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Strategic Behavior and Ambidexterity: a study applied along the Brazilian wineries

Comportamento Estratégico e Ambidestria: um estudo aplicado junto às empresas vinícolas brasileiras

Comportamiento estratégico y ambidextrismo: un estudio aplicado a las bodegas de Brasil

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ABSTRACT

The aim of this paper was to correlate the strategic behavior of managers of national winery industries with the process of organizational ambidexterity. Therefore, the theory adopted was mainly based on the knowledge of Miles and Snow (1978) on types of behavior, and March (1991), with respect to ambidexterity. The methodology used was the quantitative research, using the survey method. The sample consisted of 150 industries Brazilian wineries. To process the data, we used multivariate techniques, particularly structural equation modeling. The results point to a positive relationship between the prospector, anlyzer and reactor behaviors toward ambidexterity. The defender behavior has a negative relationship with ambidexterity. While this type is not theoretically related to the ambidextrous processes, the national wine industry scenario is empirically permeated by the need for reorganization, given the environmental situation experienced by the companies. The behavior of managers is influenced by reactive practices; for instance, we observe research on the need for measures to safeguard the market, which is conducted by the Ministry of Development, Industry and Foreign

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Trade (MDIC). Finally, the research stands out for addressing a specific theme and exploring its features, contributing to the literature, generating support for management decisions and expanding horizons for further research.

Keywords: Strategic behavior. Ambidexterity. Exploration. Exploitation. Wine Industry.

RESUMO

O objetivo deste artigo é correlacionar o comportamento estratégico dos gestores das indústrias vinícolas nacionais com o processo de ambidestria organizacional. Para tanto, o referencial teórico apropriou-se, principalmente, dos conhecimentos de Miles e Snow (1978), sobre tipologias de comportamento, e de March (1991), com relação à ambidestria. A metodologia foi direcionada para pesquisa quantitativa, valendo-se do método *survey*. A amostra compreendeu 150 indústrias vinícolas brasileiras. Para o tratamento dos dados, utilizaram-se técnicas multivariadas, em especial modelagem de equações estruturais. Os resultados apontam para uma relação positiva entre os comportamentos prospector, analista e reativo e a ambidestria. O comportamento defensor possui uma relação negativa com a ambidestria. Embora essa tipologia não se configure, teoricamente, com os processos ambidestros, o cenário da indústria vinícola nacional, empiricamente, é permeado pela necessidade de reorganização, por conta do contexto ambiental vivenciado pelas empresas. O comportamento dos gestores é influenciado por práticas reativas; a exemplo disso, observam-se as averiguações de necessidade de medidas de salvaguarda do mercado, que estão sendo realizadas pelo Ministério de Desenvolvimento, Indústria e Comércio Exterior (MDIC). Por fim, a pesquisa destaca-se por abordar um tema específico e explorar suas características, contribuindo para a literatura, gerando suporte para as decisões gerenciais e ampliando os horizontes para novas pesquisas.

Palavras-chave: Comportamento estratégico. Ambidestria. Exploração. Explotação. Indústria vinícola.

RESUMEN

El objetivo de este trabajo es correlacionar el comportamiento estratégico de los administradores de bodegas industriales nacionales con el proceso de la ambidextria organizativa. Para ello, la teoría se apropió principalmente del conocimiento de Miles y Snow (1978), sobre los tipos de comportamiento, y de March (1991) con respecto al ambidextrismo. La metodología se basó en la investigación cuantitativa, utilizando el método de la encuesta. La muestra estaba conformada por 150 bodegas industriales brasileñas. Para procesar los datos utilizamos técnicas multivariantes, en particular modelos de ecuaciones estructurales. Los resultados apuntan a una relación positiva entre los comportamientos prospector, analista y reactivo frente al ambidextrismo. El comportamiento defensor tiene una relación negativa con el ambidextrismo. Aunque esta tipología no se configure teóricamente con los procesos ambidextros, el panorama de la bodega nacional, empíricamente, es planteado por la necesidad de reorganización, debido al contexto ambiental vivido por las compañías. El comportamiento de los administradores es influenciado por prácticas reactivas; se observaron las averiguaciones de necesidad de medidas de salvaguardia del mercado, que se están llevando a cabo por el Ministerio de Desarrollo, Industria y Comercio Exterior (MDIC). Por último, la investigación destaca por abordar un tema específico y explorar sus características, lo que contribuye a la literatura, a la generación de las decisiones de gestión de apoyo y a ampliar horizontes para nuevas investigaciones.

Palabras clave: Comportamiento estratégico. Ambidextrismo. Estrategia. Explotación. Exploración. Industria del Vino.

1 INTRODUCTION

Developing research seeking to understand the strategic behavior of managers, as well as

their consequences, has been the aim of many researchers in the field of strategies. This practice intends to extend the academic and empirical horizons on the subject, and thus promote the process of reflection about alternative routes, so that management can enhance organizational performance.

In this sense, we can detect in the literature a wide range of methodologies that propose to classify the behavior of managers, like Miles and Snow (1978), Porter (1980a) and Mintzberg (1988). Costa and Silva (2002), Silva, Brandt and Costa (2003) and Brandt (2008) state that the proposals of Miles and Snow (type of behavior), Porter (generic strategies) and Mintzberg (generic strategies) are the most representative and the ones that have supported the greatest number of empirical tests. Moreira et al. (2009) and Monk (2010) agree with this thought, highlighting these three types as key among those developed.

However, we detected that, among the models for the analysis of strategic behavior, introduced over the past 25 years, the typology of Miles and Snow (1978) has been the most enduring, the most critical and the most used. This methodology was subjected to various tests of validity. In a wide range of settings, the researchers found strong and consistent support for validating the model (HAMBRICK, 2003).

Thus, we emphasize that the types of strategic behavior of Miles and Snow (1978) will be used in this research, since we understand that it fills the gaps left by other approaches, reliably identifying the strategic behavior of the manager.

Further, we detected that, when making a decision, doubts arise in the minds of managers, among which the main one is: invest in new products/services or improve existing ones? According to March (1991), this challenge becomes not only irrelevant, but also harmful to the organizational performance. According to the author, it is vital to explore (create) and exploit (refine) products and services in a balanced way, so that the organizational system survives.

The ability to equate the actions of exploration and exploitation of the organization generates an organizational capacity, defined as ambidexterity. This feature comes as the company can keep the pace of development and research of new products and services, while continuously optimizing existing ones. March (1991) states that a company can endanger the maximization of performance by focusing solely on exploration or exploitation activities. This hypothesis is corroborated by Smith and Tushman (2005), Lin, Yang and Demirkan (2007), Han and Celly (2008) and Silveira-Martins (2012).

Considering this aspect, it is assumed that managerial behavior directed towards ambidextrous practices positively broadens the horizons of the company's performance, and softens the constant organizational needs with the best use of resources. Faced with this theoretical situation, we sought to identify a segment with characteristics similar to those reported, in which the manager continually created and improved products. In this sense, the Brazilian wine industry was chosen as it has such features and is undergoing major transformations.

