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INTERRELATION OF PRACTICES AND STRATEGIC ROUTINES IN THE PERFORMANCE OF UNIVERSITY RESEARCH

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ABSTRACT

Purpose: This study sheds light on the relationship between two perspectives, the strategy-as-practice (SAP) approach and the dynamic aspect of routines. We seek to understand how the interrelationship between practices and routines reflect on university corporate results.

Methodology: We conducted a case study in a postgraduate program in management at a not-for-profit university focusing on university research activities. 42 interviews were carried out, 19 observations were made in formal and informal social events and institutional documents were collected from the program and from the governmental body that regulates stricto sensu postgraduate studies in Brazil.

Originality: The existing research suggests the approximation of these perspectives – SAP and dynamic routines – and the need to integrate them to deepen the understanding of the strategic phenomenon.

Main Results: Our results indicate that program strategies are aligned with regulatory and funding bodies and multiple practices and routines relate to and complement the range of research performance outcomes. Academic training, previous experiences and specific skills influence the behavior of actors, while tools and interactions play crucial roles in conducting research, shaping approaches and results, essential in academic research.

Theoretical contributions: The article contributes through understandings about the existence of different interdependent and complementary relationships in the strategic process of a postgraduate program that condition the behavior of the actors involved and the research performance achieved.

Keywords: strategy-as-practice; dynamic of routines; strategic results; research performance.

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INTER-RELAÇÃO DE PRÁTICAS E ROTINAS ESTRATÉGICAS NO DESEMPENHO DA PESQUISA UNIVERSITÁRIA

RESUMO

Objetivo: Este estudo lança luz sobre a relação entre duas perspectivas, a abordagem da estratégia como prática (EPS) e o aspecto dinâmico das rotinas. Buscamos compreender como a inter-relação entre práticas e rotinas refletem nos resultados corporativos universitários.

Metodologia: Realizamos um estudo de caso em um programa de pós-graduação em administração de uma universidade sem fins lucrativos com foco em atividades de pesquisa universitária. Foram realizadas 42 entrevistas, 19 observações em eventos sociais formais e informais e coletados documentos institucionais do programa e do órgão governamental que regulamenta a pós-graduação *stricto sensu* no Brasil.

Originalidade: A pesquisa existente sugere a aproximação dessas perspectivas – EPS e rotinas dinâmicas – e a necessidade de integrá-las para aprofundar o entendimento sobre o fenômeno estratégico.

Principais Resultados: Nossos resultados indicam que as estratégias do programa são alinhadas aos órgãos reguladores e financiadores e múltiplas práticas e duas rotinas se relacionam e complementa para o leque de resultados de desempenho de pesquisa. A formação acadêmica, experiências anteriores e habilidades específicas influenciam o comportamento dos atores, enquanto ferramentas e interações desempenham papéis cruciais na condução das pesquisas, moldando abordagens e resultados, essenciais na pesquisa acadêmica.

Contribuições teóricas: O artigo contribui mediante os entendimentos sobre a existência de diferentes relações interdependentes e complementares no processo estratégico de um programa de pós-graduação que condicionam o comportamento dos atores envolvidos e o desempenho de pesquisa alcançado.

Palavras-chave: estratégia como prática; dinâmica de rotinas; resultados estratégicos; desempenho da pesquisa.

INTERRELACIÓN DE PRÁCTICAS Y RUTINAS ESTRATÉGICAS EN EL DESEMPEÑO INVESTIGADOR UNIVERSITARIO

RESUMEN

Propósito: Este estudio arroja luz sobre la relación entre dos perspectivas, el enfoque de estrategia como práctica (EPS) y el aspecto dinámico de las rutinas. Buscamos comprender cómo la interrelación entre prácticas y rutinas se refleja en los resultados corporativos universitarios.

Metodología: Realizamos un estudio de caso en un programa de posgrado en administración en una universidad sin fines de lucro con un enfoque en actividades de investigación universitaria. Se realizaron 42 entrevistas, se realizaron 19 observaciones en eventos sociales formales e informales y se recolectaron documentos institucionales del programa y del órgano gubernamental que regula los estudios de posgrado stricto sensu en Brasil.

Originalidad: Las investigaciones existentes sugieren la aproximación de estas perspectivas – EPS y rutinas dinámicas – y la necesidad de integrarlas para profundizar la comprensión del fenómeno estratégico.

Principales resultados: Nuestros resultados indican que las estrategias del programa están alineadas con los organismos reguladores y de financiación y que múltiples prácticas y rutinas se relacionan y complementan la gama de resultados del desempeño de la investigación. La formación académica, las experiencias previas y las habilidades específicas influyen en el comportamiento de los actores, mientras que las herramientas y las interacciones desempeñan papeles cruciales en la realización de investigaciones, dando forma a enfoques y resultados, esenciales en la investigación académica.

Aportes teóricos: El artículo contribuye a comprender la existencia de diferentes relaciones de interdependencia y complementariedad en el proceso estratégico de un programa de posgrado que condicionan el comportamiento de los actores involucrados y el desempeño investigativo alcanzado.

Palabras clave: estrategia como práctica; dinámica de rutinas; resultados estratégicos; rendimiento de búsqueda.

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INTRODUCTION

We aim to understand how the interrelation between practices and routines reflect on university corporate results. The existent research suggests the approximation of the strategy-as-practice (SAP) elements – practices, praxis and practitioners – and the constitutive aspects of routine – performatives, ostensible and artefacts. These integrated perspectives are relevant to deepen the understanding about the strategic phenomenon (Belmondo & Roussel, 2014; Feldman, 2015; Grand & Bartl, 2019; Johnson, Langley, Melin, & Whittington, 2007; Seidl, Grossmann-Hensel, & Jarzabkowski, 2021). The SAP and dynamic routines strand have common theoretical roots in the seminal work Bourdieu (1990) and Giddens (1984). Johnson et al. (2007, p. 34-36) were predictors in the discussion about possibilities of interrelation highlighting that the praxis concept from Whittington (2006) resembles to the concept from performative aspects from Feldman and Pentland (2003). Belmondo and Roussel (2014) also recognize an approximation of both concepts, however, emphasize that they differ about context nature, the praxis influences on organizational and interorganizational while the performative aspects have influence only on constitutive routine elements. More recently, Grand and Bartl (2019) understand the strategic routines as a specific kind of practices. Seidl et al. (2021) portray striking similarities between the perspectives, how they align with the "practical turn", focus on social actors and observe the level of action involved in routines and strategy.

In organizations, routines and practices are common in all the processes, including the strategic one (Feldman, 2015; Johnson et al., 2007). They guide the behavior from social actors on daily micro activities and provide the comprehension of how the organization takes a position in the context and conditions the reached results (Grand & Bartl, 2019). Praxis episodes are featured by a recursive process, the actor's resort, reproduce, synthetize, adapt or change practices, alternating plurality for the next episodes (Whittington, 2006). Likewise, actors on the routine performance fulfillment– performative aspects – resort to ostensible aspects, reinforcing action patterns and occasionally adapt or change them (Feldman, 2000). Thus, we propose that the actions of university actors in praxis episodes and in routine performances are respectively oriented by practices and by ostensive aspects and sometimes may be adapted or changed by its own actors.

The actors' acting on strategic process also receives other influences, such as antecedents and personal abilities (Vaara & Whittington, 2012). The actors have peculiarities that differ from how they mobilize practices, routines and strategic tools (Denis, Langley, & Rouleau, 2007), the way they work on organizational day-to-day and results they achieved

(Samra-Fredericks, 2005). They are reflexive subjects, because of that we cannot underestimate their implications (Jarzabkowski, Kaplan, Seidl, & Whittington, 2016). Besides, on praxis episodes and routine performances, actors use material artifacts that may restrict, able, stablish, reinforce and interfere on the strategic process (Lundgren & Blom, 2015). It assumes an inseparable relationship between the material and the social (Kohtamäki, Whittington, Vaara, & Rabetino, 2022). In this way, we propose that practices and ostensible aspects, the antecedents and personal abilities and situated artifacts operate on the behavior of university actors.

