THE OPERATIONALIZATION OF COMPETITIVE STRATEGY: CHOOSING AN APPROPRIATE METHOD OF MEASUREMENT

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ABSTRACT

The purpose of this article is to describe and analyze those methods which are commonly applied to operationalize the competitive strategy variable. Those which have been most often applied in the scientific strategic management and strategic human resource management literature are specifically identified. The most appropriate alternative, which makes valid, reliable operationalization of the strategic competitive variable possible, is established via analysis of the identified methods. This occurs by way of the understanding that competitive strategy is a multidimensional phenomenon which must reflect consistency in its formulation and implementation processes. Identified alternative facilitates appropriate investigative decisions related to operationalization of the competitive strategy variable, based on appropriate methodological arguments. Additionally, it resolves the problem of a lack of homogenization in competitive strategy measurements, a situation that exists in the literature, and which hinders the comparison of results between studies.

Keywords: Competitive Strategy, Operationalization Methods, Measurement Models, Strategic Management.

INTRODUCTION

Competitive strategy is the action pattern chosen, on a collective level, which then lends cohesion to the way in which organizations compete, within their respective sectors (Mintzberg & Water, 1985). Wealth creation, then, heavily depends on whether this type of strategy is formulated and implemented successfully (Cespedes, 2014). As such, strategy is the mechanism or variable which explains the way in which a company initiative, process, program, or resource is appropriately used, so as to produce improved performance, and create sustained competitive advantages (Huselid & Becker, 2011).

It is thus that competitive strategy operationalization constitutes a subject of great importance in the strategic management literature (Hambrick, 2003; Huselid, 1995; Nayyar, 1993; Venkatraman & Ramanujan, 1986). According to previous mentioned studies, its operationalization sets two goals, or specific scientific objectives: (1) to identify those competitive strategies formulated and implemented by organization, which lends them an essentially descriptive scope, and (2) to evaluate which initiatives, processes, programs, or organizational resources make the development and implementation of said strategies possible, which alludes to a correlational and explicative scope.

Based on the postulate that those internal resources which develop and deploy an organization are the source of competitive advantage (Barney, 1991), strategic management

academics and researchers have invested their efforts in determining the types of resources, or configuration thereof, that relate to specific competitive strategies (Wright et al., 2001). As a result, in accordance with the above-mentioned goals, the latter prevails in the literature.

In the strategic management scientific literature, various investigations seek to evaluate whether initiatives or resources from areas such as finance, research and development, marketing, production, human resources, or information technologies, among others, are strategically contingent upon one another, from a strategic point of view. The ultimate goal of the evaluation and confirmation of contingent relationships between business resources and types of competitive strategy, in accordance with strategic management theory, is for operational and financial performance to be dependent on the resource-strategy alignment, or strategic performance (Hambrick, 2003; Huselid, 1995; Wright et al., 2001).

For example, in investigations regarding strategic human resource management, competitive strategy measurement is an essential objective for the identification of human management systems that facilitate the formulation and execution of competitive strategy typologies (Arthur, 1992; Huselid, 1995; Raghuram & Arvey, 1994). Strategic human resource management research has established that the development and implementation of a specific competitive strategy may be supported by a specific human resource management system (Becker et al., 2009; Delery & Doty, 1996; Lepak & Snell, 1999: 2002). This, in accordance with the above-mentioned theoretical proposals, is the fundamental condition for the obtention of improved organizational performance, in terms of human action (Huselid & Becker, 2011; Huselid, 1995).

According to a literature review, studies were found which included the strategy construct, but which did not define the arguments used to support the definition of their appropriate operationalization. Further, strategic human resource management classics mention the operationalization method, but fail to justify its selection (Delery & Doty, 1996; Huselid, 1995). Researchers do not establish operationalization model suitability based on the type of study, company characteristics under study, or the type of statistical analysis required to test the theoretical model which is to be contrasted. The lack of consensus in the literature regarding the best operationalization method for the competitive strategy variable hinders the comparison of results obtained in similar studies, which involve the analysis of said strategy (whether of descriptive, correlational, or explicative character).

