant in the studied sample.

Table III shows the loadings of each one of the ten items of the questionnaire in the three resulting factors.

Subsequently, we calculated the Cronbach's α for each one of the components (Table IV) and for the questionnaire as a whole (Table V). In the last case, the Cronbach's α is 0.762. Besides, we also calculated the Cronbach's α for companies between 11 and 30 employees (0.732), and for companies over 30 employees (0.818).

In order to confirm the results we obtained with this quantitative technique, we performed semi-structured interviews. Version 6.2 of AtlasTI software was utilized to analyze data obtained through those interviews.

Seven semi-structured interviews to SMBs and big companies' executives were performed. These interviews confirmed that decision-making is highly centralized in the founder or the steering committee.

Conclusions, limitations and future line of research

The obtained outcomes through Adizes questionnaire place the 71 percent of the companies of the sample amongst the first stages of their organizational lifecycle, regardless their age

Table I.
Initial test of
independent samples

	Levene test for equality of variances		Sig. (bilateral)		Mean difference		Mean difference error		95% confidence interval for mean differences		
	F	Sig.	t	gl	Mean difference	Mean difference error	Inferior	Superior			
<i>14: There is a "don't make waves" culture in our organization</i>											
Equal variances have been assumed	2.662	0.107	1.481	80	0.143	0.366	0.247	-0.126	0.858		
Equal variances have not been assumed			1.481	74.984	0.143	0.366	0.247	-0.126	0.858		
<i>16: Our Founder/CEO/President frequently vetoes or changes important decisions made by others</i>											
Equal variances have been assumed	3.212	0.077	-7.135	80	0.000	-1.829	0.256	-2.339	-1.319		
Equal variances have not been assumed			-7.135	78.317	0.000	-1.829	0.256	-2.340	-1.319		
<i>18: Many employees are overburdened with tasks and work without clear priorities</i>											
Equal variances have been assumed	1.169	0.283	-10.959	80	0.000	-2.317	0.211	-2.738	-1.896		
Equal variances have not been assumed			-10.959	71.711	0.000	-2.317	0.211	-2.739	-1.896		
<i>24: Political gamesmanship governs decision making around here</i>											
Equal variances have been assumed	55.110	0.000	-6.364	80	0.000	-1.610	0.253	-2.113	-1.106		
Equal variances have not been assumed			-6.364	53.896	0.000	-1.610	0.253	-2.117	-1.103		
<i>27: We seem to have trouble finding enough qualified people to manage all our business units</i>											
Equal variances have been assumed	6.665	0.012	-6.705	80	0.000	-1.683	0.251	-2.182	-1.183		
Equal variances have not been assumed			-6.705	74.130	0.000	-1.683	0.251	-2.183	-1.183		
<i>28: We have recurring problems due to cash shortages</i>											
Equal variances have been assumed	9.184	0.003	-7.251	80	0.000	-1.854	0.256	-2.362	-1.345		
Equal variances have not been assumed			-7.251	74.905	0.000	-1.854	0.256	-2.363	-1.344		
<i>32: If our Founder/CEO/President were to leave, our organization would probably not survive.</i>											
Equal variances have been assumed	4.510	0.037	-4.397	80	0.000	-1.366	0.311	-1.984	-0.748		
Equal variances have not been assumed			-4.397	76.595	0.000	-1.366	0.311	-1.984	-0.747		
<i>36: We have too many internal conflicts, turf wars and back stabbing</i>											
Equal variances have been assumed	44.516	0.000	-10.159	80	0.000	-2.317	0.228	-2.771	-1.863		
Equal variances have not been assumed			-10.159	51.729	0.000	-2.317	0.228	-2.775	-1.859		

(continued)

