InternexT

INTERNATIONAL BUSINESS AND MANAGEMENT REVIEW

v.20, n. 2, e808, 2025| e-ISSN: 1980-4865 | http://internext.espm.br

MARKETING STRATEGIES IN THE DIMENSION STONES SECTOR

Antonio Carlos Guidi[1], Nadia Kassouf Pizzinatto[1], Thel Augusto Monteiro[2] & Mariana da Silva Correa[3]*

[1]Universidade Metodista de Piracicaba – Piracicaba (SP), Brazil.

[2]Pontifícia Universidade Católica de Campinas – Campinas (SP), Brazil.

[3]Faculdade de Direito de Vitória – Vitória (ES), Brazil.

ARTICLE DETAILS

Received:
June 6, 2024

Accepted:
May 7, 2025

Available online:
July 16, 2025

Double Blind Review System

Editor in Chief:
Fernanda Cahen
Priscila Rezende da Costa

ABSTRACT

Objective: This study examined the national ornamental stone sector (Setor de Rochas Ornamentais – SRO) and its current situation in relation to Dimension Stones (DS) exporters. **Method:** To achieve the proposed objectives, the research method employed was Exploratory Factor Analysis (EFA). **Main Results:** The findings confirmed that Brazilian entrepreneurs have achieved positive outcomes, as indicated by the strategic alignment adopted, despite their relative inexperience, the volatility of the environment, and the asymmetry of available information. **Relevance / Originality:** The study presents the conceptualization of the national product from the exporter's perspective. Its relevance lies in highlighting that social exchange relationships may carry different degrees of transactional (utilitarian) or relational (symbolic) value. **Theoretical / Methodological Contributions:** The Marketing community has traditionally emphasized transactional exchanges, where buyers and sellers tend to focus on instrumental benefits. However, the export of products remains crucial for emerging economies, and the results offer optimism regarding the capacity of these firms to persevere in reaffirming their position in the market. The methodology adopted in this research is deductive and quantitative. For statistical data analysis, researchers used IBM SPSS version 24 and Stata software.

Keywords: Marketing Strategies, Purchase Probability, Service Support, Product attributes.

ESTRATÉGIAS DE MARKETING NO SETOR DE *DIMENSION STONES*

DETALHES DO ARTIGO

Recebido:
6 jun, 2024

Aceito:
7 maio, 2025

Disponível online:
16 jul, 2025

Sistema de revisão
"Double Blind Review"

Editora-chefe:
Fernanda Cahen
Priscila Rezende da Costa

RESUMO

Objetivo: Examinou-se o setor de rochas ornamentais nacional e sua conjuntura com os exportadores de Dimension Stones (DS). **Método:** Para se alcançar os objetivos propostos o método de pesquisa utilizado foi a análise fatorial exploratória. **Principais Resultados:** Comprovou-se que os empreendedores nacionais têm alcançado bons resultados, conforme qualificados pelo alinhamento estratégico adotado, apesar da relativa inexperiência, volatilidade e assimetria das informações obtidas. **Relevância / Originalidade:** A apresentação da conceitualização do produto nacional sob a ótica do exportador. **Contribuições Teóricas / Metodológicas:** A comunidade de marketing, ressaltou a ênfase tradicional tem seu foco central nas trocas transacionais, em que o comprador e o vendedor mantêm-se focados principalmente Como de benefícios instrumentais de suas transações. Assim, a relevância deste destacar que as relações de trocas sociais podem reter distintos graus de valor transacional (utilitário) ou relacional (simbólico). A exportação de produtos continua a ser crucial para essas economias emergentes, e os resultados alcançados fornecem otimismo para a capacidade de essas empresas perseverarem na luta para reafirmar seu espaço no mercado. A Metodologia utilizada nesta pesquisa a define como dedutiva e quantitativa, e, para a análise dos dados estatísticos, foi utilizado o Software IBM – SPSS version 24 e o Software Stata 14.

Palavras-chave: Estratégias de marketing, Probabilidade de compra, Suporte a serviços, Atributos do produto.

*Corresponding author: marianagguidi@gmail.com

https://doi.org/10.18568/internext.v20i2.808

INTRODUCTION

From a marketing perspective, the products manufactured by the ornamental stone sector (*Setor de Rochas Ornamentais* [SRO]) possess unique characteristics and are recognized in Brazil as specialties, not classified as commodities. The national SRO is currently composed almost entirely of micro and small enterprises (*Micro e Pequenas Empresas* [MSEs]), presenting a high level of informality (Chiodi Filho & Chiodi, 2009).

Based on the definitions provided by the Brazilian Association of Technical Standards (*Associação Brasileira de Normas Técnicas* [ABNT], 2025), the American Society for Testing and Materials (ASTM, 2025), the European Commission for Normalization (*Comité Européen de Normalisation* [CEN], 2025), and the Brazilian Association of the Ornamental Stone Industry (*Associação Brasileira da Indústria de Rochas Ornamentais* [ABIROCHAS], 2019), dimension stones (DS) can be defined as raw, rocky mineral materials that allow extraction in blocks. These blocks are sourced from ornamental stone deposits or properly authorized mining operations (commonly referred to as quarries), regulated by the National Mining Agency (*Agência Nacional de Mineração* [ANM]), and have diversified applications—particularly in architectural cladding, sculpture, and other specific uses. In this context, the civil construction sector represents an extremely promising and essential field for this industrial segment.

Marketing performance and adaptation processes are central topics in the academic literature on marketing. Although a growing number of studies have examined performance outcomes, the results have been mixed, leading to divergent perspectives on how to achieve superior performance (Rao-Nicholson & Khan, 2017; Theodosiou & Leonidou, 2003; Westjohn & Magnusson, 2017; Zeriti et al., 2014).

In considering the diligent management of international commercial relationships in emerging markets, the following research problem arises: Which international marketing strategies (*Estratégias de Marketing Internacional* [EMI]) are most effective for MSEs in the SRO to enhance their brand image and improve sales in competitive global markets?

This study seeks to enhance the discussion through statistical data on the EMI adopted by MSEs in the SRO. Accordingly, the objective is to analyze the behavior of the ornamental stone market in relation to the international market, focusing on the following aspects: product image, purchase probability, sales, and service support.

