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The multiple theoretical elements of the Organizational Life Cycle models. A review of the literature.

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Abstract

The multiple theoretical elements of the Organizational Life Cycle models. A review of the literature. LUIGI MOSCA - PhD student in Economics and Management at "M. Fanno" Department of Economics and Management, University of Padova (Italy). Date of enrolment: 02/2014, expected final date: 02/2017 E-mail: luigi.mosca@studenti.unipd.it ABSTRACT- STATE OF THE ART: Over the past several decades, the interest on developing new theories on organization design has declined (Greenwood and Miller, 2010). According to Miller et al. (2009), one of the reasons is that scholars have forgotten how all elements of organizations, such as strategies, structures, human resource processes, information processes, and culture, are influential in shaping organizational behavior and performance (Miller et al., 2009). The need for a holistic view on organization design can be satisfied by organizational life cycle (OLC) models. Even though the principal assumptions shared by OLC models have been criticized (Levie and Lichtenstein, 2010), they are still adopted as guiding framework in empirical studies (Kallunki and Silvola, 2008; Wang and Singh, 2014). RESEARCH GAP AND THEORETICAL ARGUMENTS: Adding to Levie and Lichtenstein (2010) that studied three multiple theoretical elements (what, how and why) of the OLC models, I discuss all the five elements (why, when, who, what, and how) proposed by Whetten (1989) as primary elements of good theory: 1) Why: Why firm moves from one stage of development to the following (internal and external pressures)? 2) When: Which is length of each stage and what are the variables used in defining the organizational evolution within each stage? 3) Who: Who are the actors managing the organizational development? 4) What: What are the organizational design characteristics that characterize the firm during each stage? 5) How: How firms move from one stage to the following?. Differently from previous reviews of the field (e.g. Phelps et al., 2007) that have analyzed the general aspects and limitations of the OLC models, I investigate the organizational design characteristics that identify each stage. METHOD: The paper reviews the OLC models published in management journals and considers two steps. First, in order to have a revised and up to date overview about OLC models, I searched the "ISI Web of Knowledge" database (time span: 2000-2015 and Social Sciences Citation Index) choosing the following keywords: "review of life cycle of organization" and "organizational stages and growth". Second, I chose models adopting three criteria: 1) the model presented should be "novel", hence not based on some previous models, 2) the model should present and discuss how organizational design characteristics change in life cycle of the firms, and 3) the model should be an original intellectual sources and not only an empirical test. As a consequence, I excluded

articles that adopted OLC models to study managerial problems not related to organizational design. RESULTS: The literature review shows that OLC models consider growth as "taken-for-granted", suggesting that size growth – considered as obliged – generates business issues that the firm is forced to solve (Fombrun & Wally, 1989) adopting "optimal" organizational configurations (Mckelvie and Wiklund, 2010). The aim of my future research is analyze data from an on-going survey on a sample of Italian Small Medium Enterprises in order to study the alternative organizational configurations that companies can adopt in order to grow, comparing their similarities in a number of essential organizational characteristics, through the use of fuzzy set qualitative comparative analysis method (fs/QCA). MAIN REFERENCES: Fombrun, C.J., Wally, S. (1989). Structuring small firms for rapid growth. Journal of Business Venturing, vol. 45, no. 2, pp. 107-122. Greenwood, R., Miller, D. (2010). Tackling Design Anew: Getting Back to the Heart of Organizational Theory. Academy of Management Perspectives, 24(4): 78–88. Kallunki, J.P., Silvola, H. (2008). The Effect of Organizational Life Cycle Stage on the Use of Activity-Based Costing. Management Accounting Research, 19(1), 62-79. D. Miller, R. Greenwood, R. Prakash. (2009). What Happened to Organization Theory. Journal of Management Inquiry, 18: 273-279. Levie J., Lichtenstein, B.B. (2010). A Terminal Assessment of Stages Theory: Introducing a Dynamic States Approach to Entrepreneurship. Entrepreneurship Theory and Practice, 34(2), 317-350. McKelvie, A., Wiklund, J. (2010). Advancing Firm Growth Research: A Focus on Growth Mode Instead of Growth Rate. Entrepreneurship Theory and Practice, 34: 261–288. Phelps, R., Adams, R., Bessant, J. (2007). Life cycles of growing organizations: A review with implications for knowledge and learning. International Journal of Management Reviews, 9, 1–30. Wang, G., Singh, P. (2014). The evolution of CEO compensation over the organizational life cycle: A contingency explanation. Human resource management review, 24(2), p. 144-159. Whetten, D. (1989). What constitutes a theoretical contribution? Academy of Management Review, 14, 490–495.

