

The allocation of attention: an analysis of the influence of the professional profile and the organizational environment

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Resumo

We aim to understand the aspects of the structural distribution of attention that influence the attention of individuals in organizations. We performed two distinct and interlinked studies considered experiments using an eye tracking tool. In the first study, we evaluated the effect of training (as a proxy for the function) on managerial care and the individual characteristics of future managers (n=151). In the second study, we evaluated the effect of function/position on managerial care and the individual characteristics of professionals (n=140) working in organizations. We conclude that the professional profile and the organizational environment (internship) influence the choice of information in the areas of interest (AOI) of future managers. About managers, we concluded that the professional profile influences the choice of information (AOI) for the allocation of care. The initial training of decision-makers (managers) becomes less relevant than their professional profile, which is shaped based on their professional experiences and practices.

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ABSTRACT

We aim to understand the aspects of the structural distribution of attention that influence the attention of individuals in organizations. We performed two distinct and interlinked studies considered experiments using an eye tracking tool. In the first study, we evaluated the effect of training (as a proxy for the function) on managerial care and the individual characteristics of future managers (n=151). In the second study, we evaluated the effect of function/position on managerial care and the individual characteristics of professionals (n=140) working in organizations. We conclude that the professional profile and the organizational environment (internship) influence the choice of information in the areas of interest (AOI) of future managers. About managers, we concluded that the professional profile influences the choice of information (AOI) for the allocation of care. The initial training of decision-makers (managers) becomes less relevant than their professional profile, which is shaped based on their professional experiences and practices.

Keywords: Attention-based View; Structural Distribution of Attention; Decision Making; Individuals; Organizations.

1 INTRODUCTION

ABV considers that decisions and actions that organizations are influenced by the focus and management attention. Managers' attention to certain questions and answers to these questions can help explain the behavior and adaptation or not of companies to the environment (Ocasio, 1997; 2011; Ocasio & Joseph, 2005; Joseph & Ocasio, 2012; Joseph & Wilson, 2017).

One of the principles of ABV is the Structural Distribution of Attention. The structure and social relationships in organizations condition the situational context in which the manager finds himself and the attention managers pay to the situations in which they find themselves. Researchers have paid more attention to top executives (Ocasio & Joseph, 2005). However, decision-makers are involved with specific questions that demand different answers. They are influenced by the division of labor by functions in the organization, local procedures, and communication channels and activities. These questions and answers lead to a variance in the focus of attention of managers and groups of managers in the company, depending on the functions to which they are allocated (Ocasio, 1997). In particular, attention to the same issues varies in each organizational position (Rerup, 2009), but, what is the influence of organizational structure on individuals' attention?

In research that addresses behavioral strategy, there is the question about the influence of intermediary managers on the performance of organizations (Wangrow et al., 2015). Ocasio (1997) defines as a set of attentional failures. This can occur for many reasons, for example, when the manager intends to focus on the organization's performance, depending on other situations such as the communication channels or the movement of teams. Making the organization focus on performance depends not only on its perception but also on how everyone will act together regardless of function, position, or profile. We sought to assess the existence and possible impact of attentional failures resulting from the structural distribution of attention.

In this study, through two experiments using eye tracking, the objective was understand the aspects of the structural distribution of attention that influence the attention of individuals in organizations. Therefore, the specific objectives were Evaluate the effect of training (as a proxy for the function) on managerial attention and on the individual characteristics of future managers (Study 1), and Evaluate the effect of function/position on managerial attention and on the individual characteristics of professionals working in organizations (Study 2). Formal education has been investigated in relation to performance for some time (Rajagopalan & Deepak, 1996), but not its direct influence as a starting point for managerial attention or attention in certain managerial functions that employ managers with particular training.

This article is structured in six parts starting with this introduction. In the second part, the contextualization, conceptual model, and hypotheses of study 1 were presented, and in the third stage of study 2. The fourth stage describes the methodological procedures used, in the fifth stage the analysis of the results of each separate study. In the sixth and last part, the final discussions and considerations were described.

2 STUDY 1. ATTENTION FROM THE PERSPECTIVE OF FUTURE PROFESSIONALS IN ORGANIZATIONS

2.1 Contextualization

The behavioral strategy seeks to understand the strategic decisions and behaviors of strategists supported by psychology. Seeks to understand why in organizations executives guide actions and how and why they perform. The focus of the behavioral strategy is to understand decision makers' minds, including their personal priorities and preferences, their stores of knowledge and assumptions, their attention to and interpretation of new information, and the dynamics between these individuals (Hambrick & Crossland, 2018).

Formulating strategies and putting them into practice is a differentiated human activity that can leverage human efforts and competencies, generating value for the company

(Koellinger, 2008). However, when managers are inserted in organizations, it is impossible for them to focus on attention, situated attention, and structural distribution of attention due to limited rationality and other factors such as a focus on attention, situated attention, and structural distribution of attention.

In this context, analyzing the decision-making process with a focus on attention emerged the ABV presented by the conceptual article by Ocasio (1997). ABV has received a lot of attention, from the possibility of explaining organizational behavior providing gaps not explained by traditional economic approaches in the field of strategy. Driven by changes at the societal level, including but not limited to the proliferation of data, information, and algorithms, the practice of strategic organizations has changed significantly since the original publication by Ocasio (1997).

Information technology, the rise of social media, and data collection and monetization have exacerbated information overload problems, made the initial insights of ABV more relevant while changing the nature of how attention is structured (Haas, Criscuolo & George, 2014). These changes led to the development of greater cognitive demands imposed on members of the organization (Laureiro-Martinez, Brusoni, Canessa & Zollo, 2015).

The absence of methods and tools did not allow the assessment of attention from the individual's perspective. In this study, we propose to use a neuroscientific tool to analyze the allocation of attention. We intend to answer the following research question: Can the allocation of attention be affected by the professional profile and by the internship in future professionals in organizations? Data were collected with the support of an eye tracking software, Realeye.io, during the online experiment between researcher and research subjects. To define the professional profile, the research subjects answered a self-report questionnaire.

2.2 Conceptual Model and Hypotheses

ABV is based on three basic principles that, together, argue that strategic behavior is the result of focusing and channeling attention (Table 1).

There are six elements that interact when analyzing the ABV: the decision environment, the repertoire of questions and answers, the procedural and communication channels, the company's attention structures, and the organizational movements and decision-makers. Attention structures are especially important for this article. They are divided into four types of structures that can guide decision makers' use of time, effort, and attention in assigning value to questions and answers and legitimizing procedural and attentional channels. These structures are rules of the game, players, structural positions, and resources (Ocasio, 1997; 2011; Ocasio & Joseph, 2005; Joseph & Ocasio, 2012).

TABLE 1
ABV principles (Ocasio, 1997)

Principles	Description
Focus of Attention	Managers are selective in attention due to their limited cognitive abilities. That is, attention given to issues guides their decision-making processes
Situated Attention	In this principle, the focus of attention of decision-makers depends on the particular situation they are in, situational context. Attention varies with context and can influence behavior. Situational contexts, in turn, are formed by the environmental stimuli received for decision making, by how questions and answers are incorporated with aspects of organizational identity, and by the procedural and communication channels established for interactions between the organization's members.
Structural Distribution of Attention	The structure and social relationships in organizations condition the situational context in which the manager finds himself and the attention managers pay to the situations in which they find themselves. Decision-makers are involved with specific questions that demand different answers, which are influenced by the division of labor by functions in the organization, by local procedures, and by communication channels and activities. These questions and answers lead to a variance in the focus of attention of managers and groups of managers in the company, depending on the functions to which they are allocated.

Ocasio (1997) defines attention structures as the social, economic, and cultural structures that govern the allocation of time, effort, and focus of attention of decision-makers in organizations. Therefore, rather than channeling the flow of attention, attentional structures are the contextual factors that influence how the decision was made to prioritize activities and identify possible problems that vie for attention. Furthermore, they provide the context that

guides the creation of concrete procedural and communication channels. As a company's attention structures vary, its decision-makers will attend to different aspects of the environment (Barnett, 2008).

