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CONDITIONS FOR INDIVIDUAL DIFFERENCES IN THE JUSTIFICATION OF COLLECTIVE DECISIONS: TOP MANAGEMENT INTERPRETATIONS BASED ON THEIR COGNITIVE REPRESENTATIONS

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Abstract
Objective of the study: To investigate the differences in the justifications offered by members of senior management for a diversification decision taken by them together.
Methodology / approach: The research is configured as an inductive study from an in-depth analysis of the characteristics of an observation unit, focused on the extraction and analysis of aspects of managers' mental models, inserted in the tradition of ideographic causal mapping. The main technique for data collection was the conduction of in-depth semi-structured interviews.
Originality / Relevance: This work shows evidence that complements those traditionally presented by the quantitative methodologies that prevail in the study of strategic cognition.
Main Results: The results highlight that the professional profile of each manager, especially in terms of his career, is particularly relevant both in the interpretation of his own rationalizations and in that of the others. Making it clear how the functions that each interviewee occupies in the company show an attempt by each manager to justify diversification from the point of view of their own attributions, indicating that the individual rationalization is already done in relation to the emphases expected in the rationalizations of the other members of the organization. team.
Theoretical / methodological contributions: It contributed to the understanding of the rationalization of decision-making, by showing the perceptions of each of the managers about a collective decision made in the past and by providing an interpretation of the possible conditions of the individual differences.

Keywords: Cognition. Rationalization. Decision. Cognitive map. Senior management.

CONDICIONANTES DE DIFERENÇAS INDIVIDUAIS NA JUSTIFICATIVA DE DECISÃO COLETIVA: INTERPRETAÇÕES DA ALTA GESTÃO COM BASE EM SUAS REPRESENTAÇÕES COGNITIVAS

Resumo
Objetivo do estudo: Investigar as diferenças nas justificativas oferecidas por membros da alta gestão para uma decisão de diversificação por eles tomada em conjunto.
Metodologia/abordagem: A pesquisa se configura como um estudo indutivo a partir de análise aprofundada das características de uma unidade de observação, focado na extração e análise de aspectos de modelos mentais de gestores, inserido na tradição de mapeamento causal ideográfico, sendo a principal técnica para a coleta de dados a realização de entrevistas semiestruturadas em profundidade.
Originalidade/Relevância: Este trabalho mostra evidências que complementam aquelas tradicionalmente apresentadas pelas metodologias quantitativas que prevalecem no estudo da cognição estratégica.
Principais Resultados: Os resultados destacam que o perfil profissional de cada gestor, especialmente em termos de sua trajetória, é particularmente relevante tanto na interpretação das próprias racionalizações quanto na dos demais. Fica claro como as funções que cada entrevistado ocupa na empresa evidenciam uma tentativa de cada gestor justificar a diversificação sob o ponto de vista de suas próprias atribuições, indicando que a racionalização individual já é feita de forma relativa às ênfases esperadas nas racionalizações dos outros membros da equipe.
Contribuições teóricas/metodológicas: Contribui-se com o entendimento sobre a racionalização de tomada de decisão, ao mostrar as percepções de cada um gestor sobre uma mesma decisão coletiva passada e ao propiciar a interpretação dos possíveis condicionantes das diferenças individuais.

Palavras-chave: Cognição. Racionalização. Decisão. Mapa cognitivo. Alta gestão.

CONDICIONAMIENTO DE LAS DIFERENCIAS INDIVIDUALES EN LA JUSTIFICACIÓN DE LA DECISIÓN COLECTIVA: INTERPRETACIONES DE LA ALTA DIRECCIÓN BASADAS EN SUS REPRESENTACIONES COGNITIVAS

Resumen
Objetivo del estudio: Investigar las diferencias en las justificaciones ofrecidas por los miembros de la alta dirección para una decisión de diversificación tomada por ellos en conjunto.
Metodología / abordaje: La investigación se configura como un estudio inductivo a partir de un análisis en profundidad de las características de una unidad de observación, enfocado a la extracción y análisis de aspectos de los modelos mentales de los gerentes, insertados en la tradición del mapeo causal ideográfico. La principal técnica para la recolección de datos fue la realización de entrevistas semiestructuradas en profundidad.
Originalidad / Relevancia: Este trabajo muestra evidencias que complementan las presentadas tradicionalmente por las metodologías cuantitativas que prevalecen en el estudio de la cognición estratégica.
Principales Resultados: Los resultados destacan que el perfil profesional de cada directivo, especialmente en cuanto a su carrera, es particularmente relevante tanto en la interpretación de sus propias racionalizaciones como en la de los demás. Aclarando cómo las funciones que cada entrevistado ocupa en la empresa evidencian un intento por parte de cada gerente de justificar la diversificación desde el punto de vista de sus propias atribuciones, indicando que la racionalización individual ya está hecha en relación a los énfasis esperados en las racionalizaciones de los demás miembros de la organización. equipo.
Aportes teórico / metodológicos: Contribuyó a la comprensión de la racionalización de la toma de decisiones, al mostrar las percepciones de cada uno de los gerentes sobre los una decisión colectiva tomada en el pasadoy al brindar una interpretación de las posibles condiciones de las diferencias individuales observadas.

Palabras-clave: Cognición. Racionalización. Decisión. Mapa cognitivo. Gerencia senior.

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Introduction

Behavioral strategy is the subarea of strategy that investigates the mental processes underlying the actions taken by strategists (Gavetti, 2012; Gavetti & Rivkin, 2007). In this sense, it is the branch of this field most directly influenced by behavioral and (socio)cognitive psychology (Healey & Hodgkinson, 2015; Powell et al., 2011). Several lines of research have already been developed internally in this approach to strategy (Powell et al., 2011), with the study of mental representations of members of top management teams (TMTs) being a prominent topic (Csaszar, 2018; Csaszar & Levinthal, 2016; Gavetti & Porac, 2018).

Several works have aimed to review, in the last decade, the main cognitive factors influencing the processes in which an organization's TMT engages (e.g. Bromiley & Rau, 2016; Buyl et al., 2011; Wrona et al., 2013). These reviews highlight factors such as the locus of attention of the strategist; particularities of her form of perception; style of reasoning; previous learning experiences; dominant logic etc. However, an important dimension is often neglected, namely: post-decision making processes and the way these are also cognitively influenced (c.f. Narayanan et al., 2011). That is: little has been explored until now about how the cognitive aspect maintains its influence on strategy after the formulation phase and, in particular, not in the implementation itself, but in the dynamics of communicating the decisions made to those who did not directly participate in the deliberations. At that moment, rationalization processes are also present, no longer to construct a decision internally to the TMT, but to justify it to others in order to highlight the rationality of the path taken and, possibly, to convince listeners to adhere to the established course of action (Felin & Zenger, 2017).

Given this gap, this paper aims to investigate the differences and convergences in the justifications offered by members of the same TMT for a strategic a decision they made together. In particular, we ask: what elements of each individual's trajectory and profile are mobilized by the strategists themselves in the interpretation of these differences, with the intention of making sense of the reasons why a shared rationality in the construction of the decision does not remain uniform when it is justified individually? Exploring this question in search of evidence that complements the ones traditionally presented by the quantitative methodologies that prevail in the study of strategic cognition (Hodgkinson et al., 2017) is therefore an aim of this paper. The broader goal is to contribute to the enrichment of the field of behavioral strategy by focusing on the mental processes of strategists not only in strategy formation, but also in the subsequent rationalization of the decisions made, and also in the interpretation of the differences, at the individual level, between these post-deliberation cognitive representations.

Among other sources of inspiration, the so-called "intuitionistic turn" in moral psychology (e.g. Haidt, 2001, 2007) motivates this research by, for example, highlighting: that the process of rationalized persuasion (i.e, of justifying a decision to a third party) operates distinctly from rationalization for oneself; and that the process of the rationalized persuasion

occurs first through the intuition of the persuaded, and only then it is rationalized by the persuaded (i.e., rationalization which, in turn, may lead to other persuasive tactics, and so on). Therefore, if this broader social-intuitionist model is consistent, one would expect that the same decision, even if taken collectively, would be justified differently by each individual decision maker, because the attempts at persuasion during the meetings have been intuitively processed in different ways, although apparently built on objectively shared reasons.

Theoretical framework

Several academic articles have been published in the field of strategy from the perspective of cognitive representations of TMTs (for important reviews, see Bromiley & Rau, 2016; Buyl et al., 2011; Kaplan, 2011; Narayanan et al., 2011). The cognitive perspective in this field of study has focused on exploring cognitive concepts, by emphasizing, for example, the investigation of strategists' cognition (Hutzschenreuter & Kleindienst, 2006), intuition (Clarke & Mackaness, 2001), cognitive style (Pryor et al., 2021), framing flexibility (Raffaelli et al., 2019), cognitive diversity (Narayan et al., 2020), and cognitive ability, and skills.

In this context, identifying determinants of characteristics of decision makers' cognitive models is the focus of many papers. Variables that characterize the strategist herself, such as nationality, gender, functional expertise, age, and education, form one of the main dimensions taken into consideration (Narayan et al., 2020). Size, openness to interaction, and functional heterogeneity of the group of decision makers are examples of other variables used when the organization has more than one strategist (Golden & Zajac, 2001). Thus, the proposition that "characteristics of the strategist group influence the degree of certainty in the strategy formation process" (Isabella & Waddock, 1994, p. 835) illustrates typical conclusions obtained from such research.