No research on the property to mark the managerial characteristics of the segment were identified; however, new products are constantly developed as detected by the Rio Grande do Sul Union of Wine Industry (Sindivinho), Brazilian Union of Winemaking (Uvibra), Federation of Wine Cooperatives (Fecovinho), and the Brazilian Wine Institute (Ibravin), stating that Brazil produces fine table and sparkling wines and grape juice, and other products derived from grapes and wine, such as vinegar, vermouth, and, more recently, sangrias and cocktails with wine (FECOVINHO 2012). Existing products are continually improved with the increase of new technologies such as stainless barrels, types of vines (GDC or trellis system), and the increasing quality of Brazilian wine is certified by national and international critics - in recent years, wines

of Brazil won more than 2,500 medals over the world (FECOVINHO, 2012).

Thus, we see that managers in the Brazilian wine industry receive a great burden of responsibility regarding how to best manage their resources in order to equalize the company's activities (including creating and improving products), noting the challenging environmental exposures to reach the best possible outcome. This contextualization is enhanced by Sindivinho (2012), which emphasizes that if this context is maintained, in less than twenty years we run the risk of no longer producing national fine wines.

In addition, we add the existing deficiency in the wine segment in terms of sales, marketing and logistics resources, insufficient to compete with large international companies, given that most domestic companies, about 70%, are small (SINDIVINHO, 2012; UVIBRA, 2012; FECOVINHO, 2012).

Considering these aspects, it is assumed that a strategic behavior aligned with decisions favoring the wine organization ambidexterity can lead the organization to remain in the market and achieve better results. Thus, this research aimed to understand these relationships, studying the correlation between the types of strategic behavior of Miles and Snow with ambidextrous behavior (MARCH, 1991) of the Brazilian wine industry.

In this sense, this paper is organized into five sections, including this introduction. The first part explores the genesis walkthrough, development and consolidation of strategic behavior and ambidexterity. In the second section, the theoretical framework, which seeks to place the intellectual context in which the research was undertaken, is presented. Further, we discuss the methodology that guided the conduct of the research under review. In the fourth section, we discuss and ponder over the analysis of the surveyed companies data, and in the last section, in conclusion, we write down or reflections, new directions and possibilities for research on strategic behavior and ambidexterity.

2 THEORETICAL FRAMEWORK

This section seeks to contextualize the strategic behavior, organizational ambidexterity and the hypotheses to be verified.

2.1 Strategic behavior

The strategic behavior is one that directs the company to market opportunities and control of existing resources (BROWN; DAVIDSSON; WIKLUND, 2001). Managers have different strategic behaviors and face a wide variety of internal and external conditions. Thus, to achieve higher performance, managers must have their behavior taken into account in preparing the strategy or implementing capacities in the organization (SLATER; OLSON; HULT, 2006).

Malik and Naeem (2011) suggest that the most influential of these types are probably those of Abell (1980), Miller (1992), Porter (1980a), Treacy and Wiersema (1995) and Snow and Miles (1978). Shortly after Miles and Snow strategy typology was published, Porter (1980b) presented his set of "generic strategies" and Abell (1980) followed with the "strategic windows." Miller (1992) later presented his point of view as a "high performance *gestalt,*" with the help of consultants in strategy, Treacy and Wiersema (1995), soon after, postulated what they called "market leadership."

The Miles and Snow (1978) typology is one of the most popular in the literature, and, from previous studies, we have Hambrick's (1983), Conant, Mokwa and Varadarajan's (1990), Walker et al.'s (2003), and even after more than a quarter of a century, the type is considered a conceptual framework (HAMBRICK, 2003).

In this sense, and as previously mentioned, the typology of strategic behavior of Miles and Snow (1978) will be used in this research, since it is understood that it fills the gaps left by other approaches, reliably identifying the strategic behavior of managers. This is reinforced by Sollosy (2013), who claims that the typology of Miles and Snow is the best choice when studying strategic

behavior. The author states that the typology of these authors has received general acceptance within the field of strategic management and justifies its use by saying that it has received wide attention from management and strategic marketing literature to the present day.

2.1.1 *Miles and Snow Typology*

According to Miles and Snow (1978), an organization is intended both as an articulated purpose and a mechanism for carrying out the mission established. Most organizations engage in an ongoing process of assessing their purposes, questioning, verifying and redefining the way they interact with their environments. Effective companies shape and maintain a viable market for their products or services, whereas ineffective ones fail in the task of aligning with the market. According to the authors, organizations must constantly modify and improve their mechanisms to achieve their goals – readjusting their structure and relationships to the decision making, in addition to the control process. Moreover, efficient organizations are marked by establishing mechanisms that complement their market strategies.

Given this context, the authors developed a model of adaptation that presents the key decisions to be made for the organization to remain aligned with the environment and, as a result, showed the types of strategic behavior adopted in this process.

For Miles and Snow (1978), the strategic choice approach argues that the effectiveness of organizational adaptation relies on the perceptions of the dominant coalitions, environmental conditions and the decisions of markets. Because this process is complex and dynamic, it can be separated into three big issues that are always incumbent upon management to solve: entrepreneurial nature of a problem; another related to engineering; and the third of an administrative nature. The authors refer to this process as an adaptive cycle, and in mature organizations, each of these three issues may occur simultaneously, sometimes more often, sometimes less often.

The entrepreneur problem (entrepreneurial vision), which in a new organization may be initially present in a superficial way, should be developed in a concrete definition of an organizational domain, i.e., the definition of a specific product or service and a market- target, or segmented market. As for the engineering problem, it is described by the authors as one that involves the creation of a system to solve the entrepreneur problems.

The reduction mainly from uncertainty in the organizational system or rationalization and stabilization activities faced and successfully resolved by the organization during the entrepreneurial phase and engineering is the role of the administrative problem.

In short, the characteristics of the adaptive cycle are highlighted by Miles and Snow (1978) as a general physiology of the organizational behavior, in which the three problems – entrepreneurial, engineering and administrative – are inextricably linked and their adaptation often occurs when happening sequentially through the entrepreneurial, engineering and administrative phases, but the cycle can be triggered from any of these points. Finally, the adaptive decisions today tend to rigidify and become aspects of the structure of tomorrow.

According to Miles and Snow (1978), the movement in phases of the adaptive cycle is made of four types of strategic behavior types: defender, prospector, analyzer and reactive. According to the authors, the defender strategic behavior reflects organizations that have narrow product-market domain. In this case, managers are highly skilled in a limited area of the organization's operations and do not tend to conduct research in search of new opportunities outside of their domains. As a result, these organizations seldom need to make major adjustments to their technology, structure or methods of operation. Instead, they devote primary attention to improving the efficiency of existing operations.

The prospectors are characterized by a continuous search for market opportunities,

regularly responding to emerging environmental trends. Thus, these organizations often are the creators of change and generate uncertainty in competitors; however, because of their strong concern about the creation of product and market, they lack efficiency.

Organizations that operate in two types of product-market domain, a relatively stable and the other one in change, are classified by Miles and Snow (1978) as analyzers. This behavior in stable areas operates routinely and efficiently through the use of formal structures and processes. In more turbulent areas, managers seek to closely observe their competitors in search of new ideas and then rapidly adopt those that appear to be most promising.

The latter type of behavior is reactive, which results in organizations where managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively. This inertia is caused by a lack of consistent relationship between strategy and structure, resulting in rare adjustments of any kind, and when they adjust something, they do it due to environmental pressures.

The logic of the Miles and Snow (1978) model favors the management in complexity, and facilitate the formulation of strategies with different embedded visions and continuous reconfigurations that support the organization in environmental adversities (DEGENHARDT; MAÑAS, 2005).

