

**Empirical investigation of the effect of product differentiation on export performance:
A contingent view**

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Abstract

The search for the determinants of export performance is a fertile area of study. In particular, the impact of product differentiation on export results has been investigated. Although mixed, results tend to support the contention of a positive association between the two constructs. Given that most study on the effects of differentiation on export performance have been conducted from the point of view of developed countries exporters, the present study brings some incremental contribution to the literature by investigating the relationship between the two concepts in a sample of exporters from an emerging market. Based on a sample of 414 large Brazilian exporters of manufactured products, this study provides indicative evidence of the positive impact of product differentiation on export revenues and export profitability. Also, a contingent approach is taken, whereby the magnitude of the impact of product differentiation seems to depend on the level of development of the target country, but not on the degree of internationalization of the exporting firm.

Keywords: export performance, product differentiation, Brazil

Introduction

Exports represent a significant role in the world economy, accounting for 29% of world GDP (as of 2007, according to World Bank, 2009) and are still the international entry mode most frequently employed by emerging markets firms. In fact, exports and the determinants of export success are relevant research topics for academicians, practitioners and public policy officers.

The search for the determinants of export performance is a fertile area of study as shown by several literature reviews, such as Aaby and Slater (1989) and Zou and Stan (1998). A recent bibliographic analysis of five decades of research into exporting (Leonidou, Katsikeas and Coudornaris, 2010) found that export performance has been “the most highly researched theme of exporting research overall during the last five decades” (p.87). This research effort notwithstanding, the authors of the review contend that “there is still room for investigating such forces [i.e., the determinants of exporting and their outcomes] further” (p.88).

Among the posited determinants of export performance are a firm’s competitive advantages and in particular the degree of uniqueness that a firm’s offer presents in comparison to competitive and substitute offers – the so called product differentiation advantage. Differentiation can be defined as the offer of a package of attributes in a product or service which is perceived by the potential buyers as better than other competing or substitute offers (Mintzberg, 1988; Porter, 1985).

While several scholars have investigated the impact of product differentiation (often times called product advantage, product strength, product quality, product uniqueness or more generally competitive advantage) on export performance, they have nonetheless chosen a multiplicity of aspects of the differentiation concept as well as varied dimensions and indicators of export performance. In spite of this complex state of affairs, some literature reviews and meta-analyses on the determinants of export performance help make sense of accumulated empirical results about the impact of product differentiation on export performance.

Zou and Stan’s (1998) review (1987-1997) of the determinants of export performance included 15 articles dealing with the impact of so-called product strengths (which can be taken to mean product differentiation). They found 13 positive significant relationships (between product strengths and one or more measures of export performance: export sales, export profit, export sales growth, export success, satisfaction with exports, export goals achievement or some composite measure), 2 negative significant relationships, but also as many as 27 non-significant relationships – thus casting some doubt on existence of some real effect of differentiation on export performance.

On the other hand, Leonidou, Katsikeas and Samiee's (2002) meta-analysis (1964-1998) indicated that each of several facets of product characteristics (all of which can be associated with product differentiation, such as design, quality, branding, packaging/labeling, customer service, warranty, product advantage, new/unique product) bore statistically significant impact on one or more aspects of export performance (specifically, overall export performance, export sales volume, export sales growth, export sales intensity, export profits level, export profit contribution, export market share or some composite performance measure).

Given the somewhat mixed results and the fact that most studies about the effects of differentiation on export performance have been conducted from the point of view of developed countries exporters, this study expects to contribute to the present stock of knowledge by providing empirical evidence of the relationship between the two concepts from a research setting less often explored in the literature – that of exporters from an emerging market, specifically Brazil.

Literature Review and Hypotheses of the Study

The impact on export performance (or on firm performance in general) resulting from the degree of differentiation of the product offer is by no means straightforward. On the one hand, offering a product that seems somehow unique in the perception of customers usually entails additional costs – be it in the quality of the inputs or of the technical features, be it in aggregated services or in brand/image building.

Although at similar price levels as those charged by competitors, a differentiated offer would usually command a higher volume of sales (unless customers have switching costs or the not higher price would lead customers not to perceive any differentiation), the impact on profits is not so clear-cut. The cost increase required to differentiate would initially reduce the unit contribution margin, but the incremental volume would bring additional overall contribution margin and might even lead to a decrease in unit costs (especially by means of greater bargaining power with suppliers as well as scale and learning economies); but the increased volume may, on the other hand, demand additional investment and even a higher level of fixed costs in order to properly serve the additional customers.