This study aligns with these discussions and was based on a case study of a postgraduate program from a nonprofit university in Brazil. Universities have well stablished and integrated routines with considerable variation between performative and ostensible aspects (Tate et al., 2018). They have characteristics that differentiate them from other organizational realities and include them among the most complex (Meyer & Lopes, 2015), assuming a relevant empirical context for this study. Despite being an important context, it has been neglected in the study of strategic practice (Jarzabkowski, 2005). We delimitated as analysis focus the strategies related to research activities, since research strategies are considered relevant on universities by their influence on both national and international university rating and for their outstand in global political agendas (Leathwood & Read, 2013). There is also an increasing interest about research performance (Witte & Rogge, 2010), especially in developing countries (Fussy, 2018; Nguyen & Meek, 2016). Previous studies remained limited to individual perspective without considering factors of collective level (Edgar & Geare, 2013) and the external environment that influences on productivity (Schmidt & Graversen, 2017).

The research activities are constituted by a set of complex and interdisciplinary tasks achieved collectively with inner collaboration by research groups, that despite being so distinct are connected with each other, as well as external collaborations through partnership with other institutions (Biggiero, 2017). In the Brazilian context, the research activities are legitimate and socially recognized on postgraduate programs with lawful and bureaucratic conditioning from the State. Recently, there were changes on evaluation from Brazilian programs performance that has directly impacted structures and internal procedures from universities. Both the behavior patterns and the interactions between Brazilian university actors are stimulated by external demands from macro context institutions, especially governmental institutions from the education sector (Villar, 2018). This conjecture is interesting for reflecting about the actors' behavior on micro level with subjacent relations to macro level (Silva, 2019).

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We propose that the research strategies adopted by universities are related to social institutions at the macro level and, cyclically, the organizational activities carried out at the micro level support the construction of this context. Furthermore, we suggest that interactions help social actors to build a common understanding of the strategic activities to be achieved. In addition to this introduction, our article was structured with, a brief literature review on the foundations of SAP, the dynamics of routines, the interrelationship in the strategic process and university strategies. Subsequently, we present the method employed, reporting the context of the research, data sources and analysis techniques. Next, we discuss the survey results. Finally, we bring the final considerations, limitations and future research and theoretical and practical contributions.

1 FUNDAMENTS OF SAP

The origins of the practical perspective are attributed to the works of Wittgenstein (1951) and Heidegger (1962) (Vaara & Whittington, 2012). This orientation was reflected in different theoretical fields. Specifically in the field of strategy, it was developed from the SAP approach in order to fill in the gaps and weaknesses of the classical and procedural perspective, with a new orientation to strategic thinking that values social actors in the process (Jarzabkowski & Spee, 2009). The paper by Whittington (1996) was the first publication linked to EPS, focused on strategy as a social good and claimed the understanding of strategy through the actions and interactions of practitioners in the organization.

The SAP has grown significantly and become one of the most researched fields in the last two decades (Kohtamäki et al., 2022). This perspective considers a diversity of social experiences around the phenomenon of strategy and conceives social life as continuous production (da Costa Júnior, Nascimento, Jerônimo, & Granja, 2022). It also perceives the manifestation of the strategy through praxis episodes (Whittington, 1996), who constitute and reconstitute the institutionalized practices system (Wilson & Jarzabkowski, 2004). It consists of the interactions between social actors in a specific context (Souza Neto & Borges, 2019). All actors, both those who plan and those who execute strategic activities, are valued (Jarzabkowski, 2005).

Previous studies guided by the approach have devoted to the investigation of strategies method, strategic practices and formal discursive, sensemaking, discourses and narratives, roles and practitioners' identities, socio materiality, tools and techniques and power and criticality

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(Burgelman, Floyd, Laamanen, Mantere, Vaara, & Whittington, 2018). Although these studies have allowed new understandings about strategic process, Vaara and Whittington (2012) and Seidl and Whittington (2014) highlighted that focused on micro level activities investigation and its reflexes at the macro level, without properly integrating them. This local praxis limitation produces "micro-isolationism" (Seidl & Whittington, 2014), that prevent the comparison of similar practices in other contexts and the investigation of the origins, diffusion and effects of dominant practices in society in general (Kohtamäki et al., 2022).

The vision of strategy as a property of organizations that dominated the field, with the introduction of the EPS approach, was transformed into a new vision, proposing human action in strategy (Jarzabkowski, 2005). The SAP approach requires the contextualization of the strategic process in the face of the sociocultural environment in which it operates, with its shared meanings about tools, microactivities, power relations and limited resources, given that these understandings influence organizational performance (Rese, Casali, & Canhada, 2011). It also aims to analyze the daily strategic practices of social actors, their concerns, their whys and conditionings (Milagres, Rezende, & Goncalves, 2015).

We point out that in the SAP literature, different conceptual models are found, which succinctly are represented by three main elements. First, practices, a routine type of behavior made up of traditions, norms and procedures that predict thinking, performance and use of tools in the strategic process (Whittington, 2006). They are accomplished collectively, presenting themselves interdependently with other practices and sustaining organizational results (Jarzabkowski et al., 2016). Second, the praxis episodes, which consist of real activity, what actors do in practice, how they resort, reproduce or occasionally change on located practices (Whittington, 2006). They are sparse manifestations that can be visualized in activities such as formal meetings, consultancy interventions, projects, presentations, and informal conversations as long as they are used to constitute the strategies (Jarzabkowski, 2005). Third, the practitioners, all actors are involved in strategic activities (Whittington, 2006). They are reflective subjects and their implications for organizational results should not be underestimated, but there must be recognized the effects of their background and skills in achieving practices (Jarzabkowski et al., 2016).

2 DYNAMICS OF ROUTINES

In the first studies on routines, it was defined as fixed and repetitive rules and procedures that determine stability for the relation between individual and organizational behavior (March

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& Simon, 1958; Simon, 1947). Subsequently, it was emphasized that routines evolve and also can cause organizational changes (Nelson & Winter, 1982). Such dichotomy was analyzed in studies based on practical theories through a performative view, stability and change in routine dynamics were explained (Feldman, 2000). Based in these practice theories, strategic routines are defined as a particular type of practice (Feldman & Orlikowski, 2011). It involves the use of resources in a similar way and form action patterns for carrying out strategic activities in the firm (Stańczyk-Hugiet, 2018).

In this study, the routines are understood as "repetitive and recognizable patterns of interdependent action performed by multiple actors" (Feldman & Pentland, 2003, p. 95). The dynamic perspective of routines perceives the specificities of these patterns, for example the orientation to tasks, recurrence, sequentiality and familiarity of actions and attempts at reflexive regulation (Feldman, Pentland, D'Adderio, Dittrich, Rerup, & Seidl, 2021). As well as understands the routines as like generating systems consisting of performative and ostensible aspects and artifacts (Feldman & Orlikowski, 2011).

The performative aspects consist on real performances by specific people, in specific places and times (Feldman & Pentland, 2003). They represent routines in practice, capturing the central agency role in daily execution (Feldman, 2000), and conceiving series of performances aligned to the context (Feldman, 2003). The ostensible aspects express the common understanding that varies among organizations (Pentland & Feldman, 2008). They refer to the schematic routine form, a generalized abstract pattern which incorporates what is considered to be a structure (Feldman & Pentland, 2003). These aspects guide routine performances (Pentland & Feldman, 2005), and can be interpreted differently by each actor, so, the interactions are relevant, provide information transfer and allow the exploration of different interpretations for a consensus (Feldman & Rafaeli, 2002).