2.2 Ambidexterity

Research on ambidexterity had its first milestone with the presentation of the model developed by Duncan (1974) directed to innovative organizations, focusing on both the structure and the process. The model presented is divided into two dimensions.

The first was called the initiation of creation; in it, a greater degree of complexity, a lower degree of formalization and low centralization facilitate the collection and processing of information, crucial for this step. The second dimension is the implementation, in which a high level of formalization and centralization and a low level of complexity could reduce the conflict of organizational roles and the ambiguity that, consequently, could harm this phase.

To extend the studies by Duncan (1974), March (1991) pointed out that the definition of organizational ambidexterity is anchored in the balance between the actions of exploration, defined by Duncan (1974) as a starter, and exploitation, formerly called for implementation. In the opinion of the author, exploration activities are directly linked to the change, decision making with risks, experimentation, flexibility, discovery, creation of products and/or services. As regards exploitation activities, they are directed towards refinement, choice, production, efficiency, selection, implementation and execution of the main activities of the organization.

Organizational systems that are dedicated exclusively to the operation tend to see only the costs of differentiation (refinement), disregarding their benefits, and characteristics of the products and services are grounded in many new ideas, but with little distinctive competence. Conversely, systems that engage in exploitation of activities with the explicit exclusion of exploration, are also unbalanced in their actions because the implementation of new products and services is also essential to follow changes in the market (MARCH, 1991).

Certainly, the result desired by ambidexterity is sustainable organizational performance which, according to Smith and Tushman (2005), depends on the actual pursuit of exploration and exploitation by top management of the company. In addition, the authors state that these practices (exploration and exploitation) are often seen as contradictory to organizational architectures.

Enhancing the beneficial character of the ambidextrous process for the company, pointed out by Lin, Yang and Demirkan (2007), and helping to eliminate the greatest number of issues on the topic, the research conducted by Han and Celly (2008) arises. According to these authors, international new ventures that have embraced

the ambidexterity as a strategy present higher performance than those that have not. They reinforce the fact that it is a new venture and therefore having significant resource constraints does not require them to give up the ambidexterity as a strategy.

As a supplement, Mom, Bosch and Volverda (2007) state that the success of ambidexterity is closely linked to the flow of knowledge and argue that the flow in the hierarchical structure from the bottom up and horizontally relates positively to operating activities, whereas the flow from top to bottom has cohesion with exploitation activities.

As regards Li and Lin (2008) understanding, the perception of the manager on the environment is the primary mechanism for the generation of ambidexterity in the organization. Depending on how managers visualize the scenario, they can develop an ambidextrous process, or choose to explore or exploit. If managers perceive these opportunities, they may make more flexible decisions, becoming more sensitive to customer needs and promoting the creation of new products that satisfy (explore) them; on the other hand, if threats are noted, they can ensure the *status quo* and, using existing experience, promote only incremental innovations (exploit).

Taylor and Helfat (2009) argue that the role of the manager as a decision maker on the ambidexterity involves using major technologies, old and new, and complementary assets. For the authors, these variables have managerial behavior often be linked only to the maintenance of existing knowledge; however, organizations cannot remain competitive with activities that are not useful in ongoing operations, and must constantly review the organizational process in favor of balanced exploration and exploitation actions.

One cannot forget, however, that the development of ambidexterity is not an immediate process; its progress demands attention, investment and commitment from all organizational players (TAN; ZENG, 2009). Nevertheless, Prieto and Santana (2012) identified that the commitment and involvement of human resources in organizations is positively related to social climate, which in turn facilitates the development of ambidexterity and improves performance.

Ramachandran (2012) argues that ambidexterity can be acquired not only through the balance between exploration and exploitation actions, as called for March (1991), but also through actions directed at one of the dimensions in particular. To Ramachandran (2012), the balance of the dimensions represents a symmetric ambidexterity, whereas the targeting practices for exploration or exploitation also requires this capability, however asymmetric, having the same power in relation to performance. This position has already been validated by Silveira-Martins, Rossetto and Añaña (2013).

According to the research of Hsu, Lien and Chen (2013), we found that in companies with foreign direct investment the existence of ambidexterity with balanced practice between exploration and exploitation has generated greater performance against other organizations that have not opted for this strategy.

2.3 Hypotheses

The prospector strategic behavior reflects the ability to find and explore new product and market opportunities, experimenting responses to environmental trends, creating uncertainties and changes to which competitors must answer (MILES; SNOW, 1978). Thus, it is evident that there is a relationship between the prospector behavior and exploration actions and therefore with ambidexterity.

The Prospector is often a behavior associated with perpetual exploration. This continual addition of new products or markets, often accompanied by containment in other areas, gives products and markets prospectors appearance of fluidity (MILES; SNOW, 1978). To thrive, and even survive, prospectors must develop and maintain their ability to continuously monitor a variety of environmental conditions. As the activities of scanning [exploration] the environment must extend beyond the field of the organization, prospectors are often the creators

of change in their respective industries (MILES; SNOW, 1978).

Given this scenario, we intend to examine the following hypothesis:

> **H1a**: The prospector strategic behavior is related to organizational ambidexterity.

As for the defender behavior typology, it prints a "gain of quality in its products by refining existing ones" (HAMBRICK, 1983, p. 12). Thus, it is believed that this predicate has similarity to the actions of exploitation, components of organizational ambidexterity.

Defenders have a narrow and focused concentration on exploration domain. Defenders are more likely to drive their products or services specifically for a limited segment of the potential market. The specific market is often perceived as healthier and more viable. The Defender seems to continue to serve satisfied customers and thus stabilize relationships within the market segment, such as maintaining a continuous stream and the acceptance of their products and services (MILES; SNOW, 1978). Defenders often consider the organization's success in their ability to aggressively maintain their market positions within the chosen market segment. Defensive organizations tend to ignore the evolution of the product or service out of their selected area.

Attention is focused on continuous and intensive efforts to continue exploring more of their products or services established. As a result, product development, if any, is usually performed as an extension (exploration) of the current products or services in related areas (MILES; SNOW, 1978). In summary, the entrepreneur problem defenders involves the creation of a stable narrow domain through a limited combination of products and markets; emphasis on protecting their domain based on competitors; tendency to ignore external developments; and minimum [new] product development.

In this logic, the following hypothesis emerges:

> **H1b:** The defensive strategic behavior is related to organizational ambidexterity.

We observe that the analyzer behavior is understood to be one in which the company attempts to maintain a relatively stable limited line of products/services and, at the same time, attempts to add one or more new products/ services that have been successful in other companies of the industry (GIMENEZ, 1998). This type of behavior is a combination between the prospector and the defender (RIBEIRO; ROSSETTO; VERDINELLI, 2011). This thought is complemented by recalling that, according to the theory and notes of hypotheses H1a and H1b, it is believed that the prospector behavior has links with the exploration actions and the defender with the exploitation actions.

Given these findings, it is assumed that the analyzed behavior is related to the process of ambidextrous organizations, which is reinforced by March (1991) when he says that ambidexterity is possible only if the company, in a balanced manner, explores (creates, develops) and exploits (improves, adjusts) its products and services.

Miles and Snow (2003) identified these organizations, often labeled as "second movers" as residents between the extremes they point as defensive (H1a) and prospectors (H1b). This third organizational guidance highlights the salient behaviors more than two others, minimizing risks, maximizing the opportunity to increase profits. The challenge for these organizations comes in locating and exploring new product and market opportunities, whereas maintaining a stable and sustainable core of products and customers. These organizations seem ready to move quickly to any new product or market that has recently received a degree of acceptance. In essence, these organizations are keen followers of change.