The structural positions, which are the focus of this study, are related to the different responsibilities of individuals, corresponding to the division of work in the various functions and places they occupy in the organization's hierarchy. These structural positions define the company's internal or external relationships. As a result, the focus of their attention is directed towards a particular set of questions and answers.

The position, function, or the professional profile of individuals can define the structural positions, which their training will not necessarily guide. The structural position ends up influencing and makes the person, due to the function/position/profile they exercise and not due to their academic background, have specific attention, not necessarily the same as that of another professional profile. These patterns of attention can affect the organization's performance differently (Abebe, 2012) and the choice of organizational strategy and the boundary conditions of such relationships (Chen, Zhang & Jia, 2019).

Hypothesis 1. The professional profile of individuals influences the choice of information (AOI) for the allocation of attention.

To develop the ABV, Ocasio (1997), was influenced by the limited rationality presented by Simon (1947). Simon's (1947) perspective in relation to attention is that it exists rationally limited, therefore, dependent on the roles and responsibilities of managers in the organization's structure. These roles and responsibilities of managers make them pay attention to different stimuli or consider the contexts in the situations they experience differently. Therefore, future professionals are constrained by the company's attention structures (Ren & Guo, 2011), increasing the need to understand the impact of managerial discretion at these levels (Wangrow, Schepker & Barker, 2015; Sierra, Serra, Guerrazzi & Teixeira, 2019). The studies analyzed do

not consider the possibility of attention failures from individual characteristics of these intermediary managers, such as training, profile, and function performed, especially when technically specific, such as accountants in an accounting sector.

Depending on their professional profile and orientation, individuals have a predisposition to decision-making influenced by the allocation of attention made available to information. When the individual knows the theory and only the guidelines of how tasks, processes, or activities are carried out, he has an impression of the whole. When this individual is inserted in these tasks, processes or activities, practicing what he has learned, will be able to absorb and interpret information differently. The organizational environment and the structural distribution of attention provide him different lenses to analyze the available information. As a result, from an attention-based perspective, organizational attention and firm behavior depend on the structural characteristics of the organization. Furthermore, this structural perspective of organizational behavior highlights the influence of actors in organizational attention (Ferreira, 2017).

When entering organizations and being part of areas or functions, individuals receive distributed information that is more relevant to their day-to-day activities and decision-making in that location. It means that their professional profile, regardless of their initial training, is aimed at understanding and interpreting information from that area that function. Therefore, they will allocate their attention in one place or another. That is why the structural position of an individual ends up influencing their professional profile. For example, individuals in the commercial area are focused on maximizing sales by addressing customer demands, unlike people in the production area who want to maximize efficiency.

On the other hand, individuals in a technical role are more dependent on routines and tend to focus on those routines and decisions based on those routines. Position in the structure or function exercised tends to affect the allocation of professionals' attention significantly. A

company's attention structures affect how individuals at various levels serve the developing portfolio of opportunities to create and destroy value created (Barnett, 2008).

Hypothesis 2. In the organizational environment (internship), the structural distribution of attention influences the choice of information (AOI).

Bounded rationality leads to the creation of organizational structures and processes that shape and are shaped by limitations of human cognitive processes. In the context where functions, profile, and areas are related, attention is significantly driven, but not limited, by the aspects on which the managers of these environments focus their attention, and this attention is inherently situated in a social context and distributed throughout the organization (Ocasio, 1997; Koryak, 2018).

3 STUDY 2. ATTENTION FROM THE PERSPECTIVE OF PROFESSIONALS IN ORGANIZATIONS

3.1 Contextualization

ABV's central argument is related to the understanding that to explain company behavior it is necessary to explain how companies distribute and regulate the attention of their decision makers. The company's behavior is the result of how the channeling and distribution of the attention of its decision makers is carried out, which depends on which questions and answers focus their attention (Ocasio, 1997).

Organizations are seen as distributed attention systems in which there are questions to understand the environment (problems, opportunities and threats), and responses considered as alternatives for action (proposals, routines, projects, programs and procedures). In this distributed attention system, the actors, considered the managers, affect the regulation of the company through their skills, beliefs, values and attitudes, they can be internal and external, and they are those who make decisions and act in the communication channels and procedures, for this reason, not all decision makers are actors.

To understand distributed attention, in this study, we used the ABV as a theoretical basis in order to investigate the relationship between the function of professionals and their managerial attention. There is a lack of empirical research testing the structural distribution of attention and the relationship of role and managerial attention in strategy formulation.

In organizations, evidence of an organizational practice highlights its relevance to the entire process, with employee attention being directed to and affecting the degree to which information about that practice will be cognitively accessed and processed (Garg et al., 2021; Ocasio, 2011). We intend to answer the following research question in this study 2 Can the allocation of attention be affected by the function/position of professionals in organizations?

Due to the type of tool they use, most empirical studies test small samples. In study 1, when analyzing the results of future professionals or managers who will work in organizations, considering the sample size, we observed the problem of statistical power and the absence of external validity due to the sample. To complement study 1, we developed study 2 in which we aim to assess the effect of function/position on managerial attention and the individual characteristics of professionals working in organizations.

Both study 1 and study we aim to relate and understand ABV from the perspective of merging the structural components of a company's environment with cognitive decision-making components, to develop a comprehensive perspective of the company's behavior and the possibility of taking decisions. strategic decisions (Ocasio 1997; 2011).

3.2 Conceptual Model and Hypothesis

Strategies are developed in turbulent and sometimes unpredictable environments. To make this process less dubious, it is relevant to think about promoting thoughtful engagement linking top-down and bottom-up processes of cognitive processing, leading to possible variations in established patterns of attention, cognition and meaning creation at the organization level (Ocasio and Joseph 2008). It will allow professionals to identify problems,

develop alternatives for action, and provide new ways to understand organizational issues, their causes, and consequences.

Attention and the ability to process information in a team are valuable and scarce resources in an organization (Ocasio, 2011). When engaging people to focus their efforts in certain situations and not others, unconsciously the search for information and data will be restricted to resolution of the presented objective, that is, the distribution of attention will be focused, the degree of participation of professionals is the result of attention contests.

These competitions arise related to the structure of attention of the main organization and compete for the limited attention of professionals (Ocasio, 1997; Simon, 1947). These structures shape how and to what extent they direct their attention to certain events and, therefore, how they behave strategically, that is, organizations' attention structures influence the degree of participation and choices of professionals (Ren & Guo, 2011; Brielmaier & Friesl, 2021). The attention structures consist of four attention regulators, which are fundamental to understanding the participation in the operating system: rules of the game, structural position, resources and routines and players.

These regulators of attention influence how attention will be distributed, but there is another factor that must be considered to understand how information is preserved within the structure of the organization. For this reason, attention is directly relevant to organizational learning in light of the fact that organizational and actor experience is not always transformed into knowledge (Gavetti et al., 2012).

The structural distribution of attention, experience, learning and the attention of actors can generate knowledge as communication channels and procedures are aligned with the organization's strategy and objectives. This study examines structural and cognitive factors that collectively influence, considering the structures, regulators and other situations that influence

players in organizations for decision making. For that, weShe[herd propose the following hypothesis:

Hypothesis 3. The professional profile of managers influences the choice of information (AOI) for the allocation of attention.

4 EYE TRACKING METHOD

4.1 Definition of Research Instruments

In this study, we researched a causal experimental type research carried out in a real environment, also called field, to verify the existence of the cause and effect relationship between the studied variables, using theoretical support for the supposed relationship under analysis. The experimental design was between-subjects. Each one was exposed to only one of the two possible situations (da Costa Hernandez, Basso & Brandão, 2014). For that, the quantitative approach was used.