The performative and ostensive aspects are relational and constitutive elements. Their interaction provides the continuous variation, selection and retention of action patterns within routines (Feldman & Pentland, 2003). They relate with situated artifacts, which are material aspects (Pentland & Feldman, 2008), presented in a form of information systems, policies, rules and operational procedures, forms, manuals, furniture and physical layout (Pentland & Feldman, 2005). There is multitude of artifacts involved in the course of a routine and constitute the context that directs the way in which actors execute performances (Royer & Daniel, 2019). They allow the consistency of multiple performances, the variations in application of knowledge in individual performances and collective understandings about the results of those performances (Gao, Squazzoni, & Deng, 2018).

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A routine execution depends on other associated routines (Kremser, 2017). Its collective performances cause stability or organizational change (Dönmez, Grote, & Brusoni, 2016). Previous studies have shown that routines interact from human and non-human actors (Sele & Grand, 2016), interactive and ad hoc forms of connection (Spee, Jarzabkowski, & Smets, 2016), and distinct parts of recombination (Cohendet & Simon, 2016). These links support interactions through the information flow and situated artifacts, allowing an asynchronous exchange, in which information is available for different routines in the orientation of their performances (Dönmez et al., 2016). Actors do not need to be aware of associations between routines for interdependence so that performances are influenced by standards (Kremser, Pentland, & Brunswicker, 2019).

3 INTERRELATION IN STRATEGIC PROCESS

SAP and dynamic routines have their theoretical bases in common in the seminal work of Bourdieu (1990) and Giddens (1984), aligning themselves with the "practical turn". Johnson et al (2007), Belmondo and Roussel (2014) and Seidl et al. (2021) contributed to the discussion about possible interrelationships, highlighting conceptual similarities and differences. These two perspectives have the premised of analyzing the microstructures associated with macros in which they are inserted, focusing on the individual and collective performance of the actors, without disregarding the social context (Hansen & Vogel, 2011). It is understood that practices originate in the plurality of social institutions at macro level, the actors' behavior at micro level is guided by the definitions of these institutions (Jarzabkowski, Balogun, & Seidl, 2007). The levels are continuous poles, establish a two-way relation, activities at the micro level support the construction of macro contexts and at the same time are influenced by these (Silva & Hansen, 2012). Therefore, the strategies relate with social institutions of macro level and, in a cyclical way, the activities fulfilled at the micro level support the construction of this context.

The strategy encompasses all conversations, tools, practices, routines and interactions that contribute to strategic guidance and results (Johnson et al., 2007). These properties are manifested and mobilized through the tacit and collective knowledge of multiple social actors (Denis et al., 2007). In strategic process actors are central. Their background and individual skills establish the way they execute practices and routines and the results they achieve (Jarzabkowski et al., 2016; Vaara & Whittington, 2012). Their interactions help to build a common understanding of strategic activities to be performed and constitute and inform organizational processes (Johnson et al., 2007). The actors' behavior is guided by practices

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(Whittington, 2006) and the ostensive routine aspects (Pentland & Feldman, 2005). They are also influenced by situated artifacts (Royer & Daniel, 2019), which consist on representations of physical assets that can be linked together and evolve together with the strategy as they are employed by actors (Jarzabkowski, Spee, & Smets, 2013), as well as can code or prescribe the performative and ostensible aspects of routine (Pentland & Feldman, 2008).

Practices and routines are common across organizations (Feldman, 2015; Johnson et al., 2007) and decision-making patterns are embedded in these situated practices and routines (Denis et al., 2007; Whittington, 2006), therefore, it is important to understand the multiplicity and interdependence of practices and routines. All strategic initiatives are built, rebuilt and renegotiated through continuous practices and routines. They guide the actors' performance (Johnson et al., 2007), who manifest the existing ones, create new ones and adapt old ones during the process (Stańczyk-Hugiet, 2018). Practices are related to other practices and their effects differ with their presence or absence (Jarzabkowski et al., 2016). Likewise, routines have complex relations with other routines, which are responsible for collective performances (Dönmez et al., 2016). The results consider how well all the interconnected practices and routines delivered their (sub) results (Spee et al., 2016). In this way, the multiplicity and interdependence of practices and routines in strategic process conditions the organizational results (for example, Grand & Bartl, 2019; Rosa, Kremser, & Bulgacov, 2021). Previous studies reflect on the conditioning of strategic results by different practices and routines. For example, Appiah and Sarpong (2015) explain that the ostensive and performative interaction of routines influences the success or failure of strategic prospective integration through the management of moderating mechanisms. Jarzabkowski et al. (2016) propose a structure that presents the interactions between practices in the strategic process that reflect on strategic results, in which practitioners are carriers of practices and their effects are interconnected with the effects of practices and directly impact the results. Grand and Bartl (2019) explain that the situated performance of routines, the proactive action of managers in executing routines at different levels of management and the mobilization of specific configurations – constellations of strategic focuses, groupings of routines and situated artifacts – shape the results strategic and can strengthen business agility and encourage new strategic movements.

4 UNIVERSITY STRATEGIES

University management contemplates administrative and pedagogical obstacles and faces specific pressures from the segment, arising from society, professors and the individual

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and collective representation of students (Takahashi & Sarsur, 2012). These institutions, as complex and plural organizations, have particularities that differ them from other organizations (Denis et al., 2007), and which are interesting for the strategic practice investigation. They are shaped by multiple strategies (Jarzabkowski, 2005), executed from the bottom up, present a complex set of interactive routines, ambiguity in objectives, processes and behaviors (Meyer, Pascucci, & Meyer, 2018; Tate et al., 2018), and are characterized by permanent interactions between actors aiming at building a common understanding (Takahashi & Sarsur, 2012).

The strategic process in Brazilian universities manifests itself in different ways and is carried out at different institutional levels (Meyer et al., 2018). Studies developed in Brazilian institutions have shown that strategies are due to both formal planning and individual and group initiatives (Meyer, Pascucci, & Mangolin, 2012). They may emerge from spontaneous actions, insights, intuitions and unintended practices in micro activities from the academic sector (Meyer et al., 2018). Among constructed strategies, those related to research activities are considered relevant (Leathwood & Read, 2013), but few studies investigated the elements involved in research performance in universities in developing countries (Fussy, 2018), focus of this study.

Postgraduate programs are responsible for the generation and dissemination process of scientific knowledge in Brazil (Wood & Chueke, 2008) and the legitimation of both individual researchers and the programs depending on the quantity and quality of publications (Acedo, Barroso, Casanueva, & Galan, 2006; Crubellate, Rossoni, Mello, & Valenzuela, 2008). The program regulation and evaluation are the responsibility of Coordination for the Improvement of Higher Education Personnel (CAPES - *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*), a body linked to the Ministry of Education (Mello et al., 2010). Postgraduate programs in the country were established after the regulation of master's and doctorate degrees in 1965 (Festinalli, 2005). Since then, based on national postgraduate plans, there has been an emphasis on scientific production, considering it a central element for the consolidation of these programs (Freitas & Souza, 2018).

Assessment is carried out by knowledge area committees in all programs that are part of the National Postgraduate Assessment System every four years (in quadrennia). This assessment was established in 1976 and is based on fundamental principles: (i) peer evaluation; (ii) transparency in the disclosure of information, criteria and results; and (iii) comparability between assessment areas. All courses, regardless of the area, must maintain an equivalent standard of quality in the training offered. In the last evaluation, a significant percentage of the courses' quality score was assigned based on research activities, such as theses and dissertations

defended, participation of professors and students in scientific events, qualified publications and development of research projects.

Regarding the grades that indicate the performance of the programs, "5" means "very good", "4" is equivalent to "good" and "3" indicates "regular". Grades "6" and "7" are reserved for programs that achieve a level of performance comparable to international centers of excellence and demonstrate exceptional performance relative to other programs. Programs with higher evaluations receive more financial support for granting scholarships and carrying out research projects, making university research a crucial factor in validating researchers and programs in the country (Crubellate, Rossoni, Mello & Valenzuela, 2008).