This study is motivated by the relevance of national export data for ornamental stones. According to Brasil (2017) and Chiodi Filho and Chiodi (2009), the global production in 2014 positioned Brazil as the fourth largest producer, responsible for 7.4% of the total world output. According to data from the Brazilian Center of Ornamental Stone Exporters (*Centro Brasileiro de Exportadores de Rochas Ornamentais*), the state of Espírito Santo accounted for USD 1.018 billion in exports, with USD 856.4 million corresponding specifically to processed DS.

Analyzing the period from 2014 to 2017, the main sources of U.S. DS imports (Table 1), ranked by import value in ascending order, were as follows: (a) China—30%; (b) Brazil—25%; (c) Italy—23%; (d)

Table 1. Origin of U.S. Imports by Main Trade Partners: Cumulative Data from 2014 to 2017.

All dimension stones		**Only granite (2011–2014)**		**All dimension stones**		**Only granite (2014–2017)**	
Cumulative (2011–2014)		Cumulative (2011–2014)		Cumulative (2014–2017)		Cumulative (2014–2017)	
China	30%	**Brazil**	**45%**	**Brazil**	**25%**	**Brazil**	**47%**
Brazil	**25%**	China	23%	**China**	**25%**	China	24%
Italy	23%	India	14%	Italy	22%	India	16%
Turkey	14%	Italy	12%	Turkey	14%	Italy	9%
Other countries	8%	Other countries	14%	Other countries	14%	Other countries	4%

Source: Dolley (2019, p. 156) and USGS (2017, p. 156-157).

Turkey—14%; and (e) other countries—8%. These figures underscore the significance of the Brazilian ornamental stone industry in both the United States/global markets for this national manufacturing (Dolley, 2019).

From 2014 to 2017, the U.S. import statistics for DS placed Brazil in the first position in both volume and value, with a slight positive variation reinforcing Brazil's role as a leading exporter in this market, as shown in Table 1 (Dolley, 2019).

In 2018, Brazil exported ornamental stones (Brazilian ornamental and coating stones) (*Rochas Ornamentais do Brasil* [ROR]) to 120 countries. Its main trading partners (Table 1) included the United States, China, Italy, Mexico, Canada, and the United Kingdom. Exports to the United States—primarily slabs—reached a total of USD 594.4 million, representing a 14.1% decrease compared to 2017, and a total volume of 844.2 thousand tons, a 14.4% decrease compared to the previous year (Abirochas, 2019, p. 24).

This study contributes theoretically by exploring the application of EMI by MSEs, in emerging markets, particularly in the SRO. Unlike the traditional transaction-based approach, this article highlights how relationship marketing (*Marketing de Relacionamento* [MR]) can serve as a competitive advantage for firms with limited resources and restricted access to strategic information. The research reinforces the importance of building relational bonds as a mechanism to overcome the challenges faced by these firms in global markets, thus expanding the discussion on the strategic adaptation of MSEs in the international arena.

The SRO is fundamentally composed of MSEs. According to Vidal et al. (2014), one of the sector's most persistent gaps is that Brazilian MSEs struggle to meet their development needs through governmental industrial policies, which tend to focus primarily on large corporations within the mining sector.

1. MARKETING STRATEGIES: ANALYSIS OF THE EVOLUTION OF FOCUS

This study recognizes the paradigmatic shift from transaction marketing (*Marketing Transacional* [MT]) to MR. MR strategies are essential for MSEs that seek to create long-lasting value and deep social connections with their global customers. Contemporary literature, including authors like Cohen-Vernik et al. (2019), Payne and Frow (2017), and Rao-Nicholson and Khan (2017), will serve as the theoretical foundation for analyzing the effectiveness of EMI.

According to Kotler et al. (2010), over the years, marketing thinking has progressed, standing out especially in three phases or eras known as: Marketing 1.0 (industrial era, in which the main technology was focused on industrial equipment—the product-centered approach); Marketing 2.0 (information era, that is, centered on information technology—consumer-centered orientation); and Marketing 3.0 (the era focused on customers, leading the marketing concept to the arena of values, aspirations, and the human spirit—the concept centered on man or human values).

However, companies focus on the human spirit, aiming to satisfy not only functional needs but also deeper needs through products and services, which ultimately meets human spiritual needs. According to Kotler et al. (2010) and Srijumpa (2017), customers select products from companies that meet the most insightful needs for their co-creation with companies and participation in their community (Cohen-Vernik et al., 2019; Grover & Kohli, 2012; Mahr et al., 2014).

Thus, the field of marketing study and practice is facing a reconceptualization in its orientation from transactions to relationships, an emphasis in contrast to exchange-based transactions (Cohen-Vernik et al., 2019).

In this sense, the development of RM points to a shift in the marketing axiom: (a) competition and conflict to mutual cooperation and (b) independent choice to mutual interdependence. Thus, the first axiom of MT is focused on the belief that competition and self-interest are the drivers of value creation. Via competition, buyers can be offered a choice of suppliers, and this motivates marketers to create high value.

The competition axiom is now challenged by RM proponents who believe that cooperation, as opposed to competition and conflict, leads to greater value creation. Indeed, some behavioral marketing researchers have proposed that competition is inherently destructive and mutual cooperation is inherently more productive (O'Malley, 2018; Payne & Frow, 2017).

Based on the assumptions presented by Kotler (2010), it can be seen that marketing strategies do not focus solely on relationships between buy-

ers and sellers, but rather present a new focus, that is, they do not represent a process carried out solely by marketers with consumers. The focus of MT is on the belief that the independence of choice among marketing actors produces a more efficient system for creating and distributing marketing value.

Maintaining a long-lasting relationship is considered essential for the efficiency of marketing practices. Industrial organizations and government policymakers believe that the independence of marketing actors provides each actor with greater freedom to choose their transactional partners based on preserving their own interests in each characteristic decision. This results in purchasing efficiency and lower costs through negotiations (Payne & Frow, 2017).

TM and RM strategies have been used since the beginning of business. As implied by Šonková and Grabowska (2015), although recent studies have stated that there has been a shift from TM (which dominated in the second half of the 20th century) to RM, the world's leading companies still persist in using TM strategies, supported by product attributes. However, there remains a strong need to increase the use of RM strategies since transactions have demonstrated that their potential has been worn out.

