This multiple-case study analyzes how middle managers (MM), from their strategic roles, associate rational and intuitive decisions in the strategic decision-making process (SDM) in public teaching hospitals (PTH). Data was collected through interview and document analysis. Data analysis occurred through constitutive elements of analysis: rationality, intuitive synthesis, and middle managers. The research found that, when articulating with the organization’s upper management, the MM takes the roles of synthesizing information and championing alternatives, emphasizing rational decisions. When articulating with the lower-level management, the MM plays the roles of facilitating and implementing deliberate strategy, emphasizing intuitive decisions. As a contribution to the field, the study presents the objective and inter-subjective dimensions in the SDM process, evidencing the complexity of the strategic roles of the MM in deliberate and emergent situations in PTH.

**Keywords:** strategic decision-making; health manager; middle manager; public administration; teaching hospitals.

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**Tomada de decisão em hospitais de ensino: entre formalismo e síntese intuitiva**

Este estudo de caso múltiplo teve por objetivo analisar como o middle manager (MM), a partir de seus papéis estratégicos, associa as decisões racionais e intuitivas no processo de tomada de decisão estratégica (TDE) em hospitais públicos de ensino (HPE). Os dados foram coletados por meio de entrevista e análise de documentos. A análise de dados ocorreu considerando os elementos constitutivos: racionalidade; síntese intuitiva; e middle manager. Constatamos que, quando o MM articula com o topo da organização, assume os papéis de defensor e sintetizador, aflorando as decisões racionais. Quando articula com a base, desempenha os papéis de facilitador e implementador, emergindo as decisões intuitivas. Como contribuição, apresentamos as dimensões objetivas e (inter)subjetivas no processo de TDE, evidenciando a complexidade dos papéis estratégicos do MM em situações deliberadas e emergentes nos HPE.

**Palavras-chave:** tomada de decisão estratégica; gestor de saúde; middle manager; administração pública; hospitais de ensino.

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**Toma de decisión en hospitales universitarios: entre formalismo y síntesis intuitiva**

Este estudio de caso múltiple tuvo como objetivo analizar cómo el middle manager (MM), a partir de sus papeles estratégicos, asocia las decisiones racionales e intuitivas en el proceso de toma de decisión estratégica (TDE) en hospitales públicos universitarios (HPU). Los datos se recolectaron a través de entrevistas y análisis de documentos. El análisis de datos consideró los elementos constitutivos: racionalidad, síntesis intuitiva y middle manager. Se constató que cuando el MM articula con la cima de la organización asume los papeles de defensor y sintetizador y afloran decisiones racionales. Cuando articula con la base desempeña los papeles de facilitador e implementador y emergen decisiones intuitivas. Como contribución, se presentan las dimensiones objetivas e intersubjetivas en el proceso de TDE, lo que evidencia la complejidad de los roles estratégicos del MM en situaciones deliberadas y emergentes en los HPU.

**Palabras clave:** toma de decisión estratégica; gestor de salud; middle manager; administración pública; hospitales de enseñanza.
1. INTRODUCTION

In the Brazilian public health system, hospitals are responsible for providing care to users in acute or chronic conditions, requiring continuous hospitalization care (Ordinance n. 3.390, 2013). Teaching hospitals (TH) combine their responsibilities with the development of knowledge, such as the field of research, innovation and the training of professionals in the most diverse areas (Interministerial Ordinance n. 285, 2015).

In the face of dynamic multiprofessional processes and structures, TH were structured in different areas and levels of management to meet operational requirements. In this context, the middle management, or middle manager, can be identified as one of the main articulators and influencers in the process of strategy formation and decision-making (Lavarda, Canet-Giner & Peris-Bonet, 2010).

Strategic decision-making (SDM) consists of defining alternative courses, judging (analyzing) and selecting (action) (Simon, 1987). It is a complex movement that may depend on the conditions and structures involved, objective (rational) and/or subjective (intuitive). Intuition in the SDM process refers to incremental adaptations based on foreboding, in the knowledge of the situation faced and, in the experiences, (Eisenhardt & Zbaracki, 1992). Rationality is the logic to do something and judge a behavior as reasonable and understandable within a given objective and formal frame of reference (Butler, 2002; Dean & Sharfman, 1993).

Therefore, understanding how the SDM process occurs in the management of TH cannot only guide the definition of strategies for coping with challenges (technical, behavioral, structural or even political), but also provide subsidies for the development of an integrated planning that helps the micro and the macrosocial hospital in its interfaces with the health care network (Pacheco & Gomes, 2016).