Along these lines, in Brazil, the generation and dissemination of scientific knowledge plays a fundamental role in postgraduate programs (Wood & Chueke, 2008), being essential for the validation of both individual researchers and programs as a whole. This depends on a high level of quantity and quality of publications (Acedo, Barroso, Casanueva & Galan, 2006; Crubellate et al., 2008). The relationship between program teachers and other actors at this level of education is stimulated by the CAPES evaluation system, which uses scoring metrics based on publications (Villar, 2018). Finally, as portrayed by Akerlind (2008), there is a stimulus for understanding the ways in which the actors involved experience research and their underlying intentions in being a researcher and developing scientific research.

5 METHOD

To investigate the strategic process based on approach to SAP and the dynamic of routines, we developed research with qualitative approach. We are concerned with the reflection of social reality and subjective aspects related to the phenomenon, considering individual perceptions, meanings shared and the dynamics of interactions between events. We conducted a single case study with a cross-section and longitudinal approach, checking the situations related to data collection at a given time, as well as past situations.

RESEARCH CONTEXT

We conduct a case study in a graduation program from nonprofit university in Brazil. Two main events occurred, one internal and other external and they are considered as breaking points for design and choice of the investigated Brazilian postgraduate program. First, institutional changes in the Brazilian context, there have recently been changes in postgraduate

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programs performance evaluation, which have directly impacted the internal structures and processes of Brazilian universities. Second, internal changes regarding management, among the possible cases, we observed those who had a rectory change in the last year. In Brazil, changes in the academic general coordinator are associated with the development of a new strategic planning. Thus, in a university that experienced a recent rectory change, the strategies become more visible, contributing to the investigation. In addition, we evaluated other criteria, such as: the presence of academic master's and PhD courses integrated in the program, obtaining a grade 5, 6 or 7 in the last CAPES assessment and the best performance of research activities in the university ranking Folha 2018 of the newspaper Folha de São Paulo and ranking 121 best universities in Latin America conducted by Times Higher Education and in Scimago Institutions Rankings from Scimago Lab.

DATA SOURCE

Semi-structured interviews. We effected along with social actors involved in the strategic research activities: students, professors and academic coordinators, who had exclusive dedication to the program and more time at home. The interviews consisted of questions related to two central aspects. First, the perception of actors about the program research strategies, the description of their daily actions, the physical resources used, the interactions that occurred and their skills and background that help them carrying out the activities with excellence. Second, the understanding of interdependent relations between practices and routines in strategic research activities and about the elements that infer the result achieved. The separation between practices and routines was made operationally based on the understanding that routines, different from practices, need recognizable, interdependent and repetitive, non-identical action patterns that are performed by multiple actors (Pentland & Hærem, 2015). The distinction between operational or strategic activities is based on the consequences offered to strategic results, even if these implications were not formally planned (Jarzabkowski et al., 2007).

The program under study is made up of 16 permanent professors and collaborators, one of whom holds the position of coordinator and the other of vice-coordinator. Over the 20 years of this program's existence, only four professors performed coordination roles. The number of scholarships offered by CAPES is approximately 27 annually, 11 for master's students and 16 for doctoral students. The program also occasionally receives grants from the National Council for Scientific and Technological Development (CNPq) and the Santa Catarina State Research and Innovation Support Foundation (Fapesc).

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42 interviews were carried out, being 2 academic coordinators, 12 professors and 28 students. We emphasize that all students interviewed have scholarships from CAPES, CNPq or Fapesc, considering the criterion of dedication to the program. CAPES scholarship students from Modality I perform 20 hours per week and scholarship students from Modality II perform 10 hours per week of program activities.

Table 1 presents the profile of the interviewees.

Table1

Profile of interviewees

Interviewee	Bond	Workload	Duration
PhD student	Modality II	10 hours	29 minutes
PhD student	Modality II	10 hours	01 hours and 53 minutes
PhD student	Modality I	20 hours	01 hours and 07 minutes
PhD student	Modality II	10 hours	33 minutes
PhD student	Modality I	20 hours	43 minutes
PhD student	Modality II	10 hours	32 minutes
PhD student	Modality II	10 hours	01 hours and 01 minutes
PhD student	Modality II	10 hours	47 minutes
PhD student	Modality II	10 hours	56 minutes
PhD student	Modality I	20 hours	39 minutes
PhD student	Modality I	20 hours	43 minutes
PhD student	Modality II	10 hours	25 minutes
PhD student	Modality I	20 hours	52 minutes
PhD student	Modality I	20 hours	01 hours and 04 minutes
PhD student	Modality I	20 hours	01 hours and 09 minutes
PhD student	Modality I	20 hours	26 minutes
PhD student	Other scholarship	10 hours	48 minutes
PhD student	Other scholarship	10 hours	38 minutes
PhD student	Other scholarship	10 hours	24 minutes
Master's student	Modality II	10 hours	02 hours and 47 minutes
Master's student	Modality I	20 hours	01 hours and 35 minutes
Master's student	Modality II	10 hours	44 minutes
Master's student	Modality II	10 hours	24 minutes
Master's student	Modality II	10 hours	54 minutes
Master's student	Modality II	10 hours	24 minutes
Master's student	Modality II	10 hours	20 minutes
Master's student	Modality I	20 hours	01 hours and 32 minutes
Master's student	Modality II	10 hours	33 minutes

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Interviewee	Bond	Workload	Duration
Professor	Permanent	14 hours	1 hours and 24 minutes
Professor	Permanent	22 hours	1 hours and 02 minutes
Professor	Permanent	16 hours	01 hours and 40 minutes
Professor	Permanent	16 hours	41 minutes
Professor	Permanent	22 hours	1 hours and 04 minutes
Professor	Collaborator	4 hours	1 hours and 12 minutes
Professor	Permanent	30 hours	44 minutes
Professor	Permanent	20 hours	32 minutes
Professor	Permanent	12 hours	31 minutes
Professor	Permanent	24 hours	01 hours and 07 minutes
Professor	Permanent	8 hours	40 minutes
Deputy academic coordinator	Permanent	20 hours	54 minutes
Professor	Collaborator	4 hours	38 minutes
Academic coordinator	Permanent	26 hours	1 hours and 44 minutes

Note. Source: Elaborated by authors (2023).

All interviews lasted a total of 64 hours and 5 minutes, and the audio was recorded with the permission of the interviewees. To increase the internal validity of the primary data, we addressed observed discrepancies in the data with the respective participants.

Observations and artifacts registering. We made participant observations at 19 formal and informal social events related to strategic research activities in the program, which totaled 63 hours. We also made field notes for the purpose of registration and a condensed report immediately after each observation (Spradley, 1980). The main topics we observed were: location, actors involved, actions performed, artifacts used, disposition of the bodies, standard behavior from participants and interactions between actors. In each social event, a predominantly task was perceived, for example the project development to attract external resources, guidance for undergraduate students associated with a research project, research group meetings, development of discussion groups, and informal interactions in the program students' sharing room. These tasks were addressed and discussed in interviews by the participants, allowing cross-validation of data.

Table 2 presents a description of the observed events.