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Abstract

After a period of reduced interest by the management literature, organization design is experiencing a period of 'renaissance' as companies face the necessity to rapidly reconfigure their existing capabilities to adapt to the changing business environment. The elements of the design, development and behavior of organizations can be predicted by means of Organizational Life Cycle (OLC) models.. These models are considered as valid research framework for studying firms' evolution and development Therefore, this paper reviews the literature on OLC models and discuss the why, when, who, what, and how of such models. Adding to the extant literature review, we focus on the organizational design characteristics that identify each stage. The results of the literature review sustain that OLC models suggest that size growth – considered as obliged – generates business issues that firms have to solve adopting only one possible organizational configurations, following a deterministic organizational approach.

Introduction

The importance of organizational design was recognized by early management scholars, such as March and Simon (1958), Burns and Stalker (1961), Lawrence and Lorsch (1967) and Thompson (1967). Nevertheless, over the past several decades, part of the literature has neglected new researches related to organization design (Greenwood and Miller, 2010). According to Greenwood and Miller (2010) the reason for this reduced interest is threefold: a) a shift in the level of analysis from the organization to the field, population, and community; b) the complexity of today's organizations demands detailed, qualitative, and time-consuming studies, which do not fit with actual publication pressures; c) an increasing interest in understanding single dimensions of the organization (e.g. coordination mechanisms) rather than their interactions in a whole configuration (Miller et al., 2009).

At the same time, new challenges such as globalization, outsourcing, and capability development foster a renewed attention to organization design (Miller et al., 2009). The reason is that firms need fitting organizational designs (Galbraith, 1999; Miller, 2003; Nadler and Tushman, 2003) to renew their existing capabilities (Teece et al., 1997; Zollo and Winter, 2002),.

Consequently, this picture calls for a significant return to organization design studies, embracing an holistic approach, which focuses on the simultaneous interaction of multiple organizational design elements. OLC models provide an appropriate answer to the above call.

Olc models are patterns that consider firm's life as a sequence of the different of developmental stages. The most relevant OLC models, developed in the period between 1960s and 1990s, shared the organism life cycle analogy proposed by Gardner (1965). Indeed like people and plants, organizations 'have a green and supple youth, a time of flourishing strength, and a gnarled old age' (p. 20). A central tenet of life cycle theory is that organizations move through a series of phases. Hanks et al. (1993, p.7) defined a life cycle phase as 'a unique configuration of variables related to organization context or structure'. These stages are: a) a sequence of events that describe how things change over time (Van De Ven, 1992); b) an hierarchical progression that is not easily reversed; and c) a composite of a broad range of organizational activities and structures (Quinn and Cameron, 1983). In short, OLC models simplify a myriad of facts associated with transformational change, and reduce the complexity to a uniform, appealing, predictable and deterministic pattern (Stubbart and Smalley, 1999).

The empirical validity of these models has been tested on some of their specific mechanisms (e.g. stage change), on specific domains (e.g. family business) and as guiding frameworks for studying the development of specific managerial practices (e.g. human resource management) with only partially conclusive findings (see for instance Kallunki and Silvola, 2008; Wang and Singh, 2014). Nonetheless, an organizational design enquiry of the models is still missing.

In this paper we aim at developing a thorough organizational analysis of the OLC models, through a literature review of the seminal contributions: Lippitt & Schmidt (1967), Greiner (1972), Adizes (1979), Galbraith (1982), Churchill & Lewis (1983).

Differently from extant literature reviews on the subject, we discuss all the five primary elements of good theory (why, when, who, what, and how) proposed by Whetten (1989). Thus, we extend the previous analysis by Levie and Lichtenstein (2010), that studied three multiple theoretical elements (what, how and why) of the OLC models. Specifically, we investigate the organizational design characteristics that are inherently associated with each stage of the models, namely: vertical and horizontal differentiation, integration and coordination mechanisms, centralization and decentralization, and standardization and mutual adjustment.

Overall results demonstrate that all models propose a deterministic trajectory of organizational development, even if not all the organizational design elements are fully considered and when it occurs different models propose different configurations.

The paper is organized as follows: the next two sections describe the research methodology and the selected OLC models. Then we present an analysis of the organizational design characteristics through the five primary elements of good theory and the discussion of the results.

Research methodology

Our literature review is focused on the OLC models published in management journals and considers three steps.

First, in order to have a revised and up to date overview about OLC models, we searched the "ISI Web of Knowledge" database (time span: 2000-2015 and Social Sciences Citation Index) choosing the following keywords: "review of life cycle of organization" and "organizational stages and growth". This search produced two review articles: Phelps et al. (2007) and Levie and Lichtenstein (2010).

