METHODOLOGY FOR VALIDATING THE TYPE OF PORTER'S GENERIC STRATEGY IMPLEMENTED BY THE COMPANY AND ITS RELATIONSHIP WITH PROJECT MANAGEMENT

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Abstract:

Among the success factors of companies, the definition of a clear strategy and the effective development of management stand out; however, the literature indicates that these two components pose the greatest challenges in managerial practice. This research arises from the need to validate an instrument that identifies whether a company applies any type of strategy, based on Porter's generic strategies, and simultaneously characterizes the use of projects as a management tool. Methodologically, the research is conducted using a mixed-method approach. An eight-step process is designed to validate the instrument from three different perspectives: content validity through expert judgment; content validity and reliability through test and retest (qualitative approach); and reliability through the calculation of Cronbach's Alpha (quantitative approach). The results indicate that the questionnaire has content validity through expert judgment with an acceptance rate of 93.75%; content validity and reliability measured through test and retest show a variability of 3.1% and a Cronbach's Alpha for the evaluated constructs ranging from 0.7 to 0.9. The proposed instrument is validated.

Keywords. strategy; business strategy; management; project management; company

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METODOLOGÍA PARA VALIDAR EL TIPO DE ESTRATEGIA GENÉRICA DE PORTER IMPLEMENTADO POR LA EMPRESA Y SU RELACIÓN CON LA GESTIÓN DE PROYECTOS

Resumen

Entre los factores de éxito de las empresas se pueden destacar la definición de una estrategia clara, y el buen desarrollo de la gestión, aun así, la literatura muestra que en el ejercicio de la gerencia son estos dos componentes los que tienen mayor problemática. La presente investigación surge por la necesidad validar un instrumento identifique si la empresa aplica algún tipo de estrategia, desde la propuesta de estrategias genéricas de Porter, y a su vez caracterice el uso de proyectos como herramienta de gestión. A nivel metodológico se desarrolla la investigación bajo el enfoque mixto, se diseña un proceso de ocho pasos para validar el instrumento desde tres perspectivas diferentes, a saber: validez de contenido a través del juicio de expertos; validez de contenido y fiabilidad a través de prueba test y retest (enfoque cualitativo); y, confiabilidad a través del cálculo del Alfa de Cronbach (enfoque cuantitativo). Como resultado se obtuvo que el cuestionario cuenta con validez del contenido a través del juicio de expertos con una aceptación del 93.75%; validez de contenido y fiabilidad medida a través de la prueba test y retest presentando una variabilidad del 3.1% y un alfa de Cronbach para los constructos evaluados entre los rangos de 0.7 y 0.9. Se valida el instrumento propuesto.

Palabras Claves. estrategia; estrategia empresarial; gestión; gestión de proyectos; empresa

METODOLOGIA PARA VALIDAR O TIPO DE ESTRATÉGIA GENÉRICA DE PORTER IMPLEMENTADA PELA EMPRESA E SUA RELAÇÃO COM A GESTÃO DE PROJETOS

Resumo:

Entre os fatores de sucesso das empresas, podemos destacar a definição de uma estratégia clara e o bom desenvolvimento da gestão; no entanto, a literatura mostra que no exercício da gerência são esses dois componentes que enfrentam maiores desafios. A presente pesquisa surge da necessidade de validar um instrumento que identifique se a empresa aplica algum tipo de estratégia, com base na proposta de estratégias genéricas de Porter, e ao mesmo tempo caracterize o uso de projetos como ferramenta de gestão. Metodologicamente, a pesquisa é conduzida sob uma abordagem mista. Um processo de oito etapas é desenhado para validar o instrumento a partir de três perspectivas diferentes, a saber: validade de conteúdo através do julgamento de especialistas; validade de conteúdo e confiabilidade através de testes e retestes (abordagem qualitativa); e, confiabilidade através do cálculo do Alfa de Cronbach (abordagem quantitativa). Os resultados indicam que o questionário possui validade de conteúdo através do julgamento de especialistas com uma taxa de aceitação de 93,75%; validade de conteúdo e confiabilidade medida através de testes e retestes mostram uma variabilidade de 3,1% e um Alfa de Cronbach para os construtos avaliados variando entre 0,7 e 0,9. O instrumento proposto é validado.