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Table 2

Observation sessions carried out

Predominantly observed task	Duration
Meeting with scholarship students to discuss scholarship renewal and planning activities for MINTER and DINTER students	2 hours
Development of a research project to attract external resources.	2 hours
Development of a research project to attract external resources.	2 hours
Review and submission of a research project to attract external resources.	3 hours
Meeting of the Leadership, Entrepreneurship and Innovation Research Center.	2 hours
Informal interactions in the program's student sharing room.	10 hours
Guidance of a scientific initiation student associated with a research project.	2 hours
Master's Qualification Board	2 hours
Doctoral consortium session of a scientific event in which students from the programs participated.	2 hours
Session of articles and cases from a scientific event in which students from the programs participated.	2 hours
Session of articles and cases from a scientific event in which students from the programs participated.	2 hours
Meeting of the Marketing Strategies Group, Sustainability and Management Study Group, and the Strategy and Performance Study Group.	2 hours
Guidance of a scientific initiation student associated with a research project.	2 hours
Informal interactions in the program's student sharing room.	10 hours
Informal interactions in the program's student sharing room.	10 hours
Informal interactions in the program's student sharing room.	10 hours
Thesis seminar boards.	4 hours
Explanation group on the use of specific software for systematic literature review.	2 hours
Informal interactions in the program's student sharing room.	10 hours

Note. Source: Elaborated by authors (2023).

Documentary research. Collection of secondary data from institutional documents from the program, information disclosed in the program's website, final result evaluation reports of postgraduate studies in Brazil, general reports of CAPES, texts published by CAPES on its website and Lattes CVs of the interviewees. These archival materials made it possible to cross-validate the data obtained from the participants in the interviews and observed at social events and, consequently, to improve construction validity.

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DATA ANALYSIS

In the data analysis process, an open analytical process was used in the interview transcripts, field notes and archival materials, we identified the common and central ideas for creating the codes (Locke, 2001). The use of the *N-Vivo 12 Plus* software facilitated the process of systematizing and coding data. 147 files were imported into the software, 42 files with interview transcriptions, 19 files with field notes of the observations carried out and 86 files with the program's institutional documents, CAPES documents and Lattes CVs of the interviewees.

In the first phase, the coding resulted in 37 second-order codes that were grouped into 8 first-order codes that integrate more abstract theoretical topics (see Table 3). The codes contain statements and observations on the same topic, for example internationalization strategy, research group meetings routine, interactions between university actors, scientific work evaluation practice, situated artifacts, actors' background, actors' skills and program dissemination.

Table 3

Systematization and coding of collected data

First-order codes	Second-order codes	Number of files	Number of snippets
Organizational strategy	Program strategies	39	98
	Planning practices	12	22
	External influences	43	83
Practices	Procedures and standards	14	14
	Traditions and shared understandings	20	26
	Specific definitions	21	23
Praxis	Evaluation of articles for events and magazines and projects for government institutions	31	35
	External committees for qualification and defense	3	3
	Sandwich doctoral program	5	5
	Vacation methodological courses	15	26
	Sweden exchange	3	5
	Organization of internal events	4	4
	Partnerships with other Programs	9	11
	Participation in Scientific Events	30	39
	Orientation Process	39	53
	Scientific productions	38	56
	Extension project	4	4
	Scientific Initiation Project	31	43
	Cooperation Projects	29	42
	Scholarship holders meeting	2	4
	Rules and shared understandings	16	16

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Dynamic routines	Research groups	44	91
	Internal committees for seminar, qualification, and defense	5	7
	Tools/Artifacts	39	42
Social actors	Main social actors	43	58
	Background of students	48	53
	Background of professors	26	29
	Student skills	24	25
	Professors' skills	14	14
Connections	Interactions between program students	32	44
	Interactions between program professors	6	9
	Interactions between professors and students of the program	27	29
	Interactions with professors and students from other programs	7	12
Interrelationship	Relationships between practices and routines	18	22
Search Performance	Social impact	41	58
	Dissemination researcher	36	37
	Dissemination program	16	16

Note. Source: Elaborated by authors (2023).

The second analysis phase consisted of axial coding, relations between the first and second order codes were observed and the codes were compared with basic concepts of the SAP literature and dynamic of routine. During the process, there was a constant confrontation of the encoded data with the possible theoretical phenomenon interpretations (Locke, Golden-Biddle, & Feldman, 2008).

6 FINDINGS AND DISCUSSION

The organization of this section is based on the main primary codes of the study. First, we describe the case of the selected Brazilian postgraduate program. In sequence, we present the research strategies that guide the actors' behavior and describe how routine performances and episodes of praxis associated with research activities occur. Finally, we discuss the effects of antecedents, skills, artifacts and interactions on the actors' behavior.

CASE DESCRIPTION

The Brazilian postgraduate program studied had the academic master's course in administration approved in 2003 and the PhD course in 2007. As of 2008, it started its activities and only in 2015 a new curricular structure was implemented, in the which changed the

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concentration the lines of research and the matrix. This new structure was supported by the concentration area of strategy, management and society, in order to study organizational phenomena at different levels of analysis. Three guiding lines of research were created to operationalize the activities, research projects and disciplines were grouped. The first line strategy in organizations involves studies on the phenomenon of strategy and its implications for management and performance. Second management technologies comprises studies on the main organizational functions of large and small businesses. Third line sustainability, organizations and society includes studies on the impacts of organizations management on society, as well as society on the management of organizations. The program, in subsequent years, remained with the concentration area and the aforementioned lines of research and continued to organize itself to obtain better scores in the CAPES periodic evaluation system.

PROGRAM RESEARCH STRATEGIES

The definitions of strategies associated with research activities from the program under study relate with social institutions in the extra-organizational context. At semiannual meetings, the group of professors discusses an action plan in line with the aspects that make up the CAPES evaluation system and the criteria of the research promotion agencies, such as the CNPq, Financier of Studies and Projects (Finep) and the State Research Support Foundations (FAPs). CAPES presents well-defined and quantified items to meet the programs quality requirements (Maccari et al., 2014). Funding agencies have specific criteria for allocation of resources and project financing (Dantas, 2004).

The professors interviewed pointed out that they realized that the program develops its research strategies based on the aspects that make up the CAPES evaluation system and the guidelines of the research promotion agencies.

> The coordination is always in contact with CAPES and the area coordinators. They participate in meetings and pass on to professors and researchers, everything that happens [...]. In the program there is a critical reading, problematization and a discussion of information from these agencies for the definition of strategies (Interview, professor of the studied program).

In this line, coordination works to reinforce what was previously established by social institutions in the extra-organizational context. We highlight that the requirements of these

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institutions demonstrate the search for greater scientific productivity, which is why Brazilian programs have conditioned their internal activities to a culture of results (Silva, 2019).

The studied program offers, in accordance with CAPES recommendations, the Interinstitutional Master's Degree (Minter) and the Interinstitutional Doctorate (Dinter), with the aim of expanding technical and scientific knowledge to other regions of the country, especially those lacking these courses. Furthermore, considering CAPES' emphasis on internationalization, the program implements internationalization initiatives, including academic mobility and the internationalization of the course curriculum. Partnerships with foreign universities are established to offer international modules and international courses, providing students with the opportunity to have academic experiences at foreign universities and visit organizations abroad. Exchanges with partner universities abroad are also promoted, receiving exchange students from these institutions and establishing cooperation agreements between international researchers.

There is a representation of the results of research activities in the CAPES evaluation form, consequently, the teachers and students interviewed perceived the existence of initiatives, both formal and informal, to stimulate quality production. Scholarships in the program are distributed considering the research results of participating students. The main measures are performance in research projects and quantity and quality of papers published in events and journals. There are also prerequisites for qualification, final defense and receipt of the diploma that define a minimum amount of participation in meetings of research groups and publication of papers in events and journals. In the course structure, subjects are offered to assist in achieving results, such the challenges and teaching cases disciplines that enable the construction of papers during its extension.

Therefore, these strategic actions are in line with the demands of CAPES and research funding agencies. So, the deliberations from the institutions that regulate and finance research in Brazil transform the context and structure of programs and directly impact strategic decisions and activities carried out by university actors (Villar, 2018).

