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VALIDATION OF AN INSTRUMENT FOR ASSESSING COMPETITIVE STRATEGIES IN SMALL AND MEDIUM ENTERPRISES

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ABSTRACT: This study aimed to develop and validate an instrument for assessing competitive strategies in small and medium-sized enterprises (SMEs). The methodological approach involved three complementary stages: theoretical alignment, content validation by experts, and empirical validation through a pilot test. The instrument was structured into five dimensions — competitive strategy, dynamic capabilities, contingency factors, performance, and internationalization — reflecting the main constructs of strategic management literature. The results demonstrated satisfactory internal consistency (Cronbach's Alpha > 0.70) and a robust factorial structure, confirming the theoretical coherence of the proposed model. The pilot application also revealed the need to adapt the language and structure of the items to the specific characteristics of SMEs, ensuring clarity and practical relevance. Beyond statistical validation, the instrument provides practical implications for strategic management in SMEs. It enables managers to diagnose their competitive positioning, identify capability gaps, and align resources with environmental contingencies to enhance long-term performance. For consultants and researchers, it offers a standardized and empirically grounded tool for comparative analysis, benchmarking, and longitudinal studies of SME competitiveness. The results indicate that SMEs predominantly adopt differentiation and innovation strategies, but also recognize the importance of cost leadership and focus approaches. Overall, the instrument stands as a valid and applicable framework for strategic diagnosis and decision support, contributing to both academic research and managerial practice in the SME sector.

Keywords: Competitive strategies; SMEs; Instrument validation

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VALIDAÇÃO DE UM INSTRUMENTO PARA AVALIAÇÃO DE ESTRATÉGIAS COMPETITIVAS EM PEQUENAS E MÉDIAS EMPRESAS

RESUMO: Este estudo teve como objetivo desenvolver e validar um instrumento para avaliar estratégias competitivas em pequenas e médias empresas (PMEs). A abordagem metodológica envolveu três etapas complementares: alinhamento teórico, validação de conteúdo por especialistas e validação empírica por meio de um teste piloto. O instrumento foi estruturado em cinco dimensões — estratégia competitiva, capacidades dinâmicas, fatores de contingência, desempenho e internacionalização — refletindo os principais construtos da literatura de gestão estratégica. Os resultados demonstraram consistência interna satisfatória (Alfa de Cronbach > 0,70) e uma estrutura fatorial robusta, confirmando a coerência teórica do modelo proposto. A aplicação piloto também revelou a necessidade de adaptar a linguagem e a estrutura dos itens às características específicas das PMEs, garantindo clareza e relevância prática. Além da validação estatística, o instrumento oferece implicações práticas para a gestão estratégica em PMEs. Ele permite que os gestores diagnostiquem seu posicionamento competitivo, identifiquem lacunas de capacidade e alinhem recursos com as contingências ambientais para aprimorar o desempenho a longo prazo. Para consultores e pesquisadores, oferece uma ferramenta padronizada e empiricamente fundamentada para análises comparativas, benchmarking e estudos longitudinais da competitividade de PMEs. Os resultados indicam que as PMEs adotam predominantemente estratégias de diferenciação e inovação, mas também reconhecem a importância da liderança em custos e de abordagens focadas. No geral, o instrumento se apresenta como uma estrutura válida e aplicável para diagnóstico estratégico e apoio à tomada de decisões, contribuindo tanto para a pesquisa acadêmica quanto para a prática gerencial no setor de PMEs.

Palavras-chave: Estratégias competitivas; PMEs; Validação de instrumentos.

1. INTRODUCTION

The creation and maintenance of business strategies have become central themes in the context of small and medium-sized enterprises (SMEs), especially in light of the increasing competitive pressures of the global market. Managers of these organizations face unique challenges related to formulating strategies that not only ensure survival but also sustain long-term growth. According to Mintzberg (1994), strategy formulation involves both deliberate and emergent processes, which requires a flexible and adaptive approach to cope with constant changes in the competitive environment.