Second, analyzing the OLC models presented in these two reviews, respectively 33 and 104 paper, we extracted the ones that addressed the following three criteria: 1) the model should be "novel", hence not based on previous models, 2) the model should present and discuss how organizational design characteristics change in life cycle of the firms, and 3) the model should be an original intellectual sources and not only an empirical test. As a consequence, we excluded paper that adopted OLC models to study managerial problems not related to organizational design, such as Koberg, Uhlenbruck, Sarason (1996) and Kallunki and Silvola (2008) that use Greiner's model to study respectively the organizational innovation and the use of Activity Based Costing in the life cycle of the firms. This analysis produced the selection of five models: Lippitt & Schmidt (1967), Greiner (1972), Adizes (1979), Galbraith (1982), Churchill & Lewis (1983).

Third, since both the literature reviews used during the first step of the analysis consider articles and contribution published between 1960 and 2006, we run a research in "ISI Web of Knowledge" database selecting the time span 2006-2015. In order to search for other OLC models, we chose the same keywords adopted by the previous reviews: life cycle growth, stages theory of growth, stages of organizational growth , and organizational life cycle model. Then, we applied the three criteria for selecting new models, but we did not discover any other model. Therefore we based our analysis on five models.

Organizational Life Cycle: a description of the most relevant theoretical models

In order to have an overview of the five models (see Table 2), we briefly describe them and then through the information-gathering questions, we focus on their organizational design characteristics.

Lippitt and Schmidt (1967) model

Lippitt & Schmidt (1967) developed one of the earliest OLC models, focusing on the private sector. They suggest that corporations progress through three stages of development, facing six major 'managerial concerns' in order to progress from one stage to the next. At birth the critical concerns are creation of the system and achieving a survival threshold. During youth the main concerns are stability and earning a reputation. During maturity, achieving uniqueness and responding to diverse societal needs become major concerns. The management has to solve the crises in a way that creates a sound base for the dealing with future crises. At time that an issue is solved the firms go to the following stage. Failures happen when managers do not recognize the significant crises that occur in the organizational life cycle.

According to the authors most companies remain, often by preference, with simple organizational structures, uncomplicated product programs, and ordinary ambitions.

Greiner (1972) model

Greiner (1972) assumes that the life of the firm unfolds through a sequence of five stages of evolution and revolution. A stage of evolution is a period of growth where no major upheaval occurs in organization practices. Instead a revolution is a period of substantial turmoil in organization life. The resolution of each revolutionary period is the go-ahead for the next stage. The growth stages are described on the basis of five parameters (management focus, organizational structure, top management style, control system, management reward emphasis) and they are: 1) creativity-led growth, broken off by a crisis of leadership; 2) direction-led growth, broken off by a crisis of autonomy; 3) delegation-led growth, broken off by a crisis of control; 4) coordination-led growth, broken off by a crisis of bureaucracy or red-tape crisis; 5) collaboration-led growth, broken off by a crisis of lack of internal solutions for growth. Evolutionary periods range from four to eight years, according to the industry: in fast-growing industries periods may be shorter, while in mature industries periods may be longer.

Adizes (1979) model

Adizes model suggests that firms move through stages because there are changes in emphases on four activities: producing results (P), acting entrepreneurially (E), administering formal rules and procedures (A), and integrating individuals into the organization (I).

As the organization passes from one phase in its life to the next, different roles are emphasized and the different role combinations that result produce different organizational behavior. Organizational decline occurs primarily because of an overemphasis on bureaucracy, rules and procedures.

The model suggests that organizations develop through ten stages Courtship, Infant, Go-Go, Adolescent, Prime, Mature, Aristocratic, Early Bureaucracy, Bureaucracy, and Death. Progression across stages occurs primarily by overcoming the growth problems of successive stages. Organizations begin with an emphasis on entrepreneurial activity that later becomes coupled with an emphasis on producing results.

Galbraith (1982) model

The model developed by Galbraith (1982) intends to capture the predictable dynamics of the stagewise development of a new organization. The basic idea is that the firms move through predictable stages. But, according to the author, despite the predictability managers do not think stagewise.

His model focuses on start-up ventures. Such companies develop a business idea that consists of: a market to be served, products to be sold, the basis for dominating the niche, the resources and resource combinations that are needed to achieve dominance. The model suggested by Galbraith (1982) is based on five stages: proof of principle prototype, model shop, start-up volume production, natural growth and strategic maneuvering.

To pass from one stage to another the firms have to increase in size. Moreover, growth is guided by the product market and is related to the product life cycle.