Therefore, this study aimed to analyze how the middle manager, from their strategic roles, associates rational and intuitive decisions in the process of SDM in public teaching hospitals (PTH).

Based on the objective of research and literature review, we state as a theoretical proposition that:

- When the middle manager articulates with the top of the organization in PTH, he/she assumes the roles of championing and/or synthesizing, outlining rational decisions.

In contrast:

- When articulating with the operational base, they play the roles of facilitating and implementing, emerging intuitive decisions.

It should be noted that the essential theoretical framework to interact with the data and interpretations of this study is presented in the methodological proposal, in a constitutive description of the elements of analysis.

2. METHOD

This research consists of a multiple case study with qualitative approach (Stake, 2005). The selected cases deal with the SDM process of middle managers, based on their strategic roles played in PTH, in the face of generic and hypothetical situations.
Participants in this study were the health care managers (HCM) of 3 public hospitals linked to the federal institutions of Higher Education in Southern Brazil. The invitations were made via email and telephone contact.

The selection of participants was intentional. The HCM of these hospitals respond hierarchically to the superintendence and to the superior councils (top management team), considering the main articulators in the institution, responsible for the greater governance structure of the hospital: assistance, diagnostic and therapeutic support, pharmacy, health regulation and surveillance (Ministry of Education, 2013). In addition, they are heavily involved in the new management policy conceived by the federal government, through the creation of a public company responsible for the restructuring and management program of the federal university hospitals (Law n. 12.550, 2011).

Data collection took place in May 2017, through an individual online interview and document analysis. We consider that this combination of data, from the convergent and complementary perspective, assists in overcoming bias due to unique approaches, increases the consistency of the results and maximizes the amount of information and their interaction, providing better analytical possibilities (Paranhos, Figueiredo, Rocha, Silva, & Freitas, 2016).

The script to guide the order of the questions (interview) was previously tested and validated. The textual analysis was carried out from documents shared between the three hospitals, common to HCM participants, such as: Resolution of the Executive Board of EBSERH n. 008 (2012) and technical guidelines (organizational structure, professional profile and competencies of the position) (Ministry of Education, 2013).

The analysis of the data occurred in the light of the constitutive elements of analysis (CE), composed by the “constitutive” definition (CD) and “operational” definition (OD). The CD tries to clarify words with other words by means of theoretical concepts; OD specifies the operations required to measure or manipulate concepts in practice (Kerlinger, 1979). This technique makes it possible to direct the “focus” on the data found, overcoming the unsystematic quest for treatment and merely conceptual adequacy. In this sense, CE served to guide the research in both the data collection and analysis phase (Box 1). ability to interpret and characterize the information and take it to the top.

**BOX 1**

**CONSTITUTIVE AND OPERATIONAL DESCRIPTION OF THE ELEMENTS OF ANALYSIS**

<table>
<thead>
<tr>
<th>CE</th>
<th>CD</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE1: Rationality</td>
<td>Objectives and alternatives are explicit, the consequences are calculated and evaluated in terms of how close the objectives are (Simon, 1987).</td>
<td>We sought to analyze in the data collected formal practices of interaction, written documents and use of indicators.</td>
</tr>
<tr>
<td>CE2: Intuitive synthesis</td>
<td>Phenomenon involving the interaction between knowledge and perception, related to trust in knowledge (judgment and experience) and sensation (Elbanna, 2006; Elbanna &amp; Fadol, 2016).</td>
<td>Involvement of the parties (participation) and use of individual experiences.</td>
</tr>
</tbody>
</table>

Contine
CE3: Middle manager

Integrative function, with different strategic roles (Floyd & Wooldridge, 1992):

a) Championing: championing alternatives, with the capacity to change the strategic thinking of the board levels;
b) Synthesizing: ability to interpret and characterize the information and take it to the top;
c) Facilitating: capacity to adapt the deliberate strategy so that it can be implemented more easily;
d) Implementing capacity to motivate the team, in order to succeed in implementing the strategy of the board of directors.

Influence of the middle manager on the execution of strategic roles and their relationship with the strategic decision-making process (reason and intuition).

Source: Elaborated by the authors.

It should be noted that the subjects of the research, through consent, allowed the information to be used for scientific purposes, ensuring the right to anonymity in the study, without any burden, damage or risks arising from it.