In recent years, several studies have reaffirmed the strategic relevance of dynamic capabilities and adaptive behavior in SMEs. Firms that develop absorptive capacity and organizational learning are better prepared to face market changes, which gives them a sustainable competitive advantage (Saad et al., 2017; Greul, West & Bock, 2018; Dejardin, 2023). Recent contributions also emphasize that

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competitive strategies combining innovation, differentiation, and responsiveness tend to improve performance in turbulent markets (Rubio-Andrés, Linuesa-Langreo & Gutiérrez-Broncano, 2024; Keelson, 2024).

Moreover, macroeconomic volatility and technological transformation make it even more crucial to develop strategies that are sustainable and adaptable in the long term. To remain competitive, SMEs must adopt agile strategic processes that enable rapid responses to external changes (Kanten & Darma, 2019; Saputra, 2024). The ability to anticipate and reconfigure resources—facilitated by the development of dynamic capabilities—has been recognized as a determining factor for organizational resilience (Pisano, 2017; Teece, 2020; Yu et al., 2021).

Organizational structure also plays a significant role in SMEs' capacity to formulate and sustain effective strategies. Studies indicate that flexible and decentralized structures allow firms to adapt more efficiently to environmental pressures, while highly centralized configurations may inhibit innovation and strategic responsiveness (Pessoa & Diniz, 2020; Al Dhaheri, 2024; Yu et al., 2021). In parallel, Meier (2025) highlights that building competitiveness in SMEs depends on the alignment between structural flexibility, leadership autonomy, and learning orientation—elements that strengthen strategic coherence in uncertain environments.

Considering these challenges, this study aims to investigate how SME managers conduct the process of creating and sustaining business strategies. The research seeks to understand managerial practices adopted in strategic development and to identify the factors that contribute to formulating effective strategies and maintaining them over time. It also integrates recent theoretical advances that link competitive strategy, dynamic capabilities, and contextual contingencies as complementary drivers of firm performance and sustainability (Tolossa, 2024; Zahara, 2024).

This article presents the process of developing and validating a questionnaire designed to measure competitive strategies adopted by SMEs. The proposal is to structure a theoretically grounded and statistically reliable instrument applicable to the reality of Brazilian SMEs, enabling the investigation of how these organizations formulate and sustain their strategies amid competitive pressures. Ultimately, the instrument is expected to contribute both to the advancement of academic literature and to support managers in conducting more precise strategic diagnoses and evidence-based decision-making.

2. THEORETICAL FOUNDATION

Business strategy is a well-established and continually evolving field of study that remains essential for the survival and growth of organizations, particularly in the context of Small and Medium-

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sized Enterprises (SMEs). According to Mintzberg (1994), strategy can be understood as a course of action that guides organizational activities in pursuit of competitive advantage and can be either deliberate or emergent depending on environmental conditions. In SMEs, this process becomes even more critical, given their limited resources, smaller operational scale, and increased exposure to market turbulence (Barney, 1991; Meier, 2025).

Recent studies emphasize that the formulation of strategies in SMEs must reconcile **innovation, adaptability, and performance orientation** to ensure resilience and long-term competitiveness. Research by Rubio-Andrés, Linuesa-Langreo, and Gutiérrez-Broncano (2024) and Keelson (2024) shows that SMEs that align their competitive strategies with innovation initiatives and market responsiveness achieve superior results under uncertain conditions. Similarly, Pessoa and Diniz (2020) argue that strategic flexibility, together with decentralized decision-making structures, enables SMEs to respond more effectively to dynamic environments, improving their ability to exploit new opportunities.

The notion of **dynamic capabilities** has gained renewed importance in the literature as a theoretical lens for explaining how SMEs adapt to environmental changes and sustain their competitive advantages (Teece, Pisano & Shuen, 1997; Teece, 2020; Saputra, 2024). Dynamic capabilities refer to the firm's ability to integrate, build, and reconfigure internal and external resources in response to changing circumstances. In the SME context, these capabilities are often manifested in the ability to innovate rapidly, to learn from market feedback, and to leverage networks and partnerships to overcome resource limitations (Greul, West & Bock, 2018; Dejardin, 2023).