However, in the 1990s, according to Van Staveren (2009) and Vargo and Lusch (2011), many researchers more completely recognized the strategic and long-term value of shifting from transactional exchanges to relational relationships, in which the goal is to engender deeper social connections, develop trust, and increase effective consideration between the buyer and the seller, suggesting a paradigmatic shift and value creation through discovering and meeting consumer needs within a rational environment (Vargo & Lusch, 2004).

The existing literature on marketing strategies in emerging markets has predominantly focused on large firms, while this study expands the understanding of the relevance of EMI for small and medium-sized enterprises (SMEs). RM emerges as a viable way for these companies to differentiate themselves in highly competitive markets, as it allows the creation of strategic networks and trust with international partners, aspects often neglected in the literature on commodity and manufacturing exports.

2. METHOD

The methodology used was of quantitative and descriptive, with a structured questionnaire previously validated through a pilot study and analysis by experts in the field. Thus, adjustments were made based on robust statistical techniques, including exploratory factor analysis (EFA) and internal reliability measured by Cronbach's alpha. IBM SPSS version 24 and Stata 14 software were used for the statistical analysis of the data collected.

2.1. Research sample

The sample of this research consists of employees who work in different related areas linked to the export of DS from the SRO and who have knowledge and involvement in this export economic activity. Thus, the sample is characterized as a non-probabilistic, convenience sample (Creswell, 2014; Hair Jr. et al., 2005).

The sample is marked by the nature of its economic activity: 61.3% of the data surveyed refer to companies that perform a fundamental economic activity in this sector chain as a beneficiation of ROR. Thus, 18.1% of the sample is represented by companies that perform mineral mining activities for the extraction of ROR blocks, and 16.1% is mixed by entrepreneurs outlined as distributors who commercialize polished sheets in the domestic and foreign markets.

In terms of size, they are described as micro and small companies, and in terms of the number of direct employees in activity, 51.6% of the enterprises have up to 19 direct employees and 30.3% have up to 30 direct employees. Regarding the geographic location of these enterprises surveyed, 95% group their economic activities in the State of Espírito Santo.

Regarding the length of service in the SRO, the direct employees presented a diverse profile, that is, 30.3% have between 14 and 21 years of service and 29% have between 7 and 14 years of direct service. Continuing in this sense, among the respondents, 21.3% have worked in the SRO for a period of less than 7 years.

After characterizing the activity performed individually or cumulatively by the employees, it is worth noting that 46.5% perform the activities of

administration and commercial sales cumulatively and 65.8% perform the commercial sales activity as their main activity.

The demographic data of the sample indicate that the trade and/or sales sector has 38.06% of the most performed activity in the company, followed by 17.42% by the general administration activity and 12.26% cumulatively by administration and/or commercial and/or sales. From another angle, 30.97% of the respondents have been operating for a period between 14 and 21 years. From another perspective, the nature of the exporting economic activity of the ROR processing enterprise corresponds to 61.29%, and 51.61% of the companies have up to 19 employees and the State of Espírito Santo gathers 85.16% of these enterprises according to the sample researched.

2.2. Data collection

For this stage, the primary data collection method used was a previously validated structured questionnaire, consisting of a standard set of questions with answers limited to a number of mutually exclusive and previously predetermined probabilities (Creswell, 2014; Hair Jr. et al., 2005).

The questionnaire included Likert-type scales, focused on critical aspects of international marketing, such as product image, resistance, design, and sales support. A multifunctional team in related areas validated the questionnaire. In this way, the final questionnaire model was achieved through a pilot sample with the feedback of the respondents.

The structured questionnaires were made available spontaneously to the respondents via technological support (e.g., e-mail), and/or provided directly in printed form for data collection, which did not prevent the authenticity of the responses obtained from being maintained. Therefore, closed questions were chosen, accompanied by clear and specific instructions that were easy to apply and analyze (Creswell, 2014; Hair Jr. et al., 2005).

The attributes of the population were inferred from a sample, so the error was introduced into the process regarding the real difference between the sample and the population. In these terms, the data were collected at a single point in time and synthesized statistically (Hair Jr. et al., 2005).

2.3. Statistical technique for data analysis

The statistical analysis of the collected data began with a preliminary descriptive evaluation, presenting absolute frequency, percentage, minimum value, maximum value, and median (Hair Jr. et al., 2005).

A multivariate approach was used to analyze the composition of the internal relationships among the perceived variables, that is, to simultaneously weigh more than two variables with the aim of conducting a more in-depth analysis. The variables were measured using a 5-point Likert-type or semantic differential scale with ordinal characteristics (Creswell, 2014; Freitas et al., 2000).

The EFA technique was used to analyze the main perceived components, and varimax orthogonal rotation, as a result of the structure of the variables observed from the created factors.

Internal consistency reliability analysis was also performed by calculating Cronbach's alpha coefficient (Cronbach, 1951), as well as Kaiser normalization and Spearman's correlation matrix (Creswell, 2014). The adequacy of the EFA sampling was assessed using the Kaiser-Meyer-Olkin test (*Teste de Kaiser-Meyer-Olkin* [KMO]) (Kaiser, 1970); Bartlett's sphericity test (*Teste de Esfericidade de Bartlett* [BTS]) (Bartlett, 1950) was used to assess data adequacy. After performing the factor analysis (FA), scores were assigned to the retained factors (Hair Jr. et al., 2005; Levine et al., 2008).

The association of demographic variables with all factors was evaluated by quantile regression, with robust standard error, as it does not need to assume certain premises; therefore, it was not necessary to diagnose multicollinearity through the variance inflation factor (*Fator de Inflação da Variância* [VIF]). According to Hair Jr. et al. (2005), Koenker and Bassett Jr. (1978), and Levine et al. (2008), the benefits of this model occur because it does not require the distribution to be Gaussian (normal). In this case, it is robust to outliers. When the residuals are not normal and/or not homoscedastic, they generate more efficient estimators compared to those of ordinary least squares (*Mínimos Quadrados Ordinários* [OLS]) regression, not only being restricted to a mean but also being able to obtain the regression in several quantiles of interest.

The outliers have also been transformed so that the premise of a normal probability distribution of the

residuals was met; for this purpose, the adjustment fraction of the discrepant observations was used at a level of p= 0.025 in each tail by the Winsor module of the STATA software. In this sense, the Kruskal-Wallis test compared the medians of the factor scores with each other, and the Kruskal-Wallis test with Duncan's multiple comparisons test compared the medians of the factor scores with each other (Hair Jr. et al., 2005; Koenker & Bassett, 1978; Levine et al., 2008).