Much of the growth of these organizations is achieved through market penetration, since the basic orientation for them is concentrated on its traditional product - market base. Of the three archetypes identified by Miles and Snow, the analyzer displays the best representation of ambidextrous dynamic capabilities. Maintaining the approach of Gupta et al (2006), it is argued that the orientation of the analyzer exemplifies the synchronism of both: exploration and

exploitation. Research in this area suggests that success in this field, growth, must be the result of product and market development.

Therefore, we seek to examine the following hypothesis:

> **H1c:** The analyzer strategic behavior is related to organizational ambidexterity.

As for the reactive strategic behavior, it does not have a consistent and stable adjustment pattern for its environment, and is characterized as a failure in terms of strategy (MILES; SNOW, 1978; RIBEIRO; ROSSETTO; VERDINELLI, 2011). Soon, its characteristics theoretically condone negatively with ambidextrous practices.

Each of the previous three strategic archetypes – prospector, analyzer and defender –, regardless of their orientation, exhibits a common characteristic: being consistent in seeking their orientation. The fourth archetype, reactive, is consistent only in their reactions and inconsistent and unstable adjustments in their environment. These organizations have an inability to organize consistent response when confronted with changes in the environment.

Potential sources for these apparent inconsistencies in organizations, include (1) inability of management to articulate a viable organizational strategy; (2) possibly articulated strategy without technology requirements, engineering structures and processes being properly connected, or (3) management that blindly sticks to a powerless strategy determined by changes in the external environment (MILES; SNOW 1978). The ultimate failure of the reactor is their inability to always pursue an exploratory focus (prospector), an exploring focus (defender) or a mix of the two systematically worked (analyzer). The reactor often falls in the unpleasant cycle of responding inappropriately to environmental changes and uncertainty.

The reactor is generally poor in performance and, as a result, these organizations become increasingly reluctant to act aggressively in the future (CONANT; MOKWA; VARADARAJAN, 1990). The response from the reactor to business problems tends to be uneven, temporary, with opportunistic events and postures of confrontation that have a propensity for reactions dominated by the problem sporadically. The result of this behavior is rushed and often change is thoughtless. According to Hughes and Morgan (2008), the reactor exposures are unclear – as a result, they respond to external competitive events when forced, and probably inconsistently and unstably. In fact, when compared with the other archetypes, the reactor is best categorized by a low propensity for both behaviors: exploratory and exploitative.

Given this scenario, the following hypothesis will be evaluated, aiming to confirm this association:

> **H1d:** Reactive strategic behavior is related to organizational ambidexterity.

Having provided this previous contextualization, we will now present the methodological procedures that supported this research, in order to test the hypotheses.

3 METHODOLOGY

This research made use of a quantitative approach and the research strategy based on surveys. In this research, the sample was intentional, choosing companies with accessibility on a total of 150 companies, comprising: 114 companies in the state of Rio Grande do Sul; 29 in Santa Catarina; 3 in Paraná; 2 in Pernambuco; 1 in São Paulo and 1 whose state of origin could not be determined. To identify the variables that supported the measurement of the strategic behavior construct, we took into consideration the research of Conant, Mokwa and Varadarajan (1990). This scale is consistent, easy to administer and has diagnostic value for strategists and their organizations (CONANT; MOKWA; VARADARAJAN, 1990).

Furthermore, it is emphasized that the instrument has already been replicated by other studies and showed consistent results, like

Gimenez et al. (1999), Gulini (2005), Teixeira, Rossetto and Carvalho (2009), Gardelin, Rossetto and Verdinelli (2011), Ribeiro, Rossetto and Verdinelli (2011) and Silveira-Martins (2012).

The strategic behavior was measured by means of 11 questions that replicate the following aspects: a) characterization of the products offered; b) image in the market; c) time spent on monitoring changes and trends in the market; d) reasons for growth or decline in demand; e) most important goals; f) characterization of the skills and abilities of employees; g) protection mechanism of competitors; h) concentration of management; i) preparing for the future; j) description of the structure; k) procedures for performance assessment. Originally, for each question there is an answer tied to a type of behavioral response: prospector, defender, analytical and reactor.

Each question was rated with an indicator. Thus, the following was attributed: a) the prospector behavior, the Pro1 to Pro11 indicators; b) the reactor behavior, Rea1 to Rea11 indicators; c) the analyzer behavior, Ana1 to Ana11 indicators, and d) the defender behavior, Def1 to Def11 indicators, as in Table 1.

For data analysis, we considered the responses as dichotomous variables. Therefore, the variable indicated by the respondent for each question corresponded to 1, and the others to 0.

CHART 1 – Strategic behavior construct items

Construct	Domain	Item
STRATEGIC BEHAVIOR	Prospector	**Pro1** products and services are offered to clients are best characterized as innovative and are constantly changing and expanding their area of application.
		Pro2 The company has an image in the market of the organization that has a reputation for being innovative and creative.
		Pro3 The time invested by the company to monitor changes and trends in the market can best be described as extensive, as the company is constantly monitoring the market.
		Pro4 Increase or decrease in our demand is most likely due to our practice of aggressively entering new markets with new types of services/products.
		Pro5 One of the most important goals of the company is the dedication and commitment to ensuring that people, resources and equipment needed to develop new products/services and new markets are available and accessible.
		Pro6 The skills and abilities that employees possess can best be characterized as broad and entrepreneurial: their skills are varied and flexible and enable them to move creatively.
		Pro7 One of the things that protect the company from other competitors is that it can develop new products/services and new markets consistently.
		Pro8 The management of the company tends to focus on developing new services or expanding into new markets or new market segments.
		Pro9 The organization prepares for the future by identifying trends and market opportunities that may result in the creation of innovative products and services in the business line of the company or to serve new markets.
		Pro10 The company structure is service/product or market oriented.
		Pro11 Procedures that the organization uses to evaluate its performance are best described as decentralized and participatory, encouraging all members of the organization to get involved.