3. RESULTS AND DISCUSSION

According to the Resolution of the Executive Board of EBSERH n. 008 (2012), PTH managements are filled by people selected by a committee composed of members of the company’s board of directors and the superintendent (Resolution of the Board of Executive of EBSERH n. 008, 2012). In the technical guidelines (Ministry of Education, 2013) the description of the profile and the definition of the competences of the HCM are listed, presenting, respectively, the 16 qualifications, competencies and skills and up to 18 technical and behavioral assignments of the post (Ministry of Education, 2013).

In these documents, we have identified that there are very strong elements of formalism (Butler, 2002; Dean & Sharfman, 1993; Simon, 1987), providing some guidelines for the treatment of the deliberate strategies in the organization, with emphasis in the hierarchy and focus in the control (Mintzberg, Ahlstrand, & Lampel, 2010), under the top-down, centralizing perspective (Nonaka, 1988; Lavarda et al., 2010), such as: “set goals”; “monitor and evaluate the quality of hospital services through performance indicators”; “manage the flow of service”; “coordinate the implementation of assistance and surveillance actions related to strategic projects”; and “ensure compliance with legal provisions”.

In addition, we find some information in these documents that involve the strategic roles of facilitating and implementing (Floyd & Wooldridge, 1992) and that may require especially intuitive decisions (Elbanna, 2006; Elbanna & Fadol, 2016) to be treated with the operational base, such as: “to set up collegiate forums for participatory and democratic management”; “articulate internally with the services...”; “team work”; “conflict mediation”; “negotiation and change”; and “empathy”. However, we also verified the role of the synthesizing (Floyd & Wooldridge, 1992), such as “providing the superintendence with information on assistance care and health care management”.

Source: Elaborated by the authors.
From the interviews conducted, we find in the different narratives information that translate the articulations in the SDM process (Box 2).

**BOX 2 SYNTHESIS OF NARRATIVES**

HCM1: Expositive meetings between health care governance and rounds of conversation […] the lack of consensus always leads to the discussion of ideas, where I put my position and put the group together. If the decision impacts on activities where I can be held legally responsible, the final decision is mine […] during activities in the conversation rounds, employees participate in the diagnosis, the decision-making process and if they share the effects of this. The decisions are disseminated in the form of memoranda, normative guidelines, protocols and from meetings directly with the professionals involved.

HCM2: The participation of people is fundamental in the decision-making process, in most situations, mainly assistance, there is a need to seek subsidies, listening to people, raising scientific evidence, indicators, so that the decision-making process is based on objective and not only subjective data […] we are carrying out a survey in the databases of the Ministry of Health, identifying the procedures that we can charge and involving the services with the situation. The instruments used for decision-making are indicators. The decisions are disseminated in person, through internal communication.

HCM3: We have to get people together, listen, discuss and seek the best solution. For this purpose, we turn to the experience of each one. Requests come from all sides. We tried to raise all the alternatives to solve the problems, we discussed together to decide on the best option […] when we have little information, little time to decide and the situation is complex, we gather the largest number of data and deliberate or involve higher instances. Decisions are disseminated through memos, internal communications, e-mails, minutes, and meetings.

*Source:* Elaborated by the authors.

We understand that the rationality revealed in the narratives can be a reflection of the profile and the necessary competencies for the exercise in the position of HCM, established in the company's technical guidelines (Ministry of Education, 2013). We see the perspective of middle-up-down decision-making (Nonaka, 1988; Lavarda et al., 2010), with the middle manager exercising its integrating function, articulating with “higher instances” and, at the same time, involving and encouraging the participation of people in the SDM process. In addition to the remarkable realization of the strategic role of facilitating, we perceive that the middle manager seeks to develop alternatives and synthesize information (Floyd & Wooldridge, 1992) for decision-making in their area or even to deliberate with the top of the organization. In this case, it relies on rational decisions and logical techniques (formal meetings, indicators, gathering of evidence and use of documents).

The top-down decision perspective, also present in the discourse, was linked to the issues of legal accountability on the SDM process, i.e., the need to adoption of practices only with an instrumental base orientation (logic), characteristics of PTH, widely regulated by bureaucratic and patrimonialist models, historical characteristics of administration and public health in the country (Costa, 2008; Mello, 2012).

Still from these narratives, we verified that the HCM, through its strategic role of facilitating and implementing (Floyd & Wooldridge, 1992), articulate decisions intuitively toward the operational
bases, supporting the process of involvement and participation of people, based on interpersonal relations, entrusted to opinions and exchange of experiences, from a perspective of democratic decision-making (emerging), bottom-up (Nonaka, 1988; Lavarda et al., 2010). This finding was present in the testimonies, which highlight the need for “listening”, “involvement”, “participation of people” and opening space for “consensus”.