Complementing this focus on personal and group characteristics, contextual elements - both environmental and organizational - are also assessed as potential antecedents of strategic cognition. Environmental volatility (Isabella & Waddock, 1994), public perceptions of the environment and global warming (Gaganis et al., 2021), and the technological base of the organization (Itami & Numagami, 1992) exemplify elements focused by this research stream. This emphasis thus supports the formulation of propositions such as the following: "rule-oriented organizational culture leads to the interpretation of strategic issues as threats; past performance, however, does not interfere in this interpretative process" (Ashmos et al., 1998, p. 43) but "directly influences the chance of strategic reorientation" (Lant et al., 1992, p. 585).

Considering these contextual elements from the strategist's point of view, however, and not as objective variables, is a call for research in this area: "After all, it is not antecedent objective characteristics such as environmental complexity, but the respective perception of these, that is decisive for subsequent decisions" (Hutzschenreuter & Kleindienst, 2006, p. 694). In line with

this view, several works have focused on the analysis of the mental representations that strategists make of the structure and dynamics of industry and market competition (e.g. Daniels et al., 2002; Johnson & Hoopes, 2003). The main goal of these studies is to make explicit the sociocognitive processes underlying the development of competitive positioning strategies (Hodgkinson & Healey, 2008).

Complementing this focus on the perception of elements of the external environment, some other works of this cognitive tradition have been oriented towards the investigation of the cognitive microfoundations of the internal capabilities of organizations. In this sense, they seek to understand, based on the study of strategists' cognition, how sustainable competitive advantages are obtained and how organizational learning and adaptation occurs (e.g. Gavetti & Rivkin, 2005).

Thus, these ramifications of the cognitive perspective in strategy have contributed so that not only the antecedents, but also the consequents of the mental representations of strategists become the target of investigation of this research strand (Hutzschenreuter & Kleindienst, 2006). After all, cognitive models, shaped by their determinants, influence the strategist's capacity for sensitivity to her environment and her perception, interpretation, and diagnosis of strategic issues, which, in turn, directly affect the characteristics of the decisions made and the performance obtained (Porac & Thomas, 2002). In this sense, conclusions such as "cognitive diversity can improve the quality of the decision, the achievement of consensus and the level of commitment to the actions agreed upon" (Amason, 1996, p. 143) are examples of propositions presented by these works.

In this context, the exploration of the relationship between the mental models of strategists and their more direct consequences, consisting of characteristics of the strategy formation process itself, is a recurring research objective. In this regard, the criteria and approaches used for justifying decisions (Bacharach et al., 1995), the role of cognitive complexity in strategic decisions (Iederan et al., 2009), the level of rationality in the decision-making process (Elbanna et al., 2020), as well as the level of intuitive considerations underlying the choices made (Clarke & Mackaness, 2001) illustrate types of variables taken into consideration in this research approach.

The present research, in particular, is located in the tradition that seeks to understand the individual antecedents conditioning the heterogeneity of strategists' mental models and their consequences (Narayanan et al., 2011), particularly with regard to the justification of collective decisions (Wrona et al., 2013). By exploring the way each different member of the same TMT justifies a decision taken by the group, one seeks, from the point of view of the strategists themselves, to highlight individual factors (beyond the demographic and psychological measurable factors usually addressed in this literature) that are mobilized in the interpretations of

managers to make sense of the different perceptions of the reasons that motivated a particular strategic direction.

Methodology

In this section, the research is characterized as to its type and contextualized as to the organization in which it was conducted. In addition, the data collection and analysis procedures are detailed.

Research characterization

This research is configured as an inductive study from an in-depth analysis of the characteristics of a unit of observation appropriate for the achievement of the objectives of the work and suitable for the understanding of the phenomenon of interest (Bansal et al., 2018; Bansal & Corley, 2012; Eisenhardt et al., 2016). This is, therefore, a qualitative study that, as it has its focus on individuals' rationalizations in particular contexts, can also be categorized as interpretivist (Clarke & Mackaness, 2001; Eden, 1992; Gephart, 2004; Isabella, 1990).

Analytically, this work is classified as a cognitive research (Hodgkinson et al., 2017). More specifically, it is a study focused on the elicitation (Dieste & Juristo, 2011) and analysis (Eden, 2004) of aspects of managers' mental models, embedded in the tradition of idiographic causal mapping or, simply, "cognitive mapping" (Eden & Ackermann, 1998; Hodgkinson & Healey, 2008). In this case, the unit of analysis are the individual justifications for a past collective decision and the units of observation are the managers selected for participation in the research.

The main technique for data collection was in-depth semi-structured interviews (Clarke & Mackaness, 2001; Isabella, 1990). In a broad review of knowledge elicitation techniques, the semi-structured interview was still found to be one of the most effective on several criteria, compared to several alternatives (Dieste & Juristo, 2011). Indeed, in the area of idiographic causal mapping specifically, it is argued that this form of data collection should be favored over structured interviews or questionnaires, especially if respondents are to be given the freedom to generate different constructs from each other, as is the case in this research (Eden & Ackermann, 1998; Hodgkinson et al., 2004). However, despite being semi-structured, the interviews followed Aguinis and Solarino's (2019) methodological checklist for executive interviews so that the process maintained due transparency.

Background of the research

This research took place in the context of a business diversification decision by the TMT of a corporation and sought to understand factors conditioning individual differences in the justifications for this collective decision.

The research took place in a company located in Belo Horizonte, whose main product is the provision of customized consulting services in innovation management. The employees who work in consulting projects develop technologies and management tools to solve innovation issues in corporations, research institutions, public entities and startups. With a little over 10 years operating in the Minas Gerais and other Brazilian markets, the main services provided are strategic and technological roadmapping, business modeling and planning, process modeling, corporate and open innovation programs, among others. With the ongoing diversification process, it also started to offer programs and products related to digital transformation. In this paper, to refer to the company under discussion, the name "Company_focus" will be used.

The company has a total of 17 employees. Four of them form the company's strategic TMT. According to Mintzberg (1993), this strategic board is the team composed of people responsible for the organization as a whole, ensuring that it fulfills its mission. In addition, other four employees perform the function of project manager, watching over the contact with the customer during the period of activities, leading and guiding the team to the results and following up performance indicators, besides contributing frequently in commercial tasks. Another three employees perform administrative and commercial functions, such as communication, human resource management, among others. Finally, the others make up the operational team, developing tools and solutions for customers.

Company_focus is part of a group, called in this article Holding, composed of two other companies, here called Company_1 and Company_2. Founded in 2015, Company_1 is a small-sized company located in Belo Horizonte, and acts as a real estate developer, identifying opportunities to purchase lands and studying the feasibility of the development project. The latter is the largest company in the group, with more than 40 employees. Founded in 2012, Company_2 is a distributor of disposable hospital supplies, such as syringes and gloves, and OPSM (Ortheses, Prostheses and Special Materials), such as prostheses for knees and spine.

Historically, Company_focus has experienced cycles of projects, mostly for governmental and educational institutions. Added to this, the company was experiencing adversity in terms of results around 2014. In search of improvement of corporative indicators and identification of the next cycle of projects, the Company_focus defined a new strategy to enter into the digital transformation market. In 2018, “Diversified_Company_focus” was launched, a label here used to refer to the brand of the business unit that emerged after diversification.

After choosing this diversification decision taken at this corporation as the context for the research, we sought to choose the professionals working at Company_focus to clarify their perceptions regarding the diversification decision in that environment.

Selection of informants

To select the professionals to be interviewed about their personal impressions regarding diversification, certain criteria were defined that would allow the choice of those with the greatest relationship with the theme throughout the events: (a) time of service in the company; (b) involvement with the discussions about diversification; and (c) performed functions. In this context, we sought professionals who had been working in the company for 5 years or more, which is a satisfactory period of time to get acquainted and understand the context, since the company was only 10 years old. In terms of involvement with the discussions about diversification, some of the employees participated throughout the whole process, due to their respective professional experiences and greater presence in the company. Furthermore, we highlight the partial involvement of part of the company's operational team, whose opinions were heard by those responsible for planning the new business unit. Finally, the functions performed in the company are essential to the choice, since those who are directly involved in decision making and frequent conversations about new products supposedly have a better understanding of the whole diversification process. Adding these criteria and after a brief diagnosis of the team, five managers were selected to be part of this study. The fictitious names Manager_1, Manager_2, Manager_3, Manager_4 and Manager_5 will be used to refer to the interviewees throughout the document. It is noteworthy that all the selected participants are part of the Company_focus. Table 1 presents a summary of the main characteristics of these managers.