Of course a firm might decide to charge a higher price in the expectation that (at least some) customers will be willing to pay more for what is considered a unique or better offer. But the higher price might turn away some customers who – although they recognize the additional benefits of the (differentiated) offer – may not be willing to pay for it (Kim and Mauborgne, 2005; Nagle, Hogan and Zale, 2010).

All in all, the revenues and profit impacts of a differentiated offer would depend on several variables, some of which are, to a certain extent, under the control of managers – e.g., prices, specific unique features offered and their degree of attractiveness to potential buyers in comparison to competitors' and substitutes' offers, cost incurred to differentiate – while others are not – such as, demand elasticity to price, size of market segments, customers' switching costs, or actions by competitors or substitutes.

In order to investigate past empirical findings about the impact of product differentiation on export performance, a literature review was undertaken which covered more than 20 top-tier journals on international business (*cf.* Dubois and Reeb, 2000) and on management in general (*cf.* Tahai and Meyer, 1999) in the period 1994-2009 (and cross-references thereof) in order to identify empirical articles that dealt with export performance. Then abstracts and keywords were searched for: differentiation, product quality, product advantage, product strength, product uniqueness or competitive advantage. Also, literature reviews (Zou and Stan, 1998) and meta-analyses (Leonidou, Katsikeas and Samiee, 2002) on export performance were looked up in order to identify articles that dealt with differentiation.

Leonidou et al.'s (2002) meta-analysis provides reasonable support for the association

between product differentiation and export performance. In their words,

“the relationship between product quality and export performance was widely researched and positively associated ($p < 0.01$). Two observations regarding product quality are noteworthy. First, the positive influence of product quality on export performance was stressed more in older studies and those conducted in Europe. Second, the data indicated a weak association between product quality and export market share or composite measures of export performance. The relationship between branding and export performance was narrow in scope, but significant, varying according to the time of study and its geographic focus. Only research conducted in the 1980s, on industrial products, and which was located outside of the US and Europe, revealed significant links between branding and performance. Branding variables were found to be positively related to overall export performance, as well as to export intensity and profit level ($p < 0.05$). [...] [Additionally, customer service] revealed a significant correlation with export performance” (p.60).

Based on a study of Danish manufactures, Madsen (1989) reported a positive significant impact of “product strength” (specifically, product uniqueness and product quality and design) on export sales, export sales growth and export profitability. On the other hand, while Knight, Madsen and Servais (2004) found a positive impact of product differentiation on export performance in a US sample, they found a non-significant relationship in a Danish sample.

Piercy, Kaleka and Katsikeas (1998) study of UK exporters found that higher export performers presented statistically significant higher levels (as compared with lower export performers) of product quality, brand image, product accessibility, technical support/after sales service, and delivery speed and reliability, but not statistically significant differences in terms of packaging, design and/or style, and product line breadth.

Also, Styles and Ambler (1994) review of successful export practice among UK firms reveals that “[p]roduct strength in terms of attribute uniqueness and quality are strongly related to export success” (p.26). In a recent study, Larimo (2007) found strong evidence of a positive impact of product differentiation on several measures of export performance in a sample of Finnish SMEs.

In contrast, some studies have found no positive association between product differentiation and export sales. For example, Moini (1995) found that successful American exporters (classified as those with 10% or higher export intensity and positive export sales growth over the last five years) had on average less differentiated products (in terms of product quality) than growing exporters (those with less than 10% export intensity but growing export sales) and partially interested exporters, but the difference was not statistically significant.

However, considering that in most markets a differentiated product offered at a price no so much higher (than competitors’) would lure a good number of customers and at the same time spare the firm from dividing the market with a (frequently) high number of competitors, one can posit that:

H_{1a}: The higher the level of product differentiation, the higher the export revenues.

As for the total impact on export profitability, the conceptual discussion makes it clear that there may be no universally applicable effect and that one should rather consider possible contingencies that would be expected to affect the direction and magnitude of the impact of product differentiation.

Some researchers have argued for a positive impact of differentiation on export profitability. For example, Walters and Samiee’s (1990) “findings [in a sample of small American firms] indicate that differentiation policies in the product policy area provide an important platform for success [in terms of export profit]. In particular, differentiation through technological sophistication and product adaptation is a viable strategy for small exporting firms” (p.45).