Palavras chave. Estratégia; Estratégia empresarial; Gestão; Gestão de projetos; Empresa

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1. INTRODUCTION:

One of the main challenges that management deals with in its present, and will deal with in its future, is efficiency across its various components (Barrera et al., 2022), a decisive factor for the sustainability and longevity of organizations in the market.

The issues facing companies can arise from different fronts, driven by factors internal or external to the organization (Mariño Ibáñez et al., 2008). These situations must be addressed by the company's management, which is responsible for making the most important decisions, typically of a tactical nature (if it is departmental management) or strategic nature (if it is general management, presidency, COE, or similar).

While business academic programs aim at developing managerial skills, their effectiveness can only be tested in the real world, where metaphors such as the existence of red oceans and blue oceans (Kim & Mauborgne, 2008) and the exhaustive explanation of the need for market differentiation to avoid disappearance (Monterroso, 2016) make it very clear that management must identify a relevant strategy to face its future in the hurried and competitive jungle that today's market represents.

Strategy becomes a crucial point for the organization, as it serves as a means to achieve the objectives that have been set (Francés, 2006), conditioning both the present and the future of the company. Among the main issues identified in the practice of management are those associated with planning (mainly related to strategy) and management (de León, 2012).

Given the above, it arises as a necessity and objective of this research to validate an instrument that identifies whether the company applies any type of strategy, based on Porter's generic strategies proposal, and at the same time characterizes the use of projects as a management tool, to determine the degree of relationship between these two variables.

Regarding strategy, Porter's proposal of generic strategies (Porter, 1980) will be addressed. Regarding project management, although there are several methodologies, no particular one is chosen, but the aim is to identify if companies use any. The theoretical understanding of strategy and project management in this article will be discussed next.

2. LITERATURE REVIEW:

Strategy

When discussing strategy, it is necessary to cite Sun Tzu (2016) and his work "The Art of War," a text dating back to approximately the fifth century BC, which presents in a compendium of 13 chapters a series of points to be considered that, according to the author's vision, a general must take into account in order to plan and achieve victory in battle, to become a good strategist. It is perhaps the main reference to strategy documented in human history.

Strategy can be defined in multiple ways. Such is the impact of strategy that in the field of management, Mintzberg et al. (1999) associate its creation with different schools. For this case, we will address the definition of business strategy from Porter's proposal (1980) regarding the existence of generic strategies, which the author denominates as: Global Cost Leadership; Differentiation; and, Focus or Concentration. Porter also asserts that when a company does not have one of the three related generic strategies, it finds itself, strategically, in a "stuck-in-the-middle position" (Porter, 2008, p. 58).

The strategy of global cost leadership revolves around "achieving global cost leadership through a set of functional policies aimed at this basic goal" (Porter, 2008, 52). In general terms, the author mentions that this strategy allows the company to offer low prices compared to the competition, indeed, the starting point for setting the price is based on the selling value of the nearest rival, and it is unlikely that the customer will switch to a substitute product given its low selling price.

The differentiation strategy is characterized by the product offered to the market is "something that the entire industry perceives as unique" (Porter, 2008, 54).

This status of "unique" can be achieved in different ways, such as design, and features, among others. In this case, the market recognizes the quality, innovation, and technology embedded in the product. The customer cannot find an identical or similar product in terms of all the features offered by the company with this generic strategy, and the selling price is not a relevant condition for its acquisition, as the central axis of the purchase lies in the attributes of the product.

Regarding the focus or concentration strategy, it "focuses on a group of buyers, on a product line segment, or a geographical market... it primarily seeks to provide excellent service to a particular market" (Porter, 2008, 55). As can be seen, in this case, the company will always concentrate its efforts on a specific segment of the market, with an important variable in the competition process being the attention to particular customer needs and the provision of a service rated as excellent.

Not having a clearly defined strategy based on the three related ones leads the company to be in a stuck-in-the-middle position, a state in which the company "finds itself in an extremely deficient strategic position" (Porter, 2008, 58). This situation has, according to the author, the consequence that the profitability that the company can achieve from its commercial activity will be low and leaves it vulnerable to market forces.

Project Management

Projects and project management have been around throughout the history of human development (Wallace, 2014). However, their consolidation as a field of study is estimated to have occurred with the construction process of the Hoover Dam in the 1930s (Gray, 2010), where the Gantt chart was used as a management tool (Gallegos, 2006).