4.2 Definition of Image Stimuli

To make decisions in organizations, managers consider the information they deem relevant. However, processing this information and the attention provided is a demanding exercise, and some individuals have limited abilities to deal with this (Hillenbrand & Schmelzer, 2017). Loewenstein, Sunstein and Golman (2014) highlight that psychological factors such as limited attention can severely undermine the effectiveness of decisions.

In this study we developed an image that has four quadrants (Figure 1, 2). Two of them have strategic information aimed at content that is part of the training of students in the Administration course. The other two quadrants have financial information that is part of the training of students in the Accounting course. The students were divided into two groups and each group viewed one of the images, they have the same information, but they are mirrored to avoid bias, preferring to observe one side or the other.

FIGURE 1
Image format 1

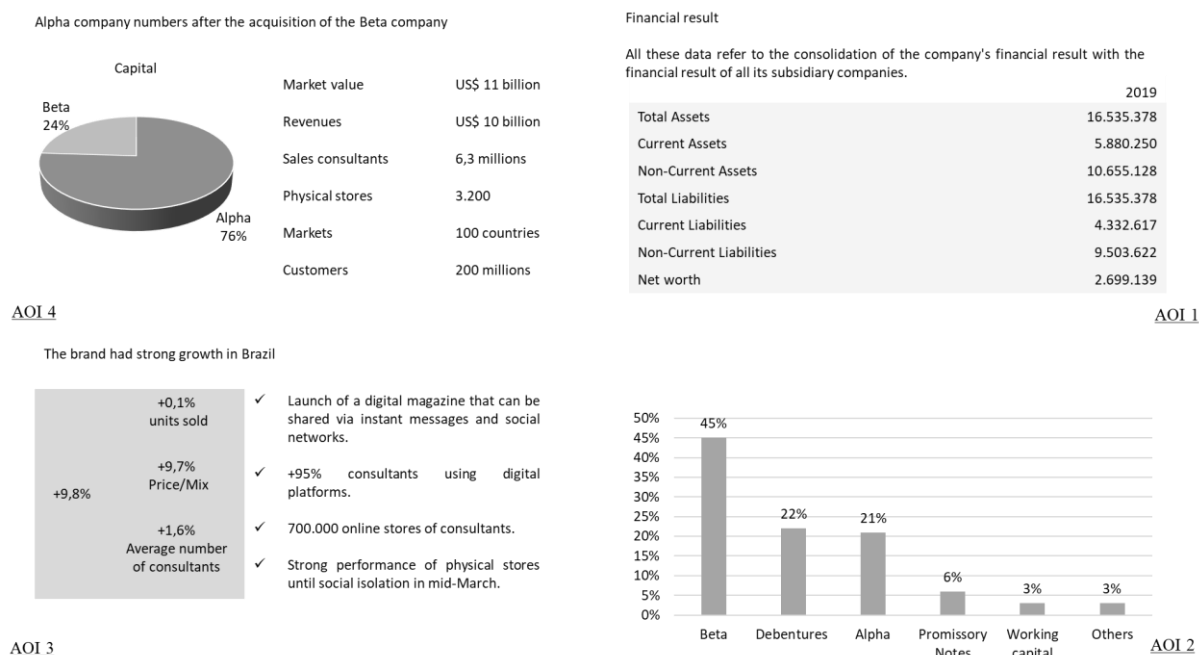
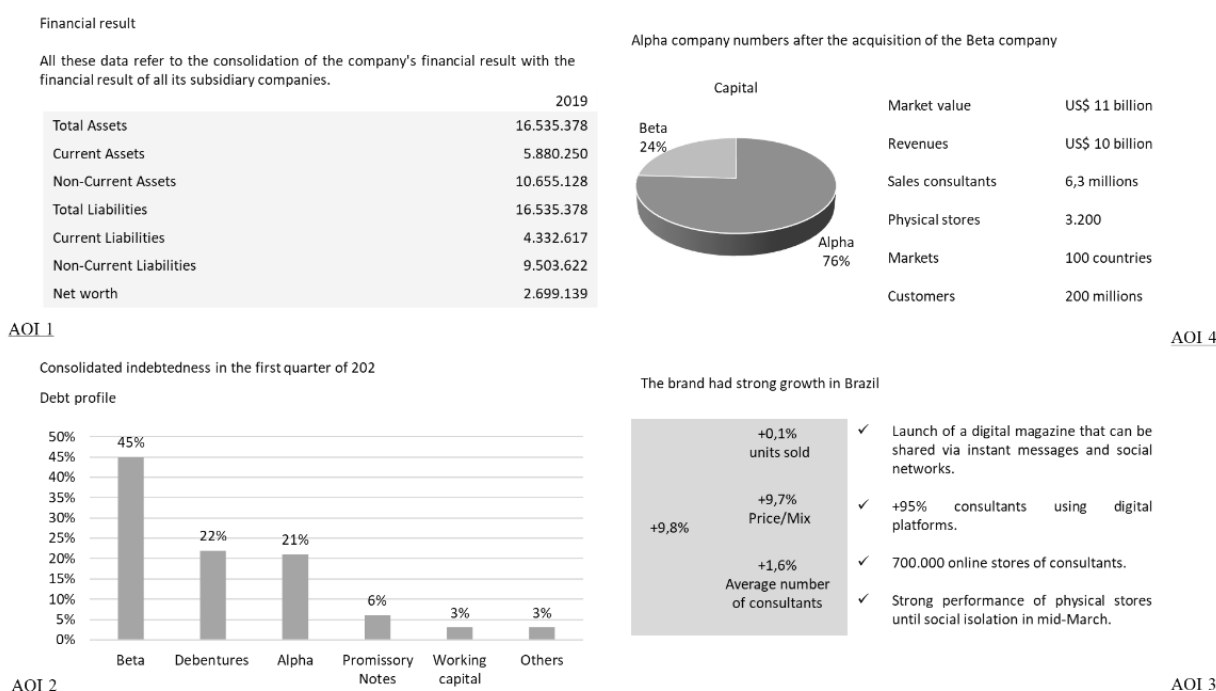


FIGURE 2
Image format 2



Previous studies have shown that visual information can present visual disturbances (Hillenbrand & Schmelzer, 2017), for example, through the use of colors or logos. Therefore, considering the image used, to ensure scientific validity, the image's background was white.

The information is written in black with a constant font size of size 14. The graphic elements have shades of gray to avoid the influence of colors in judgment and decision-making.

In study 1, the choice of Accounting Science students is justified because there is no overlap between the mandatory subjects about the Business Administration course at federal universities. In study 2, the sample consisted of managers from strategic areas and managers from accounting related areas.

4.3 Preparation of Statements for Self-Report and Validation of Statements by Judges

After analyzing the pedagogical projects of the courses and developing the image that was used in the eye tracking software, we developed the items that are part of the questionnaire stage and the self-report applied to both studies 1 and 2. The information contained in the image became items. It was presented to the research subjects in the form of statements to describe what information they paid attention to.

Initially, 20 items were generated, 10 of which were related to the Accounting course, and 10 to the Administration course, in the two previously determined dimensions of analysis, following as a fundamental criterion the semantic adequacy, and that they maintained a clearly reflective relationship with them, enabling the correct measurement (Jarvis, Mackenzie & Podsakoff, 2003). After defining a preliminary version with the items, it was necessary to carry out a face validation (DeVellis, 2003).

Face validation was deepened through the judges (Malhotra, 2014). The objective of this step was to verify, in a group of experts, whether the items on the scale can be considered adequate to measure what is being proposed (DeVellis, 2003), observing the agreement of the invited group of experts (judges), with the capacity of the scale to measure each intended construct and if the scale items are clear and adequate for estimation (Gountas et al., 2012; Hardesty & Bearden, 2004).