Kaynak and Kuan (1993) also found that differentiation (in terms of localized after-sale service) would statistically discriminate between high vs. low performers, but only in terms of export profitability while not in terms of export intensity or exports contribution to firm’s profits. Morgan,

Kaleka and Katsikeas (2004) found a positive association between positional advantage (a construct composed of cost-, product- and service-related advantages in comparison with competitors) and export performance (a construct measured by export sales volume, export market share, profitability and percent of revenues from newly introduced products). Also, Thirkell and Dau's (1998) study of New Zealand exporters found support for the impact of quality and service on export performance, although weak evidence for the impact of product uniqueness.

On the other hand, Katsikeas, Piercy and Ioannidis (1996) found no statistically significant impact of product differentiation (in terms of quality and uniqueness) on export sales, market share or profitability in a sample of Greek food export manufacturers. Also, Ayal and Hirsch (1982) did not find the expected increasing function between product differentiation and export profitability (in terms of exports per employee and exports per capital employed) in a study of small Israeli firms.

In spite of the controversial results, we advance the following hypothesis in order to test the effect of product differentiation on export profitability in this particular sample:

H_{1b}: The higher the level of product differentiation, the higher the export profitability.

The possible moderating effects of two variables – the type of target country (developed vs. developing) and the firm's degree of internationalization – on export performance will now be discussed.

The moderating effect of the type of target country

Brouthers, O'Donnell and Hadjimarcou's (2005) empirical results indicate that the impact of product differentiation (quality) by emerging market exporters would differ according to the specific target country: a premium strategy (higher price/quality products) would be conducive of higher levels of satisfaction with export performance in the European Union, while a superior value strategy (lower price and higher quality products relative to the typical competitor) and an economy strategy (lower price / lower quality products) would lead to better export performance when exporting to Japan and the US, respectively.

McGuinness and Little's (1981) empirical findings in a sample of Canadian exporters also suggest that the impact of product differentiation (in terms of relative improvement and newness) would be contingent on the type of target country (US vs. other countries).

Aulakh, Kotabe and Teegen (2000) presented conceptual arguments and found empirical support (with a sample of exporters from three developing countries: Brazil, Chile and Mexico) for the fact that a differentiation strategy (in terms of quality, image and uniqueness) employed by developing country exporters would lead to better performance (in terms of overall role of exports in the firms' sales growth, market shares, and competitive positions, as well as the profitability of export sales) only if the target country were another developing country. Their arguments rest on the assumption that consumers from more developed countries would show prejudice against products originated from less developed countries (*cf.* Cordell, 1993) and, as a consequence, would not recognize or be willing to pay more for what is in fact a better product (although not perceived as such by the customers). In a complementary vein, when targeting other developing countries, these exporters would not have a cost advantage of a (relatively) cheaper workforce and would still have to incur higher costs of transportation – so that a cost leadership strategy would not be feasible. This line of reasoning, coupled with the argument that customers from less developed countries tend to perceive foreign products (either from industrialized or from developing countries) in a positive fashion (*cf.* Hulland, Todino and Lecraw, 1996, in a study of Philippine consumers), would suggest that developing country exporters would be better off if they implemented a differentiation strategy when selling to other developing countries.

Some argue, however, that customers from less developed countries are on average poorer

and thus would find it more difficult to pay a higher price, even when they recognize the superiority in the product offered (Simmonds, 1999). So, an exporter's efforts to differentiate when targeting less developed countries' consumers would be undermined by the higher price sensitivity of these buyers.

Given that the arguments about the moderating effect of the degree of development of the target country are somewhat mutually controversial, we set out to test two generic hypotheses that speculate only about the existence of differences, but do not anticipate the sign of the differences.

H_{2a}: The magnitude of the effect of product differentiation on export revenues will depend on the level of development of the target country.

H_{2b}: The magnitude of the effect of product differentiation on export profitability will depend on the level of development of the target country.

The moderating effect of the type of the degree of internationalization

Given that differentiation usually entails additional costs, it seems reasonable to argue that the larger the customer base of a firm, the better it may dilute the incremental costs and, as a consequence, rip the profit benefits of differentiation.

A way to increase its customer base is for a firm to enter new countries. Although the initial entry requires specific costs, once the firm is in an additional market it has a new outlet for its (differentiated or otherwise) products. Of course, one can argue that whether a firm manages or not to successfully enter a new market may depend on the competitive advantages (be it differentiation or other type of advantage) it has against host country rivals. But what is of interest in the present study is not to test the effect of differentiation on market entry. Rather, we are interested in investigating whether the number of countries exported to (as a proxy for the size of the customer base) affects the impact of differentiation on export profitability.