Project management has gained prominence worldwide due to the complexity of projects developed around the world in the 20th century (Al-subhi et al., 2020). In general terms, it can be stated that success in project management lies in achieving efficiency and effectiveness in project operationalization (Alvarado, 2019).

Currently, some organizations use project management as a form of direction to achieve objectives based on resource rationality (Montero et al., 2020), a process in which a set of activities is coordinated, and resources are allocated for their development (Jimenez et al., 2019), from a holistic conception considering the interrelated effects, which can only be achieved when the project manager has the necessary capabilities, knowledge, and skills for its development (Mazurkiewicz, 2019). The boom in project management has led to the creation of different types of organizations specialized in professionalizing this field of knowledge (Barrera, 2023), leading to the existence of valued certifications in the field.

In summary, project management aims for optimal performance under the criteria of time, cost, and quality (Meléndez and El Salous, 2021), increasing productivity (Moyano-Hernández and Sandoval, 2021), through the application of standardized techniques (Mazurkiewicz, 2019), resulting from the compilation of best practices (Tkhorikov et al., 2018), aiming to reduce costs and enhance competitiveness (Ruiz et al., 2020).

3. METHODOLOGY:

The research is conducted under a mixed-method approach (qualitative and quantitative) since, in sequence, interviews are used in the process of validating the proposed instrument to determine content validity (Arce-Gutiérrez et al., 2020), and to validate reliability, the Cronbach's Alpha Coefficient is statistically calculated on a specific sample (Pacheco-Ruiz et al., 2020), in a non-experimental transactional process (Lievano & Ramirez, 2024).

A questionnaire consisting of three parts is proposed. Firstly, the collection of socio-demographic data; secondly, items to measure Variable 1 named "Business Strategy, according to Porter's proposal of generic strategies," which is qualitative, categorical; its

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measurement is based on the perception of the CEO or equivalent position regarding the company's actions related to market, customer, marketing, and product factors. Thirdly, items to measure Variable 2 named "Use of Projects as a Management Tool," which is qualitative, and categorical; its measurement is based on the CEO's affirmation or negation in Colombian companies.

For this research, the CEO is understood, by its English acronym Chief Executive Officer, to be the person holding or exercising the following positions, or equivalents, within the company: CEO; general manager; president; board chairman (Abels & Martelli, 2013).

To validate the questionnaire, the content validity criterion is addressed through expert judgment (Hernandez et al., 2014); content validity and reliability are assessed through test and retest (Baumgartner, 2000); and, regarding reliability, the Cronbach's alpha is utilized (Cronbach, 1951).

Content validity - Expert judgment

The content of the questionnaire is validated through expert judgment. In the process, the approach outlined by Escobar and Cuervo (2008) is adopted, which involves: validating that the instrument achieves the stated objective; selecting judges (experts) for evaluation; constructing the evaluation template; comparing the results obtained from different judges (experts); and adjusting the items according to the judgments issued.

To do this, researchers with a doctoral degree in programs related to the field of business sciences, and/or researchers with a doctoral degree categorized by the Ministry of Science, Technology, and Innovation of Colombia - Minciencias as Senior Researchers (highest grade) who have worked on research projects related to business sciences, are invited to participate. Four experts in total. For the process, the expert is provided with a copy of the questionnaire along with the content evaluation instrument, which assesses the criteria related in Table 1. Additionally, the expert is asked to provide suggestions regarding the instrument.

Table 1.
Questionnaire Evaluation Criteria - Expert Judgment

Criterion	Yes	No	Observation
1. The instrument gathers information that enables addressing the research problem.			
2. The proposed instrument addresses the study's objectives.			
3. The structure of the instrument is suitable (in terms of its items or questions).			
4. The instrument poses items (questions) that respond to the operationalization of Variable 1.			
5. The instrument poses items (questions) that respond to the operationalization of Variable 2.			
6. The presented sequence facilitates the development of the instrument.			
7. The items (questions) are clear and understandable according to the target population of the study.			
8. The number of items (questions) is appropriate for its application.			

Note. Self-created

For the determination of the overall evaluation of expert judgment, each of the eight points established in Table 1 takes the value of 1.0 if the expert marks the criterion as "Yes" and 0.0 if they mark the criterion as "No". This allows each criterion to be evaluated separately, as presented in Table 2 (rows). It also allows the individual assessment of each expert to be determined (column).