The face validation procedure initially included the invitation to judges (experts) to return a questionnaire sent by e-mail. During face validation, the judges marked those items they believed to be part of the contents of their area of knowledge (Administration or Accounting). The assessment of the ability to relate the item to the area of knowledge provided a score (D'arc da Silva Brito, Pinochet, Lopes & de Oliveira, 2018). Values of 0.65 or higher were considered acceptable as levels of convergent agreement (Stratman & Roth, 2002) or above 0.80, according to Hair et al. (2006).

For the composition of the panel of judges, 16 academic professionals, doctors, and researchers in their fields were invited for convenience. All professionals contacted agreed to participate in the study. However, six of them did not return to the survey, failing to send their answers.

After the return of the judges, it was necessary to compile the data and analyze the final result. Of the 20 items, 10 were part of the final research instrument in the self-report stage, 5 from Administration and 5 from Accounting.

4.4 Research Instrument Pre-Tests

For the proper adequacy of the experiment, we performed pre-tests recommended in experimental studies (Hauser; Ellsworth; Gonzalez, 2018). Pre-test data were collected and analyzed. A total of 20 pre-tests were performed in one week. The research instrument was developed to be applied in stages as shown in Figure 3.

The meetings were scheduled using email and WhatsApp. Initially, we explained the importance of participation because of their experience and knowledge in the area. The average duration for carrying out the individual process as a whole was 30 minutes. After completing each pre-test and before ending the video connection, we spoke with the participants to identify weaknesses in the instrument or questions that might arise with the students at the research time.

FIGURE 3
Steps in the application of the experiment



All participants are PhDs in their respective fields and have made significant contributions to improving the instrument and process. Regarding the scales, the suggestion was to adapt the questions to the context of the pandemic. They also suggested that the scales should be standardized within the range 1 to 5, despite the number of points on the scale not interfering with the analysis, as variance was evaluated. The suggestion can be used to facilitate the completion and not generate doubts.

As it is a new and interesting method, the pre-test stage of the experiment using eye tracking was very valid. I could see that the Zoom or Google Meet application to run, but only in the browser. If they open via the app, it blocks the camera. Sometimes some plugins also block cameras. In these cases, participants could be instructed to open the test in incognito mode or another browser such as Epic. To avoid dropouts, for the realization of videos called Whereby.

Some participants in the pre-test started the call by cell phone, but the individuals needed to use a Windows notebook on which the eye tracking software runs to carry out the

experiment. In appointments with students later, we explained the need to use the notebook in the first contact.

In addition, the pre-test participants suggested that a previous orientation be carried out for the research subjects, containing the information, an image divided into four quadrants will be displayed where information will be distributed. Still, the suggestion is that each one concentrates on the information content what catches your attention the most, as they will only have 40 seconds for viewing. It is not necessary to pay attention to the form of presentation.

After performing the pre-tests, it was necessary to compile the data and analyze the final result, which was satisfactory. Considerations and suggestions were accepted in the final instrument, highlighting the importance of this stage for the study.

4.5 Eye Tracking and its Application

Eye tracking provides a unique way of looking at the allocation of human attention in an extrinsic way. By identifying where a person looks, researchers can identify what drives human visual attention (Semmelmann & Weigelt, 2018). Eye tracking allows collecting and analyzing the visual path that research subjects take, which are the points of attention, pupil size, and distance, or blinking, using infrared technology, which detects the pupils of individuals while viewing the resources (Silva -Torres, Martínez-Martínez & Cuesta-Cambra, 2020). By providing more direct measures of attention, eye tracking allows the researcher to distinguish between endogenous (top-down) attention, where specific aspects of the ad are explicitly selected and processed, and exogenous (bottom-up), where stimulus characteristics attract attention and processing. These distinctions cannot be captured using traditional self-reported measures (Venkatraman, et al., 2015).

The facilities of using online eye tracking software include the opportunity to get a more significant number of participants and a more diverse sample. Thus, it is possible to promote the facilitation of the generalization of results, greater data acquisition speed, the autonomy of

data recording, independence of available software and hardware, and lower costs due to less time involvement of participants and researchers (Semmelmann & Weigelt, 2018).

Eye tracking provides a unique way of looking at the allocation of human attention in an extrinsic way. Researchers can identify what drives human visual attention (Semmelmann & Weigelt, 2018). Eye tracking allows collecting and analyzing the visual path that research subjects take, which are the points of attention, pupil size, distance, or blinking, using infrared technology, which detects the pupils of individuals while viewing the resources (Silva -Torres, Martínez-Martínez & Cuesta-Cambra, 2020). By providing more direct measures of attention, eye tracking allows the researcher to distinguish between endogenous (top-down) attention, where specific aspects of the ad are explicitly selected and processed, and exogenous (bottom-up), where stimulus characteristics attract attention and processing. These distinctions cannot be captured using traditional self-reported measures (Venkatraman, et al., 2015).

Eye movements are coupled with attention and information acquisition. Attention and information acquisition are linked to higher cognitive processes, characterized as integrating information from basic cognitive processes. Basic cognitive processes can be exemplified by perception, attention, and memory. These processes may or may not be related to higher processes such as language, intelligence, decision making, reasoning. Learning is an example of a higher cognitive process, as it is the combination of processes such as attention, memory, and thinking (Wedel, 2015).

After creating the study on the platform, the researcher must send the participation link to all research subjects. First, each participant sees the basic instructions and needs to enable access to the webcam. Then the basic instructions are displayed, and the 40-point calibration begins. It is conducted on three different backgrounds - white, black and gray to minimize the influence of the monitor light intensity during the eye tracking test (it is different from the color

of the displayed items). The screen was calibrated and validated was at 9 points - only by completing this step were participants allowed to continue the task (Lewandowska, 2020).

Before starting the experiment, all research subjects must be guided in relation to some points. To participate in the study, a desktop device must be used. The participant must be seated at a comfortable distance from the computer, as for regular use, using the Chrome browser, with only one tab open (the one with the eye tracking study). The webcam must be at eye level. The environment must have good lighting conditions, must not wear glasses, and keep the head still throughout the test.

After carrying out the experiment, it is possible to generate the results. RealEye provides recordings, which are videos that show how the research subjects' eyes moved over the item during testing. A moving circle that appears in the video represents an area you were looking at (gaze point).

The area of interest (AOI) is an analytical tool that allows you to calculate quantitative measurements of eye movement. It is necessary to draw a boundary around an area of a chosen image that interests you to identify the desired metrics. In this study, each image had four AOIs and analyzed by the metrics Total Time (TT), Staring Looks (OF), and Average of Return Visits (OF_REV).

The TT metric refers to the total time spent, in seconds, by viewers on AOI, and it can mean issues related to extracting information or indicate that AOI is more attractive. The number of fixations within the AOI is the metric OF. More fixation means more visual attention and efficiency in finding information. This metric is the sum of all fixation durations within a specified AOI. It is best used to assess attention distributed among targets. The OF_REV metric is related to how many times, on average, participants looked at the AOI, looked at it, looked away, and then looked back again. It measures the dynamics of visual attention using the total number of turns between a set of AOIs.

4.6 Sample Sociodemographic Information

We requested sociodemographic information related to the course, gender, age, if have already done an internship, if you have already done an internship, can you tell us in which area it was done, how long the internship was. Also, question if they would be working, in what area or function, if they have another education (undergraduate) or are taking another course, and if they are taking another course, what would it be. Finally, we asked if the students had any technical training performed before entering graduation and what area had been studied.

For study sample 1, we requested sociodemographic information related to the course, gender, age, and economic sector. We emphasize that the sociodemographic questions only seek to characterize the research sample. In which it operates, which area and function it works in the organization, how long, years or months, do you have experience in the role or position, how to consider your daily activities in the organization, if you have another training or if you are taking another course.