Table 1

Profile of the interviewees

	Manager_1	Manager _2	Manager _3	Manager _4	Manager _5
Time in company	A little more than 5 years	Founder - More than 10 years	Founder - More than 10 years	A little more than 8 years	Founder - More than 10 years
Involvement with discussions about diversification	In project team meetings	Meetings between partners	Meetings between partners	Meetings between partners and direct action in diversification	Meetings between partners and direct action in diversification
Functions performed	- Project Manager at Company_focus	- Partner at Company_focus and Company_1 - Partner and Director at Company_2	- Partner at Company_focus and Company_1 - Partner and Director at Company_2	- Partner and Director at Company_focus - Partner in Company_1 and Company_2	- Partner and Director at Company_1 - Partner in Company_2 and Company_focus
Experiences and competences	- Educational background in Production Engineering;	- Educational background in Production Engineering; - Execution of innovation	- Educational background in Production Engineering; - Execution of innovation	- Educational background in Production Engineering; - Execution of innovation	- Educational background in Production Engineering; - Execution of innovation

	Manager_1	Manager _2	Manager _3	Manager _4	Manager _5
	- Innovation management projects; - Master's student in Technological Innovation; - Participation in the strategic discussions of the Company_focus.	management projects; - Creation of technology-based start-up companies; - Negotiation and sales.	management projects; - Creation of technology-based start-up companies; - Financial management.	management projects; - Master in Administration, with focus on Strategy; - Negotiation and sales.	management projects; - Theoretical and practical background in programming and statistics; - Experience with data analytics.

Source: Prepared by the authors.

It should be noted that the decision to diversify was recent and still under development at the time of the research, reducing hindsight bias. The discussions were held in meetings between top and middle management, and there was no documentation of the process and arguments. In this sense, data collection was focused on interviews with these key informants.

Data collection

The data collection strategy was based upon individual interviews with the five selected managers. All conversations were recorded and transcribed. It is important to note that three rounds of interviews were conducted with each manager, each with a distinct objective.

The first round focused on the overall collection of the managers' perceptions, taking as reference the question, "How and why did the diversification process occur?" The interviewees were instructed to speak as much as possible, in order to address the most relevant points regarding diversification, according to their perceptions. Furthermore, specific questions were proposed during the interviews to solve some doubts arising from the subject at that moment. With the transcripts, the individual cognitive maps of each manager (ICM) were prepared.

The second stage had the objective of validating the correspondence of the constructed map with each manager's perception. In case there were divergences in the causal relations represented, changes were made in conjunction with the manager and, subsequently, the transcriptions were analyzed to conclude the final version of the map.

Finally, the third round had the purpose of collecting the managers' perceptions about the emphasis given by each of the interviewees. In this context, each manager was presented with his or her respective ICM, and subsequently the maps of the others. The discussions were based on the following questions: "Why do you think your emphasis was the one presented in your map?", "Why do you think the other managers' emphases were the ones that emerged from their respective maps?", and "What did you learn about the team by analyzing the ICMs

comparatively?". It is noteworthy that, to assist the interviewee at the time of information collection, a table was shown that summarized how many nodes of each cluster appeared in the ICM's of each of the managers, allowing the interviewee to identify the main issues discussed by the other managers.

Data analysis

After the transcription of the managers' interviews in the first stage, the content necessary for the construction of the ICMs was ready. In this context, it is essential to understand the procedures associated with the construction of these idiographic maps.

Construction of the individual cognitive maps

The sets of sentences generated through the transcriptions should be separated into sentences containing around 10 to 12 long words. To stipulate the beginning of the sentence, a simple slash, i.e. "/", was used. On the other hand, to determine the end of the same sentence, two single slashes, i.e. "//", were used (Eden et al., 1992).

Once this was done, the sentences were placed in a list, where the researcher can clearly analyze each sentence and subsequently classify it as a goal, strategic direction, or potential option. The goals make up the top of the hierarchy and are understood as something to be sought by the interviewee. The strategic directions correspond to the nodes that, according to Ackermann, Eden, and Cropper (1992, p. 5), "have some or all of the following characteristics: long-term implications, high cost, irreversible, need a portfolio of actions to make them happen, may require a change in culture," among others. They make the connection between the goals and potential options, which lie lower down in the ICM hierarchy, and explain the causal relationships between major problems. The further down the hierarchy, the greater the richness of detail about a given situation. This classification is fundamental to help prioritize the concepts and subsequently make the causal connections (Eden et al., 1992).

Once the individual cognitive map was completed, it should be validated with the manager. To this end, the map was presented to the respective manager and, during the conversation, the researcher and the interviewee made adjustments to obtain the best arrangement of that manager's causal beliefs with regard to diversification. It is noteworthy that the validation meetings were recorded and, later, the audios were played with the aim of identifying any other concept reported by the manager that had not been included in the map during the conversation. The nodes and arrows were rearranged for a clearer and more harmonious visualization of the map.

Finally, the total number of nodes and arrows were counted, as well as the number of tails, middle and head nodes, and tail -> middle, middle -> middle and middle -> head arrows. To

understand a little better about complexity, a ratio of the number of arrows to the number of nodes was also calculated. The higher the ratio, the more complex the map. Following the personal construct theory recommendations presented by Eden (2004), a ratio of 1.15 to 1.20 is expected for the maps obtained from interviews.

Clustering of the individual cognitive maps

Performing the identification of thematic groups (clusters) in a causal cognitive map enables further exploration of the content in order to devise a classification for each cluster. To perform the clustering, the analysis must be done by checking each node individually and its surrounding context. With this, it is possible to identify whether the immediate node is similar to the previous one in terms of its evaluation and include them in the same group. When there is a significant level of dissimilarity between nodes, they should not be grouped in the same cluster. The formation of these groups allows interrelationships to be identified, providing a more insightful analysis. Finally, it is emphasized that "cluster analysis, in operations research, is done to identify a 'system of problems' that make up the 'problem' that is being treated", and can even be treated in isolation (Eden, 2004).

In this context, the clustering of each individual cognitive map was performed right after their validation with the managers. The choice of clusters was made from the identification of nodes with similar themes, which were included in the same group. In total, 10 different clusters were found, of categories that comprise both the internal scenario of the Company_focus and the external one. The analysis resulting from this categorization can be seen in detail in the results section.

Identification of factors interpreted as conditions for individual differences

The final part included the individual analysis of the managers' answers when asked about the emphases of all the individual cognitive maps, as well as what they learned from the ICMs. Subsequently, the answers were recorded in topics, synthesizing the vision of each manager about the individual highlights. Moreover, the managers' perceptions were compared with their respective profiles and performances in the Company_focus, in order to identify relationships between the discourse and the individual experiences.

Results

This section presents, in detail, the meaning of the clusters developed for grouping the ICM concepts, the cognitive maps of the five managers, and the summary table of the factors identified by the interviewees as explaining the individual variations between the maps.

Presentation of the clusters

Five individual cognitive maps were built to understand what was the perception of the managers who make up the strategic TMT of the Company_focus or who work in the operational body was. It is noteworthy that the head node, which would be the node located at the highest hierarchical level, is common to all managers and was created with the intention of delimiting an end point, since the diversification of the Company_focus is still in operation and under planning, with no established deadline for completion.

In this context, to enrich the analysis, a clustering of the individual cognitive maps was prepared, whose purpose is to ascertain what were the main issues that, according to the interviewed managers, culminated in the diversification into a digital transformation business unit. In this clustering the cluster labels were coded inductively, from the data itself and from validations with the interviewees, in order to prioritize the original language and meaning for the participants in their specific context (cf. Eden, 2004; Locke et al., 2020).The only head node common to all maps was not included in any of these clusters, for visual reasons and since this node refers to a process that is still in progress, which is the diversification of the company. In total, 10 clusters were elaborated, as shown in the following list.

a) **C1 - Commercial and marketing:** category that covers events related to commercial and marketing actions and strategies of the Company_focus, such as brand changes, commercial modeling of the new product, strategy changes, the complexity of selling a consulting firm's products, among others;
b) **C2 - Company's internal context:** the factors associated with the context of the Company_focus, such as the type of client served, recent sales results, corporate changes, among others;
c) **C3 - Digital transformation market:** all factors related to the market demand for digital transformation and the importance that other companies have identified in this matter;
d) **C4 - Product development:** aspects of digital product development, such as Business Intelligence (BI) projects, discussions among partners about a potential product in this area, and others related to the modeling of the digital product in the company;
e) **C5 - Technical competencies:** the competencies required for diversification, which involve hiring, programming competencies already existing in the team, among others;
f) **C6 - Company's characteristics and past:** the nodes that cover historical events of the Company_focus, as well as the characteristic of the clients and the projects sold prior to the diversification;

g) **C7 - Diversification attempts:** prior to the diversification into digital products, there were discussions and studies about new projects in other areas, such as startup acceleration;

h) **C8 - Negotiation of the digital product:** the nodes associated with events directed to the commercialization, sale, and possibilities of new business with the digital product;

i) **C9 - Company_2 context:** explanations regarding the context of Company_2 regarding the demand for digital products;

j) **C10 - Strategic realignment in Company_1:** in Company_1 there were realignment events of the company's strategy.

Individual Cognitive Map - Manager_1

The individual cognitive map of Manager_1 is presented in Figure 1. The map has 27 nodes in total and 30 arrows connecting them. There are two nodes connected in more than one end node and six end nodes with arrows originating in more than one node. As for the ratio of the number of arrows in relation to the number of concepts, the ratio found is approximately 1.11.

It can be observed that the ICM of Manager_1 was the one that presented the highest number of tail nodes. It is inferred that, due to his limited participation in the discussions of product modeling and planning of the market entry strategy, there was possibly a less linear understanding regarding the sequence of causes and effects that culminated in diversification. The node related to planning new products stands out as an indirect effect of five of the six tail nodes, showing that, according to the understanding of Manager_1, the company's context required the creation of new products to improve factors such as profit, cost reduction, changes in commercial strategies, among others. Subsequently, another node converged the predecessor causes before pointing to the next hierarchical levels, which deals with the partners' conversation about the digital transformation market. Finally, it is observed that there is a tail node that refers to the demand of the market in question at a higher hierarchical level than the others. However, this representation is only to facilitate the grouping and make the visualization of the map more harmonious.