These analyses helped confirm the level of significance in the correlation between the variables and analyze the differences found between the variables; a statistical significance level of 5% was used to reject the null hypothesis between the variables tested. IBM software SPSS version 24 and Stata software version 14 were used to analyze the statistical data.

3. RESULTS AND DISCUSSION

Regarding the relevance of the data on the national ROR surveyed, 81.29% of the respondents agreed that ROR is a product with an innovative design, 79.61% believed that the product's resistance is recognized by buyers and valued, 45.39% stated that the product is readily available for delivery, 65.13% understood that purchasing Brazilian ROR conveys confidence, and 64.47% believed that purchasing Brazilian ROR conveys status.

In continuation with this, 79.61% of the respondents agreed that the geodiversity of Brazilian products is an element that facilitates sales. For 72.37% of those interviewed, color variations in products are a facilitating element in negotiations. Notably, 51.97% valued the impermeability of the product, and for 48.68%, advertising is a strong point in the presentation of the product by their company. Notably, 54.61% of the respondents agreed that their customers consistently choose natural Brazilian ROR, 37.50% disagreed that the unit price of the product of Brazilian origin offers an affordable cost–benefit ratio, 36.18% agreed with this statement. Markedly, 57.89% of the respondents assumed that the quality of the product of Brazilian origin is of a good level in relation to international competition, and 50.00% agreed that the sales support offered by their company is of a good level (Table 2).

In this sense, it is initially worth highlighting the concept of internal consistency for this study, that is, the verification by applying this coefficient and, in this way, enriching the internal reliability of the structured questionnaire used, regarding the adequacy of each variable inserted (Grilo & Mendes, 2011; Hora et al., 2010). This ensures agreement between the different variables that are intended to be measured (Table 3).

Hence, the aim was to meet the specific objective of analyzing the behavior of the ROR market compared to the foreign market based on the following criteria: product image; purchase probability; sales and service support.

In this way, the data were processed with the aim of responding to the specific objective of analyzing the behavior of the ROR market in relation to the foreign market based on the product image item. In this sense, F1 was responsible for the greatest explained variation in the data.

The value of the sampling adequacy measure achieved was 0.860, a fact that suggests a good degree of explanation of the data based on the factors, enabling the continuation of this form of statistical analysis.

According to Corrar et al. (2007), this number is considered satisfactory, and the data are not correlated (p< 0.001), which allows for the use of FA in the data analysis (Table 4).

Commonalities represent the percentage of explanation that a variable obtained on the factor through FA; thus, according to Marôco (2010), values below 0.50 should not be considered. Since it is possible to see that all commonalities were greater than 0.50, this indicates good explanatory power (Table 5).

The selection of factors for the analysis of variables (Table 1), that is, the assessment of relevance among the presented ornamental stone data (ROR), has to be made by the total variance explained of at least 50.0% (Marôco, 2010) and by eigenvalues > 1; thus for the relevance of the ROR data, three factors were retained, which explain 91.10% of the total variability. Internal consistency was considered almost perfect (above 0.80) in all factors.

Consequently, the factors were grouped and presented in order of greatest factor loading (component), that is, those that contribute the most are the first, and also their percentage (%) of variance was explained by the factor in question.

Therefore, factor (F1), quality/design (QD), is responsible for 67.00% of the explained variation of the data, and this indicates that the variables V5.1, V5.2,

Table 2. Characterization of the Relevance of Brazilian Ornamental and Coating Stones (ROR - Rochas Ornamentais e de Revestimento).

Variables		**n**	**%**
(5.1)—RORs are a product with an innovative design and appearance	I totally disagree	2	1.29
	I disagree	3	1.94
	Indifferent	10	6.45
	I agree	126	81.29
	I totally agree	14	9.03
(5.2)—The durability of the product is acknowledged and valued by buyers	I totally disagree	1	0.66
	I disagree	1	0.66
	Indifferent	18	11.84
	I agree	121	79.61
	I totally agree	11	7.24
(5.3)—The prompt delivery availability of the product	I totally disagree	1	0.66
	I disagree	49	32.24
	Indifferent	19	12.50
	I agree	69	45.39
	I totally agree	14	9.21
(5.4)—Purchasing Brazilian ornamental stone conveys trust	I totally disagree	2	1.32
	I disagree	6	3.95
	Indifferent	32	21.05
	I agree	99	65.13
	I totally agree	13	8.55
(5.5)—Purchasing ornamental stone (ROR) of Brazilian origin conveys status	I totally disagree	2	1.32
	I disagree	8	5.26
	Indifferent	29	19.08
	I agree	98	64.47
	I totally agree	15	9.87
(5.6)—The geodiversity of the Brazilian product is a sales-enabling element	I totally disagree	2	1.32
	I disagree	3	1.97
	Indifferent	9	5.92
	I agree	121	79.61
	I totally agree	17	11.18
(5.7)—Color variations in the products are a sales-enabling element	I totally disagree	2	1.32
	I disagree	5	3.29
	Indifferent	10	6.58
	I agree	110	72.37
	I totally agree	25	16.45
(5.8)—The impermeability of the product	I totally disagree	1	0.66
	I disagree	21	13.82
	Indifferent	38	25.00
	I agree	79	51.97
	I totally agree	13	8.55

Continue...

Table 2. Continuation.

Variables		n	%
(5.9)—Natural ornamental stone is understood as an exclusive product	I totally disagree	3	1.97
	I disagree	10	6.58
	Indifferent	15	9.87
	I agree	103	67.76
	I totally agree	21	13.82
(5.10)—Advertising is a strong point in your company's product presentation	I totally disagree	1	0.66
	I disagree	35	23.03
	Indifferent	16	10.53
	I agree	74	48.68
	I totally agree	26	17.11
(5.11)—In your opinion, your clients always tend to choose natural ornamental stones from Brazil	I totally disagree	4	2.63
	I disagree	13	8.55
	Indifferent	35	23.03
	I agree	83	54.61
	I totally agree	17	11.18
(5.12)—The unit price of Brazilian products offers accessible cost–benefit ratio	I totally disagree	1	0.66
	I disagree	57	37.50
	Indifferent	20	13.16
	I agree	55	36.18
	I totally agree	19	12.50
(5.13)—The quality of Brazilian products is at a good level compared to international competitors	I totally disagree	1	0.66
	I disagree	27	17.76
	Indifferent	19	12.50
	I agree	88	57.89
	I totally agree	17	11.18
(5.14)—The sales support provided by your company is at a good level	I disagree	19	12.50
	Indifferent	38	25.00
	I agree	76	50.00
	I totally agree	19	12.50

Table 3. Internal consistency.