4.7 Procedures for Analysis of Results

For studies 1 and 2, outlier analyses were performed with the support of the Mahalanobis Distance (D^2). However, discarding any variable was unnecessary as the assumption of the absence of multivariate outliers.

In study 1, we used three software variables to analyze the data, Staring Gazes (OF), Total Time (TT), and Mean of Stares Revisit (OF_REV). The variable OF is related to the number of fixations within the AOI. More fixation means more visual attention. The TT variable is the total time research subjects spend on the AOI (in seconds). The variable OF_REV shows how many times, on average, the participants looked at the AOI, looked at it, looked away, and then looked back again.

To analyze the data from study 1 we used static T-test, Hotelling's T^2 , and GLM analysis. To compare the eye tracking variables and image formats, we performed the T Test.

Exploratory Factor Analysis (EFA) was performed with self-report statements. Using the independent variable categorical with two groups Profile of students, which resulted from the assessment of self-report. The dependent variable of eye tracking and the internship covariance, we performed a Hotelling's T^2 when the independent variable has only two groups. There are several dependent variables, so we were able to verify whether the groups differ in the combined dependent variables. To understand how internship influences the structural distribution of attention and the choice of information (AOI) we performed a GLM analysis.

In study 2, we again used three software variables to analyze the data, Staring (OF), Total Time (TT) and Time Spent (TG). The variable OF is related to the number of fixations within the AOI, more fixation means more visual attention. Research subjects on the AOI the total time spend the TT variable (in seconds). On the other hand, the TG variable presents the average time taken for the first visualization of the AOI in seconds.

To analyze the data from study 2, we used static T-test analysis, Exploratory Factor Analysis (EFA), and MANOVA. To compare the eye tracking variables and image formats, we performed the T-Test. Exploratory Factor Analysis (EFA) applied with self-report statements. As three groups were identified (GE, AC and Both), the categorical independent variables, we performed a multivariate analysis called MANOVA to compare means with the dependent variables of the eye tracking tool.

5 ANALYSIS OF RESULTS

5.1 Study 2. Analysis of Attention Allocation in AOIs of the Two Image Formats

The first analysis performed is related to Formats 1 and 2. Through a T-Test, it was possible to notice that formats 1 and 2 did not show mean differences in the three software variables. This indicates that the allocation of attention to formats, regardless of the right or left side, text or graphics, numbers or descriptions, was equal, so it is possible to compare the

variables. In other words, attention was distributed in a similar way in both formats. Therefore, not necessarily the graphic was the most viewed.

We used the AOIs as the dependent variable in this test and the image formats presented as the independent variable. We did not find mean differences between image formats in the AOI result.

The allocation of attention in the AOIs was similarly distributed in the two formats (1-2) of the image presented as a stimulus was confirmed, thus enabling the use of the variables of the eye tracking software (OF, TT and OF_REV) to compare the areas of interest.

5.2 Study 1. Definition and Analysis of the Professional Profile for Choosing Information and Allocation of Attention.

In this analysis, we created a professional profile based on self-report. To operationalize the construction of this variable, we grouped the 10 statements related to image. The research subjects answered if “I didn’t pay” or “I paid attention” to the information. We performed an Exploratory Factor Analysis (EFA) with the self-report variables (Table 2). We used the Varimax Rotation, suppressed the coefficients less than 0.40 (Fox, Levin & Forde, 2013), the commonalities (h^2) below 0.50, and excluded the variables that presented cross load. Of the 10 statements, 8 were part of the final EFA (Table 2). The KMO was 0.774 (Hutcheson & Sofroniou, 1999), the total explained variance of 63.4%, and the sphericity test $p < 0.001$.

To analyze the professional profile of the sample and not just education, we created a variable for the average factor 1 (Professional profile in the area of Administration), and another one in Factor 2 (Professional profile in the area of Accounting). With these two variables, we arrived at a final variable to be identified through the means of the self-report responses. The profile of students who will have a degree in Administration is more general, it allows professionals to work in different areas of the organization, whereas training in Accounting

makes the professional more focused on acting in the financial area. These conclusions were drawn after analyzing and comparing the pedagogical projects of the two courses.

TABLE 2
Exploratory Factor Analysis with Self-Report Answers

Self-report: Statements about the professional profile	Professional Profile from the Administration area	Professional Profile of the area of accounting sciences	Cronbach α
AFI_ADM2: The launch of the digital magazine that can be shared via instant messages and social networks was one of the strategies to increase sales.	.827		
AFI_ADM5: More than 95% of consultants using digital platforms.	.849		
AFI_ADM7: The number of online consultant stores is significant.	.766		
AFI_ADM9: The company's physical stores performed strongly until the beginning of social isolation in mid-March.	.754		.826
AFI_CC4: The company's current assets are greater than its current liabilities.		.787	
AFI_CC6: Alpha company's equity or equity is positive.		.758	
AFI_CC8: Equity is less than the company's current assets.		.789	
AFI_CC10: The value of assets is equal to the total of liabilities.		.726	.780

With our variable defined, we seek to understand whether the professional profile of individuals influences the choice of information for the allocation of attention. Our hypothesis 2 was confirmed after performing the Hotelling's T^2 , we used the intergroup categorical independent variable with two groups, the Self-Report (ADM=1 and CC=2), referring to the professional profile and dependent variables referring to the AOIs. Of the 12 AOIs analyzed, seven had a mean difference, which for this case was fundamental (Table 3).

TABLE 3
Descriptive statistics results of the Hotelling's T^2 variables

Dependent variable	n	Mean	Standard deviation	Type III Sum of Squares	Mean Square	F	Sig.
OF_AOI1	151	506.5695	576.72610	3920446.192	3920446.192	12.622	0.001
OF_AOI2	151	419.9801	509.71223	11362.006	11362.006	.043	0.836
OF_AOI3	151	368.7682	393.63580	1309356.248	1309356.248	8.871	0.003
OF_AOI4	151	660.1987	584.13043	1542332.557	1542332.557	4.854	0.029
TT_AOI1	151	6.9766	7.94516	736.353	736.353	12.480	0.001
TT_AOI2	151	6.0120	7.32073	16.903	16.903	.312	0.577
TT_AOI3	151	5.4556	5.71585	121.794	121.794	3.789	0.050
TT_AOI4	151	9.1407	8.04719	370.924	370.924	6.159	0.014
OF_REV_AOI1	151	4.60	4.719	38.479	38.479	1.727	0.191
OF_REV_AOI2	151	3.54	4.049	7.429	7.429	.449	0.504
OF_REV_AOI3	151	3.89	4.658	10.070	10.070	.460	0.499
OF_REV_AOI4	151	6.12	6.343	180.971	180.971	4.710	0.032

Note: *** $p < 0.001$; ** $p < 0.05$.

For the OF and TT variables, the areas AOI1, AOI3, and AOI4 were significant, indicating that the distribution of attention based on self-report matches the professional profile. The AOI2 area that provided information about the organization's indebtedness for both groups of professional profile was similar.

In the case of variable OF_REV, only the AOI4 showed a mean difference. AOI4 presents the organization's strategic information, the post-acquisition data information. It is more generic and interpretive information, and this fact made the research subjects revisit the AOI. The administration profile, for which the AOI was developed, had the highest mean ($\bar{x}_{ADM} = 7,12$) supporting our interpretations (H1) about the structural distribution of attention.

5.3 Study 1. Analysis of the Influence of the Organizational Environment (Internship) on the Allocation of Attention to Choose Information (AOI)

After the homogeneity of the regression parameters was confirmed, a Generalized Linear Model (GLM) analysis was conducted to verify whether the professional profile (grouping variable) has an effect on the allocation of attention, and whether the internship influences it as a covariate. The results showed that in the organizational environment (internship), the structural distribution of attention influences the choice of information (AOI), and finally, the third hypothesis was also confirmed. We reanalyzed the 12 software AOIs, but now we use the internship covariance (Table 4).