Churchill and Lewis (1983) model

Churchill & Lewis (1983) used a combination of empirical research and review of previous theoretical works in order to develop a new OLC model. Their theoretical development derives from the identification of three weaknesses of previous models: the assumption that a company must grow and pass through all stages of development or die in the attempt, the inability to capture the important early stages in a company's origin and growth, the definition of company size mainly in terms of annual sales (although some mention number of employees) ignoring other factors such as value added, number of locations, complexity of product line, and rate of change in products or production technology. As a consequence, they propose a model with five stages: conception/existence, survival, profitability and stabilization/growth, take-off, and maturity. Each stage is characterized by an index of size, diversity, and complexity and described by five management factors: managerial style, organizational structure, extent of formal systems, major strategic goals, and the owner's involvement in the business. The model focuses on small enterprises. In order to grow the firms have to adapt to the environment and to increase in size and profitability.

An analysis of the main features of the OLC models

In order to analyse and compare the main features of the selected OLC models, we discuss all the five elements (why, when, who, what, and how) proposed by Whetten (1989) as primary elements of good theory. The "what" questionprovides the factors that must be considered part of an explanation of the phenomena under study. The "how" of a theory shows how the factors identified in the "what" are related. The "why" element explains the selection of factors and the proposed causal relationships. The "who, where, and when" of a theory validate theory with empirical data while setting limits on its uses and applications.

Adapting these insights to our analysis, we develop the following five questions:

- Why: Why firm moves from one stage of development to the following (i.e. analysis of the internal and external pressures to change)?
- When: Which is length of each stage and what are the variables used in defining the organizational evolution within each stage?
- Who: Who are the actors managing the organizational development?
- What: What are the organizational design characteristics that characterize the firm during each stage?
- How: How firms move from one stage to the following?

Since the organizational design aspects that characterized the different stage of development are the focus of our article, we will thoroughly discuss the related 'What' question in the final section of the article. In the following paragraph, we will devote our attention to analysing the other four elements.

Why: the pressures to change

The factors that explain why companies change their organizational structure and move from one stage to the following are either internal (such as strategic and managerial decisions) and/or external (such as market and competitive pressures).

Lippitt & Schmidt (1967) and Churchill & Lewis (1983) consider both the external and endogenous pressures in motivating organizational evolution. Such factors affect different phases of the organizational life cycle: initially firms confront external pressures, in order to affirm and survive into the competitive market, and then they face internal issues, related to the organizational structure and the management of the human resources. According to Greiner (1972) the transitions across stages are mainly determined internal factors: the ‘revolution’ moments are indeed determined by changes in firm strategy, managerial objectives and/or organizational structure’s issues.

A different perspective is adopted by Adizes (1979) and Galbraith (1982), who consider only external pressures. According to Adizes (1979), firms have to adapt to their external environment in order to grow: for instance, during the first stages of the OLC, organizations can survive in the market increasing their sales and therefore responding to the customers’ needs. Similarly, Galbraith (1982) focuses on market share as a mean to sustain growth and profitability of the firm.

When: the length of the stages

The second question concerns the ‘unit of measure’ adopted by the OLC models in order to describe the length of each stage. The models do not explicitly indicated a time-length for the stages and, in some cases, they associate the duration of the stage with the size of the firm.

In particular, Lippitt &Schmidt (1967), Greiner (1972) and Adizes (1979) measure the duration of the stages using a time frame, even if they do not indicate a number of years for each stage but generally focusing on the flow of time. According to Lippitt & Schmidt (1967), time is relevant because organizational issues may become significant crises if they are not resolved within a reasonable time. According to Greiner’s model, as time flows new and different organizational problems emerge: the combination of age and size exacerbates the problem, activating a revolution period. Adizes (1979) suggests that at each lifecycle stage a typical pattern of entrepreneurial and management behavior emerges, therefore time is relevant in order to predict companies activities.

Whereas previous models consider the flow of time as the most relevant factor to explain the structure of the OLC model, Galbraith (1982) and Churchill & Lewis (1983) focus on the size of the organizations. As a consequence, it is not the age but the size that indicates the stage of the life cycle that a company is living. Galbraith (1982), in particular, claims that the growth of the firms is driven by the growth of the market and then each phase depends on external resources. When managers find the right way to govern and exploit external resources, the firm moves to the next stage. Churchill & Lewis (1983), instead, relate the growth of the firm to its profitability: when the latter is satisfactory, the firm moves from one stage to the next.

Who: the actors leading the organizational development

Concerning the actors who lead the development of the organization along its life cycle, all the five models generically indicate that the management (namely the executives and/or the founders) is the main responsible. In particular, the role of the managers is to: 1) recognize the organizational issues when they emerge, 2) solve the problems and determine the appropriate configuration of the organizational design elements to move from one stage to the following.

The five models do not explain how a management team either support or substitute the founder of the firm, but they predict when this process occurs. For example, Lippitt & Schmidt (1967) project that firms have entrepreneurs and management team from the first stage. They take together the key decisions for the organizations (such as how much risk to take).

Greiner (1972) predict that a business manager is hired from the second stage and so in the first stage firms are managed only by the founder(s).