Table 2.
Measurement of aggregated results in questionnaire evaluation - Expert judgment

Criterion	Evaluation				Summation of expert judgments	Average rating per criterion
	E1[2]	E2[3]	E3[4]	E4[5]		
1. The instrument gathers information that enables addressing the research problem.						
2. The proposed instrument addresses the study's objectives.						
3. The structure of the instrument is suitable (in terms of its items or questions).						
4. The instrument poses items (questions) that respond to the operationalization of Variable 1.						
5. The instrument poses items (questions) that respond to the operationalization of Variable 2.						
6. The presented sequence facilitates the development of the instrument.						
7. The items (questions) are clear and understandable according to the target population of the study.						
8. The number of items (questions) is appropriate for its application.						
Individual (rational) assessment						

Criterion	Evaluation				Summation of expert judgments	Average rating per criterion
	E1[2]	E2[3]	E3[4]	E4[5]		
Individual (relative) assessment						

Note. Self-created

Criteria with an average rating equal to or greater than 75% (horizontal reading of the table) are accepted. The instrument is considered valid, based on individual expert evaluation, if it obtains a rating equal to or greater than 6 points (75% of the total possible). To approve the expert judgment, the instrument must receive a passing rating from at least 3 out of 4 experts, with an aggregate weighting equal to or greater than 90% (vertical reading of the table).

Content validity and reliability - Test-retest reliability

To determine content validity from the perspective of subjects' understanding and questionnaire reliability, the test-retest method was used (Balluerka et al., 2007), which is applied to a sample of 10 subjects selected based on the following inclusion parameters: being a CEO or equivalent position in a company that has been operational for more than one year; participating voluntarily in the research; signing the informed consent form. Procedurally, a one-hour time interval is set between questionnaire administrations. The variability between the responses given by the subjects is verified to demonstrate the stability of the instrument, for which the format established in Table 3 is used.

Table 3.
Comparison of responses by item - Test-retest

Subject	Subject 1			Subject 2			Aggregate variation
Ítem \ Variation	PA[6]	SA[7]	VA[8]	PA	SA	VA	
Ítem 1							
Ítem 2							

[2] Expert 1
[3] Expert 2
[4] Expert 3
[5] Expert 4

[6] PA: First application
[7] SA: Second application
[8] VA: Variation

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Subject	Subject 1			Subject 2			Aggregate variation
Ítem \ Variation	PA[6]	SA[7]	VA[8]	PA	SA	VA	
Ítem n							
	Variation			Variation			

Note. Self-created

In this case, item-by-item verification is conducted for each study subject to determine if there is variation in the responses. An item is accepted when its variation is equal to or less than 10%, based on the total number of subjects in the specified sample.

Reliability - Cronbach's Alpha

The internal reliability of the questionnaire is measured through Cronbach's Alpha coefficient (González & Pazmiño, 2015), which, in this case, is calculated to measure the reliability of the constructs related to generic business strategies according to Porter's proposal (first) and the use of projects by companies (second). For all cases, the minimum accepted value to determine reliability is 0.7 (Celina & Campo, 2005). For its measurement, a sample of 40 subjects is used, with a single administration, based on the following inclusion parameters: being a CEO or equivalent position in a company that has been operational for more than one year; participating voluntarily in the research; and signing the informed consent form. The statistical software SPSS is used for calculation.

Validation Process

Methodologically, the sequence of steps to be developed in the validation process of the proposed instrument in this document is outlined in Table 4, which is presented below.

Table 4.
The sequence of steps for questionnaire validation

#	Step	Brief description
1	Initial instrument design	Questionnaire proposal to be submitted for validation.
2	Submission to expert judgment	Request for content validation of questionnaire from 4 experts according to defined profile.
3	Instrument adjustments	Determination of whether it is necessary to adjust the instrument based on the indications provided by the experts in step 2.
4	Development of test-retest: Application of the instrument to a sample of 10 subjects	Two administrations to the same subjects, with an interval of one hour between administrations.
5	Instrument adjustments	Determination of whether adjustment of the instrument is necessary based on the findings from the test-retest application in step 4.
6	Application of the instrument to a sample of 40 subjects	Data collection for Cronbach's Alpha calculation.
7	Results systematization	Data organization.
8	Cronbach's Alpha test by construct	Calculation of Cronbach's Alpha by construct.
9	Final adjustment of the instrument	Determination of whether it is necessary to adjust the questions of the instrument to ensure internal reliability of the instrument (result of Cronbach's Alpha between 0.7 and 0.9).