TABLE 4
GLM analysis results (covariant variable: stage)

Dependent variable	n	Type III Sum of Squares	Square Mean	F	Sig.
OF_AOI1	151	8689.195	8689.195	.028	0.867
OF_AOI2	151	37424.233	37424.233	.142	0.707
OF_AOI3	151	46126.130	46126.130	.313	0.577
OF_AOI4	151	2893870.657	2893870.657	9.108	0.003
TT_AOI1	151	3.050	3.050	.052	0.820
TT_AOI2	151	.320	.320	.006	0.939
TT_AOI3	151	15.161	15.161	.472	0.493
TT_AOI4	151	484.736	484.736	8.048	0.005
OF_REV_AOI1	151	2.555	2.555	.115	.735
OF_REV_AOI2	151	4.998	4.998	.302	.583
OF_REV_AOI3	151	4.050	4.050	.185	.668
OF_REV_AOI4	151	192.593	192.593	5.012	0.005

Note. *** $p < 0.001$; ** $p < 0.05$.

We conclude that the professional profile of individuals in the area of Administration showed a greater mean difference in the AOIs 4 of the three variables. This AOI 4 presents information from the data after the acquisition of the organization, it is more generic and interpretive information about the organization and its strategies, that is, it is consistent with the more generalist training.

The GLM revealed that there is an effect of the covariate on the allocation of attention. When performing the internship, the professional profile with the most generalist characteristic demonstrated that the expansion of practical experience possibilities during higher education is an alternative to meet the requirement of a multidisciplinary profile. By analyzing the image and the AOIs, this profile demonstrated a professional identity necessary to act in a situation of unpredictability, a reality that current organizations are subject to, as the AOI4 [internship_{OF AOI4} $F_{(1, 148)} = 9.108$; $p=0.003$; internship_{TT AOI4} $F_{(1, 148)}=8.048$; $p=0.005$; internship_{OF_REV AOI4} $F_{(1, 148)}=5.012$; $p=0.005$] presents information that is more interpretive about the organization and its strategies.

5.4 Study 2. Analysis of Attention Allocation in AOIs of the Two Image Formats

The first analysis performed is related to Formats 1 and 2. Through a T-Test, it was possible to see that formats 1 and 2 did not show any difference in mean. This indicates that the allocation of attention to formats, regardless of the right or left side, text or graphics, numbers or descriptions, was equal, so it is possible to compare the variables. In other words, attention was distributed in a similar way in both formats, not necessarily the graphic was the most viewed. We used the AOIs as the dependent variable in this test and the image formats presented as the independent variable. We did not find mean differences between image formats in the AOI results.

The allocation of attention in the AOIs was similarly distributed in the two formats (1-2) of the image presented as a stimulus was confirmed, thus allowing the use of the variables of the eye tracking software (OF, TT and TG) to compare the areas of interest.

5.5 Study 2. Definition and Analysis of the Professional Profile for Choosing Information and Allocation of Attention

In this analysis we created a professional profile from the self-report. To operationalize the construction of this variable, grouped the 10 statements related to image. The research subjects answered if “I didn’t pay” or “I paid attention” to the information.

We performed an Exploratory Factor Analysis (EFA) with the self-report variables (Table 5). We used the Varimax Rotation, we suppressed the coefficients less than 0.40 (Fox, Levin & Forde, 2013), the communalities (h^2) below 0.50 and excluded the variables that presented cross load. Of the 10 statements, 6 were part of the final EFA (Table 17). The KMO was 0.642 (Hutcheson & Sofroniou, 1999), the total explained variance was 62% and the sphericity test was $p < 0.001$.

TABLE 5
Exploratory Factor Analysis with Self-Report Answers

	Professional profile Management/Strategic	Administrative/Accounting professional profile	Cronbach α
AFI_GE9: The company's physical stores performed strongly until the beginning of social isolation in mid-March.	.752		.697
AFI_GE2: The launch of the digital magazine that can be shared via instant messages and social networks was one of the strategies to increase sales.	.735		
AFI_GE5: More than 95% of consultants using digital platforms.	.720		
AFI_GE7: One of the brand's growth strategies in Brazil was the opening of 700,000 online consultant stores.	.702		
AFI_AC10: Asset value equals total liabilities.		.869	.672
AFI_AC8: Equity is less than the company's current assets.		.849	

To analyze the professional profile of the sample and not just its function or position, we calculated the average of the EFA grouping of 1 (Professional Management/Strategic

Profile), and another of Factor 2 (Professional Administrative/Accounting Profile). With these two variables, we arrived at a final variable to be identified through the means of the self-report responses. The manager's profile who has strategic activities is more general, allowing the professional to work in different areas of the organization, while the administrative or accounting professional profile is focused on activities and routines that have defined and less strategic processes. Unlike study 2, we identified three groups in this study, as there were executives in the sample who fit into both profiles due to their answers.

With our defined variable, we sought to understand whether the professional profile of individuals influences the choice of information for the allocation of attention. Hypothesis 1 of this study was confirmed after MANOVA, we used the independent variable categorical intergroup with three groups, the Self-Report (GE=1, AC=2 and BOTH=3) referring to the professional profile and dependent variables referring to the AOIs. Of the 12 AOIs analyzed, 4 had a mean difference (Table 6).

TABLE 6
Results of descriptive statistics of MANOVA variables

Dependent variable	n	Mean	Standard deviation	Type III Sum of Squares	Mean Square	F	Sig.
TG_AOI1	85	8.0739	7.1225	891.044	445.522	10.840	.000
TG_AOI2	85	5.0489	4.95379	1.074	.537	.021	.979
TG_AOI3	85	4.8553	4.53408	107.396	53.698	2.719	.072
TG_AOI4	85	10.1368	7.85542	188.283	94.141	1.545	.219
TT_AOI1	85	9.3649	7.61833	967.828	483.914	10.155	.000
TT_AOI2	85	6.0667	5.39276	17.419	8.709	.294	.746
TT_AOI3	85	5.8120	4.86593	104.507	52.253	2.274	.109
TT_AOI4	85	11.2868	8.09732	199.483	99.741	1.541	.220
OF_AOI1	85	647.0471	519.34031	3955913.644	1977956.822	8.673	.000
OF_AOI2	85	460.9176	412.40841	171161.683	85580.842	.497	.610
OF_AOI3	85	412.1647	342.14265	732802.092	366401.046	3.302	.042
OF_AOI4	85	860.3059	605.22188	797971.026	398985.513	1.092	.340

MANOVA (Table 7) showed that there is an effect of profile on attention in AOIs (Pillai screening = 0.399; $F_{(4, 90)} = 1.496 = p < 0.001$). Therefore, the assumptions for applying the method were considered. For the TG, TT, and OF variables, the AOI1 area was significant. This indicates that the distribution of attention based on self-report matches the professional profile of the sample. This statement is justified since AOI1 was developed with information focused

on the administrative and accounting profile, which had the highest average in all variables ($TG_AOI1\bar{x}_{AC} = 11,66$, $TT_AOI1\bar{x}_{AC} = 13,11$, $OF_AOI1\bar{x}_{AC} = 882,24$).

Tukey's post-hoc test showed that there is a statistical difference between the administrative and accounting profile groups of the others, according to the means presented above. Furthermore, there was no mean difference between the AC and Both groups.

The variable OF_AOI3 also showed the difference in means in the $AOI3$, in which it presents strategic information about the organization. It is more generic and interpretive information, and this fact made the research subjects revisit the AOI . The management and strategic profile, for which the AOI was developed, had the highest average ($\bar{x}_{GE} = 566,82$) corresponding to the interpretation ($H1$) about the structural distribution of attention.

The results of this research highlight the premises of the ABV about the definition that managers of organizations have limited attention capacities due to attention regulators in organizations and the defined structural distribution itself. Even having more than five years of experience, the executives sought and focused their attention on the information they are used to analyzing in their work daily.