Adizes (1979), Galbraith (1982) and Churchill & Lewis (1984) claim that the management team appears from the third stage to support the founder to manage new departments and information and control systems.

To sum up, the five models do not focus on how a management team flank the founder of the firm, but they predict that the latter is not able alone to manage the growth of the firm.

How: the process of development

The process that sustains the development of the organization along its life cycle varies significantly in the five models.

OLC models by Lippitt & Schmidt (1967) and Adizes (1979) identify the predictability of "crises" as the key elements to activate the process of organizational development. According to Lippitt & Schmidt (1967) managers have to monitor constantly the market in order to identify "potential problems" (such as market uncertainties and creditors'demands). Adizes (1979) sustains that a long-range planning is necessary in order to anticipate and manage future endeavors, markets and technologies. So firms can move to next stage only if managers take decisions with right time and right intensity.

The "revolution periods" described by Greiner (1972) are phases of considerable organizational turmoil (e.g. demand from middle managers for greater autonomy, and the need for new motivated employees). The nature of the solutions that managers implement determines whether firms will move forward to the next stage.

OLC models by Galbraith (1982) and Churchill & Lewis (1984) consider the organizational growth (in size) as the driving mechanism for the development. The former claims that managers should define the right combination of all the resources (such as people, reward, structure) to manage the growth in each stage. The latter affirms that firms acquire resources to move to the following stage when they increase their market penetration, economic success and profitability.

See Table 1

The “What” of the OLC models: the organizational design characteristics

The what question concerns the organizational design characteristics of the firms along the different stages of their life cycle.

According to the different models, the organizational issues emerge in different moments of the life cycle of the firms, even if all the models agree on suggesting that companies in the early stage of development basically lack of organizational structure. As the firm is created, the business is managed by the owners, who are at same time entrepreneurs and managers (Adizes, 1979). The business owner (Greiner, 1972; Churchill & Lewis,1983) deals with the issues of business ideas and products development (Lippitt & Schmidt, 1967; Galbraith,1982). The delegation is low and the company is not structured.

Therefore the organizational issues will emerge as the company, surviving the start-up phase, tries to move to a further stage of development.

The table 2 summarizes the below analysis of the organizational characteristics, such as vertical differentiation, horizontal differentiation, integration and coordination mechanisms, centralitation and decentralization, and finally standardization and mutual adjustment.

See Table 2

Vertical Differentiation

Vertical differentiation involves the installation of a chain of command among employees and managers. So it is related to the number of levels of supervision (Meyer, 1968; Hall et al., 1967). Vertical differentiation is analyzed with different levels of detail, meaning that some models explicitly address this issue whereas others “implicitly” refer to the increase of the number of hierarchical levels as companies evolve. Concerning the latter perspective, Lippitt & Schmidt (1967) predict that during the shift from the first to second stage the organization becomes taller whereas in the last stage is required a flat organization structure, but the authors do not describe into detail how these changes occur. Similarly, Adizes (1979) discusses relevant issues regarding to development of hierarchy (i.e. decentralization of power), but he does not define how the organizational structure develops over time.

Differently, the other three models clearly describe the changes in vertical structure. In particular, Galbraith (1982) argues that vertical differentiation is initially related to the issues of coordination and supervision of the new employees that are hired in the second and third stage: the owner should add some levels between himself and new entrants to manage the increased span of control. Then, in the last two stages, the owner hands over decision making power to product managers in order to deal with the matter of diversity (new products and functions). Similarly, Churchill & Lewis (1983) claim that the development of hierarchical structure is related with the necessity of more supervisors as the size of the firm increases: when organization becomes big, an effective delegation process and a greater number of managers allow the company to preserve its ability to make innovative decisions. Differently, Greiner (1972) declares that the number of the supervisors increases up to fourth stage, but decreases in the fifth stage.

In conclusion, the three models that describe the development of the vertical differentiation assert that the organizational hierarchy becomes taller over the life cycle of firms. Only Greiner (1972) predicts an initial rise of the organizational hierarchy followed by a decrease in the last stage.

Horizontal Differentiation

Horizontal differentiation is explored in details in all the five models analyzed.

Horizontal differentiation is explored in details in all the five models analyzed. In general terms, the models agree on depicting a trajectory of organizational development initially based on a functional criterion of horizontal differentiation, followed by a divisional one. In particular, in the functional structure, activities are grouped together by common function from the bottom to the top of the organization. Each functional activity, such as accounting, engineering, human resources, manufacturing, is grouped into a specific department (Taylor, 1947). The divisional structure, instead, occurs when departments are grouped together based on organizational outputs. The divisional structure is sometimes organized by product line(s) or profit center (Anand & Daft, 2007).