When the HCM is concerned with complementing the logical basis, avoiding only the plane of subjectivity (HCM2) or when they do not always have all the data to decide (HCM3), it is possible to point out a process of SDM with strong use of intuition and/or resulting from a structure of limited rationality (Simon, 1955). In other words, it is not possible for a decision maker to achieve all the options due to the physical impossibility, cognitive and political limitations, as well as the level of disconnection between this information and the high cost involved in this process (Melo & Fucidji, 2016; Simon, 1955). Other peculiarities could justify the use of intuition in this process of fragility of the use of unlimited logic, such as heterogeneity and variety of information, high degree of uncertainty or even little time to decide (Simon, 1955), as evidenced in one of the statements.

Therefore, in order to guide such interpretations, we present a summary box as a result of the evidence and analyzes anchored in the data collected, according to the CE, that allow to understand how the HCM, from their strategic roles, articulates the rational and intuitive decisions in the SDM process (Box 3).

**BOX 3**

**SUMMARY OF THE EVIDENCE FOUND IN HCM’S STRATEGIC DECISION-MAKING PROCESS, ACCORDING TO THE CE AND STRATEGIC ROLES**

<table>
<thead>
<tr>
<th>CE</th>
<th>Strategic roles</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| **CE1: Rationality**| Championing and synthesizing: advocates emerging alternatives (originating from the operating base) near the top of the organization, as well as interpreting and providing information to the board of directors. | a) Expository meetings;  
                        |                                                                                 | b) Collegiate forum;  
                        |                                                                                 | c) Indicators and targets;  
                        |                                                                                 | d) Strategic projects;  
                        |                                                                                 | e) Service flow control;  
                        |                                                                                 | f) Provide objective information to the superior;  
                        |                                                                                 | g) Organizational structure: hierarchical levels, positions and assignments;  
<pre><code>                    |                                                                                 | h) Instruments: memos, normative guidelines, internal communication, e-mails, minutes, operational procedures and protocols, Health Ministry database, legal and regulatory provisions. |
</code></pre>
<p>|                     | It is a movement towards the top of the organization.                           |                                                                                              |</p>
<table>
<thead>
<tr>
<th>CE</th>
<th>Strategic roles</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE2: Intuitive synthesis</td>
<td>Implementing and facilitating: Encourages staff and adapts to deliberate strategy, facilitating its implementation in the operational base.</td>
<td>a) Participatory and democratic management; b) Rounds of conversation; c) Empathy; d) Team involvement; e) Participation of people; f) Livingness and experience; g) Shortage of formal information; h) Moments of listening and consensus.</td>
</tr>
<tr>
<td></td>
<td>It is a movement towards the base of the organization.</td>
<td></td>
</tr>
<tr>
<td>CE3: Middle manager</td>
<td>Integrator and articulator.</td>
<td>a) Flexibility and omniscience; b) Mediation of conflicts; c) Negotiation of changes; d) Moderation and articulation.</td>
</tr>
</tbody>
</table>

Source: Elaborated by the authors.

It should be noted that the analysis of the decision-making process is broad and seems inexhaustible, with different approaches and conceptual treatments. A national study sought to identify the decision model adopted by hospital managers and found that these decision makers make predominantly rational decisions, although socio-affective aspects influence them when their decision is made by expertise (Pucci & Cesar, 2014). Another study evidenced that the decision making of the high administration of public hospitals in the country is an enormous practice that contemplates rational aspects, such as the use of management techniques and the ability to analyze, interpret and synthesize; and subjective aspects, as a selection of values and personal experiences (Pacheco & Gomes, 2016).

This study corroborates these findings, for example, from the dynamics of the (im)balance between objective and abstract forces in the SDM process, revealed especially in the narrative of the HCM2:

> [...] there is a need to seek subsidies, listening to people, raising scientific evidence, indicators, so that the decision process is based on objective data and not only subjective.

Given this complexity, the public manager must familiarize himself with the formal (predictable) and informal (unpredictable) of the decision-making process in the organization (Pacheco & Gomes, 2016). For hospitals, this competence may imply the quality of technological innovations, the assertiveness of care, the training and performance of professionals, the sustainability of the organization, and even influence the praxis in the interaction between the structures of the health care network and the fulfillment of users’ needs (Barbosa & Gadelha, 2012; Iasbech & Lavarda, 2018).