That said the purpose of this article is to describe and analyze those methods or models which are often used for competitive strategy measurement, but particularly those which have been employed in the strategic management and strategic human resource management scientific literature. Said analysis will indicate the most appropriate operationalization method, in accordance with those conceptual, organizational, and analyzer conditions which affect competitive strategy measurement.

LITERATURE REVIEW

Dominant Measurement Perspectives in Competitive Strategy

Regarding competitive strategy measurement, both the fields of strategic management and strategic human resource management research offer two dominant operationalization perspectives. The first consists of using objective means or indicators, while the second proposes use of subjective or perceptual indicators. The orientations of these operationalization foci, for competitive strategy, are explained in greater detail below.

The competitive strategy measurement perspective, based on objective indicators, operationalizes this variable by emphasizing its execution (realized strategy), arguing that this process is more important than formulation (Becker et al., 2001; Hambrick, 1981; Huselid & Becker, 2011). Researchers who defend this approach state that organizations' strategic orientations are reflected in the actions and results obtained via the deployment of strategic capacities or key processes (core competences), the axis of the value proposal.

The measurement perspective that uses subjective or perceptual indicators suggests that the strategic orientations of companies which form part of a given industry are seen by researchers as the representation of upper management's viewpoint, in terms of the methods that companies employ in order to compete within their sectors (Desarbo et al., 2005; Dess & Davis, 1984). In this case, strategy formulation (intended strategy), as the product of a decision made by a strategist and their team, permits the definition of the type of strategic orientation pursued by each organization (Cespedes, 2014; Samba et al., 2018; Zahra & Pierce, 1990). Strategy content, then, makes it possible to classify a given organization by way of the competitive strategy typologies established in particular strategy theories.

Next, the most representative operationalization models for the competitive strategy variable, which have been utilized in the strategic management and strategic human resource management literature, and which belong to each of the previously-mentioned dominant measurement perspectives, are presented.

Operationalization Methods by way of Objective Indicators

Within this perspective, Hambrick (1981) operationalized competitive strategy as the percentage of sales derived from new products, based on Miles & Snow's (1978) typology. Thus, their classification criteria for each organization, whether defender or prospector, was that the sales percentage of the three strongest competitors' new products would be subtracted from the sales percentage derived from their own new products. Therefore, defender companies would be those with a relative new product development activity of -5 or less. A prospector, then, would be a company with a relative new product activity equal to or greater than 5.

Similarly, using objective indicators for competitive strategy operationalization, Thomas & Ramaswamy (1996) characterized those organizations which participated in their study with Miles and Snow's typology. The classification criteria proposed by these authors was based on capturing the effort expended in strategy execution, by way of the investment (with respect to total sales) made by each organization in key processes, as well as the analysis of efficiency indicators. In effect, companies that made considerable investments in processes such as marketing and research and development, and which presented low asset and efficiency investment indicators (cost of product sold compared to total sales), were identified as being prospector organizations. In contrast, those companies with considerable investment in assets and high efficiency indicators, but with minimal marketing and research and development investment were classified as defender.

Operationalization Methods by way of Subjective or Perceptual Indicators

Within the perspective of operationalization via subjective indicators, the strategic management and strategic human resource management literature offers a number of alternatives. This type of operationalization is that which predominates in the literature both to characterize strategy and evaluate correlational/causal relationships. Several of these models,

from the simplest among them (single-item) to those which propose strategy measurement based on a higher level of complexity (multi-item), are described below.

In Snow & Hrebiniak's (1980) investigation, upper management classified their organization based on the descriptions of the four strategy types proposed in Miles and Snow's typology: defender, prospector, analyzer, and reactor. The survey contains a paragraph (paragraph approach) which specifies and describes each strategy typology, and so the manager may choose the option which best represents the decision pattern employed in their organization for market competition (Conant et al., 1990). This measurement method, based on a nominal scale, has been employed in other investigations of note, in the literature, which have aimed to characterize companies in accordance with Miles and Snow's typology (Segev, 1987; Zahra, 1987).