Note. Self-created

Once the process outlined in each of the steps established in Table 4 has been completed, the validation process of the proposed instrument is considered finished, provided that the assumptions of expert judgment acceptance, internal questionnaire reliability, and stability are met.

4. RESULTS

Following the sequence proposed in Table 4, the first step was the initial design of the instrument. Once the instrument was designed, we proceeded to step two, submission to expert judgment. In this case, all the content of the questionnaire was evaluated. Table 5 presents a summary of the evaluation conducted by the experts selected according to the parameters described in the methodology section.

Table 5.

Aggregated results of questionnaire evaluation - Expert judgment

Criterion	Evaluation				Summation of expert judgments	Average rating per criterion
	E1	E2	E3	E4		
1. The instrument gathers information that enables addressing the research problem.	1	1	1	1	4	100%
2. The proposed instrument addresses the study's objectives.	1	1	1	1	4	100%
3. The structure of the instrument is suitable (in terms of its items or questions).	1	1	0	1	3	75%
4. The instrument poses items (questions) that respond to the operationalization of Variable 1.	1	1	1	1	4	100%
5. The instrument poses items (questions) that respond to the operationalization of Variable 2.	1	1	1	1	4	100%
6. The presented sequence facilitates the development of the instrument.	1	1	1	1	4	100%
7. The items (questions) are clear and understandable according to the target population of the study.	1	1	1	1	4	100%
8. The number of items (questions) is appropriate for its application.	1	1	0	1	3	75%
Individual (rational) assessment	**8**	**8**	**6**	**8**	**30**	**93.75%**
Individual (relative) assessment	**100%**	**100%**	**75%**	**100%**	**93.75%**	

Note. Self-created

As can be seen, the lowest rating generated for the instrument is related to the judgment of expert 3 (75%), while experts 1, 2, and 4 gave a rating of 100% regarding the questionnaire's content based on the proposed evaluation criteria. The overall rating given to the instrument by the experts was 93.75%. Regarding step 3, adjustments to the instrument were made according to the experts' indications. After the adjustments were made, the process continued with step 4, the development of a test and retest with the application of the instrument to a sample of 10 subjects. The results obtained for each subject are shown in Tables 6 and 7. Only the questions related to the second and third parts of the questionnaire, which are related to variables one and two, were evaluated in this case. Regarding variable 1, the test and retest showed that only 3.1% of the total responses for the proposed items varied between the first and second applications. Variations were recorded in the results of subjects 1, 3, 5, and 10. As for variable 2, no variations were recorded between the first and second applications.As for step 5, no adjustments to the questionnaire are deemed necessary since none of the items showed variability equal to or greater than 10% of the results obtained.

For step 6, the instrument was applied only once to 40 study subjects according to the inclusion parameters. Subsequently, step 7, the systematization of the results, was carried out, which was organized in the SPSS V. 26 system. For the systematization of the collected data, concerning variable 1, four sections were constructed (questions 10 to 13), each with a subset of three questions (section 1: 10.1; 10.2; 10.3; section 2: 11.1; 11.2; 11.3; section 3: 12.1; 12.2; 12.3; section 4: 13.1; 13.2; 13.3). Each question contained in each section corresponds to a characteristic of the three generic strategies proposed by Porter. The sub-numbered questions with .1 refer to the generic strategy of "Global Cost Leadership" (10.1; 11.1; 12.1; 13.1), the sub-numbered questions with .2 refer to the generic strategy of "Differentiation" (10.2; 11.2; 12.2; 13.2), and the sub-numbered questions with .3 refer to the generic strategy of "Focus or Concentration" (10.3; 11.3; 12.3; 13.3). For each section, to evaluate each sub-numbered question, it was rated on a scale of 1 to 3, where 1 represents the lowest value (or denotes less agreement) and 3 is the highest value (or denotes more agreement). For each question in each section, only one value could be selected, and among these, the

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value could not be repeated. The three responses to the three questions in each section are always summed to 6 (3+2+1).