The ICM of Manager_1 shows six of the 10 clusters, with C2 showing the largest number of nodes. It is understood that, because Manager_1 is a Project manager, she is constantly dealing with performance indicators of the Company_focus. Moreover, she has been acting more and more in commercial demands. Thus, given her greater depth in these issues, for Manager_1 a relevant part of the diversification originated in the internal context of the company, signaled by the higher number of nodes in clusters C1 and C2. Another noteworthy factor is C3, which was the cluster that pointed out the third largest number of nodes, five in total. Nevertheless, C3 appears as a kind of "delimiting line", i.e., necessarily all the predecessor nodes to this cluster will have it as an end node, which strengthens the argument that for her the market is an essential

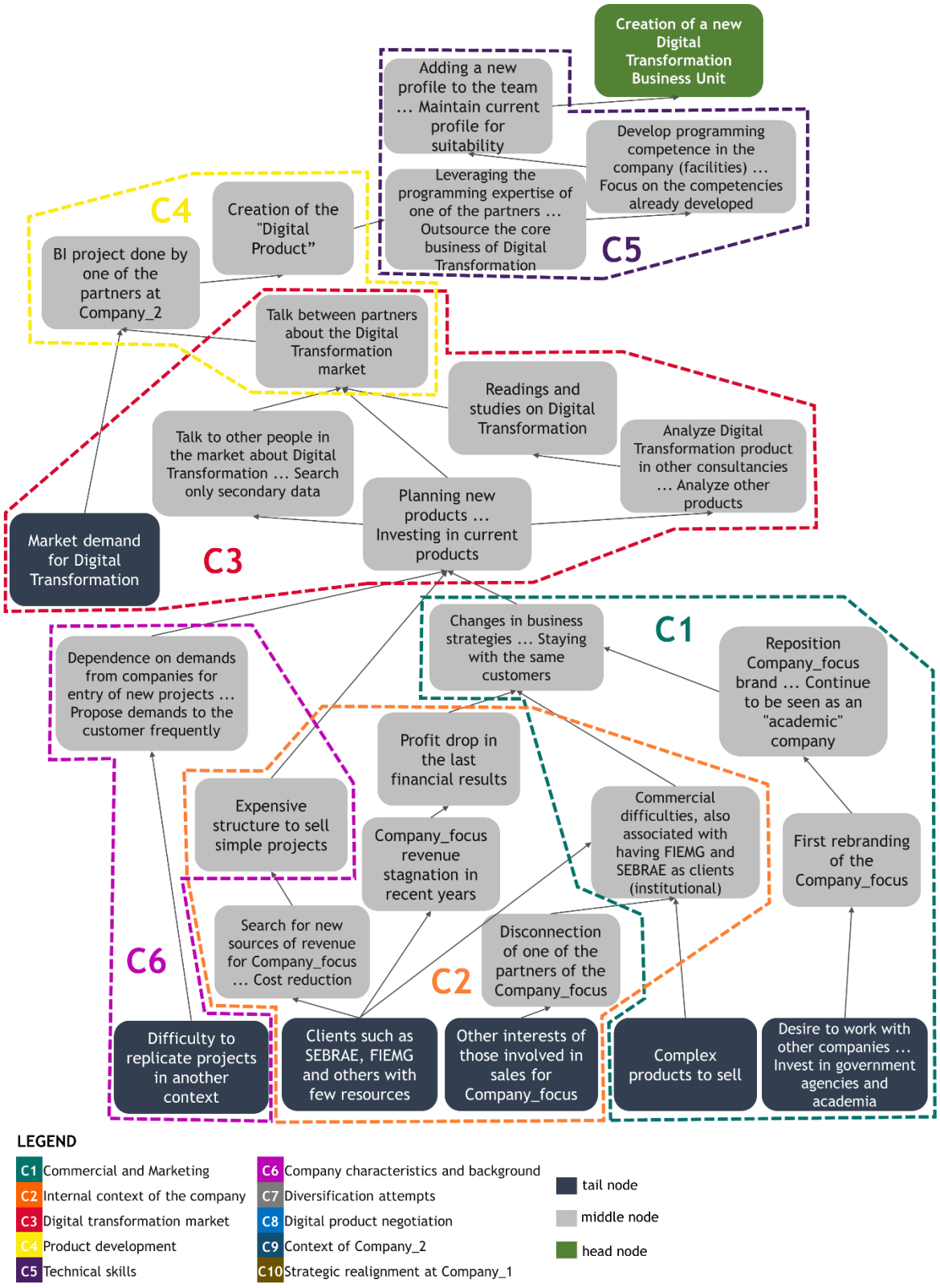
factor for diversification in digital transformation. Finally, we emphasize the importance of technical skills in the digital area, and it is essential to incorporate this profile in the internal team of the company, according to the analysis of the vision of Manager_1.

Clusters C4, C5 and C6 group the smallest number of ICM nodes in question, three in total for each of them. The nodes "profit drop in recent financial results" and "stagnation of Company_focus revenue in recent years" could be encompassed in C6, as they mesh with historical results of the company. However, it was identified that, because they are business indicators (e.g. profit, revenue), the grouping of these aforementioned nodes in C2 has a more intrinsic relationship with C6. There is also a less evident exploration of the cluster associated with product development, symbolized by C4. By not getting involved in depth in the discussions about the creation of the new product, Manager_1 did not report too much about the causes and consequences of this subject. Moreover, it is verified that, in her view, adding technical programming competencies to the team is essential for the continuity of diversification, represented by C5.

There are three nodes that are common to more than one cluster in particular. The node "commercial difficulties, also associated with having the public sector as a customer" integrates clusters C1 and C2, because it deals with a situation of internal difficulties of the company (which fits it as C2) of a particular sector (which fits it as C1). The node "expensive structure to sell simple projects" is common to clusters C2 and C6, because it relates to a characteristic of the projects sold so far by the company (fitting into C6) and is part of its internal context, since labor costs interfere in the internal context of the company (fitting into C2). Finally, the node "conversation between partners about the digital transformation market" is found simultaneously in clusters C3 and C4, this being a central node connecting the study of the digital transformation market and the initiative to develop the first products in the area. It means to say that, during this conversation between the partners, decisions about entering this market took place and, once approved, new products started to be designed, whose pilot would be done at Company_2.

Figure 1

Clustering of the individual cognitive map of Manager_1



Source: Prepared by the authors.

Individual Cognitive Map - Manager_2

The individual cognitive map of Manager_2 is presented in Figure 2. The map has 32 nodes in total and 39 arrows connecting them. It is noticeable that there are six nodes connected in more than one end node and there are nine end nodes with arrows originating in more than one node. As for the ratio of the number of arrows in relation to the number of concepts, the ratio found is approximately 1.22, indicating cognitive complexity.

Manager_2 brings a more historical view of the process, since he was one of the founders of the company and experienced several moments of discussion, as well as decision making about the business. Moreover, he was the one who indicated the largest number of nodes and arrows, probably because he explored more aspects during the interviews and he was the one who spent more time on the interviews. One can notice that, differently from Manager_1, there is not a node that concentrates part of the arrows when analyzing the hierarchical levels, and the convergence only occurs when it comes to the sale of a digital product, the predecessor to the head node. However, it can be said that there is a certain tendency for the nodes to converge towards the positive perception of the digital transformation market. One hypothesis is that the market is, for him, one of the main responsible factors for directing the actions of companies, including diversification.

When it comes to the clustering of Manager_2's ICM, the number of clusters remains at six, as presented in the previous ICM. However, C8 clusters only one node, related to selling a pilot project to an external customer. No other node mentions part of the sales process.

It is noteworthy that the involvement of this manager is only in the strategic discussions, and once there was the decision to enter the new market, naturally the conversations were directed to the development of the product and, consequently, its sale. For having shown little participation in these stages, it can be said that, for this manager, the sales of the digital transformation projects and the development of these products are not relevant factors for the decision to diversify. Added to this, it is observed that no nodes were mentioned that fit into C4, the cluster that groups product development events, which corroborates the previous statement about this manager's perceptions regarding the post-decision diversification process. Furthermore, during the interviews, Manager_2 demonstrated less knowledge about what the digital product is in practice.

One can also perceive the formation of a "delimiting line" formed by C3. Necessarily, all nodes will have arrows pointing to the cluster that presents studies and perceptions about the digital transformation market, highlighting the importance of this step under the view of the managers presented so far. Moreover, this is the cluster that presents the largest number of nodes, 12 in total.