Cronbach's alpha	Cronbach's alpha based on standardized items	Number of items
0.885	0.885	28

V5.3, V5.7, V5.8, V5.10, V5.12, and V5.13, highlighted in F1, are the main elements evaluated in this analysis, that is, the main elements that are grouped under F1 (QD), that is, they account for the main attributes observed by entrepreneurs when presenting the image of the product to the foreign market.

Thus, factor (F2), geodiversity/exclusivity (GD), is responsible for 12.6% of the explained variance. This suggests that for the analysis of the product image, these are relevant attributes, however, not as highlighted as the attributes highlighted in F1. However, they are equally relevant and should be better developed to convey to foreign buyers that the national product conveys status, trust, unique geodiversity, and some exclusive products compared to global producers. That said, it is proposed to readjust marketing practices with the aim of reinforcing these attributes.

The internal support (IS) factor (F3) is responsible for 11.5% of the explained variance: This represents the urgent need for improvement in the companies' IS factor in order to improve the image of the national product so that buyers desire the national product to the detriment of products supplied by other producing nations. It also highlights that sales support, despite having a good level, needs to be among the support priorities in order to build customer loyalty (Table 6).

For the statistical analysis of F1, quantile regression with robust standard error does not need to meet the premises of the absence of multicollinearity, absence of normal residuals, absence of heteroscedasticity, and absence of serial autocorrelation, and therefore, tests were not necessary for them.

The explanatory power (pseudo-R^2) of the independent variables on the dependent variable was 10.9% and showed statistical significance for the independent variable (V11) "number of direct employees working in this company or group" with the QD factor (F1).

Therefore, companies that employ 20–30 employees and 51 or more have a median increase in the QD factor (F1) score when compared to a company that employs up to 19 employees (Table 7).

This can be further explained as follows: Companies that employ 51 or more employees increase the score of the (F1) QD factor by 0.040 points in relation to the median when compared to a company that has up to 19 employees (reference category). In this case, a company with more than 51 employees increas-

Table 4. KMO and Bartlett's test*.

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy		**0.860**
Bartlett's test of sphericity	Approximate χ^2	1064.320
	df (degrees of freedom)	91
	p-value (probability value)	**< 0.001**

*Statistically significant values are denoted in bold.

Table 5. Communalities*.

Variables	**Initial**	**Extraction**
(V5.1)—RORs are a product with an innovative design and appearance	1.000	0.771
(V5.2)—The durability of the product is acknowledged and valued by buyers	1.000	0.999
(V5.3)—The prompt delivery availability of the product	1.000	0.951
(V5.4)—Purchasing Brazilian ornamental stone conveys trust	1.000	0.969
(V5.5)—Purchasing ornamental stone (ROR) of Brazilian origin conveys status	1.000	0.969
(V5.6)—The geodiversity of the Brazilian product is a sales-enabling element	1.000	0.967
(V5.7)—Color variations in the products are a sales-enabling element	1.000	0.779
(V5.8)—The impermeability of the product	1.000	0.952
(V5.9)—Natural ornamental stone is understood as an exclusive product	1.000	0.794
(V5.10)—Advertising is a strong point in your company's product presentation	1.000	0.950
(V5.11)—In your opinion, your clients always tend to choose natural ornamental stones from Brazil	1.000	0.881
(V5.12)—The unit price of Brazilian products offers accessible cost–benefit ratio	1.000	0.950
(V5.13)—The quality of Brazilian products is at a good level compared to international competitors	1.000	0.952
(V5.14)—The sales support provided by your company is at a good level	1.000	0.867

*Extraction method: Principal component analysis (PCA).

Table 6. Summary of Factors: Loadings, Cronbach's Alpha, Eigenvalues, and Explained Variance (%)*.

Factor	Description	Components	Cronbach's alpha	Eigenvalues	% of variance
(F1)—Quality/design	**(V5.1)- ROR are a product with an innovative appearance (design) valued by buyers Factor loading**	0.866	0.98	9.38	67.000
	(V5.2)—The durability of the product is acknowledged and valued by buyers Factor loading	0.928			
	(V5.3)—The prompt delivery availability of the product Factor loading	0.868			
	(V5.7)—Color variations in the products are a sales-enabling element Factor loading	0.871			
	(V.8)—The impermeability of the product Factor loading	0.870			
	(V5.10)—Advertising is a strong point in your company's product presentation Factor loading	0.866			
	(V5.12)—The unit price of Brazilian products offers accessible cost–benefit ratio Factor loading	0.866			
	(V5.13)—The quality of Brazilian products is at a good level compared to international competitors Factor loading	0.868			
(F2)—Geodiversity/exclusivity	(V5.4)- Purchasing Brazilian ornamental stone conveys trust Factor loading	0.909	0.98	1.76	12.599
	(V5.5)—Purchasing ornamental stone (ROR) of Brazilian origin conveys status Factor loading	0.909			
	(V5.6)—The geodiversity of the Brazilian product is a sales-enabling element Factor loading	0.909			
	(V5.9)—Natural ornamental stone is recognized as an exclusive product Factor loading	0.854			
(F3)—Internal support	(V5.11)—In your opinion, your clients always tend to choose natural ornamental stones from Brazil	0.938	0.86	1.61	11.476
	(V5.14)—The sales support provided by your company is at a good level	0.930			
Total		-	-	-	91.075

*Extraction method: Principal component analysis (PCA); Rotation method: Varimax with Kaiser normalization.

Table 7. Association (AS) between the quality/design factor and the variables: business activity (BA), time of operation in the company, nature of the economic activity, and number of employees.