6. DISCUSSION AND FINAL CONSIDERATIONS

The main objective of study 1 was to evaluate the effect of the professional profile and internship on the allocation of attention (individual characteristic) of future professionals in organizations. To do so, we conducted an experiment, in which future professionals, Administration, and Accounting students from the last semesters of federal universities viewed an image with information about an organization and later performed a self-report about the points that paid more attention to the image. Data were collected by RealEye.io, an eye tracking software. Data collection was performed remotely and controlled by the researchers.

Our results demonstrate that the initial training of individuals is not always consistent with their professional profile. Individuals are distributed in different functions and end up

adapting to these spaces and activities, allocating their attention to what matters for the execution of tasks, which Ocasio (1997) defined as structural distribution of attention.

Structures within an organization lead to where its decision-makers focus their attention, how stimuli are perceived, encoded and transformed into a limited set of organizational movements, i.e., an organization's structures influence where attention will be allocated. By linking organizational structure, managerial cognition and decision making, we can understand how effective an individual will be in a given organization (Barnett, 2008).

We conclude that the allocation of attention can be affected by the professional profile and the internship in future managers of organizations. The results indicated that the allocation of attention to the AOIs was similarly distributed in the two formats (1-2) of image presented as a stimulus, that is, no AOI drew more attention than the other, the allocation of attention was similar regardless the way the information was presented. Furthermore, we conclude that the professional profile of the research subjects influences the choice of information (AOIs) for the allocation of attention. Finally, we understand that in the organizational environment (internship), the structural distribution of attention influences the choice of information (AOI).

In study 2, the objective was to evaluate the effect of function/position on managerial attention and on the individual characteristics of managers working in organizations. We conducted an experiment, in which managers with more than five years of experience, from strategic areas and administrative and accounting areas viewed an image with information about an organization and later performed a self-report about the points that paid more attention to the image. RealEye.io, an eye tracking software, collected data. Data collection was performed in a remote and controlled manner.

After identifying the results, it was possible to state that the allocation of attention can be affected by the role/position of managers in organizations. The results indicated that the allocation of attention to the AOIs was similarly distributed in the two formats (1-2) of image

presented as a stimulus, that is, no AOI drew more attention than the other, the allocation of attention was similar regardless the way the information was presented. Furthermore, we conclude that the professional profile of the research subjects influences the choice of information (AOIs) for the allocation of attention.

We believe that the results found in both studies demonstrate that the extent of personal characteristics and profile influence strategic choices and decisions which will determine the organization's fate (Bressan, 2018). These characteristics will affect the perception and understanding of environmental challenges and opportunities and, consequently, decision-making (Gallén, 2006).

When relating these findings to strategy formulation, we understand that it is not simply an exercise in rationality, but rather reflects experimentation, exploration, intuition, instinct, and learning, and that there is indeed a structural distribution of attention in organizations (Palmié, Lingens & Gassmann, 2015; Vuori & Huy, 2015; Joseph & Wilson, 2017). Therefore, experience in positions or functions should be considered. Still, it does not always guarantee the creation of knowledge and success in the decision-making process, considering that attention can expand or limit the consequences of the experience.

When allocating attention to one piece of information or another, managers in organizations, when asked to plan or develop a strategy, need to select a specific course of action (Gibcus, Vermeulen & De Jong, 2009) that leads to the choice of objectives, resources and people, and the way they are effectively will happen (Bressan, 2018). Not even the managers of organizations are able to adopt a planned and rational approach to decision making, considering that some strategies have little time to be planned and that they will not be able to obtain all the necessary information.

Therefore, managers make decisions or develop strategies through the information that the environment in which they operate within organizations provides. Through the way they

allocate attention in this space, understanding that their initial training becomes less relevant than their professional profile molded with based on their professional experiences and practices. This means that, depending on the area or sector in which the manager works, information will be perceived and interpreted or considered differently from the other because the manager allocates his attention and has processes of perception and analysis that can be influenced that others do not (Pellegrino & Carbo, 2001). It is justified, as every professional has a preferential way of perceiving, organizing, and using information to conduct a specific activity or strategic choice (Gallén, 2006).

We present the effect of the professional profile and the organizational environment as influencers on the allocation of attention that support decision-making. Additionally, the study contribute to practice by presenting the effect of a possible lack of attention or the generation of conflict between functions, which can be mitigated if considered in the channels of procedures and communication and attention structures (Ocasio, 1997).

This study contributes to the ABV literature, as it responds to calls to increase the number and quality of empirical articles analyzing the company's behavior using the ABV. Although there is a call for multilevel studies, it is also necessary to assess whether attention by profile, experience, position in the structure is reflected in attention. Although there is a search to find the effect of managers at the lowest levels on the performance of organizations, there is still no evidence of how to make the organization be aligned around a focus of attention so that it can quickly not only cause the group act together, but also assess whether this has progressed or not. One of the significant resistance to this, and which is not necessarily the manager's attention-taking or selective attention, but is how he aligns different perceptions and focuses of attention of individuals, whether by profile, professional orientation, training, function, and structural position so that together they can follow what is predetermined that would be the direction of the organization.

As researchers, we seek to apply a wide range of emerging approaches to understanding the structural distribution of attention that involves biologically based factors, but the environment technically conditions that. This thesis was research aligned with the emerging interdisciplinary field of neuroscience that seeks to understand interactions at the intersection of social, cognitive, and neural spheres of science, being applied to seek to analyze and understand human behavior in organizational environments (Ochsner & Lieberman, 2001; Butler & Senior, 2007).

Future surveys may be carried out with managers who occupy positions different from their initial training. In addition to studying the structural distribution of attention, the other two principles of the ABV, focus on attention and situated attention, also come from empirical research. The environment in which the company is inserted and depending on the configurations of that environment, for example, if it is more or less collaborative, can influence attention, so we suggest that empirical research be carried out to analyze this movement. Future studies can also analyze companies' two different areas from management positions professionals or even evaluate professionals from the same areas in different environments, for example, entrepreneurial orientation environments or agile environments.

Considering that attentional flexibility is necessary in organizations (Laureiro & Brusoni, 2018), future studies could analyze the recent COVID-19 pandemic that highlighted a recurrent problem in organizations related to responses to crises and unexpected events, whether large and of high frequency or variability, or not. All these changes require organizations to meet multiple and sometimes conflicting goals (Gaba & Greve 2019, Salvato & Rerup 2018) and analyze how these changes have led to significant changes in the structural distribution of attention, their determinants, and consequences may also bring relevant contributions for ABV.