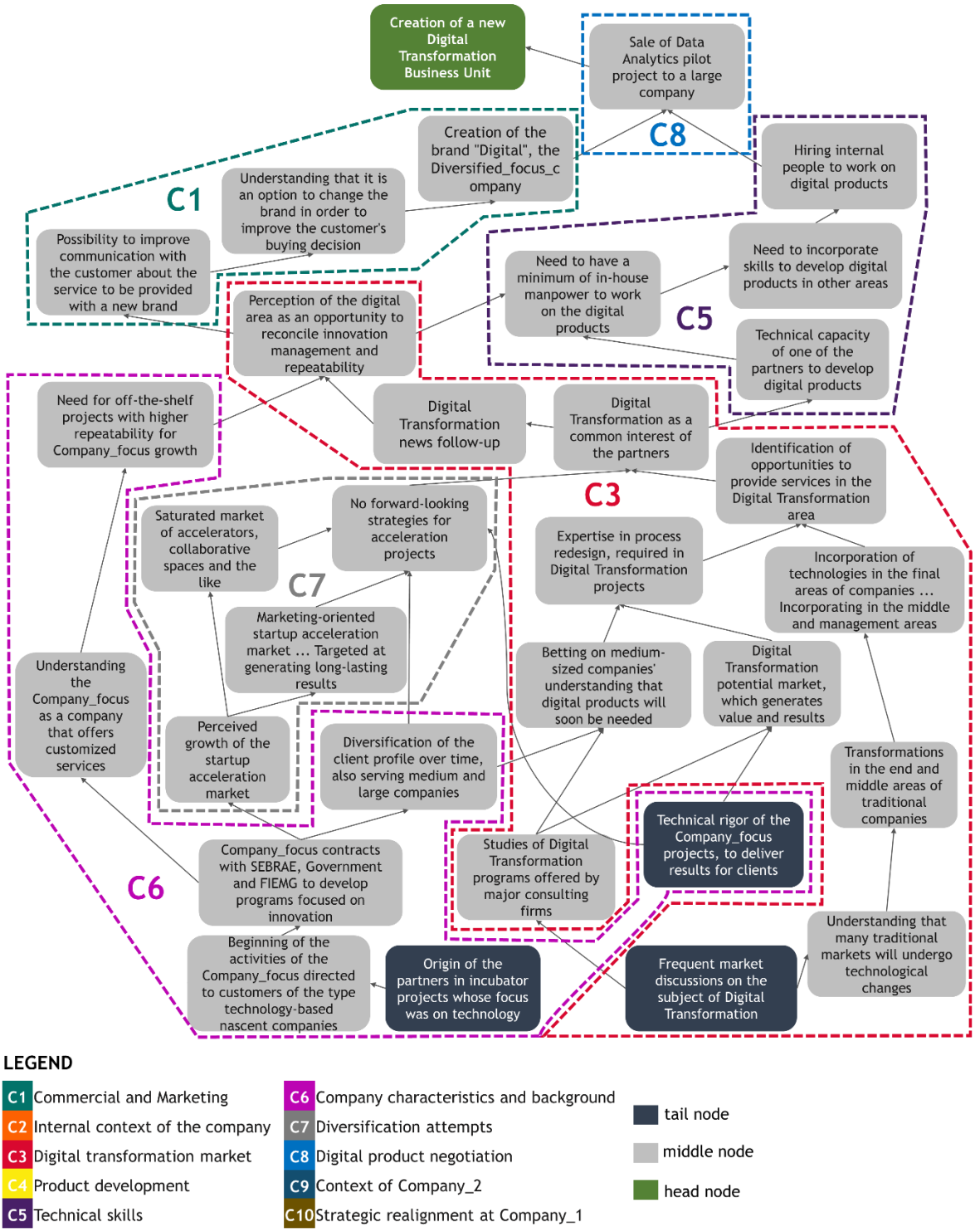
Prior to the first sale of the digital product to a large company, Manager_2 emphasized the creation of the digital product's brand, preceding the first sale of the digital product because, according to his understanding, the new product should be presented in a way that potential

customers would understand the distinct characteristics of the projects traditionally offered by the Company_focus (e.g. knowledge area, more tangible value generation etc.), but still with the idea of a customized service, like those offered by consulting firms. These understandings can be visualized in cluster C1.

No nodes common to more than one cluster were identified in Manager_2's ICM, but another cluster emerges in addition to C8, which is the cluster that deals with diversification attempts prior to the digital transformation, C7. Given that Manager_2 started his career with technology-based innovation projects in a business incubator, he followed much of the growth of the startup market in Brazil. In this context, the diversification for the acceleration of startups was analyzed, whose nodes are grouped in C7. It is understood that this cluster did not appear in the perception of Manager_1 because she did not participate in the meetings, and that, in her view, there is no clear causal relationship between attempts to diversify into other markets and the digital transformation.

Figure 2

Clustering of the individual cognitive map of Manager_2



Source: Prepared by the authors.

Individual Cognitive Map – Manager_3

The individual cognitive map of Manager_3 is shown in Figure 3. The map has 30 nodes in total and 35 arrows connecting them. There are four nodes connected to more than one end node and seven end nodes with arrows originating from more than one node. Regarding the ratio of the number of arrows to the number of concepts, the ratio found is approximately 1.17, indicating cognitive complexity.

The number of tail nodes is the smallest among the interviewees, and among the partner-managers, it was the one that presented the smallest number of nodes. It is observed the concern in clarifying that the digital products are still under development and that the process is a cycle that has not come to an end, as seen in the nodes next to the head node, which deals with the continuity of discussions about the product.

Regarding the clustering of the ICM of Manager_3, the number of clusters was reduced to five, showing that this manager presents less segmentation of criteria that culminated in the diversification to the digital transformation business unit.

Since the foundation of Company_2 in 2012, this manager devotes most of his workload to the demands of this company. Thus, his performance in the diversification process was more focused on understanding whether the intended market had great potential. This statement can be verified when analyzing the C3, the cluster that deals with the study of the transformation market, which is responsible for the grouping of 13 nodes, the largest of this ICM. It is also verified that the tail nodes necessarily culminate in some concept presented in this cluster. A point to be highlighted is that, while for Manager_2 the identification of the business opportunity happens before a more constant follow-up of this market (i.e., it appears in the initial part of C3), for Manager_3 the market studies were necessary to conclude that it is a potential market. It can be inferred that he adopts a more conservative posture about the development of new products, which can also justify the larger size of C3 in relation to the others.

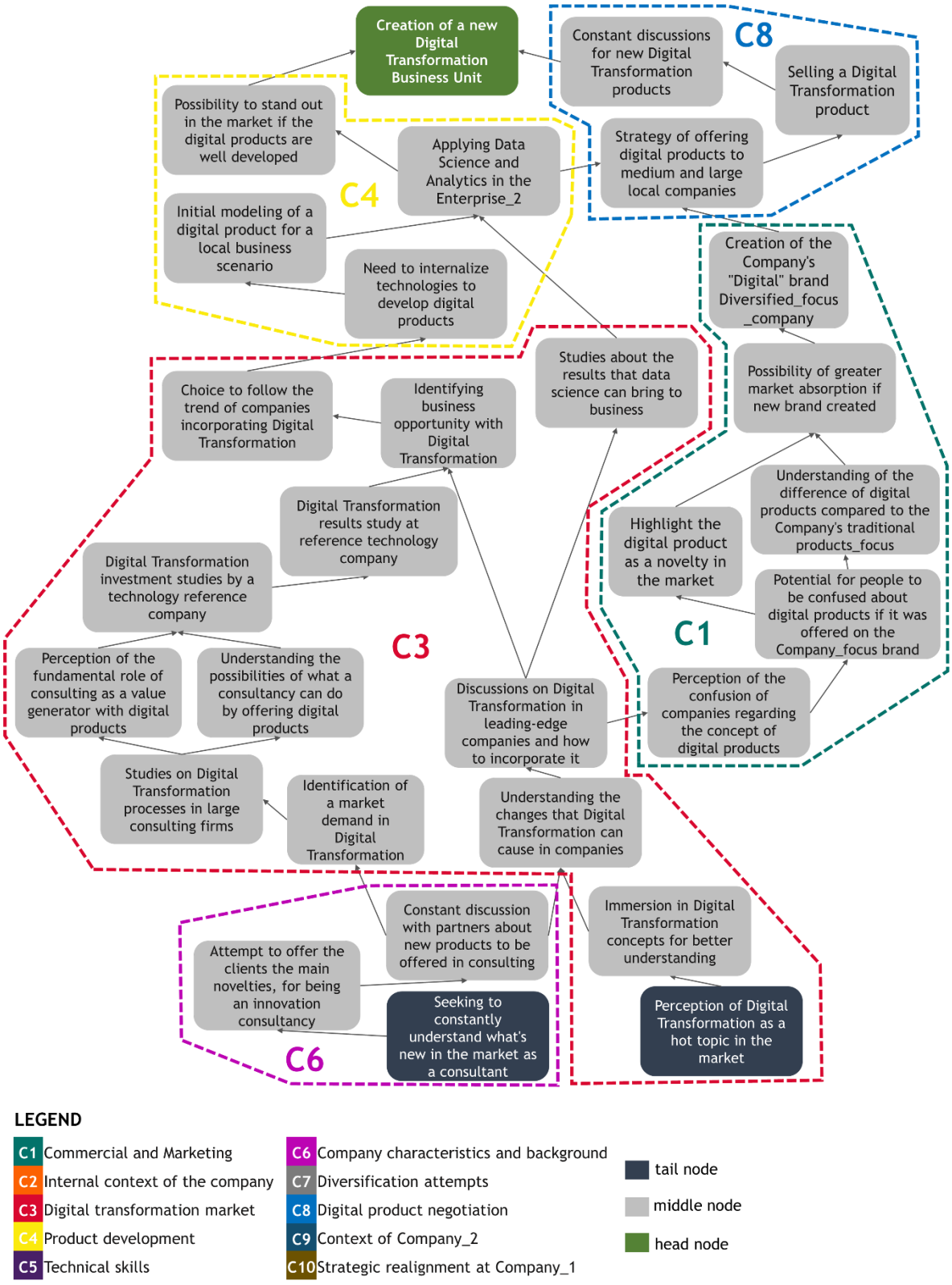
One of the clusters that originate the causal relationships evidenced in the ICM under analysis is the one that deals with the company's characteristics and past, C6. This cluster was highlighted to bring relevance to the factors that, according to Manager_3, are part of the company's profile and, consequently, reflect the way in which the market envisions its products. The fact of being an innovation consultancy presupposes that the company must be concerned with bringing tools and solutions little or not explored by other companies, justifying the innovative characteristic of the Company_focus. Added to this, much has been discussed about digital transformation in companies and the benefits it can bring, in terms of results and value generation. In this context, the company's profile was one of the responsible for originating the diversification, according to Manager_3. That is, since the company is always bringing the main novelties to the market and the market gives importance to the digital market, corporate discussions culminated in an understanding of its potential.