We found that all professors are aware of research activities and expected results, considering the length of time the program has existed and the years of work at the institution for permanent professors. Therefore, few mobilization strategies were observed for teachers in the studied program, for example: (i) keeps them informed about public notices open for raising internal and external funds; (ii) mobilizes them from a motivational point of view, through formal and informal conversations in the corridors, teachers' lounge, lunch outings and WhatsApp group; and (iii) requires them research results consistent with CAPES criteria and

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scores. Also, when a professor approves a scientific article in a national or international event, with the agreement of the coordination, he or she can apply to the Institution's Research Support Fund for help with expenses, which represents a small percentage of expenses.

With regard to students' mobilization strategies in relation to research results, the program develops several formal and informal initiatives, we mention: (1) encouragement to carry out scientific research through informal conversations in the corridors, study room and groups of Whatsapp; (2) provision of courses on research methods and techniques taught by professors from other postgraduate programs; (3) organization of internal scientific events; (4) sending newsletters about scientific events in the area and special calls from journals; (5) invitation to participate in scientific initiation projects and development of external fundraising projects; and (6) directing group leaders towards joint production among participating members.

> The program encourages us to develop quality papers, especially within research groups with members as colleagues and professors. It also mobilizes us to participate in research projects to attract external resources and help guiding undergraduate students in their scientific initiation projects (Interview, student of the studied program).

Furthermore, according to the interviewees, the program's research strategies and activities consist of a dynamic process guided by the coordination and individual professor's performance. There are both collective and individual initiatives. Professors have the autonomy to define their own strategies for conducting and encouraging advising students, aiming to expanding participation in national and international scientific events, developing quality papers, carrying out defense of theses and dissertations in the stipulated deadline and approving of resources for research projects. We observe that all research strategies and the way activities are conducted have changed over time from the interactions of the actors in the praxis episodes and in the routines. This understanding is presented in line with the practical perspective, in which human action is proposed in the strategy and its construction is admitted through the action and interaction of multiple actors in routine (Jarzabkowski, 2005).

> Each professor has their personal strategy as a researcher, but in the academy, this is all very socialized. Everyone is aware of the program's objective and makes their choices about what and how to execute [...] they have their own planning with their

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advisors and members of their research group (Interview, professor of the program studied).

The program's strategies also consider the impact of its results in academic sphere and in other spheres of society. There is an incentive for research to align with the scenario of organizations in locations where they are conducted, the interviewees present a speech about the potential of productions to resonate more, there was a concern with the managerial applicability and the social impact of the researches carried out. It is expected that the final products of the program will make contributions at a macro level, relate to broader political, cultural and social processes, in which the actors' expectations are limited and influenced by other actors and by the context (Dantas, 2004). This property converges with the understanding of the bilateral relations between the micro and macro level treated in SAP and the dynamic of routines. We understand that university actors act based on the premises of social institutions in the macro context that they interact with, and at the same time, the micro practices developed by them within the program reflect in that context.

STRATEGIC ROUTINES OF UNIVERSITY RESEARCH IN THE PROGRAM

The studied program has two formalized routines: meetings of research groups and internal examination boards. The research groups are organized by leaders - responsible professors - who assign tasks, guide and monitor the research activities of master's and PhD students (Odelius et al., 2011). The studied program has eight research groups registered and active in the CNPq Directory of Research Groups that support their lines of research. The meetings are held on a monthly basis, with dates announced in advance, always taking place on Tuesdays right after the seminar discipline, with a maximum duration of three hours.

According to the interviewees, group members receive a newsletter via email or WhatsApp of what will be discussed, which allows them to be aware of tasks that will be conducted on that specific date. The main meetings task is the presentation a thesis and dissertation projects, in which professors and students discuss potentials, weaknesses and suggestions for improvements. To define who will make the presentations, the professors observe the student member's status and prioritize those who are closest to the qualification and defense examination board. Other tasks developed are debates on the structure of research projects; presentation format at events; submission dates of events; methodological, theoretical and empirical articles related to the theme; use of specific software; and evaluation of papers.

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According to one of the students interviewed in his research group,

> During the meetings, the paper structure is discussed and we analyze how each chapter should be built and which aspects should be present. Some members bring papers that have not yet been submitted to journals and based on an evaluation form delivered by professors, we talk about the necessary improvements (Interview, student of the program studied).

We verified that there is a plurality of tasks that constitute the meetings of program's research groups. However, despite its peculiarities, the common objective consists of cooperation between researchers in the process of producing knowledge in their line of research (Freitas & Souza, 2018). The responsible professors are free to define the tasks that will be developed at each meeting. Usually, the real performances of the other participating actors within the investigated research groups respect the group's history and the linked abstract patterns.

> Some professors understand that meetings need to be focused on the thesis and dissertation projects in progress, by their supervisors, while other professors prefer to deal with the research process, how to build papers and about common and innovative methods used in the theme in study (Interview, professor of the program studied).

The students interviewed reported that, over time, they understood the strategies of the leaders - responsible teachers - for the groups they are part of. In the studied program there are no written documents that guide what are the tasks performed in the meetings from research groups and how they should occur. The students build a common understanding of this routine through practical experience and interaction with other students and more experienced and influential professor. The groups' memory is transmitted mainly by the conversations, in which values, procedures, practices, norms and standards are shared that make up the common understanding of this routine (Odelius et al., 2011). This common understanding called ostensive aspects in the practical perspective of routines, according to the interviewees, guides the performance of the actors in the meetings (for example, Feldman & Pentland; 2003; Dönmez et al. 2016).

The internal examining board routines occur in three modalities. First, seminar examining board held with 2 in-house professors, in which students present their projects for improvement before qualification. Second, qualification examining board held with at least 2

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internal members and 2 external members, in which students present their projects for improvement before the data collection and analysis process. Third, defense examining board usually held with the same members of qualification examining board, in which students present the complete work for final evaluations and adjustments before publication. All the program internal examining boards have standards, it starts with the reading of the minutes and compliance from members, in sequence a student performs the work presentation and members of the examining board make comments.

The discussions that take place in the examining boards are useful for listening students, as they understand the main criticisms of the construction of works, so they can rethink their research in progress. Also from the participation, the students build a common understanding about how the activity works and how to behave in that routine, helping to conduct their bankroll later. That said, we point out that both in the meetings of research groups and in the program's internal examining boards, the common understanding guides the individual and collective performance of university actors. Thus, we argue that the performance of routines associated with research activities of the program under study are guided by the ostensive aspects (for example, Feldman & Pentland, 2003).

PRAXIS EPISODE FROM UNIVERSITY RESEARCH IN THE PROGRAM

In the program under study, a variety of practices associated with research activities were identified. Table 4 presents a description of the manifestation of these practices that are presented in different praxis, with gaps between apparent practice and how it manifests itself in episodes of praxis (Jarzabkowski et al., 2016). These practices involve a set of academic activities related to research practice, relations with peers, academic guidance and student learning.