Dependent variable—score of (F1) quality/design (QD) factor		B	Robust standard error	T	p-value*	95% confidence interval for B		Trend
						Lower limit	Upper limit	
(V8)—What activity or activities are carried out in this company?	Others	0	-	-	-	-	-	
	Sales and others	-0.003	0.004	-0.730	0.467	-0.011	0.005	Stable
(V9)—How long have you been working in this company or economic sector?	Less than 7 years of experience in the position (company)	0	-	-	-	-	-	
	More than 7–14 years of experience in the position (company)	-0.005	0.007	-0.780	0.436	-0.019	0.008	Stable
	More than 14 years to 21 years of experience in the position (company)	-0.007	0.007	-1.070	0.287	-0.021	0.006	Stable
	Over 21 years of experience in the position (company)	0.000	0.006	0.000	1.000	-0.012	0,012	Stable
(V10)—What is the nature of the exporting economic activity of your company (or business group?	Others	0	-	-	-	-	-	
	Mining	-0.001	0.004	-0.190	0.847	-0.009	0.007	Stable
(V11)—Number of direct employees working in this company or group	Up to 19	0	-	-	-	-	-	
	20–30	**0.008**	0.004	1.960	**0.049**	0.000	0.015	Increase
	31–40	0.000	0.005	0.040	0.971	-0.011	0.011	Stable
	41–50	-0.019	0.016	-1.170	0.244	-0.051	0.013	Stable
	Above 51	**0.040**	0.008	5.210	**0.001**	0.025	0.055	Increase

Pseudo-R^2= 10.9%

B: Coefficient; t: Test statistic; *Multiple quantile regression; 0: Reference category; Significant if p<0.050; Statistically significant values are denoted in bold

es the median by 0.04 points of the (F1) QD factor compared to a company with less than 19 employees (V11). This fact characterizes larger companies that, consequently, make high investments in technology for production with a high-quality standard or at least with the attributes that constitute this factor.

Thus, companies that employ 20–30 employees increase their F1 score by 0.008 points (which is statistically negligible) in relation to the median when compared to companies that have up to 19 employees.

These findings indicate in theory that companies with specific numbers of employees provide products with the attributes of the (F1) QD factor, suggesting new research to seek answers to the characteristics presented, due to the fact that this factor presents intrinsic attributes for the image of the national product in comparison with its competitors in the foreign market.

For the statistical analysis of F2, quantile regression with robust standard error does not need to meet the premises of the absence of multicollinearity, absence of normal residues, absence of heteroscedasticity, and absence of serial autocorrelation, and therefore, tests were not necessary for them (Corrar et al., 2007; Marôco, 2010).

The explanatory power (pseudo-R^2) of the independent variables on the dependent variable was 8.1%. There was statistical significance for the independent variable (V11) "number of direct employees working in this company or group" with the factor (F2) GE.

Therefore, a company that employs 51 or more employees influences a median reduction in the score of the (F2) GE factor when compared to a company that employs up to 19 employees (Table 8).

Therefore, this can also be explained as follows: A company that employs 51 or more employees reduces the score of the GE factor by 0.04 points in relation to the median when compared to a company that has up to 19 employees (reference category). In other words, in this case, a company employing more than 51 workers reduces the median by 0.04 points of the GE factor (F2) compared to a company with less than 19 employees.

For the statistical analysis of F3, quantile regression with robust standard error does not need to meet the premises of the absence of multicollinearity, absence of normal residuals, absence of heteroscedasticity, and absence of serial autocorrelation, and therefore, tests were not necessary for them.

The explanatory power (pseudo-R^2) of the independent variables on the dependent variable was 2.4%. There was statistical significance for the independent variable (V8) "what activity(ies) are performed in this company" with the factor (F3) IS.

Therefore, those who perform the activity of (V8) sales and others influence a median reduction in the score of the IS factor when compared to those who perform other activities without sales (Table 9). Therefore, this can also be explained as follows: Those who perform sales activity, when compared to other activities performed, reduces the F4 score by 0.07 points in relation to the median when compared to those who perform other activities without sales.

CONCLUSION

This research sought to provide answers to the strategies used to achieve better results, especially when targeting competitive markets in advanced economies. On the other hand, the search for adaptation of marketing strategies to achieve success in highly competitive advanced economies stood out, despite the relative inexperience, volatility, and asymmetry of information in the SRO. Exporting thus continues to be of critical importance for emerging market economies, and the results provide greater optimism for the ability of their companies to address host market conditions in their marketing strategies, as well as pointing to the competitive threat posed by these emerging market neophytes.

The objective purpose of this product focuses on meeting the need for related constructions. Other relevant aspects are the color, texture, grain size and design of this surface finish, durability, and resistance, among others, which are relevant and essential attributes in its selection process.

The results of this study show that the country is experiencing a period of economic optimism, but the expected economic recovery is still awaited. Therefore, the sector needs strategic improvement in its skills and capabilities for more sophisticated ornamental rock products, and not just slabs and blocks. Thus, the essential improvements highlighted in this study focus on, for example: (a) the just-in-time pro-

duction model; (b) the growth of outsourcing; (c) improving the level of education of employees without distinction; and (d) improving the understanding of the demands of the business to consumer (*Negócio para o Consumidor* [B2C]) market.

This study highlights the sample size for the structural equation model as a limitation and recognizes that an increase in in-depth interviews with employees of companies established in the United States could provide other variables for data analysis.

Table 8. Association (AS) of the geodiversity/exclusivity factor with the variables of business activity (VAE), time of operation in the company, nature of the economic activity, and number of employees.

Dependent variable—Score of the (F2) geodiversity/exclusivity (GE) factor		**B**	**Robust standard error**	**t**	**p-value***	**95% confidence interval for B**		**Trend**
						Lower limit	**Higher limit**	
(V8)—What activity(ies) are carried out in this company?	Others	0	-	-	-	-	-	
	Sales and others	0.002	0.001	1.350	0.179	-0.001	0.005	Stable
(V9)—How long have you been working in this company or within this economic sector?	Less than 7 years of experience in the position (company)	0	-	-	-	-	-	
	More than 7–14 years of experience in the position (company)	-0.004	0.002	-1.680	0.096	-0.008	0.001	Stable
	More than 14 years to 21 years of experience in the position (company)	-0.001	0.002	-0.250	0.800	-0.005	0.004	Stable
	Over 21 years of experience in the position (company)	-0.003	0.002	-1.400	0.164	-0.008	0.001	Stable
(V10)—What is the nature of the export-oriented economic activity of your company (or business group)?	Others	0	-	-	-	-	-	
	Mining	0.000	0.002	-0.240	0.808	-0.004	0.003	Stable
(V11)—Number of direct employees currently working in this company or business group	Up to 19	0	-	-	-	-	-	
	20–30	0.000	0.001	-0.270	0.785	-0.003	0.002	Stable
	31–40	-0.002	0.002	-1.250	0.215	-0.006	0.001	Stable
	41–50	0.002	0.018	0.110	0.915	-0.033	0.037	Stable
	Above 51	**-0.039**	0.007	-5.370	**< 0.001**	-0.054	-0.024	Increase

Pseudo-R^2= 8.1%

B: Coefficient; t: Test statistic; *Multiple quantile regression; 0: Reference category; significant if p< 0.050; Statistically significant values are denoted in bold.