Also, based on this classification method, via the descriptions of Miles and Snow's four types of strategy, Zajac & Shortell (1989) characterized 570 hospitals. Although the classification method utilized is similar to that designed by Snow & Hrebiniak (1980), this varies in the use of a nominal, seven-point scale, in which the president/manager/director of a business identifies the strategy that they pursue. Thus, levels one and two represent the defender strategy, as the description emphasizes the company's concentration on maintaining current markets, services, and products. Levels three, four, and five represent the analyzer strategy, as the description highlights the organization's fervor to compete and imitate the changes made by similar companies within their sector. Levels six and seven reflect the prospector strategy, as they indicate that the organization focuses on being the first to develop markets, products, and services. Lastly, when managers believe that their companies do not fall within said scale, their companies are characterized as reactors (in other words, sans strategy).

Zajac & Shortell (1989) additionally considered the speed evaluation with which organizations apply changes to their product, service, or market offerings. Notably, the measurement system proposed by Zajac and Shortell has been used in investigations which seek to evaluate the relationship between human resource management systems and competitive strategy (Peck, 1994).

In the course of the search to broaden the scope of strategy operationalization, the multi-item methods employed by Conant et al. (1990), Dess & Davis (1984) and Miller (1988) were evaluated in the literature. These methods are widely used in studies which characterize organizations from various sectors, in accordance with their strategic orientations. Additionally, the competitive strategy measurement model adaptation (multi-item operationalization) proposed by Raghuram and Arvey, an adaptation of the operationalization created by Zajac & Shortell (1989), was found.

Based on the adaptive cycle concept, or on the decisions made to lend structure to strategy, in accordance with the proposals of Miles and Snow, Conant et al. (1990) operationalized competitive strategy. Miles and Snow had established that the adaptive cycle was composed of three moments, each of which was conformed of dimensions that varied, in conformity with archetypes for the implementation of each type of strategy. Initially, an entrepreneurial moment was proposed. This consisted of three (3) dimensions: mastery of product-market, success position, and vigilance and growth. Next came an engineering moment, which was also composed of three (3) dimensions: a technological goal, technological scope, and technological adaptability-capacity. Lastly, an administrative moment, composed of four (4) dimensions, was developed: dominant coalition, planning, structure, and control.

Using these moments and their respective dimensions as references, Conant and collaborators constructed an instrument with eleven (11) items, which were derived from the eleven (11) dimensions of the adaptive cycle established in Miles and Snow's theory. A survey was thus proposed, in which each item defined would offer four (4) response options, each of which would be associated with one type of strategy, as defined by Miles and Snow's model: defender, prospector, analyzer, and reactor. Based on the archetypes relative to the eleven (11) adaptive cycle dimensions, and which differentiate each type of strategy, the president, general director, or other individuals charged with the formulation and execution of the strategy would choose the archetype which best characterized their organization. Definitively, criteria which would classify a company as defender, prospector, analyzer, or reactor, according to this method, is based on a rule in which majority archetypes, which characterize a single type of strategy, are obtained (Sollosy, 2013).

Within the field of strategic human resource management, Raghuram & Arvey (1994) adopted a measurement system with various items, which permitted the broadening of the strategy construct, as well as use of a measurement system based on an ordinal scale. As such, these authors, in their investigation of the relationship between human resource management practices and competitive strategy, based on Miles and Snow's typology, asked the presidents/general directors of participating companies to evaluate the importance of the following dimensions of strategy for their organizations, based on a five-level Likert scale: penetration of existing markets, new market development, improvement and quality of current products, development of new products, reduction of production process costs, and control system use.

Dess & Davis (1984) also designed an operationalization system which considered various items that corresponded to the competitive methods selected by organizations, the competitive dimensions which constitute the three generic strategies proposed in Porter's typology. Based on said methods, and through use of a Likert scale, the president, upper management team, or general director would evaluate the strategic priorities emphasized by their company. The determination of the basis of an organization's competitive strategy, whether in cost leadership, differentiation, or focus (market niche) was determined using this measurement system to determine the level of consistency in the methods employed, and which characterize a specific type of strategy.