According to this trajectory of development, Lippitt & Schimidt (1967) explain that, first, firms adopt a functional structure, with a key function represented by the R&D department. Then, when firms enter in the maturity phase, a divisional structure – specialized by products or services – is adopted. Similarly, Adizes (1979) claims that developing firms need a directive board to plan in advance the structuring of the organization: at first a functional structure is adopted, then , in order to serve new products and markets, the organization moves toward a divisional structure by markets, products or profit centers. Such organizational form stimulates and develops the entrepreneurial personality of the managers, and if the divisional structure is not well adopted the company fails.

The other three OLC models support further steps of organizational development other than the divisional structure. In particular, combining the two horizontal differentiation criteria they suggest that companies adopt first a line-and-staff and then a matrix structure. The line-and-staff organization combines the line units, namely all the activities directly related to organizational goals (either functions or divisions), with staff departments that support and advise line departments (Fayol, 1949). The matrix combines a vertical structure with an equally strong horizontal overlay. While the vertical structure provides traditional control within functional departments, the horizontal overlay provides coordination across departments to achieve profit goals. This structure has lines of formal authority along two dimensions, such as functional and product or product and region (Mee, 1964; Galbraith, 1971).

Greiner (1972) asserts that as firms grow, a functional structure is introduced to separate manufacturing from marketing activities. Then, when a firm becomes bigger, the increase in delegation goes together with the adoption of either a divisional or a line-and-staff structure. The divisional structure focuses on market territories and the line-and-staff combined product units with staff departments. Later, in the last stage, Greiner (1972) suggests to implement a matrix structure in order to assemble the opportune teams for the appropriate problems and to solve possible conflicts between line and staff.

Similarly, Galbraith (1982) affirms that developing firms should use a functional structure in order to coordinate new specialized product workers, when they are hired. Then, more organizational units (functions) are added in order to manage the increase in the production volume. If firms assume a product differentiation strategy there, the need to combine functional teams and product managers is satisfied through "integrating departments". In the last stage, firms can adopt either a divisional structure (creating profit centers around regions, products or markets) or a matrix structure in order to solve the issues related to diversification and vertical integration.

Finally, the model proposed by Churchill & Lewis (1983) sustains that firms require a functional structure to manage the financial, marketing and production activities. After that, firms should be organized in either sales or production groups (divisional structure) to face issues of related with the maintenance of managerial effectiveness in a rapidly growing organization. When firms become larger, it is required a line-and-staff structure to reach flexibility and to improve the entrepreneurial spirit of the managers.

To sum up, the authors claim that when firms grow and the number of employees increments, the owners cannot manage everything alone and they need to set up an organizational structure. The first arrangement that authors suggest is a functional structure, then following a "deterministic" point of view they predict a divisional, a line-and-staff and matrix structure.

Coordination mechanisms

March & Simon (1958) claim that coordination mechanics are related with the division of work that causes interdependence among organizational units. According to the OLC models the need for coordination mechanisms emerges together with the changes in horizontal differentiation criteria. In order to manage such issues, different mechanisms are suggested.

Lippitt & Schmidt (1967) propose to manage the increasing complexity due to the addition of new departments through systematic plans and set long range planning. Furthermore, they indicate to adopt upward communication systems in order to share information between departments.

Greiner (1972) and Churchill & Lewis propose different mechanisms in order to address specific issues: budgets should support the coordination when functions are created; profit responsibility is introduced to coordinate and stimulate employees who belong to different divisions; teams and task groups satisfy the need for cross-functional integration; finally strategic planning and standard cost systems reduce inefficiencies generated by the increasing size.

Galbraith (1982) sustains that hierarchy can improve coordination and control, when new departments are added. He claims that general management (e.g. multifunctional managers) can solve conflicts among functional units. Instead, when firms increase the number of products, cross-functional teams are required. Finally, if firms pursue growth through diversification by regions, products or markets, managers should combine the use of profit centers and corporate culture to coordinate employees.

Adizes (1979) divides the life of the firms in two main periods: before and after maturity (sixth stage). According to the author, up to maturity employees are guided by an internal agent (individuals working for the organization who have experience of improving situation) and oriented by organizational culture. After maturity stage, firms need an external agent of change (outside consultants who are temporary employed in the organization) in order to lead and coordinate workers.

In summary, authors affirm that firms set up at same time both organizational structure and coordination mechanisms. The analysis shows that there is not an agreement related to which coordination mechanism fits better to each types of organizational structure.

Centralization and Decentralization

Centralization and decentralization define the distribution of the power and the level of participation in strategic decisions within an organization (Hage, 1980).

The issues of centralization and decentralization emerges during the life cycle of the firms for different reasons.

Whereas Adizes (1979), Churchill & Lewis (1983) and Lippit & Schimdt (1967) explain that decentralization is adopted in order to motivate employees to follow own initiatives and attract creative workers when the size of the firm increases, Galbraith (1982) suggests to increase the decentralization in order to support the product diversification, assigning to managers the responsibility of new products.