An alternative path is observed that ends at the head node, consisting of C1 and C8. Nevertheless, both clusters are related to commercial issues. The first involves the creation of a new brand to be launched in the market, since Manager_3 understood that this could bring a positively greater impact when the sales of digital products were initiated, that is: new product, new brand. As far as C8 is concerned, there is an exploration by the manager of the commercial strategy, as well as its continuity, establishing a new cycle in the company. Thus, the distinction between two branches regarding diversification is evident: after the opportunity identified in the market, actions belonging to the factors "sell" and "do", which are essential to consolidate the new business, make up the causal relationships of the upper part of the ICM.

As far as product development is concerned (that is, more technical aspects grouped in C4), Manager_3 did not show active participation in its conception. However, as he leads the finance area of Company_2, he was one of the main beneficiaries of the implementation of data analytics tools in the sector in question. The results obtained sharpened his intuition about the potential that, if developed with excellence, digital products can promote the Company_focus in this market. It is also noteworthy that modeling this product for "a local setting" was motivated by an understanding of the service that was offered by large consulting firms. However, as the operational capacity of the Company_focus is significantly smaller, the clients that can currently be served must be of a smaller size and, in the case of large clients, the service would be in specific demands in specific sectors. And this understanding proved to be important because, from the identification of demands at Company_2, it was possible to use it as a pilot company for the application of tools and knowledge acquired with the studies on digital transformation, resulting in the first versions of the product.

Figure 3

Clustering of the individual cognitive map of Manager_3



Source: Prepared by the authors.

Individual Cognitive Map - Manager_4

The individual cognitive map of Manager_4 is presented in Figure 4. The map has 31 nodes in total and 37 arrows interconnecting them. There are six nodes connected to more than one end node and seven end nodes with arrows originating from more than one node. Regarding the ratio of the number of arrows in relation to the number of concepts, the ratio found is approximately 1.19, indicating cognitive complexity.

Manager_4 presents a centralization of arrows only in the node that deals with the initial sales processes. Apparently, he sees the diversification process in a more linear way, illustrated by the fact that he has fewer head and tail nodes added. Moreover, it is understood that the technical capacity to develop digital transformation projects is fundamental for the new product to be inserted in the company's portfolio.

The ICM of the manager in question has seven clusters, which is the largest number of clusters identified in a single map. It is noteworthy that C3 and C5 appear twice on the map only for aesthetic reasons, for being distant from each other.

Initially, the two tail nodes integrate two distinct clusters. The corporate change fits the internal context of the company, signaled by C2. It was highlighted by the fact that this change directly interfered with the attempt to diversify into the startup sector, as shown by C7. Nevertheless, investments were made to enter this market, such as partnerships and discussions about it. However, from the perspective of Manager_4, the rise of the subject "digital transformation" was understood as a possible solution to be offered by the Company_focus, culminating in the desistance of specializing in the acceleration of startups, starting research and conversations on this subject.

The C3 of Manager_4 presents only 7 nodes, a number lower than that observed in the other maps. Moreover, C3 did not form a "delimiting line", as in the others. A possible cause for this fact is that Manager_4 participated and still participates actively in the operation of the Diversified_Company_focus. Thus, it can be said that, in his understanding, other concepts are relevant to justify diversification, such as the negotiation and sales process of the new digital products, represented by C8. Still about C3, one can observe the importance of studying and analyzing the tools offered by other consulting firms. The digital transformation market trend and the way it is sold in these companies motivated the choice of data analytics and business intelligence tools to be developed.

In this context, one can observe the origin of the C4 subsequent to the conclusion that the digital transformation market has potential, both for what has been offered and for the demand from other companies. Nevertheless, Company_2 felt the need to incorporate digital products into its operations and management, and this opportunity was identified by the partners of Company_focus. Thus, it was decided that the first tests of the new product would be carried out at Company_2, a fact understood by Manager_4 as being fundamental to consolidate it at the

development team of Company_focus. The manager's perception concerning the importance of having technical competencies internally, highlighted in C5 and located among the nodes of the development cluster, stands out. That is, it was probably believed that without the technical skills incorporated by the Company_focus, diversification might not happen, mentioned by the manager as "it is not interesting to outsource the core business of digital transformation".

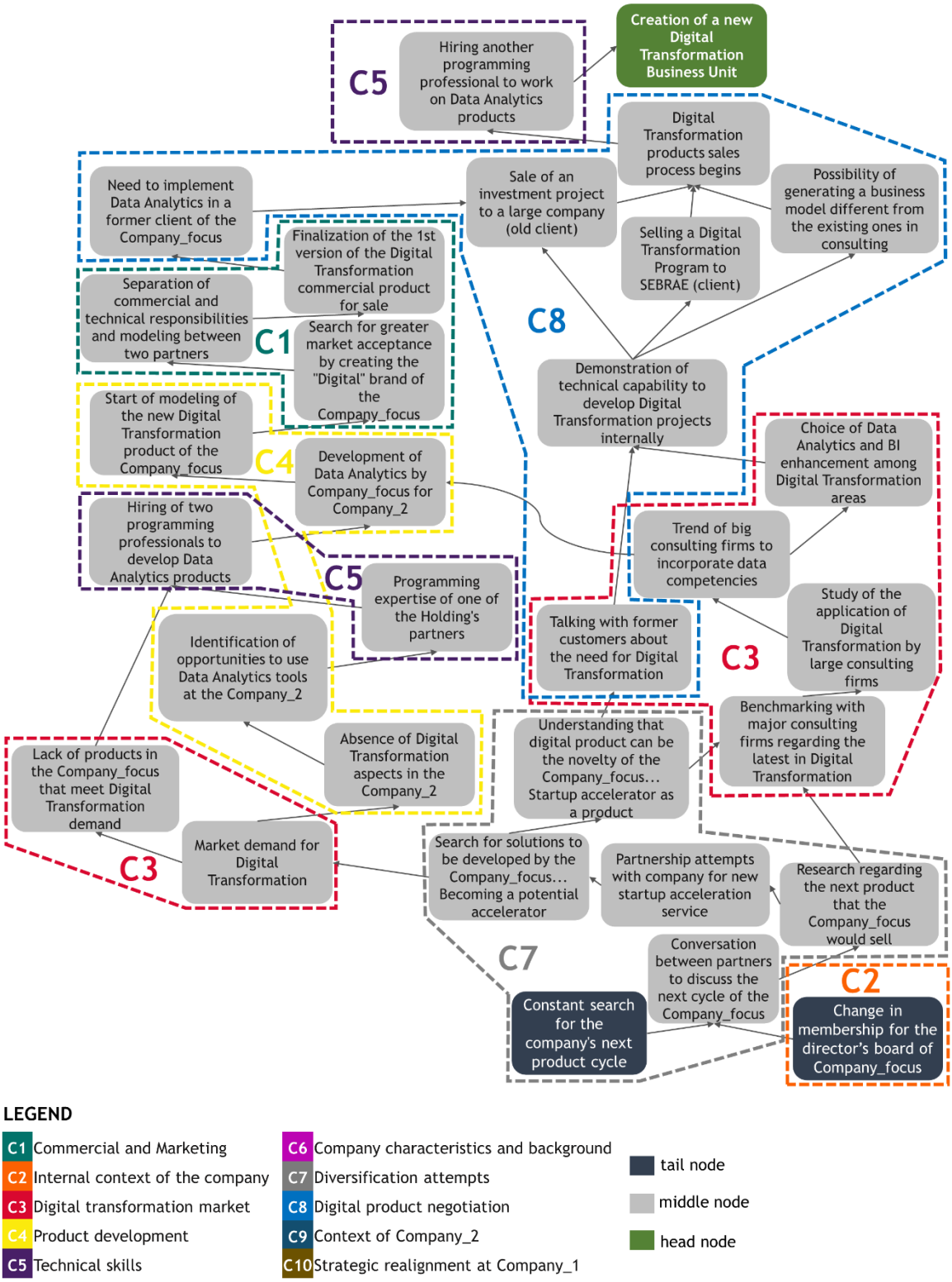
Once it was decided to model the digital product, with Company_2 being the "laboratory," issues related to how this product would be sold were discussed. Then, C1 starts with the creation of the Diversified_Company_focus brand, given that the digital product is under development and testing. Subsequently, the manager mentions factors related to strategic planning of how to enter the market and how the division of responsibilities among the managers involved in operationalization took place. Finally, the cluster ends with the finalization of the version ready to be marketed to some customers.