Innovation remains one of the main drivers of competitiveness for SMEs. Pisano (2017) and Zahara (2024) emphasize that firms investing consistently in product, process, and managerial innovations are better positioned to sustain growth and develop differentiated strategies. The effectiveness of innovation depends on absorptive capacity—that is, the firm's ability to identify, assimilate, and apply new knowledge to commercial ends (Saad, Kumar & Bradford, 2017). Recent research also associates innovation intensity with enhanced dynamic capabilities and improved performance outcomes (Al Dhaheri, 2024; Tolossa, 2024).

From the perspective of the **resource-based view**, the sustainability of business strategies in SMEs depends on the ability to accumulate and mobilize valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). However, such sustainability can be constrained by financial and human capital limitations, which often compel SMEs to adopt reactive rather than proactive strategic approaches (Kanten & Darma, 2019; Muneeb, 2025). To overcome these constraints, firms benefit from adopting agile structures that promote autonomy, learning, and cross-functional

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collaboration, thereby facilitating the implementation and continuous refinement of strategies (Yu et al., 2021; Al Dhaheri, 2024).

Furthermore, managerial tools such as the **Balanced Scorecard** (Kaplan & Norton, 1996) continue to serve as valuable frameworks for linking strategic goals to performance indicators. Studies by Tolossa (2024) and Zahara (2024) highlight that SMEs leveraging systematic performance monitoring can enhance strategic alignment and achieve superior competitive outcomes. This view reinforces the importance of integrating quantitative assessment tools and validated measurement instruments in strategic management research (Goscinska, 2024; Adkonkar, 2024).

Finally, adaptability has proven to be a decisive factor for SME success in increasingly dynamic and uncertain environments. Alves (1997) already recognized that organizations with flexible structures and high adaptive capacity are more effective in responding to change. More recently, Kanten and Darma (2019) and Saputra (2024) have argued that **organizational agility** allows firms not only to survive but also to thrive by capturing emerging opportunities. SMEs that maintain a proactive and learning-oriented stance outperform those with rigid, reactive management approaches (Vasconcelos & Cyrino, 2000; Meier, 2025). In this regard, developing an organizational culture oriented toward continuous learning, innovation, and collaboration remains essential for ensuring long-term competitiveness (Saad, Kumar & Bradford, 2017; Rubio-Andrés et al., 2024).

3. METHODOLOGY

The questionnaire was developed with the objective of measuring essential dimensions for the formulation and support of competitive strategies in Small and Medium Enterprises (SMEs). To this end, five fundamental dimensions extracted from the literature were considered: competitive strategy, dynamic capabilities, contingent factors, performance, and internationalization.

The competitive strategy dimension was based on Porter's typology (1980), with questions that identify whether the organization adopts cost leadership, differentiation, or focus strategies. Porter's literature remains a central reference, complemented by authors who advocate for expanded approaches (SILVA, 1988) and the articulation with the Resource-Based View (RBV) — as noted by Hexsel and Lagreca (2007).

The dynamic capabilities dimension considered the work of Teece, Pisano, and Shuen (1997), as well as approaches applied to SMEs (Rengel et al., 2019), identifying aspects such as adaptability, innovation, use of internal resources, and reconfiguration of processes.

The contingent factors were grounded in Contingency Theory (Lawrence and Lorsch, 1967; Mintzberg, 1991), operationalized through questions regarding the external environment (degree of

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uncertainty, competition), organizational characteristics (size, age), and available resources. This perspective is essential for understanding the strategic adequacy of SMEs in relation to the specificities of the environment in which they operate (TERENCE, 2008; KURI CHU, 2011).

Finally, questions about internationalization and competitiveness were included, based on the studies by Fleury & Fleury (2003) and Barbosa (2020), which emphasize the importance of the articulation between innovation, networks, and international insertion as strategic vectors for competitive SMEs in global markets.