Table 4

Manifestation of practices associated with research activities

Practices	Description
Meetings with scholarship holders	Meetings for transferring information and monitoring activities are held in groups or individually, normally they occur during the period of granting the scholarships and the delivery of partial reports from scholarship holders to CAPES and address issues related to research activities and the desired results.
Participation of external boards	Professors are invited by professors from other higher education institutions to be part of examination boards linked to the research line. External examining boards the same pattern as internal ones.
Participation in national and international scientific events	Professors act as listeners, participants, debaters of sessions, session coordinators and theme leaders. Students, on the other hand, act as listeners and participants in articles and doctoral consortium sessions. Each event has its own instructions and actors follow the common area standards.
Organization of internal events	Professors and students participate on planning and organizing internal events, as well as in the process of submitting and evaluating scientific productions.
Exchange project and sandwich PhD	Some master's students participate in the exchange project for Halmstad University and some PhD students participate in sandwich PhD programs. These students take specific subjects at a foreign university and they are part of a new research group and receive co-supervision from an external professor.
Participation in an extension project	Extension project Core ODS developed by the undergraduate course in administration from the institution itself, the students work in practical activities in local communities and in the publication of thematic papers.
Participation in courses on research methods and techniques	These courses contribute on training researchers by strengthening methodological aspects in support of curricular disciplines and to promote interaction between students and professors from other IES. They last for 15 hours and respect the conduct of the responsible professor.
Evaluation of articles	Professors provide opinions on articles from national and international journals and events, research projects and scholarships. On the other hand, students, mostly PhD, carry out opinions on articles from events and periodicals, especially those who have already submitted some previous work. The evaluation models respect the style of each evaluator, but there are rules that emerge from consensus and conventions established between researchers.
Development of research projects to attract external resources	The macro theme of a research group and the ongoing research from the proposing professor are aligned. For construction, meetings are held in order to discuss ideas, define the scope and divide the tasks. Each student is responsible for a part of the project. Then, the parts performed individually are discussed among members, necessary adjustments are made and registered on the platform. In the execution, students act in the collection and analysis of

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|	data and in the writing of a report and professors act in the coordination of tasks and in the correction and revision of the material.
Development of scientific initiation projects	Most are linked to the research of one of the PhD students supervised by a proposing professor, so an undergraduate student is supervised by that PhD student together with his advisor. This guidance is regular according to tasks' deadlines passed on and partial and final reports of the project are delivered to the responsible sector at the institution. The projects are carried out during two semesters and at the end, scholarship students present the results on a banner or orally at the scientific initiation seminar and are evaluated by other professors.
Development of scientific productions	Professors develop in partnership with their supervised, professors and students from the program itself and professors and students from other Brazilian and foreign IES. Yet students in partnership with students who are members of the research group or who study similar themes and professors and students of IES in which they work or have worked. Both often develop productions in co-authorship and choose to build together or with division of tasks by expertise.
Cooperation in guidance process	The supervisors have definitions with each student, some professors perform tasks together, a closer orientation process, with regular discussions and a constant evaluation of the structure and content from the project. While others request tasks to be carried out individually, a process in which doubts are solved as the student requests them and the project is evaluated in more advanced moments. There is a process formalization through partial deliveries in the seminar subject.
Dissemination of scientific productions	The students publicize their productions on the Lattes Platform, *ORCID*, *Researchgate*, *Academia* e *LinkedIn*. Professors disseminate it in panels and thematic sessions at events, lectures for organizations in general, Lattes Platform, *ORCID*, *Researchgate*, *Academia*, *LinkedIn, SciELO, EBSCO* e *SCOPUS*.

Note. Source: Elaborated by authors (2023).

The performance of university actors in praxis episodes is guided by institutionalized practices (for example, Jarzabkowski, 2005; Whittington, 2006). Some of the practices are formalized in institutional documents, documents of regulatory and financing agencies and in information present on the events and periodicals websites. But, in the majority, the understanding of how they should be carried out is built through the observation and experimentation of processes and interaction with other university actors. For example, a professor, in a role of advisor, assists their students in understanding the program structure dynamic, the functioning of a university, relations with researchers and in involvement with reference agencies of the national system. There is an alignment in the execution of practices arising from an understanding of how the program operates and from the sharing of the premises of the institutions that interact.

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These practices, listed in Table 4, and the two routines identified in the program are interdependent and complement each other to achieve the research results, as shown in Figure 1. For example, the thesis and dissertation work defended are result of orientation process, meetings of the research group, participation in seminar boards, qualification and defense, and occasionally the sandwich doctorate, the exchange project, the scientific initiation project and the external fundraising project. Scientific productions can come from the works of defended theses and dissertations, meetings of the research group, sandwich PhD, exchange project, scientific initiation project, external fundraising project and ODS extension project. These practices are intertwined with participation in national and international scientific events and, consequently, with the dissemination of scientific productions.

Figure 1

Interactions between multiple practices and routines associated with research activities
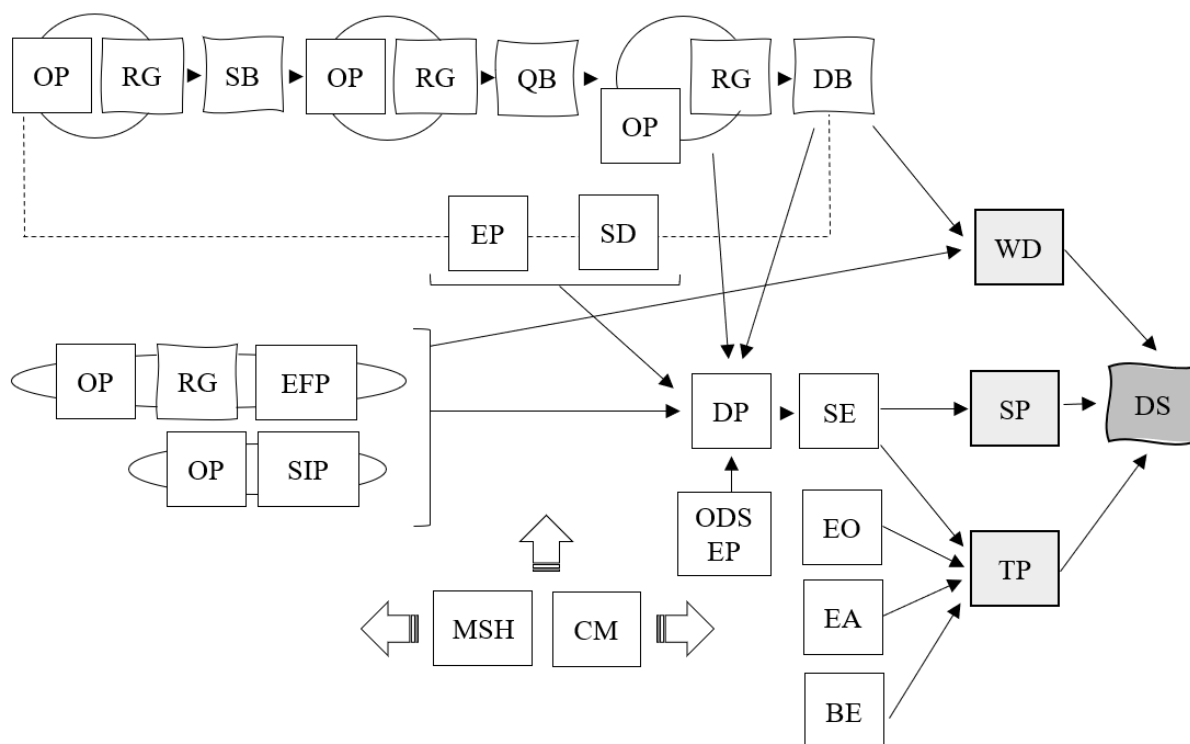
Note. Source: Elaborated by authors (2023). In the figure, practices and routines are represented by acronyms, namely: thesis and dissertation work defended (WD); orientation process (OP); meetings of the research group (RG); participation in seminar boards (SB), qualification (QB) and defense (DB); sandwich doctorate (SD); exchange project (EP); scientific initiation project (SIP); external fundraising project (EFP); scientific productions (SP); ODS extension project (ODS EP); technical productions (TP), participation in scientific events (SE); event organization (EO); evaluation of articles (EA); meeting with scholarship holders (MSH); courses on research methods and techniques (CM); participation of external boards (BE); development of scientific productions (DP); and dissemination of scientific productions (DS).

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Still on Figure 1, the technical productions are the result of participation in scientific events, event organization and evaluation of articles. The practices of the meetings for passing on information to the scholarship holders and participating in courses on research methods and techniques, resonate with other practices. Thus, the findings corroborate studies such as Jarzabkowski et al. (2016) and Grand and Bartl (2019) who reflect on the conditioning of results by different practices and related routines. Therefore, we realize that the multiplicity and interdependence of practices and routines conditions the results achieved and the research performance of the program. So, we understand that the multiplicity and interdependence of practices and routines condition the strategic results of the organization studied here (for example, Jarzabkowski et al., 2016; Spee et al., 2016).