Table 6.
Results of Test and Retest for Variable 1

Subject	Subject 1				Subject 2				Subject 3				Subject 4				Subject 5				Subject 6				Subject 7				Subject 8				Subject 9				Subject 10				Aggregate
Item \ Variation	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	Variation
10.1. Does the company in which you are CEO, or hold an equivalent position, work to offer the lowest possible prices in the market compared to the competition?	3	3	No	1	1	No	3	3	No	3	3	No	3	3	No	2	2	No	1	1	No	1	1	No	2	2	No	1	1	No	2	2	No	1	1	No	0%
10.2. Does the company in which you are CEO, or hold an equivalent position, differentiate its products in the market in any way, for example, through quality, innovation, technology, design, or brand image?	2	2	No	3	3	No	2	3	Si	2	2	No	1	1	No	3	3	No	2	2	No	2	2	No	3	3	No	2	2	No	2	2	No	2	2	No	10%
10.3. Does the company in which you are CEO, or hold an equivalent position, focus on serving a specific market segment (very specific)?	1	1	No	2	2	No	1	1	No	1	1	No	2	2	No	1	1	No	3	3	No	3	3	No	3	3	No	3	3	No	3	3	No	3	3	No	0%
11.1. In the company where you hold the position of CEO, or an equivalent role, if a customer wants to negotiate the purchase price of your product, do you consider that you would not lower the price since the one offered is the lowest in the market?	3	3	No	2	2	No	3	3	No	3	3	No	3	3	No	3	3	No	1	1	No	2	2	No	3	3	No	3	3	No	3	3	No	3	3	No	0%
11.2. In the company where you hold the position of CEO, or an equivalent role, if a customer wants to negotiate the purchase price of your product, do you consider that they would not have similar options to your product in the market; therefore, they would always be willing to pay the price of my product even if it is higher than that of the competition?	2	1	Si	3	3	No	1	1	No	1	1	No	2	2	No	3	3	No	1	1	No	2	2	No	2	2	No	2	2	No	2	2	No	2	2	No	10%
11.3. In the company where you hold the position of CEO, or an equivalent role, if a customer wants to negotiate the purchase price of your product, should they consider in advance that my product directly addresses their particular needs?	2	2	No	1	1	No	2	2	No	2	2	No	1	1	No	2	2	No	3	3	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	0%
12.1. In the company where you hold the position of CEO, or an equivalent role, regarding your product, do you consider it is difficult to be replaced by a substitute in the market, given its offered selling price?	3	3	No	1	1	No	3	3	No	3	3	No	2	3	Si	1	1	No	2	2	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	10%
12.2. In the company where you hold the position of CEO, or an equivalent role, regarding your product, do you consider that its selling price is not the relevant factor for the purchase by your customer?	2	2	No	3	3	No	2	2	No	2	2	No	2	2	No	3	3	No	1	1	No	3	3	No	3	3	No	3	3	No	3	3	No	3	3	No	0%
12.3. In the company where you hold the position of CEO, or an equivalent role, regarding your product, do you consider it is tailored to meet the specific needs of a particular group of customers?	1	1	No	2	2	No	1	1	No	1	1	No	2	2	No	3	3	No	3	3	No	3	3	No	3	3	No	3	3	No	3	2	Si	10%
13.1. In the company where you hold the position of CEO, or an equivalent role, when advertising your product in the market, is the primary factor to highlight its selling price?	3	3	No	2	2	No	3	3	No	3	3	No	3	3	No	2	2	No	1	1	No	3	3	No	3	3	No	3	3	No	3	3	No	3	3	No	0%
13.2. In the company where you hold the position of CEO, or an equivalent role, when advertising your product in the market, is the focus to highlight related to its unique attributes?	2	2	No	3	3	No	2	2	No	2	2	No	2	2	No	2	2	No	3	3	No	2	2	No	2	2	No	2	2	No	2	2	No	2	2	No	0%
13.3. In the company where you hold the position of CEO, or an equivalent role, when advertising your product in the market, is the focus predominantly on highlighting the provision of excellent service?	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	3	3	No	1	1	No	1	1	No	1	1	No	1	1	No	0%
14. According to the strategies presented below, which do you consider to be the one that the company of which you are the CEO or an equivalent position is currently "applying"?	1	1	No	2	2	No	1	1	No	1	1	No	1	1	No	1	1	No	2	2	No	3	3	No	4	4	No	2	2	No	4	4	No	2	2	No	0%
	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%