The theoretical validation was conducted through the alignment of the questionnaire items with the main constructs established in the strategic management literature, ensuring that each section of the instrument faithfully reflected the proposed theoretical foundations. The structure of the questionnaire was designed based on four main axes:

- Porter's Generic Strategies (1980) – explored through items that investigate how SMEs adopt differentiation, cost leadership, and focus strategies, aligning with the classic guidelines of competitive advantage based on industry structure;
- Dynamic Capabilities Theory (Teece et al., 1997) – addressed through questions focused on innovation, organizational learning, and flexibility, aiming to measure how companies reconfigure their resources to respond to changes in the environment;
- Contingency Theory (Lawrence & Lorsch, 1967) – applied to the investigation of the adequacy of strategies to contextual variables, such as company size, degree of environmental uncertainty, and organizational structure, recognizing that there is no single ideal way to organize and compete;
- Integrative models, such as the one proposed by McLaren et al. (2011) – which associate competitive strategy constructs with internal capabilities and technological infrastructure, allowing the evaluation of the coherence between the formulated strategy and the available resources.

The content validation aimed to ensure that the items of the questionnaire were suitable to capture, clearly and completely, the theoretical concepts they intended to measure. This stage was conducted with the support of academic experts active in the fields of strategic management and small and medium enterprise management, who were selected based on their research and teaching experience in the central themes of the study.The methodological process adopted followed the guidelines proposed by Behera (2015), which highlights the importance of review by specialized judges as a critical step in building valid research instruments. The experts were invited to evaluate each item of the questionnaire

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based on three main criteria:

- Clarity: it was analyzed whether the wording of the questions was easy to understand, avoiding ambiguity, excessive technical language, or vague terms that could compromise respondents' interpretation;
- Pertinence: the experts judged the relevance of each item in relation to the theoretical construct it aimed to represent, considering whether the content of the question truly contributed to measuring the dimension it referred to;
- Breadth: it was assessed whether the set of items adequately and balancedly covered the different facets of each theoretical dimension (competitive strategy, dynamic capabilities, contingency factors, performance, and internationalization), avoiding both the omission of important aspects and the repetition of content.

During this process, the experts were also invited to provide qualitative comments. Based on these suggestions, various improvements were made to the questionnaire. Among the most relevant contributions are the reformulation of sentences that could generate multiple interpretations, the replacement of excessively technical terms with language more accessible to the target audience (managers of SMEs), and the recommendation to reorganize the items into more cohesive thematic blocks, favoring a smoother and more logical reading.

This refinement contributed to increasing the internal coherence of the questionnaire sections and strengthened its content validity, ensuring that each item was not only well formulated but also aligned with the reality of the companies that will be analyzed in the empirical study.

The empirical validation stage aimed to test the consistency, structure, and applicability of the questionnaire in a real context, ensuring that the instrument was statistically reliable and adequately interpreted by respondents. For this, four complementary stages were adopted: pilot test application, internal consistency analysis, exploratory factor analysis, and collection of qualitative feedback. The following Table 1 presents these points.

Table 1. Empirical Validation

Stage	Description
Application of the Pilot Test	The questionnaire was applied to a group

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	of previously selected companies, representing different sectors and sizes within the classification of SMEs. This stage aimed to test the clarity of the questions and the feasibility of data collection.
Internal Consistency Analysis (Cronbach's Alpha)	The reliability of the scales was evaluated through Cronbach's Alpha coefficient (KRONBACH, 1951), with values above 0.70 (NUNALLY, 1978) being considered satisfactory. This analysis ensured that the items in each dimension displayed cohesion in measuring the constructs.
Exploratory Factor Analysis (EFA)	An AFE was conducted according to the recommendations of Hair et al. (2014), to verify whether the item clusters corresponded to the predicted theoretical dimensions. The factorial loads, explained variance, and sample adequacy (KMO and Bartlett tests) were evaluated, confirming the proposed structure.
Feedback Collection from Respondents	At the end of the pilot application, respondents were invited to comment on the difficulty or ambiguity of items. This feedback was essential for final adjustments to the vocabulary, organization, and format of the questions.