In an opposite vein, one might argue that additional export markets may impose additional adaptation and thus higher costs. Whether these higher adaptation costs will or not be compensated by the additional volume and (possibly) higher prices accruing from the adaptation is another question.

The fact is that we did not find references in the literature about the moderating effect of the degree of internationalization on the impact of product differentiation on export performance. Nonetheless, we advance the following two hypotheses:

H_{3a}: In case the overall impact of product differentiation on export profitability is positive, such impact will be higher for more internationalized firms than for less internationalized firms.

H_{3b}: In case the overall impact of product differentiation on export profitability is negative, such impact will be lower (i.e., less negative) for more internationalized firms than for less internationalized firms.

The conceptual model as well as the operational model (to be discussed later) of this study are presented in Figure 1.

*** Insert Figure 1 about here ***

Data and Methods

Starting from a list of the largest 5,000 Brazilian exporters (with annual export revenues higher than US\$700 thousand as of 2006), provided by Funcex (a private not-for-profit organization supported by Brazilian exporters), we excluded service firms, exporters of commodities, trading

companies and foreign-owned firms – and kept only 3,057 Brazilian-controlled exporters of manufactured products, thus getting a more homogeneous sampling frame. The unit of analysis was the export venture (i.e., the specific combination of a given (line of) product exported to a given country), as suggested by several researchers (e.g., Cavusgil and Kirpalani, 1993; Matthyssens and Pauwels, 1996).

An emerging market such as Brazil is an interesting research setting given that most research about the impact of product differentiation on export performance has been conducted from the point of view of firms from developed countries. Moreover, there are anecdotal arguments that Brazilian firms (and firms from emerging markets in general) would not formally plan their offer to foreign markets but would instead rely on (comparative) cost advantages. So, researching on Brazilian firms complements (and might contrast with) previous literature.

Data were collected in 2007. A four-page structured questionnaire (that covered several other variables besides those reported here) with a pre-paid return envelope was mailed to all the firms in the sampling frame. In order to increase response rates, semantic-differential scales (rather than open-ended questions) were employed (as suggested by Matthyssens and Pauwels, 1996, and Shoham, 1998). We relied on managers' perceptions (one per firm, the export manager in most cases) of export performance and of the degree of product differentiation vis-à-vis competitors in the target country. In order to smooth out short-term fluctuations of export performance, we asked managers to provide data on export performance for a three-year period (2004-2006).

A total of 448 questionnaires were returned (15.5% effective response rates, after correcting for non-eligibles). No systematic non-response bias – in terms of type of industry, geographic region of origin within Brazil, or export revenues – was observed. After removal of cases with too high incidence (15% or more) of missing data (on the set of all variables, not just those reported in the present study), a final sample of 414 cases was obtained. Since missing data exhibited an MCAR (missing completely at random) pattern at the 10% significance level (Little & Rubin, 1987), we employed four methods for data estimation – simple average listwise, simple average pairwise, multiple linear regression and E-M estimation. Since the four methods provided similar estimates, imputation of missing data was based on the simple arithmetic average of those four methods.

This study involves the relationship between product differentiation and export performance and takes into consideration the possible moderating effects of two variables: the development level of the target country and the degree of internationalization of the firm. All these constructs are complex and multifaceted. In order to strive for conceptual coverage and analytical rigor we chose to operationalize both product differentiation and export as latent variables represented by multiple indicators, whose relationship was tested by means of a structural equation modeling approach. In order to test for the moderating effects, we employed a multi-group analysis technique (Hair, Black, Babin and Anderson, 2009). Models were estimated by an asymptotic distribution-free method (ADF) because variables did not follow a normal distributional pattern. SPSSTM 18.0 and AMOSTM 18.0 were the statistical packages used.

Several authors (e.g., Cavusgil and Zou, 1994; Katsikeas, Leonidou and Morgan, 2000; Matthyssens and Pauwels, 1996) have argued that export performance is a multidimensional construct. So we chose a two-dimensional representation of this construct: export revenues (and their growth); and export profitability. This representation was also necessary because we conceptually argued for specific impacts of product differentiation on each of those two facets of export performance.