Differently form the other models, Greiner’s model claims that growing firms should decentralize to satisfy the demand for greater autonomy from middle managers, but when firm reach the biggest size, namely in the last two stages, centralization becomes necessary again in order to regain control and to achieve greater coordination over firms.

In brief, the authors affirm that the process of decentralization is directly linked with the growth of the firms: so that bigger firms need more delegation. According to the authors, decentralization allows firms to achieve diverse benefits, such as workers' motivation and higher work flexibility. Only Greiner (1972) has a different view, in fact he claims that centralized management is the best choice to solve issues related to big size of the firms.

Standardization and Mutual adjustment

All the authors consider two kinds of coordination tools, such as standardization and mutual adjustment. Standardization is a way of using rules and norms to standardize behaviour of the workers. On the other side, mutual adjustment is the process through which employees use their judgment rather than standardized rules to address problems, guide decision making, and promote coordination.

Lippitt & Schmidt (1967) suggest to implement and then update administrative policies from the second stage. Adizes (1979) claims that from maturity (sixth) stage, a well-managed bureaucracy is essential for the survival of firms.

Galbraith (1982) and Churchill & Lewis (1983) recommend from the third stage to adopt formal rules in order to have better control system and to improve efficiency of strategic planning.

Differently, Greiner (1972) sustains that when firms reach the fifth stage, their aim is emphasize greater spontaneity in management action. Therefore, as in the first stage, social control and self-discipline of the employees take over from formal control, that is used up to previous stage.

Analyzing the two coordination tools such as standardization and mutual adjustment, the five models predict that small firms in early stages of life do not need to standardize the job activities. Then, when there is an increment of the number of workers, departments and functions, firms should standardize procedures and routines. Except Greiner (1972) does not completely agree, indeed he sustains that the last stage of the firms is based on flexibility and spontaneity of the managers.

Discussion

After a decrease of the interest on developing new theories on organization design (Greenwood and Miller, 2010; Miller et al., 2009), new challenges such as globalization, outsourcing, and capability development encourage a renewed attention to organization design (Miller et al., 2009) in order to manage capabilities and resources of firms. The OLC models provide to us an holistic approach of the organizational elements of the firms. This is a reason why these models are still used in organizational literature as guiding framework for empirical studies (e.g. Kallunki and Silvola, 2008; Wang and Singh, 2014).

This paper reviews the literature about OLC models, and then analyses the five primary elements of good theory (why, when, who, what, and how) proposed by Whetten (1989) of the following five models by Lippitt & Schmidt (1967), Greiner (1972), Adizes (1979), Galbraith (1982), Churchill & Lewis (1983).

The results of the analysis confirm some limits of the OLC models that are recognized in the literature and highlight some new issues from organizational prospective.

First, these models affirm that the growth of the firms is linear and sequential (Levie and Hay, 1998; Quinn and Cameron, 1983; Rutherford et al., 2003; Stubbart and Smalley, 1999). Firms have a continuously growth over their life, even if many researches show that firms that do survive never grow beyond a very small size (Coad, 2007). Also the models sustain that organizational hierarchy becomes taller over the life cycle and that the process of decentralization is directly linked with the growth of the firms. Also, the analysis shows that the model by Greiner (1972) predicts either different or opposite arrangements to solve the issues related to the last stage, such as centralized management, flexibility and spontaneity of the managers and a decrease of organizational hierarchy.

Second, the growth of the firms creates internal issues related to the organizational structure that need to be resolved (Fombrun and Wally, 1989). The authors of the five models predict only one possible configuration to solve these issues (Mckelvie and Wiklund, 2010). In fact, they claim that in each stage, firms adopt a different organizational structure and in particular the authors predict a change from a functional structure to a matrix, adopting a divisional or a line-staff structure at intermediate stages. This deterministic point of view about growth of the firms is not fully recognized in the literature. Indeed, it is not easy to predict a priori when and how firms should choose a particular organizational solution (Terziovski, 2010), and internal organization may not be determined independently of firm boundaries (Brahm and Tarziján, 2015). Also, according to literature about configurational equifinality (Gresov and Drazin 1997), there is no single optimal design. Rather, managers choose designs that optimize for one contingency while addressing the other to the fullest extent possible, given their firms' particular contexts and capabilities (Westerman et al., 2006).

Third, our review reconfirms some considerations of the OLC models that are recognized in the literature. In fact, from our analysis it is still unclear: a) how many stages there are in an organization's life cycle and precisely what it is that constitutes a stage (Phelps et al., 2007); b) if a particular stages model becomes dominant in the field (Levie et al. 2010), c) the stages are not correlated to the chronological age of the organization (Bailey and Grochau, 1993; Rutherford et al., 2003).