Note. Self-created

Table 7.
Results of Test and Retest for Variable 2

Subject	Subject 1			Subject 2			Subject 3			Subject 4			Subject 5			Subject 6			Subject 7			Subject 8			Subject 9			Subject 10			Aggregate
Item \ Variation	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	PA	SH	VA	Variation
15. In your opinion, do you have knowledge in project management?	2	2	No	1	1	No	1	1	No	1	1	No	2	2	No	2	2	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	0%
16. Do you use project management as a tool in the operation of the business in the company where you are CEO or in an equivalent position?	2	2	No	1	1	No	1	1	No	1	1	No	2	2	No	2	2	No	1	1	No	1	1	No	1	1	No	1	1	No	1	1	No	0%
17. From your perspective, is there a relationship between your discipline (undergraduate and/or graduate education) and project management?	2	2	No	1	1	No	1	1	No	2	2	No	1	1	No	2	2	No	2	2	No	1	1	No	1	1	No	1	1	No	1	1	No	0%
	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	0%	VAR	**0%**

Note. Self-created

To determine the type of strategy implemented in the company, it is assumed that the one which, in the set of questions evaluated by the respondent, totals at least 10 points (guided by sub-questions .1, .2, and .3 of each section), provided that two strategies do not total the same amount. If none of them totals 10 points, or if two strategies total 10 points, it will be determined that the company is in a halfway stagnation. Once the strategy implemented by the company is determined, it is compared with the result of question 14, which prompts the respondent to identify the strategy applied according to Porter's generic strategies proposal. With these two results, Cronbach's alpha was calculated for variable 1. As for variable 2, three dichotomous questions were used, with a Yes-No response option.

Following the stipulations in step 8, Cronbach's Alpha was calculated per variable, which means that only the items associated with each variable were used in each measurement (one measurement for variable 1 and another measurement for variable 2). Regarding variable 1, the result of Cronbach's Alpha calculation was 0.798. As for variable 2, the result of Cronbach's Alpha calculation was 0.816. Table 8 presents the results obtained.

Table 8.
Cronbach's Alpha Results by Variable

	Cronbach's alpha	N of elements	Valid cases	Excluded cases	Mean	Variance	Standard deviation
Variable 1	0,798	2	40	0	5,6	4,297	2,073
Variable 2	0,816	3	40	0	3,98	1,461	1,209

Note. Self-created

As the result of the Cronbach's Alpha for the items of both variables is greater than 0.7 and less than 0.9, there is no need to make any adjustments to the instrument, leading to the completion of Step 9 proposed in the methodology. Below is the questionnaire in its final version.

5. CONCLUSIONS

Having an appropriate data collection instrument to identify the type of strategy that companies apply, whether consciously or unconsciously, is important as it provides adequate information for possible interventions or related tactics for the benefit of the organization. Similarly, the identification of the use or non-use of projects as a management tool is important due to its contribution to achieving the objectives set by companies.

The main objective was to validate an instrument to identify whether the company applies any type of strategy, based on Porter's generic strategies proposal, and to characterize the use of projects as a management tool, to determine the degree of relationship between these two variables.

To achieve this objective, the content validity and reliability of the proposed instrument were determined as described in the methodology.

Regarding the validation process, regarding content validity through expert judgment, validation by the judges of 93.75% was found according to the methodological proposal. This percentage is higher than the minimum accepted for validation, which was estimated at 90%. With this result, the content validity

of the instrument in terms of expert judgment is accepted.

Regarding content validity and reliability measured through the test-retest method, it was found that when the tests were applied as specified in the methodology, there was only a 3.1% variation in the responses, well below the maximum allowed for validation, which was determined at 10%. With this result, the content validity is accepted and the reliability of the instrument is validated.

Regarding the determination of reliability measured through Cronbach's Alpha calculation, this was calculated per variable, for the set of questions determined. For variable 1, called "Business strategy, according to Porter's proposal of generic strategies," the result was 0.789, which is higher than the minimum accepted value of 0.7. For variable 2, called "Use of projects as a management tool," the obtained result was 0.816, and like with variable 1, it is higher than the minimum accepted value of 0.7. With these results, the reliability of the instrument is validated.

Having followed the proposed process in the methodology, it can be ensured that the objective has been achieved, as the result has been the validation, from different perspectives, of an instrument for the identification of the type of strategy implemented by the company, and the use or non-use of projects as a management tool.

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