In addition, Miller (1988) offers another perspective to measure Porter's competitive strategy typology. Miller designed a measurement system to differentiate the firms that implement a differentiation strategy from firms that implement a cost leadership strategy. On one hand, in order to measure differentiation strategy, this measurement model evaluates the emphasis that firms put on the next objectives: product innovation, product novelty, speed innovation, and innovative orientation of the firms. On the other hand, cost leadership strategy was evaluated through the emphasis that firms put on the next objectives: price-cutting, expenditure minimization, and cost control. Basically, Miller distinguishes a differentiation strategy from cost leadership strategy according to the firms' competitive purposes.

Finally, Di Benedetto et al. (2008) designed a strategic capabilities measurement model. According to these authors, measurement these capabilities have to do with measuring the Resource Based View of the firm (RBV). This is based on the fact that capabilities, addressed as strategic resources, allow for achieving competitive advantages. Di Benedetto et al. (2008) then, offer a measurement of the strategic capabilities that, in marketing and strategic management literature, are associated with creating competitive advantages. These capabilities are: marketing

capabilities, technology capabilities, market linking capabilities, information technology capabilities, and management-related capabilities. This measurement model looks for determining the maturity level of each capability related to competitors (scale from 0: much worse than our competitors to 10=much better than our competitors). As a result, each capability is addressed as unidimensional variable. This measurement system does not allow for identifying the competitive strategy that the firm pursues. In Table 1, advantages and disadvantages of each competitive strategy measurement model are shown.

Table 1
ADVANTAGES AND DISADVANTAGES OF EACH COMPETITIVE STRATEGY MEASUREMENT MODEL

Measurement Model	Advantages	Disadvantages
Hambrick (1981) Thomas & Ramaswamy (1996)	Competitive strategy is measured according to strategic objectives achievement.	Lack of construct validity. Companies could be reluctant to offer private company information.
Snow & Hrebiniak (1980) Zajac & Shortell (1989)	Easy to answer by respondent.	The measurement model does not accurately capture the strategy concept. Measurement error.
Conant et al. (1990)	Offers a comprehensive view of the strategy's construct. Theoretically anchored.	Level of measurement error is reduced. Classification of strategies is based on a majority rule, which is arbitrary.
Dess & Davis (1984)	Offers a comprehensive view of the strategy construct. Allows for differentiating strategies by means of statistical analysis (Cluster analysis). Theoretically anchored.	Level of measurement error is reduced. Some scale items do not allow for the differentiation of strategies.
Miller (1988)	Offers a clear distinction between types of strategies. Allows for the differentiation of strategies by means of statistical analysis (Cluster analysis).	Level of measurement error is reduced. Only measures company's strategic objectives.
Desarbo et al. (2008)	Allows for identifying company's core competencies.	Only measures strategic capabilities. It is not possible to identify competitive strategies. Evaluates generic strategic capabilities.

METHODOLOGY

Comparative Analysis of Competitive Strategy Measurement Models

When measurement perspectives are compared, among the first discussion to emerge originates from the decision to use a single item or multi-item scale. Concerning the use of a single-item scale (paragraph method), Conant et al. (1990) indicate that this method presents an exaggerated simplification of a construct-like strategy, given that it is a multidimensional and formative concept. For these authors, the use of scales with a single item is justified only when the construct is unidimensional. For this reason, in the measurement of a construct like strategy, the use of this type of scale has a limited value, as they cannot adequately capture a concept composed of various dimensions (Nunnally, 1978).

It should be added that this problem is especially characteristic of operationalization methods based on a single subjective indicator, as in the Snow & Hrebiniak (1980) and Zajac & Shortell's (1989) models. The literature is consistent in its indication that this type of method has important restrictions for content validity (Conant et al., 1990; Nayyar, 1993; Robinson, 2018; Zahra & Pierce, 1990). Said validity consists in that, collectively, those items which form part of the scale unite all key variable aspects, and ignore irrelevant aspects (Robinson, 2018). Thus, operationalization of competitive strategy by way of a single indicator, via the reading of a paragraph, adds an excess of subjective weight to the evaluation, because there is no group of items which permit evaluation of the manager's internal evaluation consistency.