EFFECTS OF ANTECEDENTS, SKILLS, ARTIFACTS AND INTERACTIONS ON THE BEHAVIOR OF SOCIAL ACTORS

In the studied program, experiences, graduation, specialization, master's and PhD, interactions with other students and professors in the program or other educational institutions and perceptions about the behavior of professors who guided them it implied the way in which actors think and carry out research activities. Previous experiences serve as a basis for interpreting current experiences and for guiding behavior (Didier & Lucena, 2008). In addition, according to the interviewees, specific skills are seen as essential in the performances of university actors such as fluency in the English language, mastery of methods, theoretical mastery, curiosity about the phenomena, autonomy, scientific writing, discipline in the research process, demand, objectivity, analysis criticism, analytical reasoning, building partnerships and knowledge about software. So, we found that actors have specific backgrounds and skills that differentiate the way they develop strategic research activities and infer the achieved results (for example, Jarzabkowski et al., 2016; Vaara & Whittington, 2012).

> The first influence I had and I will take it with me for the rest of my academic life were the two supervisors from master and PhD, these were my training base. The relationship we had, how close we were I always maintain with my now supervised (Interview, professor of the program studied).

The behavior of professors is based on the trajectory experienced from entering undergraduate and graduate courses as a student to experiences related to teaching and

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professional activities (Santos & Silva, 2019). The students, however, pointed out that in the corporate environment they developed interpersonal skills that help in interactions, behavioral skills that help in delivering tasks and facilitate the definition and meeting of deadlines, and practical knowledge that allow building a relationship with theories and observing managerial contributions of research. Some of them mentioned acting in scientific initiation projects, considering that the specific understandings about the construction of scientific articles and the execution of research projects that they acquired in this experience infer in their behavior in research activities. Training in the undergraduate and graduate courses was also emphasized as influential in the development of scientific writing, and in particular the doctoral interviewees reported that training in the master's course provided knowledge that underlies the conduct of research activities in the doctorate.

We observed that the situated artifacts also act on the behavior of university actors in the execution of strategic research activities (for example, Lundgren & Blom, 2015; Royer & Daniel, 2019). In the praxis episodes, artifacts such as personal laptop, databases, Google Drive, Dropbox, Microsoft Word, PDF, PowerPoint, Microsoft Excel, Ednote, Mendeley, Nvivo, Atlas TI, SPSS, Vosviewer, Smart PLS, Ucinet and Stata were observed. In routines performance, the use of a personal laptop by each research group member and examining board participant and sometimes the use of the multimedia projector, the blackboard and pens. Other tools employed in the program that help in the communication and sharing of information from professors and students are the specific groups on WhatsApp for research groups, partnerships for scientific works and research projects, beyond internet communication software Google Hangout, Apier In, Skype and Zoom for holding meetings and participating in examination boards. These tools help to strengthen the relationship between university actors during the research activities execution (Bulgacov & Verdu, 2001).

> A personal laptop, Microsoft Word, Microsoft Excel and access to databases are indispensable for carrying out research activities, since the software use is more occasional, but they are mainly important for the quantitative data analysis (Interview, student of the program studied).

The behavior of university actors is influenced by the material and informational tools they use in their daily lives and by the relationship network they interact with (Didier & Lucena, 2008). In the program, during the execution of the research activities, three distinct interactions occur between internal university actors. We ascertained that the interactions help actors in

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building a common understanding of the activities to be performed (Feldman & Rafaeli, 2002; Hoon, 2007), especially for students who have just joined and have no previous experience in scientific research process. First, the interactions between students in the study room, the space promotes discussions on the use of specific software and databases, development of research projects, phases of data collection and analysis, submissions to events and journals and other aspects related to activities of research. Second, the interactions between professors within the research groups formed in collaboration by thematic similarity, these professors work together in scientific production, in orientation process and in construction of research projects for fundraising. Third, the interactions of students with professors, which mainly happen with professors who are members of research groups. These interactions between actors constitute and inform the organizational processes, as well as influence episodes of praxis and routines insofar as they are related to strategic management (Johnson et al., 2007).

Still, we point to the interactions of the studied program with other programs, the professors interviewed listed that they occur from courses of methods and techniques promoted together, invitations for the participation of external professors in meetings of the research group, informal conversations with the responsible professors by groups that study related topics, partnerships in the submission and execution of external fundraising projects, mobility partnerships for students to attend classes in subjects from other programs, participation in external committees, co-supervision of work by students from other programs, collaborations for submission of topics for scientific events, partnerships for special calls for scientific journals and partnerships for panel presentations. Inter-institutional interactions facilitate the dissemination of knowledge and learning by university actors, the level of intensity of these relationships is measured by the final products produced and by the time and involvement between the participants (Bulgacov & Verdu, 2001).

Thus, in addition to practices, ostensive aspects and artifacts, we understand that other micro influences shape the behavior of actors and the results they achieve, such as personal background, specific skills and interactions.

7 FINAL CONSIDERATIONS

This article aimed to understand how the interrelationship between practices and routines reflects on university corporate results. We found that these relationships are fundamental in guiding the behavior of the actors involved and positively influencing the

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performance achieved. The coordination demonstrated continuous commitment to keeping professors informed and motivated, aligning research strategies with the requirements of regulatory and funding bodies, such as CAPES. The program offers active support to students, promoting their growth as researchers. Two distinct routines were identified, meetings of research groups and internal examining boards, and diverse practices, from meetings with fellows to dissemination of scientific productions. These routines and practices are interconnected and complement each other, contributing to the achievement of research strategies. We also found that academic training, previous experiences, interactions with colleagues and professors, as well as specific skills, such as fluency in English and mastery of methods, influence the behavior of university actors in their research activities. Furthermore, tools and interactions play crucial roles in conducting research. These micro-influences shape the approach and results achieved by actors, becoming essential elements to be considered in the context of academic research.

Limitations and future research

Limitations and unanswered questions warrant further discussion, for subsequent studies, we suggest testing the validity of results, expanding the discussions of identified relations and deepening the understanding of strategic process based on the interrelation of the SAP elements and the dynamic aspect of the routines, especially through comparative studies, as well as research with significant samples. There are three main lines of research that can be derived. First, one must ask about the micro aspects of organizational behavior that shape the performance and interaction of social actors in daily strategic activities and which infer the achieved results. Second, an extension of this article could be to look at the effects of antecedents, skills, artifacts and interactions on the behavior of actors in strategic process and in organizational performance of different organizations. Third, the interdependent and complementary relations between practices and routines requires new empirical research, an understanding of how they interact and form their networks. We hope that our study can arouse interest in the existing interrelations in strategic process.

Theoretical and practical contributions

This article contributes to the theoretical advancement of the interrelationship between the elements of SAP and the constitutive aspects of routines through understandings about the

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existence of different interdependent and complementary relationships in the strategic process of a postgraduate program that condition the behavior of actors involved and research performance achieved. These relationships include elements of the organizational context, such as the actors' background, personal skills, social practices, ostensive routine aspects, situated artifacts, interactions between actors and of the extra-organizational context, with broader issues, such as certain social institutions of the macro environment that interact and influence the organization. Therefore, organizational behavior can differ or become more similar according to these factors, all relationships coexist, and actors are central in the recursive process.

In practical terms, when managers reflect on a little-explored reality, based on the description of routines and praxis episodes associated with research activities, they can lay the foundations for building mechanisms capable of contributing to the performance of research activities. They need to consider in the strategic management of universities the relevant role of the multiple actors in the process and the elements of the organizational and extra-organizational context in conditioning the results obtained. At a social level, this article is intended to be a subsidy for understanding the behavior and interactions between actors inserted in the university context and for proposing best practices for Brazilian postgraduate programs.

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