The particular indicators (see Table 1) of export revenues were: satisfaction with export venture revenues, export venture revenues relative to other export ventures of the firm, satisfaction with growth of export venture revenues, and growth of export venture sales volume relative to sales volume of other export ventures of the firm. Two indicators were used to measure export profitability: satisfaction with export venture profit margin, and export venture profitability vis-à-vis

average profitability of other export ventures of the firm. Together, these indicators cover both absolute and relative (to other export ventures of the firm) aspects of export performance as well as static and dynamic (growth) perspectives – thereby providing a reasonable coverage of the complex nature of the construct.

*** Insert Table 1 about here ***

Product differentiation also involves several aspects (Porter, 1985). In the literature one can observe great variety on how to operationalize product differentiation with different authors covering different aspects of the construct. We took Mintzberg's (1988) typology of differentiation strategies (Figure 2) as the basis of our operationalization of the construct and represented product differentiation by four indicators (see Table 2) as assessed by the export managers: overall degree of sophistication of firm's product vis-à-vis competitors in the target country, quality of firms' product (specifications, materials, reliability, resistance) vis-à-vis competitors in the target country, services to the buyer rendered by the firm (delivery time, delivery place, technical assistance, information, visits) vis-à-vis competitors in the target country, and firm's reputation or product brand image vis-à-vis competitors in the target country.

*** Insert Figure 2 about here ***

*** Insert Table 2 about here ***

In order to measure the level of development of a country we used an averaged summated scale of the z-scores of two indicators: HDI (Human Development Index; United Nations, 2007) and GDP (World Bank, 2007). We split the sample in two sub-samples about the median, but made sure that all cases of the median country would be presented in just one of the sub-samples. This procedure yielded two groups: Italy and "more developed" countries (211 cases); and Spain and "less developed" countries (203 cases).

The degree of internationalization has also been argued to be a multidimensional construct (Sullivan, 1994). Since one of such dimensions would be the financial one – usually represented by foreign revenues to total revenues – which would have a direct mathematical relationship (by way of definition) with profitability (since revenues are part of the numerator of profitability), we chose to operationalize the construct by another variable: the number of countries exported to in the previous year (as reported by the respondents). In order to have two clearly distinct groups, we divided the sample into three approximately equal parts and considered only the "highly internationalized" group (15 or more countries exported to; 152 cases) and the "least internationalized" group (7 or fewer countries; 149 cases), leaving out the "middle" group (113 cases).

Findings

Before estimating the structural relationships between the focal constructs, it was necessary to validate the proposed measurement model (see Figure 1) in order to verify whether the operational indicators seemed to provide a good representation of their constructs.

We first assessed the degree of internal consistency. For the Differentiation construct, inter-item within-construct correlations and item-to-total within-construct correlations are all high enough and statistically significant as desired. Although standardized loadings were not very high (minimum of .50 for DifSupp and maximum of .74 for DifQty), we decided to keep all four indicators because loadings were all statistically significant and conformed to minimum requirements (desirable $\geq .707$ or at least $\geq .50$). As for the indicators of Export Revenues and of Export Profitability all conformed well to desirable standards (except marginally for SPasRev whose standardized loading was .64). In terms of unidimensionality, however, Export Revenues and Export Profitability do not seem to actually represent truly distinct constructs – since some of the inter-item within-construct correlations were lower than inter-item between-construct correlations (see Table 3) and the average

variance extracted (respectively, .53 and .60) is not much higher (as would be desired) than the squared inter-construct correlation (.56) – meaning that the variance of the each construct seems not to be better represented by its assigned indicators than it is represented by the indicators of the other construct. On the other hand, the pattern of standardized residuals does not invalidate, at the .10 level, the assumption of distinctiveness among the constructs. Given that conceptual arguments suggest that the revenues and profits represent different, albeit related, aspects of the export performance construct and given also that we set out to test the distinct impacts on revenues and on profits, we decided to keep the two constructs as distinct. Although the goodness-of-fit index (GFI) of the whole measurement model was adequately high (.92 > .90 as desired), other fit indexes were not good ($\chi^2 / df = 5.4$, higher than the desirable limit of 5.0; Tucker-Lewis index (TLI) = .60 and comparative fit index (CFI) = .72, rather below the desirable .95 level; and root mean square error of approximation (RMSEA) lowest estimate = 0.088, above the desired .070 level).