In contrast, the single-item measurement method proposed by Hambrick (1981), which uses an objective indicator (sales percentage derived from new products), is valid, in the sense that it is based on a key result which differentiates a prospector organization (innovation) from a defender organization (leadership in costs). The result generated by this operationalization method is a product of organization's internal competitive capacity configuration, which indicates its dependency on the consistent development of multiple business elements, which tend to be considered in multi-item subjective methods. However, this type of measurement also exhibits the content validation problem.

The second discussion, based on the analysis of competitive strategy operationalization perspectives, refers to the choice of a model oriented toward the strategy formulated (intended strategy) or the strategy implemented (realized strategy). Notably, this choice depends on the type of company in which one wishes to measure or evaluate its competitive strategy. Here, researchers tend to fear that what is desired strategically is not employed in practice, or that the strategy formulated by an organization is not implemented successfully.

Large organizations with high performance levels tend to establish their strategies deliberately, for which purpose they follow an analyzer process, which systematically connects formulation with implementation, a top-down approach (Becker et al., 2001). Consequently, the measurement of competitive strategy in this kind of company is effective, when perceptual or subjective measurement approach is utilized, despite the fact that this is oriented toward measurement of the desired or formulated strategy. Researchers such as Day & Wensley (1988) have used subjective methods like Dess and Davis' scale to measure competitive strategy in large companies with high performance levels, with the argument that the evaluated items correspond to competitive methods which reflect the resources and capacities that permit strategy implementation, as defined by the strategist.

Conversely, in micro, small, and medium-sized companies, there is difficult with respect to which measurement methods, focused either on formulated or desired strategy, may be valid. The scarcity of resources in said companies limits their development, produces a lack of structure in strategic management processes, and generates gaps between what is desired and what is implemented. Additionally, in these types of organizations, according to Mintzberg & Water's (1985) classification, strategy tends to be emergent instead of deliberate, which implies that the best approach for strategy measurement is that which is oriented toward implementation, not formulation (measurement must be focused on the strategic result, not on a plan or strategic content). In this type of company, competitive strategy implementation is the reflection of their strategic reality. Therefore, it makes no sense to measure strategy by way of an approach that is based on the strategy formulation phase (intention), if this process is inconsistent with the implementation phase.

RESULTS AND DISCUSSION

In Search of the Best Competitive Strategy Operationalization

In terms of content validity, the competitive strategy measurement models proposed by Dess & Davis (1984), Miller (1988), Porter typology, and Conant et al. (1990), Miles and Snow typology, surpass other measurement methods found in the literature. This is explained in the arguments listed below.

First, the three models are derived from theoretical constructs that have resisted the evaluation and scrutiny of the scientific community (theoretically anchored), and have additionally served as diagnostic tools for strategists and organizations (Conant et al., 1990; Desarbo et al., 2005; Hambrick, 2003). Second, content validity in strategy operationalization, for the Porter typology (Dess & Davis, 1984; Miller, 1988) and the Miles and Snow typology (Conant et al., 1990), has been evaluated by strategic management experts (investigators, academics, and strategists), which has permitted the generation of multidimensional instruments that reflect the appropriateness and broadness of the characteristics of each competitive strategy typology. Third, mentioned methods capture organizations' strategic orientation, based on the knowledge of the strategist or strategy team, a result which correlates with strategy identification by way of external measurements or methods. This demonstrates the efficiency of the competitive strategy identification system used by these models (Hambrick, 1981: 2003).

Finally, the question of which strategy measurement method is the most appropriate remains: the Conant et al. (1990) scale, Miller (1988) or the Dess & Davis (1984) scale. This justification is provided below.