Construct	Domain	Item
STRATEGIC BEHAVIOR	Defender	**Def1** Services and products offered to customers are best characterized as well-focused, well-defined and relatively stable in the organization and in the market.
		Def2 The company has an image in the market of an organization that offers few selective and high-quality products/services.
		Def3 The time invested by the company to monitor changes and trends in the market can best be described as minimal; the company really does not spend much time monitoring the market.
		Def4 The increase or decrease in demand is likely to the practice of focusing on developing markets that are already served by the company.
		Def5 One of the most important goals of the company is the dedication and commitment to maintaining costs, leaving them under control.
		Def6 The skills and abilities that employees possess can be better characterized as specialized: their skills are concentrated in a few specific areas.
		Def7 One of the things that protect the company from other competitors is that it can make a limited number of things exceptionally well.
		Def8 The management of the company tends to focus on maintaining a safe situation through quality measures of cost control.
		Def9 The organization prepares for the future by identifying those problems that, if solved, will maintain and improve our services or products and our market position.
		Def10 The company structure is functional in nature (i.e., organized into departments).
		Def11 Procedures that the organization uses to evaluate its performance are best described as centralized and primarily the responsibility of top management.
STRATEGIC BEHAVIOR	Analyzer	**Ana1** The services and products offered to customers are better characterized as some being quite stable while others are innovative.
		Ana2 The company has an image in the market as an organization that embraces new ideas and innovations, but only after careful analysis.
		Ana3 The time invested by the company to monitor changes and trends in the market can best be described as average – the company spends some time monitoring the market.
		Ana4 The increase of decrease in demand is most likely due to the practice of deepening the markets that are already served, whereas new products/services are adopted only after a careful analysis of their potential.
		Ana5 One of the most important goals of the company is the dedication and commitment to careful analysis of costs and revenues to keep costs under control, selectively generate new products/services, and enter new markets.
		Ana6 The skills and abilities that employees possess can be better characterized as analytic: their skills enable them to identify trends and develop new products/services and new markets.
		Ana7 One of the things that protect the company from other competitors is that it can carefully analyze emerging trends and adopt those that have proven potential.
		Ana8 The management of the company tends to focus on analyzing market opportunities and choosing only those with potential and, at the same time, keeping its financial position safe.
		Ana9 The organization prepares for the future by identifying trends in business whose long-term potential has been demonstrated by other companies and can help solve problems related to the products/services of our company.
		Ana10 The company structure is essentially functional, but also has a product or service-oriented structure in newer areas.
		Ana11 Procedures that the organization uses to evaluate its performance are best described as centralized in more stable areas of product/service, and more participatory in newer or emerging areas.

Construct	Domain	Item
STRATEGIC BEHAVIOR	Reactor	**Rea1** The services and products offered to customers are in a state of transition and, in large part, seeking to respond to opportunities or threats in the market or environment.
		Rea2 The company has an image in the market of an organization that responds to opportunities or threats to maintain or improve its position.
		Rea3 The time invested by the company to monitor changes and trends in the market can best be described as sporadic; the company sometimes spends too much time and sometimes spends little time to monitor the market.
		Rea4 The increase or decrease in demand is most likely due to the practice of responding to the pressures of the market, and taking few risks.
		Rea5 One of the most important goals of the company is the dedication and commitment to protecting against critical threats, taking all necessary initiatives.
		Rea6 The skills and abilities that employees possess can best be characterized as fluid: the skills are related to the short-term demands in the market.
		Rea7 One of the things that protect the company from other competitors is that it can respond to trends, while often having moderate potential for response.
		Rea8 The management of the company tends to focus on activities or business functions that most need attention, given the opportunities or problems that it currently faces.
		Rea9 The organization prepares for the future by identifying the best possible solutions to those problems or challenges that require immediate attention.
		Rea10 The company structure is continuous and mutant, in order to enable opportunities to be known and any problems that may arise to be solved.
		Rea11 Procedures that the organization uses to evaluate its performance are best described as strongly oriented to reporting requirements that require immediate attention.

Source: Adapted from Conant, Mokwa and Varadarajan (1990, p. 381)

As for gathering information on organizational ambidexterity, we used an instrument developed by Jansen (2005). We observed that other applications of the instrument have been made, such as research conducted by Jansen, Bosch and Volberda (2006), Jansen et al. (2008) and Jansen et al. (2009), confirming its applicability and consistency. For data collection, a 1-6 scale was used, in which score 1 was assigned to the minimum intensity in actions and 6 to the maximum intensity in exploration and exploitation actions in companies. The questionnaire consisted of 14 questions. Indicators were classified from Ext1 to Ext7 (issues relating to exploitation) and the Exr1 to Exr7 (issues relating to exploration), as in Table 2.

CHART 2 – Organizational ambidexterity construct items

Construct	Domain	Item
oRGANIZATIONAL AMBIDEXTERITY	Exploration	**Exr1** The company accepts demands that go beyond existing products and services.
		Exr2 The company creates new products and services.
		Exr3 The company tries new products and services in the local market.
		Exr4 The company sells products and services that are completely new.
		Exr5 The company often uses new opportunities in new markets.
		Exr6 Regularly, the company uses new customers and new markets.
		Exr7 Regularly, the company seeks to approach new customers in new markets.
	Exploitation	**Ext1** The company often improves the supply of existing products and services.
		Ext2 The company regularly implements minor adaptations of existing products and services.
		Ext3 Company introduces improvements in existing products and services in the local market.
		Ext4 The company improves the efficiency of the provision of products and services.
		Ext5 The company increases the economy of scale in existing markets.
		Ext6 The company expands services for existing customers.
		Ext7 For the company, reducing costs of internal processes is an important goal.

Source: Adapted from Jansen (2005, p. 95)

The relationships between the strategic behavior constructs (through their taxonomies) and organizational ambidexterity can be observed in Figure 1.

In order to validate the instrument to be applied with the managers, we first tested it with a former director of a leading company in national wines. At this stage, the questionnaire was completed, and the adjustments necessary for full understanding of future respondents were identified. The questionnaire was filled out in person, and after the recommended adjustments, it was responded again through a link on the Internet.

At a second stage, two managers of wineries in different states, one of Santa Catarina and the other from Paraná, completed the questionnaire, not on-site, for us to check the level of understanding of the questions. After completion, we called the respondents to check their level of understanding and difficulty in the process. As we have not detected any need for modification, we collected data via *web* and in person. It is noteworthy that the notes were only semantic (synonyms and verb agreement).

As the strategic behavior construct has a base of dichotomous data, to process data we opted for the MPlus® software, version 7. Through this system, we performed confirmatory factor analysis (CFA). According to Hair et al. (2009), the CFA allows us to test how well the variables measure the respective construct, analytically evaluating the conceptually grounded theory, and explaining how the different items measured describe the research subject matter.

Subsequently, we modelled structural equations. According to Hair et al. (2009), the model is useful to represent the interrelationships of variables between constructs. Based on this model, we could study the hypotheses and present the concluding remarks. The initial structural equation model can be seen in Figure 1. The fitting of the model was evaluated according to the criteria recommended by the same authors, namely: chi-square (X^2); chi-square divided by degrees of freedom (X^2 / df <3); comparative fit index (CFI> 0.900); Tucker Lewis index (TLI> 0.900) and root mean square error of approximation (RMSEA <0.100).

In addition, for the measurement, we needed to use an alternative to the maximum likelihood estimator (ML), standard in research in view of its strength, because the data is binary (strategic behavior) and does not represent normality, a prerequisite for the use the ML. In this case, advised by Muthén and Muthén (2010), we used robust weighted least squares estimator (WLSMV). According to Brown (2006), the only statistical package that provides this method is MPlus®, emphasizing the suitability of this software for research.