	Levene test for equality of variances			t-test for equality of means			95% confidence interval for mean differences	
	F	Sig.	t	Sig. (bilateral)	Mean difference	Mean difference error	Inferior	Superior
<i>37: Our revenues are falling</i>								
Equal variances have been assumed	55.144	0.000	-8.276	0.000	-1.976	0.239	-2.451	-1.501
Equal variances have not been assumed			-8.276	0.000	-1.976	0.239	-2.455	-1.497
<i>39: There has been too much turnover in senior positions</i>								
Equal variances have been assumed	77.427	0.000	-5.464	0.000	-1.463	0.268	-1.996	-0.930
Equal variances have not been assumed			-5.464	0.000	-1.463	0.268	-2.001	-0.926
<i>41: Senior Staff enjoy too many comforts</i>								
Equal variances have been assumed	21.564	0.000	-9.310	0.000	-2.244	0.241	-2.724	-1.764
Equal variances have not been assumed			-9.310	0.000	-2.244	0.241	-2.727	-1.761

Source: Own elaboration

Human
dimension at
recruitment
process

Table I.

MD

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	3.357	33.566	33.566	3.357	33.566	33.566	2.477	24.773	24.773
2	1.350	13.505	47.071	1.350	13.505	47.071	2.051	20.513	45.286
3	1.155	11.545	58.617	1.155	11.545	58.617	1.333	13.331	58.617
4	0.785	7.847	66.463						
5	0.761	7.606	74.069						
6	0.623	6.231	80.300						
7	0.588	5.876	86.176						
8	0.508	5.079	91.255						
9	0.448	4.479	95.735						
10	0.427	4.265	100.000						

Table II.
Total variance explained

Note: Extraction method: principal components analysis
Source: Own elaboration

	Component		
	1	2	3
16: Our Founder/CEO/President frequently vetoes or changes important decisions made by others	0.016	0.796	0.075
18: Many employees are overburdened with tasks and work without clear priorities	0.539	0.466	0.167
24: Political gamesmanship governs decision making around here	0.047	0.723	0.215
27: We seem to have trouble finding enough qualified people to manage all our business units	0.278	0.183	0.608
28: We have recurring problems due to cash shortages	0.690	-0.142	0.311
32: If our Founder/CEO/President were to leave, our organization would probably not survive	0.021	0.056	0.787
36: We have too many internal conflicts, turf wars and back stabbing	0.677	0.325	0.107
37: Our revenues are falling	0.772	0.041	0.196
39: There has been too much turnover in senior positions	0.643	0.236	-0.304
41: Senior staff enjoy too many comforts	0.402	0.676	-0.156

Table III.
Rotated component matrix^a

Notes: Extraction method: principal components analysis; Rotation method: varimax normalization with Kaiser. ^aRotation converged in six iterations
Source: Own elaboration

Reliability statistics		
Factor	Cronbach's α	No. of items
1	0.745	5
2	0.653	3
3	0.395	2

Table IV.
Cronbach's α for each factor

Source: Own elaboration

or headcount, so the open innovation strategies of managers will be critical for their success. The 72.9 percent of the companies balance open innovation and control, showing a tendency toward innovation. Additionally, in the 72.4 percent of the cases decision-making is concentrated in the founder, the president or the managing director.

In turn, the 14 percent of the companies are at an early bureaucracy stage, with an administrator management style.

The 27 percent of the companies of the sample are placed at prime and stability stages, which show healthy growing companies according to the theoretical framework. The 21 percent of the companies are amongst what Adizes names as “the founder trap,” where the companies do not grow at expected path because the founder is still steering decision-making. The 14 percent of the companies are placed in the stage of early bureaucracy, when the companies are more focused on identifying who did wrong instead of knowing what was wrong.

The obtained results show that in the infancy stage, the employees are saturated within many different tasks and not clear direction. According to the theoretical framework, these results suggest that the management style is authoritative in that stage, when the founder or the managing director does not delegate and makes all decisions. In the bureaucracy stage, nevertheless, the manager exercises his authority because of his position in the hierarchy.

The results denote that in the latest stages the administrative role is predominant, followed by the integrator role. According to the theoretical framework, both roles are related to control and stability.