Coincidentally, the product created met the demand of a customer of the Company_focus, and the node that represents this context already integrates C8 and, subsequently, culminates in the first "external" sale. From the positive feedback of this external customer about the tools implemented in the company, Manager_4 understood that another success case could enhance the marketing of new projects in the area, demonstrated by the last node of C8. Thus, they decided to hire more professionals who could add programming technical skills and give more scale to the Diversified_Company_focus, a fact represented by the top appearance of cluster C5.

To finish the ICM analysis of this manager, we highlight the node "conversation with old customers about the need for Digital Transformation", which integrates both C3 and C8. This conversation brought insights to the team conducting the activities, since it was identified the interest of these customers regarding the digital product. One can also say that, in a way, the negotiations start here, since, during the conversations, the comments about the benefits that digital transformation brings to business were further arousing the interest of those involved and, at the same time, made the Company_focus become a reference on the subject regarding the perspective of these customers.

Figure 4

Clustering of the individual cognitive map of Manager_4



Source: Prepared by the authors.

Individual Cognitive Map - Manager_5

The individual cognitive map of Manager_5 is presented in Figure 5. The map has 31 nodes in total and 32 arrows connecting them. It is noticeable that there are two nodes connected in more than one end node and there are five end nodes with arrows originating in more than one node. As for the ratio of the number of arrows to the number of concepts, the ratio found is approximately 1.03.

The result of the proportion of arrows and nodes of Manager_5 resulted in the smallest number among the interviewees. This means that, according to these ratios, the map is the least complex among those prepared in this research. This is not necessarily bad, as it may indicate simplification heuristics of the story behind the decision. It is also observed that there is a tail node at a higher hierarchical level than the others. This is due to the fact that the development of tools for optimizing internal processes occurred during research and studies related to the digital transformation market. As for Manager_5, its ICM manifests seven clusters in total, equaling Manager_4 as the one containing the largest number of distinct clusters.

The first point of emphasis is that each tail node is part of a distinct cluster. C3 continues to show its relevance from the perspective of Manager_5 as well, being one of the largest clusters with respect to the number of nodes. It was highlighted the perception of the interest of other entrepreneurs regarding the digital product, who had contributions for the improvement and development of its technical tools. In this context, it was decided to include the node that portrays this subject in the C4 as well. It is also clear how the market direction is an indispensable part to achieve diversification.

As it is a company that sustains itself by selling customized projects to clients, the managers of the Company_focus have this constancy as a challenge. However, according to what was mentioned by Manager_5, it is difficult to measure value when it comes to innovation products, the main theme of the Company_focus's projects. This perception culminated in the search for new alternatives for which it could be more plausible to measure the value and the results that were delivered to customers, resulting in the emergence of the digital transformation as an agenda of discussions. These events are grouped in one of the tail nodes with another node, forming C6.

The other two tail nodes are in clusters C9 and C10. Regarding the first, Manager_5 highlights a demand that Company_2 had about predicting receivables. After having made attempts to solve it with statistical methods, the manager identified a potential answer concerning digital tools. Soon, the conversations culminated in nodes associated with C3, which deals with the digital transformation market. One can say, therefore, that there was an origin of the idea of diversification from this demand.

The second one deals with events related to Company_1, of which the manager in question acts as a director with total dedication. With the advent of attempts to solve the problem,

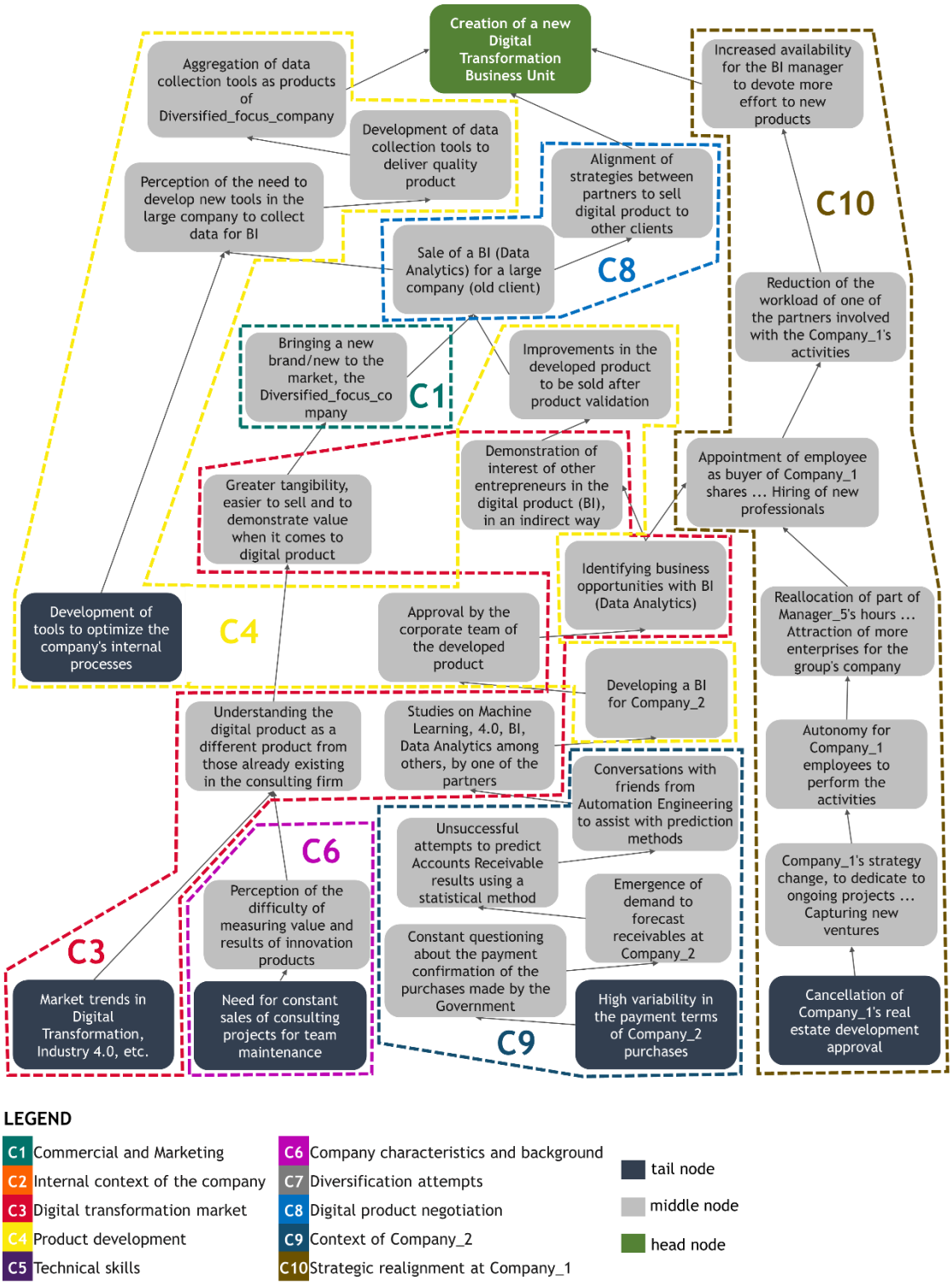
part of his workload should be reallocated from Company_1's activities. At that moment, there was an expectation of starting a new stage of approval in a venture that would require the construction of new tools and new actions from the operational body. However, the cancellation of this stage caused some changes in the strategy of Company_1, such as working on the projects that are in progress instead of capturing new ventures, since the search for improvements in Company_2 was already underway. In addition to this, Manager_5 understood that Company_1's employees were trained and qualified to conduct these projects, which led to his reallocation of hours, since his participation in projects that were already being developed at the company could be reduced. The hours were reallocated to activities related to the Diversified_Company_focus.

It is also observed the presence of a cluster with only one node, C1. With the understanding that the digital product is more tangible in terms of value generation and delivery of results to the client, the first structuring of what would be the Diversified_Company_focus was done, starting its marketing and advertising actions.

Finally, commercial actions and meetings with customers resulted in the first external sale of the digital product, as shown in C8. From then on, strategies were defined to attract other clients who could buy digital transformation projects offered by the Company_focus _diversified. Furthermore, this sale enabled the collection of feedbacks during and after the delivery of the project about the structuring of the product, fundamental for the improvement of the tools, generating more value for the next customers who would hire them.

Figure 5

Clustering of the individual cognitive map of Manager_5



Source: Prepared by the authors.

If the decision to diversify was collectively constructed, why were important differences observed in the ICMs? In keeping with the interpretivist lens of this research, all maps were

presented to each interviewee for them to independently provide their interpretation about the possible reasons behind the individual variations between the maps.

Factors Explaining Individual Differences

To illustrate the individual perceptions of the managers regarding their respective individual cognitive maps, and the understanding regarding the emphasis given by others, Table 2 was created. It is emphasized that the factors listed reproduce the statements of the interviewees, without value judgment by the researchers.