Theoretical implications

The results of this study highlight the importance of RM strategies for the SRO for SMEs. Contrary to what can be seen in the traditional literature, focused on transactions, this work suggests that the creation of relational ties can be a crucial competitive differentiator for these companies in global markets.

Table 9. Association (AS) of the internal support factor with the variables of business activity (VAE), time of operation in the company, nature of the economic activity, and number of employees.

Dependent variable—score of the (F3) internal support (IS) factor		**B**	**Robust standard error**	**t**	**p-value***	**95% confidence interval for B**		**Trend**
						Lower limit	**Higher limit**	
(V8)—What activity(ies) are carried out in this company?	Others	0	-	-	-	-	-	
	Sales and others	**-0.070**	0.023	-3.000	**0.003**	-0.116	-0.024	Decrease
(V9)—How long have you been working in this company or within this economic sector?	Less than 7 years of experience in the position (company)	0	-	-	-	-	-	
	More than 7–14 years of experience in the position (company)	0.032	0.032	0.980	0.329	-0.032	0.095	Stable
	More than 14 years to 21 years of experience in the position (company)	-0.001	0.025	-0.020	0.984	-0.051	0.050	Stable
	Over 21 years of experience in the position (company)	0.014	0.027	0.510	0.614	-0.040	0.068	Stable
(V10)—What is the nature of the export-oriented economic activity of your company (or business group)?	Others	0	-	-	-	-	-	
	Mining	0.001	0.030	0.030	0.976	-0.058	0.060	Stable
(V11)—Number of direct employees currently working in this company or business group	Up to 19	0	-	-	-	-	-	
	20–30	0.003	0.021	0.120	0.902	-0.039	0.044	Stable
	31–40	0.003	0.035	0.070	0.943	-0.066	0.071	Stable
	41–50	0.005	0.033	0.140	0.892	-0.061	0.070	Stable
	Above 51	**0.007**	0.659	0.010	0.991	-1.295	1.310	Stable

Pseudo-R^2=2.4%

B: Coefficient; t: Test statistic; *Multiple quantile regression; 0: Reference category; significant if $p< 0.050$; Statistically significant values are denoted in bold.

Practical implications

For practitioners, especially managers of SMEs, this study indicates that investing in relationships with international customers can result in sustainable competitive advantages. This implies staff training to improve sales support and the adoption of communication strategies that emphasize the uniqueness and quality of domestic selective distribution (*Distribuição Seletiva* [SD]) systems.

Study limitations and future research

One limitation of this study is the sample size, which may not fully reflect the diversity of strategies adopted within the SRO. Future research should expand the sample and include in-depth case studies to better understand the nuances of EMIs. Additionally, it would be valuable to explore the perceptions of importers and design professionals regarding Brazilian products.

In this sense, future studies should deepen the analysis of annual reports from the perspective of end consumers, with the purpose of strengthening the loosely woven network of knowledge and data at the national level. In this way, they can provide answers to the SRO regarding marketing proposals for the 21st century.

Concomitantly, future research should analyze the conceptualization of the national product from the viewpoint of the importer, as well as present studies that detail the factors that examine the reasons why architects and interior designers opt for substitute products instead of natural stones. These findings highlight the need for a more in-depth comparative analysis addressing: (a) price reduction versus market growth; (b) price reduction versus increase in sales; and (c) a new business vision, with subsequent adaptation to the rapid changes of reality, versus the old business vision.

REFERENCES

American Society for Testing and Materials (ASTM) (2025). *Search Results*. ASTM. Retrieved from https://www.astm.org/search/result?q=astm%20american%20standard&gad_source=1&gad_campaignid=22375941029&gbraid=0AAAADRjg39sB-9vblsTHm8NqNzDJdRWUZ&gclid=Cj0KCQjwmK_CBhCEARIsAMKwcD6nlWcwxLJkMGHgPkRb3b-AUVA589OdsxDoIDnMTuR_45m6j2XT70IaAjaxEALw_wcB

Associação Brasileira da Indústria de Rochas Ornamentais (ABIROCHAS) (2019). *Balanço das Exportações e Importações de Rochas Ornamentais em 01/2019*. ABIROCHAS. Retrieved from http://abirochas.com.br/wp-content/uploads/2018/06/Informes/Informe_01_2019_Balanco_2018.pdf

Associação Brasileira de Normas Técnicas (ABNT) (2025). *Portal*. ABNT. Retrieved from https://abnt.org.br/

Bartlett, M. S. (1950). Tests of significance in factor analysis. *British Journal of Psychology*, 3(2), 77-85. https://doi.org/10.1111/j.2044-8317.1950.tb00285.x

Brasil (2017). Secretaria de Geologia, Mineração e Transformação Mineral. *Anuário estatístico do setor de transformação de não metálicos: rochas ornamentais.* Secretaria de Geologia, Mineração e Transformação Mineral. Retrieved from http://www.mme.gov.br/documents/1138775/1732813/ANU%C3%81RIO+N%C3%83O-METALICOS+2016_vers%C3%A3o+3.pdf/3fe29fc2-116e-4566-8324-c2c91a94fabe

Chiodi Filho, C., & Chiodi, D. K. (2009). *Relatório Técnico 33:* perfil de rochas ornamentais e de revestimento. Secretaria de Geologia, Mineração e Transformação Mineral do Ministério de Minas e Energia. Retrieved from http://www.mme.gov.br/documents/1138775/1256650/P23_RT33_Perfil_de_Rochas_Ornamentais_e_de_Revestimento.pdf/d6f58aa1-b01a-4da1-a178-e6052b2fc8e5

Cohen-Vernik, D., Pazgal, A., & Syam, N. B. (2019). Competing with co-created products. *International Journal of Research in Marketing*, *36*(1), 63-82. https://doi.org/10.1016/j.ijresmar.2018.11.001

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. ***Psychometrika***, ***16***(3), 297-334. https://doi.org/10.1007/BF02310555

Corrar, L. J., Paulo, E., & Dias Filho, J. M. (coord.) (2007). *Análise multivariada: para os cursos de administração, ciências contábeis e economia*. Atlas.