*** Insert Table 3 about here ***

Table 4 shows the association between indicators and constructs in the measurement model, as estimated with the full sample of 414 cases. Composite reliability is higher than the critical value of .60 (*cf.* Bagozzi and Yi, 1988) for all constructs, but average variance extracted (AVE) is only .42 (i.e., not higher than .50 as desired) for the Product Differentiation construct (meaning that the variation in the latent variable explained among its indicators is less than 50%). Despite the dubious picture cast on the adequacy of the fit of measurement model, we decided to continue.

*** Insert Table 4 about here ***

The estimation of the structural model indicates that Product Differentiation has a positive and statistically significant impact both on Export Revenues and on Export Profitability (standardized regression weight = .76; $p < .001$; and .77, $p < .001$, respectively). Squared multiple correlations (SMC) of 58% and 59% indicate that Product Differentiation explains a relevant proportion of the variance of Export Revenues and of Export Profitability. Although these results corroborate hypotheses H_{1a} and H_{1b}, the relatively low fit of the structural model ($\chi^2 / df = 7.5$; GFI = .88; TLI = .41; CFI = .57; lowest estimate of RMSEA = .111) recommends caution in the interpretation of the findings.

One can conjecture that low fit indexes might in some situations be attributed to differences in the magnitude of effects across different levels of (moderating) variables. In fact, when the structural model was estimated in each of two sub-samples (more developed vs. less developed countries), the standardized regression weights were quite different. The standardized regression weights representing the impact of Product Differentiation on Export Revenues were .66 and .85, respectively in the less developed vs. in the more developed group of countries; while the impact on Export Profitability was .66 and .86, respectively. In the sub-sample of less developed countries, the variance explained of Export Revenues was 43% and that of Export Profitability was 44%. In the sub-sample of more developed countries, the variance explained was 72% and 74% respectively.

This suggests that Product Differentiation has a positive association with Export Revenues and Export Profitability, but the association is stronger when Brazilian exporters sell in more developed countries than in less developed countries, offering support for hypotheses H_{2a} and H_{2b}, while also providing direction information as to the distinct level of the impact. Given, however, that fit indexes were below desired levels ($\chi^2 / df = 4.5$ and 4.8; GFI = .86 and .89; TLI = .45 and .42; CFI = .59 and .58; RMSEA lowest estimates = .111 and .113), these results should be taken as merely indicative.

In order to test for the moderating effect of the degree of internationalization we estimated a model with just two constructs – Product Differentiation and Export Profitability – since we were not interested in the impact on Export Revenues. When estimating the model with the sub-sample of more internationalized firms, there was a Heywood case (negative variance of -1.1) in the error

variance of the measurement error of one indicator of Export Profitability. In order to proceed we set this error variance to zero. No relevant difference could be observed for the impact of Product Differentiation on Export Profitability across the two sub-samples: regression weights of .27 ($p < 0.01$) and of .26 ($p < 0.01$), respectively in the less internationalized vs. the more internationalized sub-sample of firms. The proportion of variance explained was only 7% in both sub-samples. This time, fit indexes were all within desirable limits: a non-significant χ^2 in both estimated models; $\chi^2 / df = 1.3$ and 1.1; GFI = .98 and .98; TLI = .94 and .98; CFI = .97 and .99; RMSEA estimate / lowest estimate = .048 / .000 and .029 / .000. So, no support was found for either H_{3a} (as for H_{3b}, it was unmeaningful since the association between Product Differentiation and Export Profitability was positive).

Implications for Researchers and for Practitioners

This study has several limitations that should not go unnoticed. The sample contained only relatively large exporters, most of them with a medium to high degree of internationalization. So, findings may not immediately generalize to other populations. Besides, export ventures of relative success (*vis-à-vis* other export ventures of the firm) seem to be over-represented in the sample collected. Also, since we did not collect information about discontinued export ventures, this study may have suffered from survival bias. Moreover, the quite high correlation between the two endogenous variables – Export Revenues and Export Profitability – confuses the interpretations of the findings.

Other methodological limitations include the reliance on perceptual (instead of objective) measures and on a single respondent (usually the export manager) per firm. So results should be interpreted with care given possible inflation of the relationships due to common method bias (*cf.* Chang, Witteloostuijn, and Eden, 2010). Moreover, indexes of goodness of fit were not in general adequately good, suggesting that the proposed model may not provide a good representation of actual data.

Given the methodological limitations, the present results should be taken merely as indicative of the relationship between product differentiation and export performance, pending further investigation.