Table 2

Summary of factors cited by managers in relation to perceptions of ICM's

Manager	Perceptions about his/her own ICM	Perceptions of other managers about his/her ICM
Manager_1	- Internal view of the Company_focus; - Biggest impact for diversification was the stagnation of results.	- Experiences the daily life of the Company_focus; - Brings up factors that impact their day to day work; - Brought perceptions similar to Manager_4; - Little participation in the planning of the strategy, but participates in the implementation; - Does not mention the search for new cycles of the Company_focus due to the shorter time of work in the company.
Manager_2	- Considers the company's historical profile to make decisions; - Highlights some nodes about "commercial" because it was his function in the past; - Likes to analyze the external context to identify opportunities.	- Prefers to bet on safer businesses due to technical rigor; - Regardless of the internal context, there are no impediments for him to analyze the market and identify trends; - Looks for other forms of recurring revenue, with scalable products; - Presents the vision of a partner, of an advisor, due to its approach in the external context; - Understands the difficulty of selling the Company_focus's products. Therefore the need for diversification; - Has internalized the partners' speech regarding the digital transformation market.
Manager_3	- Macro vision of the business, directed to the external market; - Does not follow the daily routine of the Company_focus; - Did not approach technological aspects for not knowing them; - Likes to go "straight to the point".	- Profile of a finance professional; - Seeks to understand why digital transformation is a good choice (i.e. "prove it to me"); - Likes to base decisions on real data and is not a “guesser”; - Critical profile, likes to validate hypotheses; - Map shows that he is not directly involved in the day to day of the Company_focus; instead, he is acting as an advisor; - Has studied the digital transformation market a lot: reports, success cases etc.
Manager_4	- Strategic and commercial emphasis: know the future, but doesn't sell before building it; - Given that the demand for digital transformation exists, opted to test and, if it works, sell.	- Corporate change brought a new responsibility: how to generate revenue for the company? - Currently responsible for the commercial functions; - Involved with product development to improve the negotiation; - Lives the day to day of the Company_focus, knows the internal context; - Mentions trying to diversify into the startup market due to his involvement with the area;

Manager	Perceptions about his/her own ICM	Perceptions of other managers about his/her ICM
		-He is the most active partner in the Company_focus, searching for new products and a new niche frequently.
Manager_5	- Postponing the approval of a venture from Company_1 made it possible to dedicate more time to the Company_focus; - Despite not being the financial officer of Company_2, sought more knowledge in corporate finance, identifying an application opportunity at Company_2; - Addresses concepts related to product development because he has more technical knowledge and time to dedicate to its conception; - The one with a more technical profile among managers.	- Visualization of the potential application of digital transformation at Company_2 was decisive for the new business unit; - Wouldn't have the digital transformation product if it weren't for the available hours of Manager_5; - Speech directed towards the development of the product because he is the main person responsible for the creation of the digital product; - Since he is the main reference of Company_1 as manager, he mentioned more concepts regarding its context; - Emphasizes the "how to do" the digital transformation through the tools; - Because he reallocated hours for the development of the digital product, he feels the need to justify his reduction of hours at Company_1, which consumed a large part of his workload; - Does not comment much on strategy, such as diversification, because he is focused on the technical part.

Source: Prepared by the authors.

Based on the information obtained from the managers, one notices some convergences between the factors highlighted by oneself and by the other interviewees. For example, we identify the recognition of the managers in relation to the technical profile of Manager_5 regarding the development of the digital product, which corroborates with his theoretical base of knowledge in statistics and programming and with his conception of the justification for creating the new product. Given this technical characteristic, the other managers understand that Manager_5's focus on the technical part makes him relate it more to diversification rather than to concepts linked to strategy. Moreover, when asked about the perceptions of his own ICM, the manager under analysis does not mention the market and the Company_focus strategy as drivers of the process. In addition, according to the understanding of other managers, the development of the new product was only possible due to the greater dedication of Manager_5 to its construction, a factor that was also mentioned by the manager himself, who recognized in one of his analyses that the fact that Company_1 demanded less resources from its workforce contributed to the development of the digital product.

According to her function in the Company_focus, Manager_1 indicates greater relevance to internal factors, given that, in her view, this is what most affects their daily routine. Moreover, there is a convergence among managers that her speech is, to a certain extent, aligned with that of Manager_4, since they both cowork daily at the Company_focus and Manager_1 receives a lot

of information from him, since she did not participate directly in most of the strategic meetings. Here we perceive a cognitive influence of Manager_4, who occupies the highest management position at the Company_focus, in relation to Manager_1. This exchange of information between the top management reference individual and the other top management team members is highlighted by Bromiley and Rau (2016) as a determining factor in the similarity between cognitive representations.

As far as Manager _4 is concerned, his perception is more directed toward the profile of strategic analysis and understanding of the sector, both because he is one of the partners of the Company_focus and because of his commercial functions and contact with the market. Given the new commercial attribution, the managers mentioned a higher prevalence of concepts related to product development than in most ICMs, as it is a knowledge that adds value during negotiations and proved to be essential in the sales of the first version of the digital product. On the other hand, despite appearing in his ICM, Manager_4 did not mention as an emphasis the corporate change - which, according to part of the other managers, brought new responsibilities for him: to seek the next product cycles in the Company_focus. In this case, the cycle deals with a technology that is being disseminated and, according to Bromiley and Rau (2016), the attention to emerging technology is one of the factors that cause a cognitive influence on the representations of the TMT in relation to their perceptions. Moreover, most of the factors cited by him relate to the strategic context and little to the operation. This signals a possible reduction of his contact with the operational side and, at the same time, indicates that the search for the new cycle would occur regardless of the results of the Company_focus, differently from what Manager_1, also active in the company's daily routine, understands as relevant to diversification.

Finally, Manager_2 and Manager_3 highlighted the analysis of the market context in their respective ICMs, converging with their respective roles as partners and directors of the Company_focus. However, Manager_2 reinforces the technical rigor of the company throughout its history, which also emerged from the analysis of other managers when it comes to his preference in "making safer bets". His past work as a commercial manager also presented significant influence on his views according to the other managers, reinforcing the construction of a vision guided by historical factors, considering that other diversification attempts were discussed and proved relevant for this commercial manager, since they were one of his responsibilities in the Company_focus. Regarding Manager_3, complementing his analysis, it is evident the understanding of managers in relation to his analytical profile and decision making based on market data, of obtaining knowledge through data. His function in the Company_focus ratifies this perception, since he is responsible for the financial sector and deals much of the time with data. During the discussions about the market, the analysis signals that Manager_3 felt the need to be convinced with data that the digital transformation market was a good option to diversify. This was one of the reasons why managers pointed to the great amount of research

being done on the sector in their ICM, in an attempt to know more in-depth about the market in question.

In general, it is noticeable the influence of past experiences of the managers with regard to their perception of the elaboration of the diversification strategy, such as the attempt to enter a market in which they had greater knowledge of how it works and in line with the early career paths of some of the interviewees. The roles that each manager occupies also prove to be a relevant factor in understanding the context of strategy making. This influence is evidenced by: (a) the discourse of Manager_1, who makes an approach centered in the internal scenario of the Company_focus, given that she is involved with the operation; (b) Manager_2 and Manager_3 who highlight the market analysis, since they exercise board functions; (c) Manager_4 and his responsibility to capture new projects for the company; and, finally, (d) Manager_5 and the changes that the involvement with the product creation brought to his other attributions and his understanding regarding the justifications to diversify. The influence of the strategic top management's communication on diversification is also noteworthy, as they pass on information to their subordinates with a bias based on their perception of the scenario.

Final considerations

Through this work, we studied the process of rationalization of decision making about a past event and, by means of interviews with managers and strategists, we built the individual cognitive maps of each one. The causal cognitive mapping was used as a tool to justify the most recent diversification of the Company_focus, showing the perceptions of each of the interviewees about past events and providing the interpretation of the possible conditioning factors of the individual differences observed. In this context, it can be said that the general objective proposed in this work was achieved.

As presented in this paper, the decision making process of strategists is affected by some individual variables. Factors such as the founders' experience in initial decisions, the executive's work demands, and the influence in relation to subsequent hierarchical levels are some examples presented by Bromiley and Rau (2016). These corroborate with factors cited by the strategists regarding perceptions and influences about the decision-making process and that were presented in Table 2. On the other hand, no significant influences were identified from criteria related to the gender or age of the managers, but which may influence the decision-making process in other organizational contexts.

Some difficulties were encountered while developing this work. Firstly, during data collection through the interviews, avoiding the induction of questions for the managers who were interviewed last proved to be a difficult recommendation to observe. After all, the absence of impartiality may bias the construction of the ICM. The existence of documents about the

diversification process could complement the analysis, revealing some concepts that the interviewees may have forgotten at that moment.

As suggestions for future work, we suggest focusing not on the concepts themselves (i.e. the nodes of the maps) mobilized by each strategist of a top management team, but on the causal beliefs (i.e. the arrows) involved in these rationalizations of strategic decisions. Such studies may allow for a better understanding of how subjective theories reveal a causal representation of the world, illuminating not only problems or group of problems, but providing understanding of how connections occur between interrelated problems in each manager's cognitive representations (Felin & Zenger, 2017). Thus, by showing how subjective theories emphasize the nature of causal relationships, identifying the order of events and delving into the processes underlying their occurrence, it is possible to understand the reasons that lead to the phenomenon of interest (Sutton & Staw, 1995). Hence, future work could deepen the movement of behavioral microfoundations in the area of strategy, using logics such as those of causation and effectuation (Sarasvathy, 2001) as theoretical resources, in order to penetrate into the level of the very causal inferences that underlie strategists' prospective or retrospective rationalizations.

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