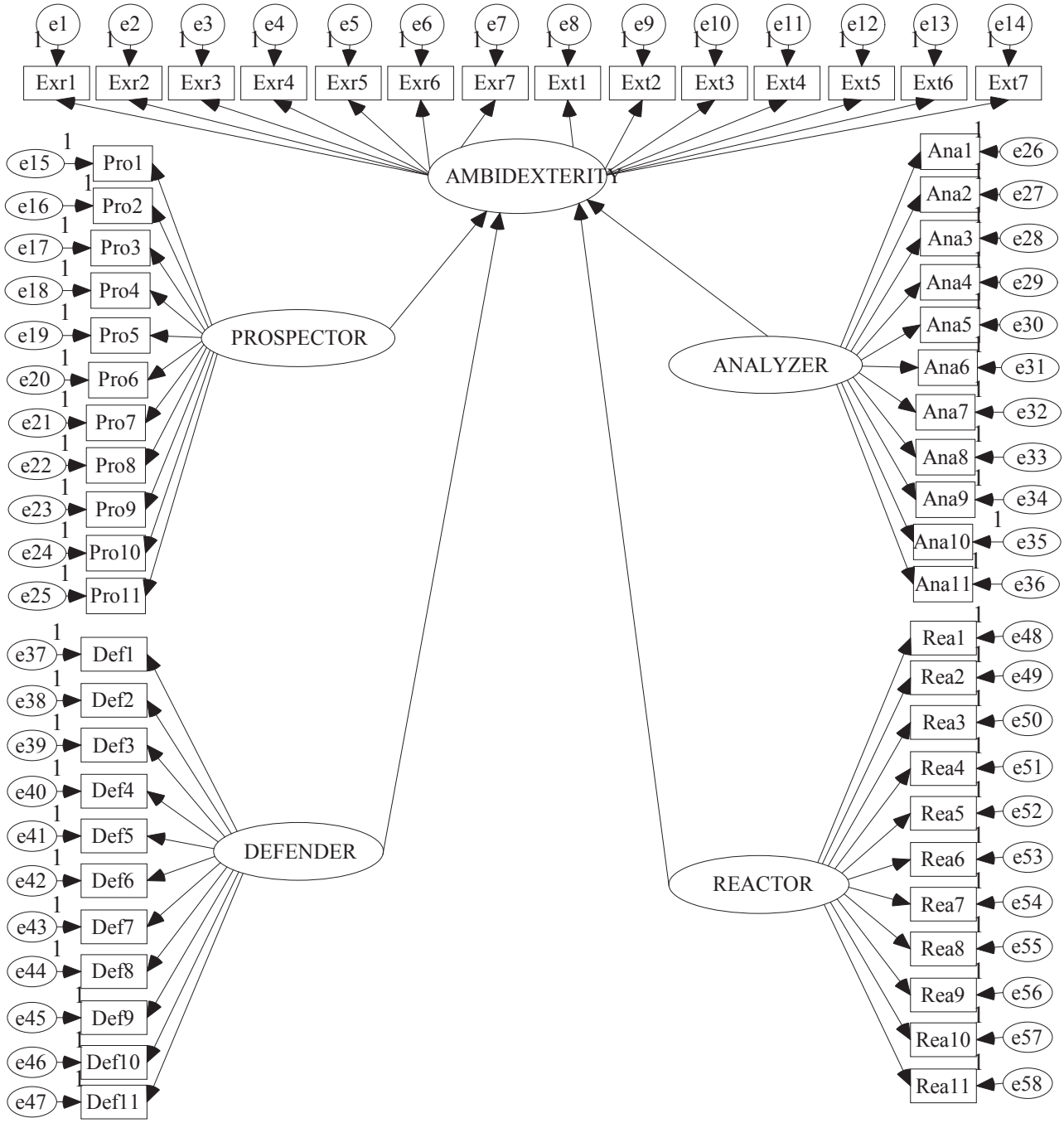

FIGURE 1 – Initial model of structural equations

Source: The author

Based on these methodological assumptions, in the next section we will present the treatment and analysis of the data collected.

4 DATA ANALYSIS

Data analysis comprised different stages. The first was the completion of confirmatory factor analysis (CFA) and then we proceeded to the elaboration of the general measurement model and hypothesis testing, as we will show below.

4.1 Confirmatory factor analysis (cfa)

In observation of the behavior Prospector values, we found that there is significance in the model initially presented (p = 0.309) and that the CFI values presented (0.963) and TLI (0.954) are higher than expected minimum. The RMSEA (0.025) is projected below the expected value.

Aiming to better fit the model, we chose to test a new one (called alternate), excluding each of the indicators (one by one) with coefficients lower than 0.600, as recommended by Kline (2011), and checking, at each step, fit indexes of the model.

Thus, in the alternative model, we observed progress in the fit indexes CFI (1.000 compared to 0.963), TLI (1.000 compared to 0.954) and RMSEA (0.000 compared to 0.025). Given this context, we opted for the alternative model to measure the prospector strategic behavior. These indexes can be seen in Table 3.

CHART 3 – Fit indexes – initial and alternative modelprospector behavior

Index	Initial model	Alternative model	Expected values	Estimator
X^2	48.118 (df = 44)	0.042 (df = 2)		WLSMV
X^2 / df	1.093	0.021	< 3	
P	0.309	0.979	> 0.05	
CFI	0.963	1.000	> 0.900	
TLI	0.954	1.000	> 0.900	
RMSEA	0.025	0.000	< 0.10	

Source: The author

Regarding the analyzer behavior, we detected that X^2/df is outside the parameters of a good fit. The values of CFI (0.714) and TLI (0.642) do not meet the minimum requirements. In the detailed analysis of data generated by the initial model, we observed that some indicators show no enough load to represent the construct ($\beta \geq 0.600$). Given this context and seeking a better fit, we excluded these indicators, and generated an alternative model to compare and choose the best option.

Based on the indicators of the alternative model, we found that this is the most suitable for the measurement, since all indicators are better adjusted against the initial model (see Table 4). The Ana5 (0.596) and Ana8 (0.592) indicators were preserved in the alternative model, due to the proximity of loads as indicated by Kline (2011).

CHART 4 – Fit indexes – initial and alternative model analyzer behavior

Index	Initial model	Alternative model	Expected values	Estimator
X^2	57.734 (df = 44)	0.000 (df = 0)		WLSMV
X^2 / df	1.312.13	0.000	< 3	
P	0.149	0.000	> 0.05	
CFI	0.714	1.000	> 0.900	
TLI	0.642	1.000	> 0.900	
RMSEA	0.038	0.000	< 0.10	

Source: The author

In analyzing the initial model of the defender behavior, we observed that the X^2 is significant (p = 0.082) and the X^2/df (1.308) gives results consistent with expected values. However, the CFI (0.814) and the TLI (0.767) do not meet the minimum requirements for fit. Furthermore, Def1 (0.108, p = 0.408), Def2 (0.356, p = 0.006), Def3 (0.470, p = 0.003), Def4 (0.236, p = 0.073), Def6 (0.387, p = 0.003), Def9 (0.208, p = 0.114), Def10 (0.152, p = 0.307) and Def11 (0.059, p = 0.649) indicators did not have enough power or significance (p> 0.05) to represent the defender strategic behavior. Thus, we decided to develop an alternative model without these indicators.

After exclusion of these indicators, we observed a better fit of the model with respect to indicators CFI, TLI and RMSEA. As for X^2, X^2/df and p, due to the limitation of the calculation method, we did not manage to make better fit statements; considering the other indicators, however, we recognized that the alternative model is the best option for ongoing analysis. The summary information can be best viewed in Table 5.

CHART 5 – Fit indexes – initial and alternative model defender behavior

Index	Initial model	Alternative model	Expected values	Estimator
X^2	57.565 (df = 44)	0.000 (df = 0)		WLSMV
X^2 / df	1.308	0.000	< 3	
P	0.082	0.000	> 0.05	
CFI	0.814	1.000	> 0.900	
TLI	0.767	1.000	> 0.900	
RMSEA	0.045	0.000	< 0.10	

Source: The author

As regards the reactor behavior, we detected that the X^2 is significant (p = 0.385) and the X^2/df is below the expected value. By analyzing the other indexes, we conclude that, while CFI (0.945), TLI (.931) and RMSEA (0.018) meet the minimum requirements for the model to be considered appropriate for measurement, a few coefficients do not meet the minimum requirements. In this logic, we highlight indicators: Rea3 (-0.119, p = 0.601), Rea5 (-0.058, p = 0.810), Rea7 (-0.362, p = 0.047), Rea8 (-0.079, p = 0.665), Rea9 (0.106, p = 0.559), Rea10 (-0.056, p = 0.752) and Rea11 (0.252, p = 0.108). Although Rea2 (-0.461) indicator has coefficient lower than recommended by Kline (2011), in the simulations conducted, its exclusion did not contribute to improved fit indexes of the reactor behavior model.