Creswell, J. W. (2014). *Investigação qualitativa e projeto de pesquisa* (3ª ed.). Penso.

Dolley, T. P. (2019). Stone, dimension: advance release. *US Geological Survey Minerals Commodity Summaries*.

European Commission for Normalization (2025). *Portal*. European Commission for Normalization. Retrieved from https://www.cencenelec.eu/about-cen/

Freitas, H., Oliveira, M., Saccol, A. Z., & Moscarola, J. (2000). O método de pesquisa survey. *Revista de Administração da USP*, 35*(*3), 105-112.

Grilo, C. M. C., & Mendes, F. R. P. (2011). The healthcare professionals perception on teamwork in a hospital context. *Journal of Nursing UFPE*, *5*(2), 336-343. https://doi.org/10.5205/reuol.1718-11976-5-LE.05spe201105

Grover, V., & Kohli, R. (2012). Cocreating IT value: New capabilities and metrics for multifirm environments. *Mis Quarterly*, *36*(1), 225-232. https://doi.org/10.2307/41410415

Hair Jr., J. F., Babin, B., Money, A. H., & Samouel, P. (2005). *Fundamentos de métodos de pesquisa em administração*. Bookman.

Hora, H. R. M., Monteiro, G. T. R., & Arica, J. (2010). Confiabilidade em questionários para qualidade: um estudo com o coeficiente Alfa de Cronbach. *Produto & Produto*, *11*(2), 85-103.

Kaiser, H. F. (1970). A second generation little jiffy. *Psychometrika, 35*(4), 401-415. https://doi.org/10.1007/BF02291817

Koenker, R., & Bassett Jr., G. (1978). Regression quantiles. *Econometrica*, *46*(1), 33-50. https://doi.org/10.2307/1913643

Kotler, P. (2010). *Marketing 3.0: as forças que estão definindo o novo marketing centrado no ser humano*. Elsevier Brasil.

Kotler, P., Kartajaya, H., & Setiawan, I. (2010). *Marketing 3.0: as forças que estão definindo o novo marketing centrado no ser humano*. Campus.

Levine, D. M., Stephan, D. F., Krehbiel, T. C., & Berenson, M. L. (2008). *Estatística: teoria e aplicações* (5. ed.). LTC.

Mahr, D., Lievens, A., & Blazevic, V. (2014). The value of customer cocreated knowledge during the innovation process. *Journal of Product Innovation Management*, *31*(3), 599-615. https://doi.org/10.1111/jpim.12116

Marôco, J. (2010). *Análise estatística com o PASW Statistics (ex-SPSS)*. ReportNumber.

O'Malley, L. (2018). Metaphor and relationship marketing discourse. In M. Tadajewski, M. Higgins, J. Denegri-Knott & R. Varman (Eds.), The routledge companion to critical marketing (pp. 259-271). Routledge.

Payne, A., & Frow, P. (2017). Relationship marketing: looking backwards towards the future. *Journal of Services Marketing*, *31*(1), 11-15. https://doi.org/10.1108/JSM-11-2016-0380

Rao-Nicholson, R., & Khan, Z. (2017). Standardization versus adaptation of global marketing strategies in emerging market cross-border acquisitions. *International Marketing Review*, *34*(1), 138-158. https://doi.org/10.1108/IMR-12-2015-0292

Šonková, T., & Grabowska, M. (2015). Customer engagement: transactional vs. Relationship marketing. *Journal of International Studies*, *8*(1), 196-207. https://doi.org/10.14254/2071-8330.2015/8-1/17

Srijumpa, R. (2017). What beyond marketing 3.0: the 4 Ss marketing mix strategy for sustainability. *Journal of Global Business Review*, *15*(1), 1-12.

Theodosiou, M., & Leonidou, L. C. (2003). Standardization versus adaptation of international marketing strategy: an integrative assessment of the empirical research. *International Business Review*, *12*(2), 141-171. https://doi.org/10.1016/S0969-5931(02)00094-X

United States Geological Survey (USGS) (2017). *Mineral Commodity Summaries 2017*. U.S. Geological Survey. Retrieved from https://www.usgs.gov/centers/national-minerals-information-center/mineral-commodity-summaries

Van Staveren, I. (2009). Communitarianism and the market: a paradox. Review of Social Economy, 67(1), 25-47. https://doi.org/10.1080/00346760802431306

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic of marketing. *Journal of Marketing*, *68*(1), 1-17. https://doi.org/10.1509/jmkg.68.1.1.24036

Vargo, S. L., & Lusch, R. F. (2011). It's all B2B...and beyond: toward a systems perspective of the Market. Industrial Marketing Management, 40(2), 181-187. https://doi.org/10.1016/j.indmarman.2010.06.026

Vidal, F. W. H., Azevedo, H. C. A. D., & Castro, N. F. (2014). *Tecnologia de rochas ornamentais: pesquisa, lavra e beneficiamento*. CETEM.

Westjohn, S. A., & Magnusson, P. (2017). Export performance: a focus on discretionary adaptation. Journal of International Marketing, 25(4), 70-88. https://doi.org/10.1509/jim.16.0114

Zeriti, A., Robson, M. J., Spyropoulou, S., & Leonidou, C. N. (2014). Sustainable export marketing strategy fit and performance. Journal of International Marketing, 22(4), 44-66. https://doi.org/10.1509/jim.14.0063

How to cite this article:

Guidi, A. C., Pizzinatto, N. K., Monteiro, T. A., & Correa, M. S. (2025). Marketing strategies in the dimension stones sector. *Internext*, 20(2), e808. https://doi.org/10.18568/internext.v20i2.808