Taking into account the results and the limitations of the OLC models, we suggest for the future researches to test if firms taken the growth as granted and if either business owner or managers adopt a predictable organizational structure change or there are different organizational configurations that companies adopt in the each stage of their life-cycle.

Conclusion

While previous reviews of OLC models have focused mainly on general issues of these models, we focus on the organizational design characteristics that identify each stage of firms life.

The results of the literature review sustain that OLC models suggest that size growth – considered as obliged – generates business issues that the firm is forced to solve adopting only one possible organizational configurations, following the deterministic organizational approach.

To conclude, we recognize some limitations of our analysis, such as the restriction arising from criteria that we have used to select the organizational life cycle models in order to follow our aim. Indeed we select only novel models excluding all the models based only on an empirical test of existent models. So, we did not take into account all the OLC models even if those models are still used in the literature.

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Table 1

Author(s)	Numbers of Stages	Why	When	Who	How
Lippitt & Schmidt (1967)	*Three*: birth, youth and maturity	Both exogenous and endogenous	Flow of time (one of the issue will acquire exceptional importance)	Management	Solve the crisis and create the base for the future crises
Greiner (1972)	*Five*: creativity, direction, delegation, coordination and collaboration	Endogenous problem	Both age and time have to increase	Top managers	Solving the revolution
Adizes (1979)	*Ten*: courtship, infant, go go, adolescent, prime, mature, aristocratic, early bureaucracy, bureaucracy and death	External	In the long run, organization must adapt to its external environment	Management	Change role combination and organizational behavior
Galbraith (1982)	*Five*: proof of principle prototype, model shop, startup volume production, natural growth and strategic maneuvering	External (market-product life cycle)	Increase in size	Management	Implement the right organization that fits with the size
Churchill and Lewis (1983)	*Five*: conception, survival, profitability, take off and maturity	Both external and endogenous	Increase in size	Business owner Management	Firms have to increase in size and profitability

Table 2

WHAT	Lippitt & Schmidt (1967)	Greiner (1972)	Adizes (1979)	Galbraith (1982)	Churchill & Lewis (1983)
Vertical Differentiation		The number of the supervisors increases up to fourth stage and decreases in the fifth stage (*From 2° to 5°*)		Venture managers manage the span of control issues (*From 2° to 5°*)	Balance between number of employees and supervisors (*From 2° to 5°*)
Horizontal Differentiation	Functional and divisional structure (*2°,3°*)	Functional to divisional, line-staff and then to matrix structure (*From 2° to 5°*)	Functional then divisional structure (*From 2° to 9°*)	Functional to modified functional and then to divisional or matrix structure (*From 2° to 5°*)	Functional, a divisional and line/staff structure (*From 3° to 5°*)
Integration/ Coordination Mechanisms	Systematic plans and upward communication flows (*2°,3°*)	Budgets, profit centers and task group (*From 2° to 5°*)	Organizational culture and facilitators (*From 2° to 9°*)	Structures to coordinate, planning and budgeting systems (*From 2° to 5°*)	Budgets, operational and strategic planning (*From 3° to 5°*)

WHAT	Lippitt & Schmidt (1967)	Greiner (1972)	Adizes (1979)	Galbraith (1982)	Churchill & Lewis (1983)
Centralization/ Decentralization	**C.:** venture managers do everything (1°) **D.:** delegation increases over time (2°,3°)	**C.:** centralization to have control and coordination (1°,4°,5°) **D.:** functional organization with decentralization (2°, 3°)	**C.:** founders have all the power (from 1° to 4°) **D.:** decentralize to the subordinates (From 5° to 9°)	**C.:** owner has all the power (1°,2°, 3°) **D.:** the management decentralize to the departments (4°, 5°)	**C.:** the owner does everything (1°, 2°) **D.:** decentralize to functional manager (3°,4°,5°)
Standardization/Mutual Adjustment	**M.A.:** firms should move with speed and flexibility (1°) **S.:** firms implement and then update policies (2°,3°)	**M.A.:** informal communication, team action, social control and self-discipline (1°, 5°) **S.:** Formal communication and planning procedures (2°,3°,4°)	**M.A.:** people take own initiative (1°, 2°, 3°) **S.:** formal plans and written procedures (4°, 5°, 6°, 7°)	**M.A.:** decision process is spontaneous (1°, 2°) **S.:** formal rules and control (3°, 4°, 5°)	**M.A.:** no formal planning (1°, 2°) **S.:** Formal systems (3°,4°,5°)
Structures suggested	Functional and divisional	Functional, divisional, line-staff and matrix	Functional and divisional	Functional (and with integrated departments),divisional and matrix	Functional, divisional, and line-staff