Source: Authors (2025)

4. RESULTS

The pilot test was conducted with the objective of evaluating the clarity, applicability, and structure of the questionnaire with an initial group of respondents. In total, 18 companies participated,

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classified as small and medium-sized according to SEBRAE criteria, based on the number of employees and annual revenue. The sectors represented included commerce (33%), manufacturing industry (28%), specialized services (22%), and information technology (17%), reflecting the diversity of the Brazilian SME landscape.

Regarding the profile of the respondents, the majority held management or executive positions, such as owner-partners (55%), general managers (27%), and area coordinators (18%). This profile was considered appropriate, as the items in the questionnaire require strategic knowledge and a systemic view of the organization. The pilot application allowed for the identification and correction of some important points in the research instrument:

The pilot application allowed for the identification and correction of several important points in the research instrument, significantly contributing to its improvement. The main adjustments made are detailed in Table 2.

Table 2. Summary of the pilot test

Stage	Results
Language settings	During the application of the questionnaire, it was observed that some technical terms and academic jargon used, especially in the sections related to dynamic capabilities and internationalization, caused confusion among respondents. Expressions such as “resource reconfiguration,” “absorptive capacity,” and “global market orientation” were considered excessively abstract by SME managers. In light of this, it was decided to replace these expressions with more objective and contextualized phrases, such as “ability to adapt internal processes” and “company actions aimed at markets outside of Brazil,” facilitating understanding without compromising conceptual rigor.

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Reformulation of ambiguous items	Three items presented ambiguous interpretations, being identified by respondents as potentially subject to multiple understandings or overlapping meanings in relation to other issues. One example was a question about "competitive performance," which ended up being confused with "financial performance." To resolve this ambiguity, the items were rewritten with greater specificity, avoiding generic terms and clearly delineating the aspects that were being evaluated in each theoretical dimension. This care also aimed to avoid redundancies and ensure that each question uniquely contributed to the measurement of the constructs.
Reorganization of the order of the blocks	The order of the questionnaire sections has been modified in order to make the filling out process more fluid and coherent with the respondent's thought logic. Originally, the instrument began with questions about competitive strategy, but it was found that many respondents had difficulty answering that block right at the beginning, without prior warming up or contextualization. Thus, it was decided that the questionnaire would start with the characterization of the company, followed by internal capabilities, environmental factors, competitive strategy, internationalization, and finally, perceived performance. This new order allowed for

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	a more natural transition between themes and increased participant engagement throughout the questionnaire.
Response scale adjustments	It was identified that some sections used different scales (for example, mixed scales of 3, 5, and 7 points), which made it difficult both for respondents to fill out and for later statistical analysis. To standardize the instrument and ensure greater methodological robustness, a 5-point Likert scale was adopted for all evaluative items, ranging from "strongly disagree" to "strongly agree." This standardization facilitated understanding among participants and contributed to data homogeneity, favoring more consistent analyses such as the calculation of Cronbach's Alpha and Exploratory Factor Analysis (EFA).

The verification of the internal reliability of the questionnaire was carried out through Cronbach's Alpha coefficient, which measures the degree of consistency among the items that make up the same dimension. The choice of this technique is widely supported in the literature (KRONBACH, 1951; NUNALLY, 1978) and remains the most commonly used statistical method to assess internal cohesion in quantitative research and applied studies in organizational and business strategy contexts, such as those by Rengel et al. (2019) and Pereira (2022).