Motivated by the results of the coefficients of some indicators (presented earlier), we sought to develop an alternative excluding them. Thus, we observed that X^2 remained significant (p = 0.4745) and X^2/df below the maximum expected value. Regarding the CFI index, we detected improvement in value (from 0.945 to 1.000), as well as with respect to the TLI (from 0.931 to 1.000). Regarding the RMSEA, there was reduction from 0.884 to 0.000, as shown in Table 6. Accordingly, we concluded that the alternative model is the best option.

Regarding the ambidexterity construct, the CFA presented in the initial model the value of X^2 (727.429), not significant (p = 0.000). Even considering the limitations of the estimator (WLSMV), we observed that the X^2/df (9.44) has identified a difference between the value and the expected maximum (< 3). Moreover, both the CFI (0.708) and the TLI (0.655) were below the index estimated as the minimum standard of quality of the model (> 0.900). Notwithstanding, we noted that the RMSEA (0.237) presented a value higher than expected.

CHART 6 – Fit indexes – initial and alternative model reactor behavior

Index	Initial model	Alternative model	Expected values	Estimator
X^2	46.106 (df = 44)	1.491 (df = 2)		WLSMV
X^2 / df	1.047	0.7455	< 3	
P	0.385	0.474	> 0.05	
CFI	0.945	1.000	> 0.900	
TLI	0.931	1.000	> 0.900	
RMSEA	0.018	0.000	< 0.10	

Source: The author

As the identified values did not reflect a minimum quality fit of the model, we began an analysis of indicator loads. In this process, we noticed that indicators Exr1 (0.439, p = 0.000), Exr4 (0.481, p = 0.000) and Ext7 (0.364, p = 0.000) showed low values with explanation power of the construct. Thus, we chose to eliminate these indicators and the achievement of shared covariance among other indicators, following information provided by the MPlus software. Thus, we generated an alternative model.

Compared to the initial model, the alternative fit indexes showed better quality. The X^2 became significant (p = 0.1791) and the X^2/df (1.3867) adjusted to the expected values. Correspondingly, the values of CFI (0.998) and TLI (0.990) increased, exceeding the minimum required. As for the RMSEA (0.051), it was reduced substantially below the 0.10 parameter, as can be seen in Table 7. Because of these aspects, we decided to implement the alternative model for this research.

CHART 7 – Fit indexes – initial and alternative model ambidexterity

Index	Initial model	Alternative model	Expected values	Estimator
X^2	727.429 (df = 77)	13.867 (df = 10)		WLSMV
X^2 / df	9.447	1.386	< 3	
P	0.000	0.179	> 0.05	
CFI	0.708	0.998	> 0.900	
TLI	0.655	0.990	> 0.900	
RMSEA	0.237	0.051	< 0.10	

Source: The author

To support this decision making, we carried out a visual analysis of the loads of indicators, and detected that all have coefficients above 0.450. While some loads are below 0.600, as taught by Kline (2011), Hair et al. (2009) emphasize that, for the sample size of this survey, this load value is representative to support decision making by the researcher. Thus, we corroborated all indicators.

4.2 General model of measurement and test of hypotheses

In the overall measurement model, we identified the non-significant value of X^2 (p = 0.000), however the X^2/df is within the expected parameter (< 3).The values of CFI (0.917) and TLI (0.909) exceed the desired minimum and the RMSEA (0.051) is below the maximum projected value.

Thus, considering the possible difference in some indicators – in this case the X^2/df, because the estimator –, we understand that the indexes are within expected values, portraying a reliable model for the proposed correlation structure between the constructs. The summary of fit indexes can be seen in Table 8.

CHART 8 – Measurement model fit indexes

Index	Initial model values	Expected values	Estimator
X^2	989.717 (df = 715)		WLSMV
X^2 / df	1.384	< 3	
P	0.000	> 0.05	
CFI	0.917	> 0.900	
TLI	0.909	> 0.900	
RMSEA	0.051	< 0.10	

Source: The author

In analyzing the coefficients of each of the indicators, some have loads lower than the recommended. However, considering the results of the confirmatory factor analyzes, we opted for the maintenance of all. Such information can be observed in Figure 2, prepared with the assistance of the AMOS™ 16.0 software because of the graphical output of this tool, not available in the MPlus software.

We see that the overall measurement model shown in Figure 2 changed in relation to that shown in Figure 1 after we ran the factorial. However, the model below still proved consistent, according to Hair et al. (2009), as it presents at least three variables to measure each construct. This theory is supported by the findings of Anderson and Rubin (1956), McDonald and Krane (1977; 1979), Rindskopf (1984) and Velicer and Fava (1998).