All in all, the present findings provide some empirical support for the contention that product differentiation tends to lead to better export performance, both in terms of revenues and of profitability. These results are in line with past empirical studies, which have in most part tended to find a positive relationship between product differentiation and export performance. The fact that data were collected about a not so frequently employed research export setting – an emerging market – contributes to the external validity of previous published findings.

It is interesting to note that differentiation seems to pay off better, at least in the particular sample of Brazilian firms, when exporting to more developed countries. This result is in sharp contrast with Aulakh et al.'s (2000) theoretical arguments and empirical findings. The scarcity of studies investigating this contingency suggests that more research would be welcome.

These results are particularly interesting for managers of Brazilian exporters since they indicate that there may be another route to success rather than the usually mentioned comparative advantages of lower costs. Besides, it seems to suggest that Brazilian managers (at least those of larger exporters) should not be afraid to invest in better products and to compete head-to-head against competitors in more developed markets.

As for the impact of the degree of internationalization, the conceptual arguments did not lead to an unambiguous effect. The lack of past literature on the argued moderating effect together with the non-significant statistical results in this study seem to indicate that either no effect exists or that there may be opposing effects that somehow counterbalance one another.

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Figure 1 – Conceptual and Operational Model

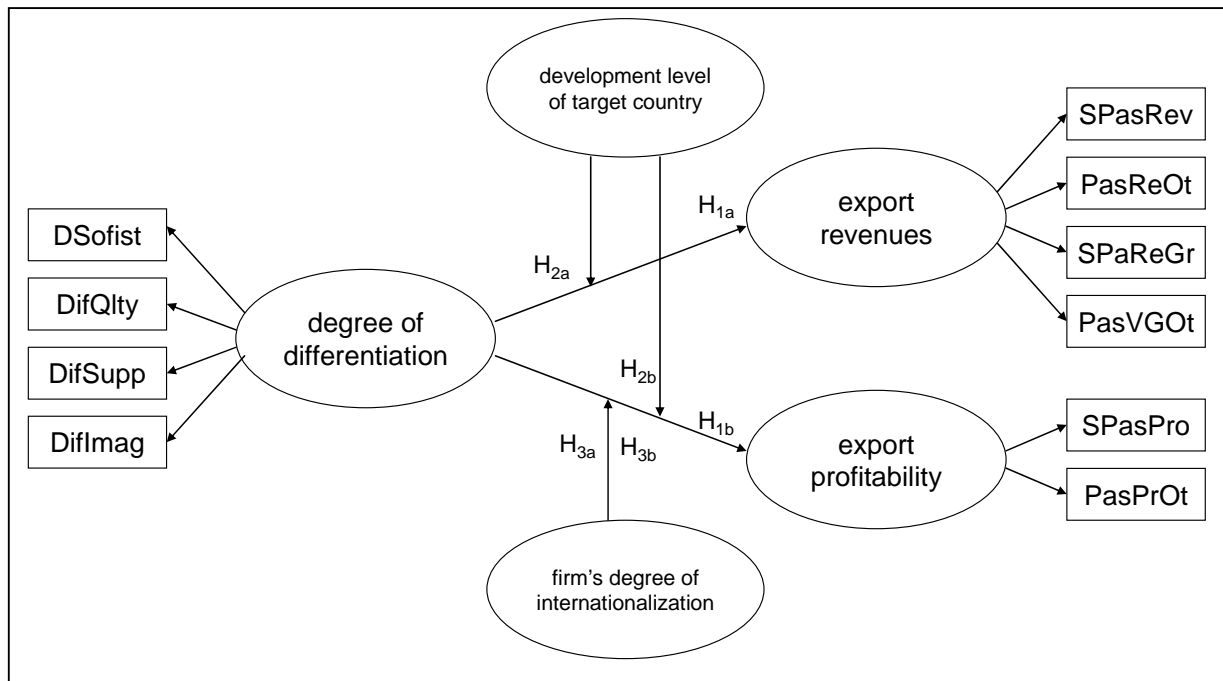


Figure 2 – Mintzberg's (1988) Typology of Differentiation Strategies

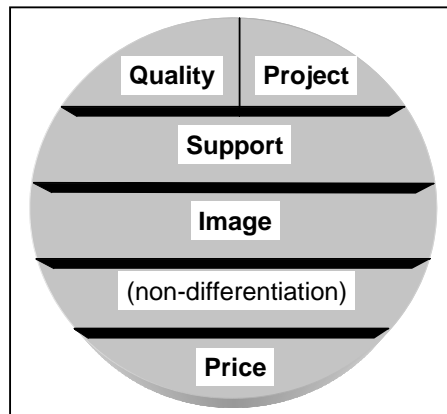


Table 1 – Indicators of Export Performance Used in the Study

Construct	Abbreviation	Description of the meaning of the indicator
Export revenues (and their growth)	SPasRev	Satisfaction with export venture revenues
	PasReOt	Export venture revenues <i>vis-à-vis</i> average revenues of other export ventures of the firm
	VPasComp*	Export venture volume <i>vis-à-vis</i> other Brazilian firms exporting to the same country
	SPaReGr	Satisfaction with growth of export venture's revenues
	PasVGOT	Growth of export venture volume <i>vis-à-vis</i> average volume growth of other export ventures of the firm
Export profitability	SPasPro	Satisfaction with export venture profit margin
	PasPrOt	Export venture profitability <i>vis-à-vis</i> average profitability of other export ventures of the firm

* This indicator was dropped due to high incidence of missing data

Note: all indicators were rated on five-point semantic differential scales with anchor words such as “very dissatisfied” ... “very satisfied” or “much less” ... “much more” or similar ones. Temporal bracket explicitly stated in the questions was “last three years”.