The most appropriate method for competitive strategy measurement must provide specific criteria which permit company classification and evaluation, in accordance with the chosen strategy theory (Hambrick, 1981). For this purpose, in investigations in which organizations from various sectors are characterized with Miles and Snow's typology, it was found that those variables which make a more effective distinction between the types of competitive strategies possible correspond to the archetypes adopted by organizations in each of the dimensions evaluated within the entrepreneurial moment, as defined by Miles and Snow (Zahra & Pearce, 1990). Additionally, these dimensions of the adaptive cycle, analyzed from the archetypes which characterize both the defender and prospector angles of Miles and Snow's model, coincide in content with the competition methods included in Porter model competitive strategies.

As such, the dimensions of the entrepreneurial moment, established in Conant et al. (1990) measurement method, also permit differentiation of a prospector vs. defender orientation, when Dess and Davis' model is utilized (Díaz et al., 2014). Even Dess and Davis' model offers additional archetypes representative of the entrepreneurial moment, which permit the validation of a company's competitive strategy. The two characteristics described, as well as the emphasis on defining a way for a company to compete, are arguments which defend the suitability of Dess and Davis' model (especially in large companies).

Although Conant et al. (1990) added the evaluation of the dimensions that form engineering and administrative moments to the adaptive cycle with their respective archetypes, because they do form part of Miles and Snow's characterization framework model, these dimensions, in accordance with the measurement model analysis located in the literature, do not permit effective differentiation between prospector (differentiator) organizations and defender (costs leader) organizations (Zahra & Pearce, 1990). In accordance with the proposals of Hambrick (2003) and Becker et al. (2009), this is explained by the principle of equifinality, given

that, on the administrative and operative levels, organizations which adopt similar competitive strategies may use different means to emphasize the development of their priorities and strategic abilities. This is supported by the vast development of hard and soft technologies in the past 30 years, which lends diversity in terms of means, techniques, technologies, and resources.

On the other hand, although Conant et al. (1990) scale is derived from theory and considers competitive strategy to be a multidimensional phenomenon (multi-item measurement system), within its limitations is measurement via a nominal scale (forced choice by the respondent) and the definition of strategic orientation, based on a rule of archetype majority. If, of the eleven evaluated dimensions of the adaptive cycle, the manager self-classifies a minimum of six archetypes that correspond to a specific strategy-defender, prospector, analyzer, or reactor said strategy is defined as that pursued by the organization.

Regarding nominal scale use, Conant et al. (1990) operationalization obliges the interviewed manager to perform the classification of their organization by choosing one of the archetypes which characterize each type of strategy, as the dimensions of Miles and Snow's strategy model adaptive cycle are defined. In effect, there is no way to establish the degree to which an organization emphasizes each of the archetypes proposed, within the dimensions of the adaptive cycle. This limits a more complete definition of the phenomenon studied, or in this case, of the competitive strategy variable.

The criteria that consolidate the definition of an organization as defender/having a leadership focus on costs, or prospector/differentiation based on innovation, appeal to a classification by archetype majority, a rule that is excessively reductionist and forced (Díaz et al., 2014). This method of strategic orientation definition restricts the possibility of broader analysis, particularly when the goal is to evaluate contingent relationships with competitive strategy.

Consequently, additional justifications regarding the choice of Dess & Davis' (1984) scale emerge in place of Conant et al. (1990) scale. First, Dess and Davis' scale adds richness to the analysis because it offers an ordinal scale, which permits managers to represent their strategic orientation with greater precision. Second, it integrates a number of items, which identify and validate the company's strategic orientation, in keeping with the archetypes from the entrepreneurial moment, extrapolated from Miles and Snow's strategy typology. Finally, the criterion which consolidates the defender or prospector organization classification is based on an analyzer process which employs statistical tools (Díaz et al., 2014).

CONCLUSIONS

This article described and analyzed methods which are commonly used to operationalize the competitive strategy variable, based on a strategic management and strategic human resource management literature approach. This literature offers both measurement methods which focus on strategy implementation as well as methods which emphasize its formulation. From both perspectives, certain methods operationalize competitive strategy as a unidimensional variable, and others do so as a multidimensional variable.