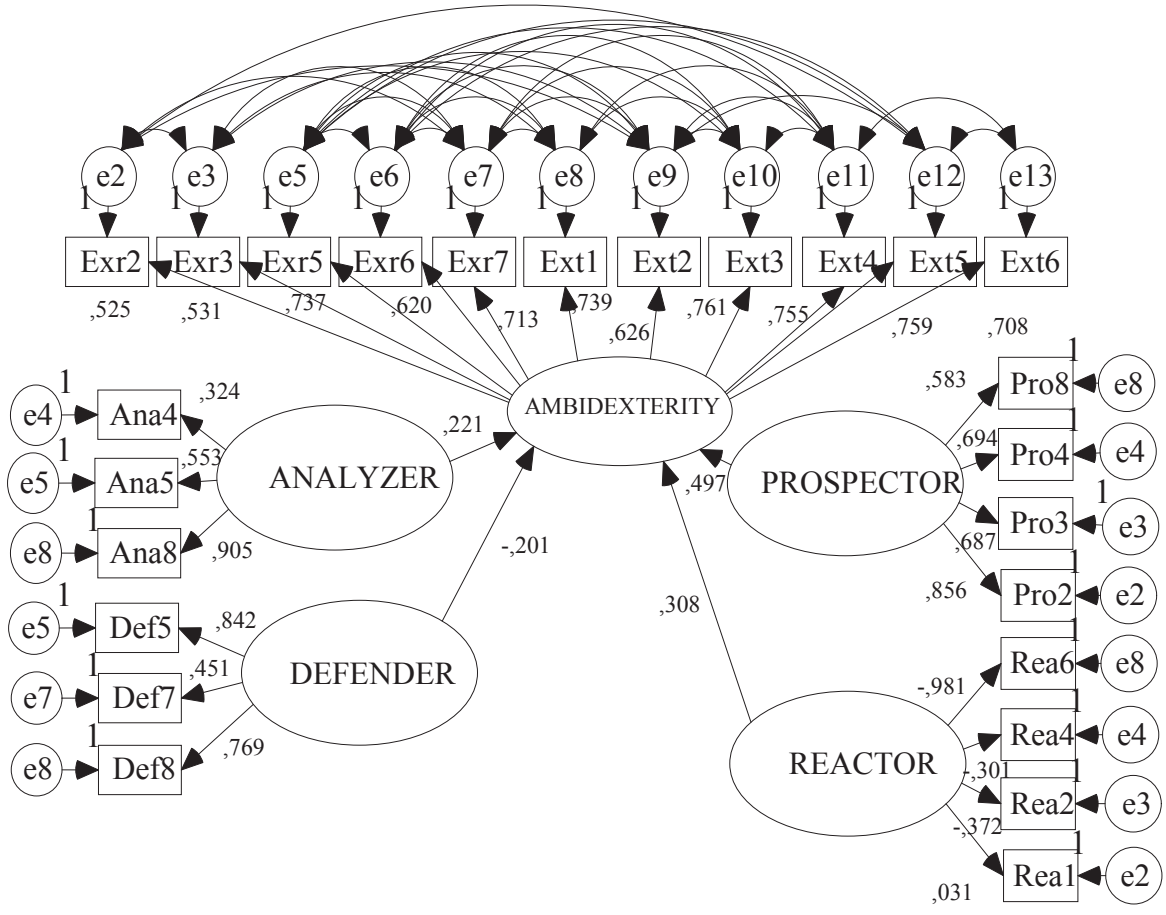

FIGURE 2 – General measurement model

Source: The author

Based on the overall measurement model, we identified that there is a positive relationship between the prospector strategic behavior and organizational ambidexterity (0.497), significant for $\alpha = 0.05$ ($p = 0.000 < \alpha = 0.05$).

Another hypothesis confirmed was that the defender strategic behavior is related to organizational ambidexterity. The defender strategic behavior is negatively related to organizational ambidexterity (-0.201) and significant for $\alpha = 0.05$ ($p = 0.037 < \alpha = 0.05$).

The hypothesis H1c was also confirmed, showing that the analyzer strategic behavior has a positive relationship with organizational ambidexterity (0.221), as there is significance ($p = 0.045 < \alpha = 0.05$).

The reactor strategic behavior also has a positive relationship with organizational ambidexterity (0.308), significant for $\alpha = 0.05$ ($p = 0.035 < \alpha = 0.05$), confirming hypothesis H1d. This result goes against the findings of several studies, which indicate that this behavior is a failure in the process of strategy formulation, e.g., Miles and Snow (1978) and Ribeiro, Rossetto and Verdinelli (2011). This finding provokes new research since the development of ambidexterity assumes a process of formulating strategy far, according to the theory, from the reactor orientation.

From the analysis of hypotheses H1a, H1b, H1c, H1d, we found that the prospector, analyzer and reactor strategic behaviors have positive relationship with ambidexterity. In contrast, the defender behavior is inversely associated with the ambidextrous processes of the Brazilian wine industry.

Based on the theory developed by Miles and Snow (1978), one would expect the positive relationship between prospector and ambidexterity behavior, since the authors noted that this typology has the following characteristics: a) the development of products and markets, and the focus on diversification; b) the extent of the market and continued expansion, predicates, according to March (1991), similar to the exploration actions that make up ambidexterity. Thus, these findings support the favoring of ambidexterity by the prospector behavior, not as a balance between the actions of exploration and exploitation, as defended by March (1991), but as advocated by Ramachandran (2012), who emphasizes that the ambidexterity can be achieved through exploration or exploitation actions.

Following the same logic of Ramachandran (2012) and the results of hypothesis H1a, we expected that the defender behavior, as already noted by Hambrick (1983), would present positive relationship with the exploitation actions, thereby generating an asymmetric ambidexterity. However, the results do not support the assertions identified by the authors.

We conclude that these results can be explained by the fact that ambidexterity, in its dimensions, relies on internal strategies of the organization with a focus on the external. Therefore, incremental adjustments proposed by the exploitation actions are driven by the external environment, whereas the defender behavior is guided from the inside out. According to Li and Lin (2008), the perception of managers on the environment is the main mechanism for generation of ambidexterity in the organization.

With respect to the analyzer behavior, confronted with the theory of ambidexterity, we observed that it is the one most similar to this organizational capacity. According to Miles and Snow (1978), this typology is guided by market demands, developing new products and services, while complements those already developed, incremental adjustments. These actions are consistent with the exploration and exploitation actions, sustaining the symmetric ambidexterity. Thus, the results of this research highlight that the theory of March (1991), focusing on the symmetry between the exploration and exploitation actions, are also valid and current.

As regards the reactive behavior, results contradict the findings of Miles and Snow (1978), March (1991) and Ribeiro, Rossetto and Verdinelli (2011). According to March (1991), the ambidextrous process should be thought of and be part of the strategies of the company, which, according to Miles and Snow (1978) and Ribeiro, Rossetto and Verdinelli (2011), does not

occur when the reactor orientation is adopted by the manager.

Based on the foregoing, we present our conclusions, as well as limitations of the study and suggestions for future work.

5 CONCLUSION

Upon completing this research, we managed to extract some considerations from the data analysis, in addition to some scientific concerns that remain latent and motivate new experiments.

Among the considerations, there is the fact that the prospector and analyzer behaviors are aligned with ambidexterity, which was somewhat expected, as our supporting theory already pointed to that link. On the other hand, we draw attention to the fact that the defender behavior has a negative relationship with ambidexterity. While Hambrick (1983) states that this orientation is concerned with the refinement of products and services, it was not possible to verify the positive relationship with the exploitation actions, as the strategic behavior is guided from within the organization, whereas exploration actions are guided with a look at the external environment.

That the reactor behavior is positively related to ambidexterity in the studied segment raises the need for reflection. Although the typology does not, theoretically, align with ambidextrous processes, the national wine industry scenario is empirically pervaded by the need for reorganization, due to the environmental context experienced by businesses. Proof of this is the increase in competitiveness observed in recent years and the internationalization movements made by the Brazilian wineries (SINDIVINHO, 2012). Thus, it appears that the behavior of managers is influenced by reactive practices observed by the application of safeguards in the market, which are requested by the sector to the Ministry of Development, Industry and Foreign Trade (MDIC).

Our work points to some conclusions that deserve attention. The analyzer behavior, for it is based on the creation and improvement, relates to the symmetric ambidexterity, as proposed by March (1991). As for the prospector behavior, because of its logics of creation and development of new markets, in addition to the focus on the external environment, is associated with the exploration actions, fostering ambidexterity asymmetrically, as stated by Ramachandran (2012). The defender behavior, for it has an inside look at the organization, is not a source of ambidexterity. As for the reactor behavior, in view of the numerous researches that indicate a failure in terms of strategy, such as Miles and Snow (1978) and Ribeiro, Rossetto and Verdinelli (2011), needs further research to corroborate the relationship between it and ambidexterity. Accordingly, we recommended further research on companies which experience a different scenario reported here in order to analyze the behavior of the manager in a different environment.

As proposals for future work, we suggest: a) the identification of the predominant behavior of managers in the sector; b) the correlation of behavior with individual exploration and exploitation actions, in an attempt to identify especially if the defender and prospector behaviors correlate directly with these actions, as proposed by the theory; c) identifying which behavior is connected with the performance of organizations; d) whether ambidexterity is positively associated with performance.

Notwithstanding, we highlight that some aspects limited the scope of this research analysis. Among them, we point out the sample size and the lack of comparative studies.

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