The results show that in the growth stages the producer role prevails. This role is related to flexibility and open innovation.

Therefore, the Adizes questionnaire shows that depending on the stage of the life cycle in which an organization is found, the level of innovation tends to be different.

Likewise, as Carayannis and Campbell (2011) and Vrontis *et al.* (2017), the innovation process must always be integrated into the organization’s overall strategy to generate value. In addition, we must not forget that innovation is a social process, and that only if it is managed properly by those who run it, such innovation will bring benefits to the organization.

The collected data show that the majority of the companies of the study are in the first stages of the corporate lifecycle, which is linked to a flexible, open innovation and results-oriented management style.

The results show the existence of a relationship between the corporate lifecycle stage and the management style. It seems necessary to take into account this relationship in any process of recruiting, training and personnel retention, since it can prevent from a premature ageing of the organization or a stuck pace in its performance.

For this reason, the application of the Adizes questionnaire will be very useful for companies to know the stage in which they find themselves and to introduce the most appropriate innovation strategies at all times.

The results we obtained provide human resources managers of services companies with a tool that places each company in its organizational lifecycle stage and shows the predominant management style in such firm. This tool will be very useful when designing programs of selection, training and attraction and retention of talent.

The obtained results confirm Adizes proposal regarding the prevailing management style. Initially, companies use to have the producer management style, results oriented, and it ends assuming the administrator management style. In the case of the interviewed

Reliability statistics

Cronbach’s α

No. of items

0.762

10

Source: Own elaboration

Table V.
Cronbach’s α of the
questionnaire

firms, almost 60 percent of them have a producer management style, and decision-making is focused on the founder.

Our study divided the sample in two big blocks. The first one included companies with 30 employees or less and it accounts for the 62 percent of the companies of the sample. The other group embraced the rest of the firms. The obtained results show that the questionnaire is more trustable for companies with more than 30 employees, with a 0.818 α , while the other group of companies with less than 30 employees has a 0.732 α . This result may be derived from the perception of those interviewed in small companies where they could be biased due to the current difficulties of the company, whereas in greater firms, the manager has a wider perspective of the different areas of the organization, and is not biased because of any exceptional issue.

Following the line of work of Carayannis and Meissner (2017), new employees must receive specific training programs with the aim of becoming specialists in a particular area, but they must also introduce creative ideas from an external perspective to the company, as explained the paradigm of open innovation. Talent development programs are designed to exchange knowledge and professional development of employees and often facilitate open innovation in the organization.

Likewise, it seems advisable to rotate the employees who lead innovation in other areas of the company, so that innovations can be extended throughout the company, facilitating the development of skills and taking advantage of the internal know-how (Carayannis and Meissner, 2017).

Companies must also pay more attention to the useful life of an innovation, using the technologies essential to their development and identifying the key competencies that their employees must acquire. Technological development plays an essential role in supporting knowledge management processes (Santoro *et al.*, 2017).

Finally, given that today, knowledge management and innovation have become strategic assets of companies, it is necessary a change of mentality in many organizations that facilitates a new perception on the development of innovation. This will only be possible with the firm support of the management of the company and the involvement of all employees in this new task.

We must highlight that this study has been performed for the case of services companies placed only in Mexico. Then, the extrapolation and generalization of results should be dealt carefully.

As we have pointed out previously, this situation could be due to the fact that depending on the size of the company, the problem of agency could be more or less intense. Then, these results open a possible new line of research that connects Agency Theory with management styles and stages in the corporate life cycle.

Another possible line of research would be to conduct a cross-country comparative study to analyze the similarities and differences between organizations operating in different countries. In this way, our understanding of the topic could be broadened by incorporating factors related to local innovation systems.

The sample of our work analyzes companies of different sizes (it is only required that they have more than ten employees), regardless of whether the size variable can affect the results obtained. A future study could replicate our research, but first dividing the sample into groups of similar sizes and later analyzing whether the results vary depending on the group. That is, if the results are different the companies have larger or smaller size.

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