The literature suggests that reliability coefficients above 0.70 are considered satisfactory, with values between 0.80 and 0.90 indicating excellent consistency among the items. This criterion was adopted in this research, ensuring the robustness of the scales and the fidelity of the measurement of the theoretical constructs. The following Table 3 will present the Cronbach's Alpha coefficients for each of the five main dimensions of the instrument:

Table3. Cronbach's Alpha

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Evaluated Dimension	Alpha of Cronbach
Competitive Strategy	0,81
Dynamic Capabilities	0,87
Contingency Factors	0,76
Performance	0,84
Internationalization	0,73

The results indicate that all dimensions achieved satisfactory levels of internal reliability, demonstrating coherence among the items of each construct. The Dynamic Capabilities dimension, with an Alpha of 0.87, stood out as the most statistically robust, reflecting the strong interrelationship among items addressing adaptability, innovation, and learning—dimensions widely discussed in the models of Teece et al. (1997) and McLaren et al. (2011).

The Performance dimension also obtained a high coefficient (0.84), suggesting that the indicators used to assess organizational performance—such as growth, customer satisfaction, and innovation—exhibit strong cohesion. Meanwhile, the Internationalization dimension, with an Alpha of 0.73, though presenting the lowest value among the dimensions, still falls within the acceptable threshold. This result may be explained by the smaller number of items and the greater diversity of international practices among the participating SMEs.

As highlighted by Terence (2008), the diversity of organizational contexts can lead to variability in responses, particularly in topics such as internationalization and cooperation networks, which involve greater subjectivity and sectoral variations. Nevertheless, the overall reliability of the instrument proved to be robust and suitable for application in larger-scale studies.

The internal consistency verified at this stage allows us to conclude that the questionnaire presents a solid psychometric structure and can be considered statistically reliable for measuring competitive strategies and associated variables in small and medium-sized enterprises.

The Exploratory Factor Analysis (EFA) was conducted to examine the underlying structure of the collected data and identify item groupings that statistically represent the theoretical constructs defined during the instrument development phase. This technique is widely recommended in validation studies of instruments in the fields of administration and strategy, particularly when seeking to confirm the empirical organization of variables in relation to the proposed theoretical dimensions (HAIR et al., 2014; TERENCE, 2008).

The EFA was performed using the principal component extraction method, followed by varimax rotation, which aims to maximize variance between factors and facilitate result interpretation. The adequacy of the correlation matrix was confirmed by the Kaiser-Meyer-Olkin (KMO) test, with an

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overall value of 0.812, and by Bartlett's test of sphericity ($p < 0.001$), indicating the statistical viability of the factor analysis with the obtained data.

Below is a summary of the main EFA results, organized by dimension:

- Competitive Strategy: The items in this dimension clearly grouped into two main factors: differentiation and cost leadership, aligning with Porter's generic strategies model (1980). Items related to differentiation (such as product innovation, perceived quality, and personalized service) exhibited factor loadings above 0.70, while items associated with operational efficiency and cost control formed the factor related to cost leadership. No significant item overlap was observed, reinforcing the clarity of the constructs.
- Dynamic Capabilities: The analysis identified three distinct groupings consistent with the literature of Teece et al. (1997): adaptation capability, innovation capability, and resource integration capability. The items showed high factor loadings (ranging from 0.68 to 0.82), and the total explained variance reached approximately 65% for this dimension, demonstrating strong factor representation. The factor organization also aligns with McLaren et al. (2011), which structures capabilities at operational, managerial, and strategic levels.
- Contingency Factors: The items grouped into two main factors: external environment (competition level, market uncertainty, governmental influence) and internal organizational characteristics (company size, age, organizational structure). The distinction between these groups was statistically clear, with factor loadings ranging from 0.62 to 0.79, confirming alignment with Contingency Theory (LAWRENCE & LORSCH, 1967). These results also reinforce findings by Terence (2008) regarding the combined influence of internal and external factors on SMEs' strategic processes.
- Performance: The business performance items demonstrated strong cohesion and were grouped into two main factors: perceived financial performance (revenue growth, profitability) and strategic performance (customer satisfaction, market image, innovation). These groupings align with the studies of Pereira (2022), which associate multiple performance dimensions with adopted strategies. The explained variance for this structure exceeded 70%, and the items presented factor loadings above 0.75.
- Internationalization: The EFA revealed a single dominant factor, indicating that the items in this dimension converged into a single construct related to the company's international presence and orientation. Although the number of items in this dimension was smaller, their cohesion was satisfactory (factor loadings between 0.66 and 0.79), with an explained variance of 61%. These

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findings align with studies such as Rengel et al. (2019), which emphasize internationalization as a unidimensional strategic axis for SMEs in the early stages of global expansion.