The first conclusion which emerges from the analysis performed is that subjective methods, which use a single evaluation dimension, are inappropriate, as they do not have the capacity to broadly capture a construct like competitive strategy. This explains the emergence of multi-item methods in the literature, as well as researcher preference for methods with a single dimension. Undeniably, competitive strategy cannot be addressed as a unidimensional variable, although this has been made by investigators including Snow & Hrebiniak (1980) and Zajac & Shortell (1989).

In contrast, objective strategy operationalizations are effective at classifying organizations, through use of a single indicator. These kinds of operationalization focus on the establishment of the essential characteristic that differentiates one organization from another, within the entrepreneurial moment: innovating or not in products, services, or markets (Zahra & Pearce, 1990). Thus, Hambrick (2003) proposed his objective operationalization system, based on a single dimension, which permitted differentiation between prospector and defender organizations, in accordance with Miles and Snow's model.

The second important conclusion is derived from the fact that strategy is a multidimensional phenomenon, which, according to Miles & Snow's (1978) proposals, demands the disciplined configuration of diverse organizational resources, which emerge from different areas of organizational action. As such, consistency in these resources' development permits the establishment of the strategy that an organization has formulated and implemented. In the operationalization of a construct like strategy, it would be ideal to use a multi-item method, as with Conant et al.'s (1990) scale and Dess & Davis' (1984) scale, or the objective measurement model, which includes two measurement dimensions, as proposed by Thomas & Ramaswamy (1996).

Third, both objective and subjective methods, which depend on a single item or dimension, define the type of strategy pursued in organizations in reductionist form (they do not require a method of analysis). Thomas & Ramaswamy's (1996) model remarks upon the simultaneous compliance of two criteria, while Conant et al. (1990) model defines classification in keeping with a majority criterion, based on compliance with characteristics related to a specific type of strategy. Both methods are useful for descriptive studies. That said, Dess & Davis (1984), with their scale, enrich the analysis process through the use of statistical tools, which determine the strategy that an organization has formulated and implemented. Additionally, said scale permits causal relationship evaluation.

Fourth, one must consider the context in which competitive strategy measurement is applied. As mentioned above, multi-item subjective methods are valid measurements for competitive strategies in large companies, given that the formulation and implementation of strategy is systematically integrated in this kind of company. The high level of strategic management process structuring allows that which is desired to strategically materialize. However, in micro, small, and medium-sized companies, said methods are not effective, as they may reflect the desire of those who run the company, but not what occurs in reality. Thus, in this type of company, use of objective methods is recommended, as strategy in said companies is emergent, not deliberate. One may also validate the results of an objective method with those of a subjective method, in these types of companies.

REFERENCES

Arthur, J.B. (1992). The link between business strategy and industrial relations systems in America steel minimills. *Industrial and Labor Relations Review, 45*(3), 488-506.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Becker, B.E., Huselid, M.A., & Beatty, R.W. (2009). *The differentiated workforce*: *Transforming talent into strategic impact*. Boston, MA: Harvard Business Press.

Becker, B.E., Huselid, M.A., & Ulrich, D. (2001). *The human resource scorecard: Linking people, strategy, and performance*. Boston, MA: Harvard Business School Press.

Cespedes, F.V. (2014). *Aligning strategy and sales: The choices, systems, and behaviors that drive effective selling*. Boston, MA: Harvard Business Review Press.

Conant, J.S., Mokwa, M.P., & Varadarajan, P.R. (1990). Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study. *Strategic Management Journal, 11*(5), 365-383.

Day, G.S., & Wensley, R. (1988). Assessing advantage: A framework for diagnosing competitive superiority. *Journal of Marketing, 52*(2), 1-20.

Delery, J.E., & Doty, D.H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal, 39*(4), 802-835.

Desarbo, W.S., Di Benedetto, C.A., Song, M., & Sinha, I. (2005). Revisiting the Miles and Snow strategic framework: Uncovering interrelationships between types, capabilities, environmental uncertainty, and firm performance. *Strategic Management Journal, 26*(1), 47-74.