Table 2 – Indicators of Product Differentiation Used in the Study

Construct	Abbreviation	Description of the meaning of the indicator
Product Differentiation	DSofist	Overall degree of sophistication of firm's product <i>vis-à-vis</i> competitors in the target country
	DifQlty	Quality of firms' product (specifications, materials, reliability, resistance) <i>vis-à-vis</i> competitors in the target country
	DifSupp	Services to the buyer rendered by the firm (delivery time, delivery place, technical assistance, information, visits) <i>vis-à-vis</i> competitors in the target country
	DifImag	Firm's reputation or product brand image <i>vis-à-vis</i> competitors in the target country

Note: all indicators were rated on five-point semantic differential scales with anchor words “much worse” / “much better”.

Table 3 – Correlations among Operational Indicators

	DSofist	DifQlty	DifSupp	DifImag	SPasRev	PasReOt	SPaReGr	PasVGOT	SPasPro	PasPrOt
DSofist	1	.492 ***	.301 ***	.439 ***	.024	-.083 *	.019	-.101 *	.100 *	-.016
DifQlty		1	.295 ***	.562 ***	.026	.036	.059	.004	.170 **	.074
DifSupp			1	.367 ***	.185 ***	.034	.202 ***	.091 *	.149 **	.126 *
DifImag				1	.021	.009	.084 *	.011	.144 **	.105 **
SPasRev					1	.229 ***	.589 **	.253 ***	.485 ***	.283 ***
PasReOt						1	.260 ***	.620 ***	.250 ***	.412 ***
SPaReGr							1	.445 ***	.487 ***	.346 ***
PasVGOT								1	.337 ***	.471 ***
SPasPro									1	.507 ***
PasPrOt										1

* $p < .1$, ** $p < .01$; *** $p < .001$

Table 4 - Associations between indicators and constructs as implied by the measurement model

	standardized loading	critical coefficient	composite reliability	average variance extracted
<i>Export revenues</i>			.83	.53
Satisfaction with export venture revenues	.641	12.184 ***		
Export venture revenues <i>vis-à-vis</i> average revenues of other export ventures of the firm	.714	14.355 ***		
Satisfaction with growth of export venture revenues	.725	14.844 ***		
Growth of export venture volume <i>vis-à-vis</i> average volume growth of other export ventures of the firm	.815	18.966 ***		
<i>Export profitability</i>			.74	.59
Satisfaction with export venture profit margin	.799	19.377 ***		
Export venture profitability <i>vis-à-vis</i> average profitability of other export ventures of the firm	.742	15.873 ***		
<i>Product Differentiation</i>			.80	.42
Overall degree of sophistication of firm's product <i>vis-à-vis</i> competitors in the target country	.635	13.307 ***		
Quality of firms' product (specifications, materials, reliability, resistance) <i>vis-à-vis</i> competitors in the target country	.739	18.192 ***		
Services to the buyer rendered by the firm (delivery time, delivery place, technical assistance, information, visits) <i>vis-à-vis</i> competitors in the target country	.495	9.332 ***		
Firm's reputation or product brand image <i>vis-à-vis</i> competitors in the target country	.706	16.109 ***		

*** $p < 0.001$