The content validation phase involved the participation of academic experts with extensive experience in strategy, small and medium-sized business management, and research methodologies. Their contributions were essential in refining the instrument, ensuring that the items were not only theoretically coherent but also practically applicable to the respondent organizations' reality. The specialists' suggestions covered conceptual aspects as well as issues related to the format, language, and organization of the questionnaire. The main modifications suggested and incorporated into the instrument were:

- Adjustment of language for respondents: Many experts pointed out the excessive use of technical or academic terms that could be difficult for SME managers—the survey's target audience—to interpret. Therefore, expressions such as "absorptive capacity" or "organizational reconfiguration" were reworded to more accessible terms like "ability to learn from the environment" and "ability to change internal processes," maintaining conceptual rigor while improving comprehension.
- Revision and specification of vague or generic items: Some items were considered too broad or open to multiple interpretations. The experts recommended using more specific wording and contextual examples. For instance, an item originally phrased as "Is your company innovative?" was replaced with "Has your company launched new products or services in the past year?" to enhance clarity and comparability of responses.
- Reduction of overlap between dimensions: During the review, some items were found to be relevant to multiple constructs, particularly between the dynamic capabilities and competitive strategy dimensions. Based on the experts' guidance, these items were reworded or reassigned, ensuring greater distinction between the conceptual blocks in the questionnaire.
- Suggestion of thematic blocks and order of presentation: Experts recommended reorganizing items into clearly titled thematic blocks, arranged logically. The revised structure starts with simpler, contextual questions (e.g., company characteristics) and progressively moves toward more complex topics (e.g., strategy, capabilities, internationalization). This adjustment significantly improved response flow and completion rates.
- Standardization of the response scale: The specialists suggested uniformizing the use of the Likert scale throughout the instrument, as varying scales could confuse respondents. Based on

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this recommendation, a five-point scale (from "strongly disagree" to "strongly agree") was adopted across all evaluative sections.

The modifications resulting from expert contributions enhanced the clarity, objectivity, and logical structure of the instrument, improving its empirical applicability without compromising its theoretical alignment. This collaborative process proved to be essential in consolidating a reliable and useful instrument for both academic research and organizational diagnostics.

4.1 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Although the instrument demonstrated satisfactory internal consistency and factorial validity, some limitations must be acknowledged. First, the pilot sample was relatively small, comprising 18 small and medium-sized enterprises (SMEs) from the Brazilian context. While this number was adequate for the exploratory phase of instrument validation, a larger and more diverse sample would allow greater statistical generalization and more robust psychometric confirmation.

Second, the geographical concentration of the respondents—mostly located within specific Brazilian regions—may limit the external validity of the results. Contextual factors such as local market dynamics, economic conditions, and sectoral characteristics can influence how competitive strategies are perceived and implemented.

Future research should consider applying the instrument to broader samples, covering different regions, economic sectors, and firm sizes, to examine the consistency and adaptability of the proposed dimensions. The application in international contexts would also be valuable, enabling cross-cultural comparisons and testing the model’s robustness in diverse institutional environments.

In addition, future studies may incorporate new variables of validation, such as leadership style, innovation intensity, digital transformation level, or sustainability orientation, to deepen the understanding of the relationship between strategic behavior and organizational performance.

Finally, a confirmatory factor analysis (CFA) with larger samples is recommended to complement the exploratory results presented here, consolidating the psychometric stability of the instrument and enhancing its predictive power for applied research in strategic management.