Preparation (or its absence) and capacity, training, interference (internal and external), stakeholder definition, conflict mediation and negotiations, the autonomy and the time are some of the elements that can interfere in the process of SDM (Eduardo, Peres, Almeida, Roglio, & Bernardino, 2015); often influenced by issues that are technical, behavioral, cultural, political, structural, (e.g., hierarchies) and even by contextual variables (environment of uncertainty and hostility, type of decision and characteristics of the organization) (Elbanna & Fadol, 2016).
One of the basic assumptions is that rational processes produce choices that are superior to those that come from intuitive processes (Elbanna, 2006; Elbanna & Fadol, 2016). However, this prescriptive assumption has been challenged and does not seem to capture the organic dimension of the SDM phenomenon. In fact, the difference between rationality and intuition can reside in the proportion of information, on the one hand, and opinion and feelings, on the other. However, rationality and intuition are complementary and non-competing human attributes (Maximiano, 2011).

4. FINAL CONSIDERATIONS

From the basic theoretical knowledge of the school of administration and nourished by the contents revealed in this study, we find that HCM articulate their rational and intuitive decisions in an omniscient and dynamic way (a formal-incremental “live”), which may be associated at different levels in the SDM process.

Thus, the data pointed out that when the middle manager articulates with the top of the organization (bottom-up) in PTH, assume the roles of championing and/or synthesizing, outlining rational decisions; and when it interacts with the operating base (top-down), it plays the facilitating and implementing roles, emerging intuitive decisions. We do not identify in the data possible intuitive manifestations in the decisions when the middle manager articulates with the top management or the opposite, rational decisions in articulation with the base, confirming the theoretical proposition of the study.

We understand that PTHs are characterized as dynamic and complex institutions that require innovations, good practices and assertiveness in care. In this context, we hope that this study has stimulated the understanding of the objective and (inter)subjective dimensions in the SDM process; reflecting on the complexity of the middle manager’s strategic roles in the face of deliberate and emerging situations in public management; as well as awakened to the need, in particular, for the daily improvement of incremental conceptions (knowledge, experience, sensitivity, judgment, among others).

The results obtained by this study allow some conclusions to be extended to other organizational contexts with similar characteristics and used to subsidize new researches of the same nature. In addition to the theoretical proposition presented, we understand that the evidence that emerged from the data collected (Box 3) can be generalized to other PTHs and support the SDM process.

With this qualitative case study, we perceive the need to seek the intensity of the selected cases, less concerned with the aspects that are repeated and measurable (Minayo, 2017). Therefore, we understand to have reached a sufficient amount of theoretical data to understand the phenomenon in depth, in face of the rigor, internal consistency and explanatory power of analysis (Ribeiro, Souza, & Lobão, 2018).

Although we carefully followed the methodological aspects and the theoretical foundation that supported the data discussion, this study is limited to the interpretive conception of the researchers, being able to present some bias in the research, which were minimized by different collection techniques (combination of data with interview and documents). Furthermore, it was not the object of this study to analyze other aspects that may influence the decision-making process (e.g., political behavior) or other elements that influence the execution of roles, such as language (Rozsa Neto & Lavarda, 2017).
As future lines of research, we indicate the development of new investigations at the different levels of administration, with a glance held in daily actions, deepening the nuances of articulation of the decision-making process, its formulation, implementation and relationship with the organizational strategy in practice (Mintzberg et al., 2010), as well as the interface with strategy as a social practice in public policies (Brandt, Lavarda & Lozano, 2017), making it possible to achieve innovations and different perspectives in the management modes of the country’s public hospitals.

We also highlight the importance and relevance of public teaching hospitals in the context of the Unified Health System, and its insertion as a strong member of the health care network, essential in the training of professionals, in the development of researches and technologies and in the offer of extensive actions to users and communities, lacking studies with due rigor and methodological exploration.
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Michel Maximiano Faraco
https://orcid.org/0000-0003-0669-9257
Master in Nursing; Student of the Graduate Program in Nursing (doctoral level) of the Federal University of Santa Catarina. E-mail: michelfaraco@yahoo.com.br

Rosalia Aldraci Barbosa Lavarda
https://orcid.org/0000-0002-1093-4486
PhD in Administration; Professor of the Department of Management Sciences of the Socioeconomic Center and the Graduate Program in Administration of the Federal University of Santa Catarina. E-mail: rosalia.lavarda@ufsc.br

Francine Lima Gelbcke
https://orcid.org/0000-0003-3742-5814
PhD in Nursing; Professor of the Nursing Department and the Graduate Program in Nursing of the University of Santa Catarina. E-mail: francine.lima@ufsc.br