Dess, G.G., & Davis, P.S. (1984). Generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management Journal, 27*(3), 467-488.

Di Benedetto, C.A., DeSarbo, W.S., & Song, M. (2008). Strategic capabilities and radical innovation: An empirical study in three countries. *IEEE Transactions on Engineering Management, 55*(3), 420-433.

Díaz, M., López, A., & Valle, R. (2014). A contingent approach to the role of human capital and competencies on firm strategy. *BRQ Business Research Quarterly, 17*(3), 205-222.

Hambrick, D.C. (1981). Strategic awareness within top management teams. *Strategic Management Journal, 2*(3), 263-279.

Hambrick, D.C. (2003). On the staying power of defenders, analyzers, and prospectors. *Academy of Management Executive, 17*(4), 115-118.

Huselid, M.A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal, 38*(3), 635-672.

Huselid, M.A., & Becker, B.E. (2011). Bridging micro and macro domains: Workforce differentiation and strategic human resource management. *Journal of Management, 37*(2), 421-428.

Lepak, D.P., & Snell, S.A. (1999). The human resource arquitecture: Toward a theory of human capital allocation and development. *Academy of Management Review, 24*(1), 31-48.

Lepak, D.P., & Snell, S.A. (2002). Examining the human resource architecture: The relationships among human capital, employment, and human resource configurations. *Journal of Management, 28*(4), 517-543.

Miles, R.E., & Snow, C.C. (1978). *Organizational strategy, structure, and process.* New York: McGraw-Hill.

Miller, D. (1988). Relating Porter's business strategies to environment and structure: Analysis and performance implications. *Academy of Management Journal, 31*(2), 280-308.

Mintzberg, H., & Waters, J.A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal, 6*(3), 257-272.

Nayyar, P.R. (1993). On the measurement of competitive strategy: Evidence from a large multiproduct U.S. firm. *Academy of Management Journal, 36*(6), 1652-1669.

Nunnally, J.C. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

Peck, S.R. (1994). Exploring the link between organizational strategy and the employment relationships: The role of human resources policies. *Journal of Management Studies, 31*(5), 715-736.

Raghuram, S., & Arvey, R.D. (1994). Business strategy links with staffing and training practices. *Human Resource Planning, 17*(3), 55-73.

Robinson, M.A. (2018). Using multi-item psychometric scales for research and practice in human resource management. *Human Resource Management, 57*(3), 739-750.

Samba, C., Van Knippenberg, D., & Miller, C.C. (2018). The impact of strategic dissent on organizational outcomes: A meta-analytic integration. *Strategic Management Journal, 39*(2), 379-402.

Segev, E. (1987). Strategy, strategy-making, and performance in a business game. *Strategic Management Journal, 8*(6), 565-577.

Snow, C.C., & Hrebiniak, L.G. (1980). Strategy, distinctive competence, and organizational performance. *Administrative Science Quarterly, 25*(2), 307-335.

Sollosy, M.D. (2013). A contemporary examination of the Miles and Snow strategic typology through the lenses of dynamic capabilities and ambidexterity. *Dissertations, Theses and Capstone Projects, Paper 552.*

Thomas, A.S., & Ramaswamy, K. (1996). Matching managers to strategy: Further tests of the miles and snow typology. *British Journal of Management, 7*(3), 247-261.

Venkatraman, N., & Ramanujan, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review, 11*(4), 801-814.

Wright, P.M., Dunford, B.B., & Snell, S.A. (2001). Human resources and the resource based view of the firm. *Journal of Management*, *27*(6), 701-721.

Zahra, S.A. (1987). Corporate strategic types, environmental perceptions, managerial philosophies, and goals: An emprirical study. *Akron Business and Economic Review, 18,* 64-77.

Zahra, S.A., & Pearce, J.A. (1990). Research evidence on the Miles-Snow typology. *Journal of Management, 16*(4), 751-768.

Zajac, E., & Shortell, S. (1989). Changing generic strategies: Likelihood direction, and performance implications. *Strategic Management Journal, 10*(5), 413-430.