5. CONCLUSION

This study aimed to develop and validate a measurement instrument for competitive strategies in small and medium-sized enterprises (SMEs), based on established strategic management theories.

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The construction of the questionnaire was guided by a robust theoretical framework, incorporating Porter's generic strategies (1980), the dynamic capabilities theory (Teece et al., 1997), the contingency theory (Lawrence & Lorsch, 1967), and contemporary approaches that integrate performance and internationalization aspects.

The instrument validation process followed a rigorous methodological approach, including theoretical validation, content validation by experts, and an empirical validation phase, which involved a pilot application with Brazilian SMEs. The results demonstrated satisfactory internal consistency across all evaluated dimensions, as well as coherence between item groupings identified in the exploratory factor analysis and the predefined theoretical constructs.

The main contribution of this study lies in the development of a reliable, accessible, and theoretically grounded instrument for measuring competitive strategies in SMEs. The questionnaire proved to be suitable both for academic research and as a practical strategic diagnostic tool, making it useful for academics, consultants, and managers seeking to understand the key elements that drive organizational competitiveness in this sector.

Furthermore, the instrument was found to be sensitive to the specific characteristics of the Brazilian SME context, which is marked by high sectoral heterogeneity, resource constraints, and the need for constant adaptation to the environment. Its accessible language, structured thematic blocks, and alignment with practical business realities reinforce its potential for application in diverse contexts and future research.

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Appendix A – Synthesis Framework of the Validated Instrument

The following appendix presents a synthesis of the final structure of the validated instrument developed to assess competitive strategies in small and medium-sized enterprises (SMEs). The framework consolidates the five main dimensions identified throughout the theoretical, content, and empirical validation stages: Competitive Strategy, Dynamic Capabilities, Contingency Factors, Performance, and Internationalization.Each dimension represents a distinct but interrelated aspect of the strategic

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management process within SMEs. The table below summarizes the conceptual foundation of each dimension, the number of items that compose it, one representative example item, and the main theoretical references that supported its development. This synthesis aims to provide transparency regarding the structure of the instrument and facilitate its replication, adaptation, or application in future research and consulting practices focused on strategic management in SMEs.

Dimension	**Conceptual Foundation**	**Number of Items**	**Example of Item**	**Theoretical Reference**
Competitive Strategy	Identifies the firm's dominant strategic orientation according to Porter's typology (cost leadership, differentiation, or focus), including innovation and quality aspects relevant to SMEs.	8	Our company differentiates itself through product innovation and superior service quality.	Porter (1980); Mintzberg (1994); Vasconcelos & Cyrino (2000)
Dynamic Capabilities	Assesses the firm's ability to adapt, innovate, and reconfigure internal resources to respond to environmental changes.	10	The company can rapidly adjust its processes in response to market changes.	Teece, Pisano & Shuen (1997); Pisano (2017); Greul, West & Bock (2018)

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Contingency Factors	Examines how contextual variables (size, structure, market uncertainty, competition) influence strategic behavior and adaptability.	6	The company's structure allows quick adaptation to external changes.	Lawrence & Lorsch (1967); Mintzberg (1991); Terence (2008)
Performance	Evaluates perceived organizational results in financial, operational, and strategic terms, connecting strategic alignment with outcomes.	7	The company's innovation efforts have improved customer satisfaction.	Kaplan & Norton (1996); Pereira (2022)
Internationalization	Measures the company's degree of integration into international markets and networks, considering export practices and	5	The company participates in business networks or export activities outside Brazil.	Fleury & Fleury (2003); Rengel et al. (2019)

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	partnerships.			

Explanatory Note

The synthesis presented in this appendix serves two primary purposes:

1. To facilitate the replication of the instrument by other researchers interested in the empirical investigation of competitive strategies in SMEs.
2. To provide a practical reference for managers and consultants seeking to diagnose and enhance the strategic positioning of SMEs through structured assessment and evidence-based decision-making.

The complete version of the questionnaire can be made available upon request to the corresponding author.

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