REFERENCES

- Abebe, M. A. 2012. Executive attention patterns, environmental dynamism and corporate turnaround performance. *Leadership & Organization Development Journal*, 33:7, 684-701.
- Barnett, M. L. 2008. An attention-based view of real options reasoning. *Academy of Management Review*, 33:3, 606-628.
- Bressan, F. 2018. The Executive's Personal Characteristics Influences on the Strategic Decision-Making Process: Does the Mental Model Matter?. In *Closing the Gap Between Practice and Research in Industrial Engineering* (pp. 19-28). Springer, Cham.
- Brielmaier, C., & Friesl, M. 2021. Pulled in all directions: Open strategy participation as an attention contest. *Strategic Organization*, 1-12.
- Brigham, F. J., Zaimi, E., Matkins, J. J., Shields, J., McDonnough, J., & Jakubecy, J. J. 2001. The eyes may have it: Reconsidering eye-movement research in human cognition. In: *Technological Applications*. Emerald Group Publishing Limited.
- Butler, M. J., & Senior, C. (2007). Toward an organizational cognitive neuroscience. *Annals of the New York Academy of Sciences*, 1118:1, 1-17.
- Chen, J., Zhang, Z., & Jia, M. 2019. How CEO narcissism affects corporate social responsibility choice? *Asia Pacific Journal of Management*. 1-28.
- D'arc da Silva Brito, R., Pinochet, L. H. C., Lopes, E. L., & de Oliveira, M. A. 2018. Development of a gamification characteristics measurement scale for mobile application users. *Revista Eletrônica de Negócios Internacionais (Internext)*, 13:1, 1-16.
- DeVellis, R. F. 2003. *Scale development: theory and applications* (2nd ed.). London: Sage Publications, Inc.
- Ferreira, L. C. D. M. 2017. Sense and sensibility: Testing an attention-based view of organizational responses to social issues. *Business Ethics: A European Review*, 26:4, 443-456.
- Fox, J. A., Levin, J. A., & Forde, D. R. 2013. *Elementary Statistics in Social Research*. Pearson Higher Ed.
- Gaba, V., & Greve, H. R. (2019). Safe or profitable? The pursuit of conflicting goals. *Organization Science*, 30(4), 647-667.
- Gallén, T. 2006. Managers and strategic decisions: does the cognitive style matter? *Journal of Management Development*, 25:2, 118-133.
- Garg, S., Jiang, K., & Lepak, D. P. 2021. HR practice salience: Explaining variance in employee reaction to HR practices. *International Journal of Human Resource Management*, 32: 512-542.
- Gavetti, G., Greve, H. R., Levinthal, D. A., & Ocasio, W. 2012. The behavioral theory of the firm: Assessment and prospects. *Academy of Management Annals*, 6:1, 1-40.
- Gibcus, P., Vermeulen, P. A., & De Jong, J. P. 2009. Strategic decision making in small firms: a taxonomy of small business owners. *International Journal of Entrepreneurship and Small Business*, 7:1, 74-91.
- Gountas, J., Gountas, S., Reeves, R. A., & Moran, L. 2012. Desire for fame: scale development and association with personal goals and aspirations. *Psychology & Marketing*, 29:9, 680-689.
- Haas, M., Criscuolo, P., & George, G. 2014. Attention allocation and online knowledge sharing within organizations. *Academy of Management Proceedings*, 2014:1, 10411.

- Hambrick, D. C., & Crossland, C. 2018. A Strategy for Behavioral Strategy: Appraisal of Small, Midsize, and Large Tent Conceptions of This Embryonic Community. In *Behavioral Strategy in Perspective* (pp. 23-39). Emerald Publishing Limited.
- Hardesty, D. M., & Bearden, W. O. 2004. The use of expert judges in scale development: implications for improving face validity of measures of unobservable constructs. *Journal of Business Research*, 57:2, 98-107.
- Hauser, D. J., Ellsworth, P. C., & Gonzalez, R. (2018). Are manipulation checks necessary?. *Frontiers in Psychology*, 9, 998.
- Hillenbrand, A., & Schmelzer, A. 2017. Beyond information: Disclosure, distracted attention, and investor behavior. *Journal of Behavioral and Experimental Finance*, 16, 14-21.
- Hutcheson, G. and Sofroniou, N. 1999. *The Multivariate Social Scientist: Introductory Statistics Using Generalized Linear Models*. Sage Publication, Thousand Oaks, CA.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. 2003. A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30:2, 199-218.
- Joseph, J., & Ocasio, W. 2012. Architecture, attention, and adaptation in the multibusiness firm: General electric from 1951 to 2001. *Strategic Management Journal*, 33:6, 633–660.
- Joseph, J., & Wilson, A. J. 2017. The growth of the firm: An attention-based view. *Strategic Management Journal*, 39:6, 1779–1800.
- Koellinger, P. 2008. Why are some entrepreneurs more innovative than others?. *Small Business Economics*, 31:1, 21.
- Koryak, O., Lockett, A., Hayton, J., Nicolaou, N., & Mole, K. 2018. Disentangling the antecedents of ambidexterity: Exploration and exploitation. *Research Policy*, 47:2, 413–427.
- Laureiro-Martínez, D., & Brusoni, S. (2018). Cognitive flexibility and adaptive decision-making: Evidence from a laboratory study of expert decision makers. *Strategic Management Journal*, 39(4), 1031-1058.
- Laureiro-Martínez, D., Brusoni, S., Canessa, N., & Zollo, M. 2015. Understanding the exploration–exploitation dilemma: An fMRI study of attention control and decision-making performance. *Strategic Management Journal*, 36:3, 319-338.
- Lewandowska, B. (2020). *RealEye Eye-tracking system Technology Whitepaper*. RealEye Sp. z o.o. Versão 1.1.0.
- Loewenstein, G., Sunstein, C. R., & Golman, R. 2014. Disclosure: Psychology changes everything. *Annual Review of Economics*, 6:1, 391-419.
- Malhotra, N. K. 2014. *Essentials of Marketing Research: A Hands-On Orientation*. Prentice Hall, 1Edition, January 20.
- Ocasio, W. 1997. Towards an attention based view of the firm. *Strategic Management Journal*, 28:2, 187-206.
- Ocasio, W. 2011. Attention to attention. *Organization Science*, 22:5, 1286-1296.
- Ocasio, W., & Joseph, J. 2005. An attention-based theory of strategy formulation: Linking micro-and macroperspectives in strategy processes. *Advances in Strategic Management*, 22:18, 39-61.
- Ochsner, K. N., & Lieberman, M. D. (2001). The emergence of social cognitive neuroscience. *American Psychologist*, 56:9, 717.
- Pellegrino, K. C., & Carbo, J. A. 2001. Behind the mind of the strategist. *The TQM Magazine*, 13:6, 375–381.
- Rajagopalan, N., & Datta, D. K. 1996. CEO characteristics: does industry matter?. *Academy of Management Journal*, 39:1, 197-215.

- Ren, C. R., & Guo, C. (2011). Middle managers' strategic role in the corporate entrepreneurial process: attention-based effects. *Journal of Management*, 37:6, 1586-1610.
- Salvato, C., & Rerup, C. (2018). Routine regulation: Balancing conflicting goals in organizational routines. *Administrative Science Quarterly*, 63(1), 170-209.
- Semmelmann, K., & Weigelt, S. 2018. Online webcam-based eye tracking in cognitive science: A first look. *Behavior Research Methods*, 50:2, 451-465.
- Sierra, J., Serra, F., Guerrazzi, L. & Teixeira, J. E. 2019. Revisão sistemática sobre a influência dos executivos no desempenho das empresas na perspectiva da Teoria do Alto Escalão. *Future Studies Research Journal*, 11:2, 216-240.
- Silva-Torres, J. J., Martinez-Martinez, L., & Cuesta-Cambra, U. 2020. Design of a visual attention model for communication campaigns: The case of COVID-19. *Profesional de la Informacion*, 1-13.
- Simon, H. A. 1947. *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations*. Macmillan, Chicago.
- Stratman, J. K., & Roth, A. V. 2002. Enterprise resource planning (ERP) competence constructs: two-stage multi-item scale development and validation. *Decision Sciences*, 33:4, 601-628.
- Venkatraman, V., Dimoka, A., Pavlou, P. A., Vo, K., Hampton, W., Bollinger, B., ... & Winer, R. S. 2015. Predicting advertising success beyond traditional measures: New insights from neurophysiological methods and market response modeling. *Journal of Marketing Research*, 52:4, 436-452.
- Vuori, T. O., & Huy, Q. N. 2016. Distributed attention and shared emotions in the innovation process: how Nokia lost the smartphone battle. *Administrative Science Quarterly*, 61:1, 9-51.
- Wangrow, D. B., Schepker, D. J. & Barker, V. L., 2015. Managerial discretion: an empirical review and focus on future research directions. *Journal of Management*, 41:1, 99-135.
- Wedel, M. 2015. *Attention research in marketing: A review of eye-tracking studies*. In J. M. Fawcett, E. F. Risko, & A. Kingstone (Eds.), *The handbook of attention* (pp. 569–588). Boston Review.