

**EXPORT INTENSITY AND THE COMPETITIVE INTELLIGENCE OF
EXPORTING COMPANIES: EVIDENCE FROM BELGIUM AND SOUTH AFRICA**

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EXPORT INTENSITY AND THE COMPETITIVE INTELLIGENCE OF EXPORTING COMPANIES: EVIDENCE FROM BELGIUM AND SOUTH AFRICA

ABSTRACT

The present paper investigates into the relationship between Competitive Intelligence (CI) factors, characteristics, information sources, needs, requirements and the export intensity of exporting companies in two distinct samples (Flanders and South Africa). We establish whether there are significant differences between firms, grouped according to export intensity with respect to awareness, use, information sources and attitude towards CI activities.

A questionnaire was developed and sent to exporting firms, resulting in a usable sample of 309 South African and 295 Flemish respondents. These firms are grouped according to export intensity, and CI practices between groups are compared.

In contrast with some distinct cross-country differences, in both Flanders and South Africa, export intensive firms appear to be more aware and supportive of CI activities than less export intensive firms.

Introduction

Competitive Intelligence (CI) is the component of Business Intelligence aimed at gaining strategic advantage (Porter 1980). Therefore, it includes competitor intelligence as well as intelligence collected on customers, suppliers, technologies, environments, or potential business relationships (Guyton 1962; Fair 1966; Grabowski 1987; Gilad 1989).

A review of the literature related to competitive intelligence suggests that competitive intelligence is a marketing research discipline focused on gathering information on the competition (Schollhammer 1994; Agarwal 1993).

However, a broader examination shows that intelligence is not only about monitoring competition but rather monitoring the entire business environment to capture all of the multiple functions within the competitive process. Gilad stated that the objective of intelligence is “being able to predict competitors’ moves, customers’ moves, government moves and so forth.” In the broadest sense, intelligence (including the collection, analysis, and dissemination of knowledge) is the process to reduce managerial decision uncertainty (Gilad 1996).

Companies that are active in the international market as exporters evidently have other information and CI needs than local firms. The business environment (e.g. nature of competition, the distribution systems) differs from country to country, which must have an impact on the information system and CI requirements. In addition, the degree of export reliance of companies – or the degree of international commitment in the export business of the company - can be expected to influence the intensity of use that is made of internal and external information, the structure of the company’s information system, and the nature of the CI practices.

Quite evidently, the frequency and efficiency of the use that is made of information sources and CI, the characteristics of the evolving CI systems, the learning processes involved, etc. will influence the success in the international market and therefore the export intensity of the company's activities (Johanson and Vahlne 1977; Walters and Samiee 1990; Toften and Olsen 2003; Leonidou and Theodosiou 2004).

The relationship between the degree of export orientation of companies and the various characteristics of their information systems and CI practices and needs is therefore likely to be one of mutual causation.

Since the mid-1970s, a good deal of research has focused on the development of firms' exporting activities. Two main streams of research concerning the export development process are readily apparent. The dominant stream posits a "stages" model of export development, ranging from "uninterested in exporting" to "full commitment" to international markets, using a range of differing criteria. Firms are conceptualized as growing incrementally along a learning curve, moving from one export stage to the next on their way to becoming fully-fledged, committed exporters. It is generally assumed that the process is evolutionary in nature (Bilkey and Tesar 1977; Chisnall 1977; Wiedersheim-Paul, Olson and Welch 1978; Cavusgil, 1980). The second stream of research differs in one important facet. Unlike the stages models, where greater involvement in exporting is viewed as an evolutionary and incremental process, this work does not assume incremental development (Samiee and Walters 1991; Rao and Naidu 1992; Katsikeas and Dalgic 1995). A central theme in this conceptualization is that firms do not necessarily incrementally evolve into more committed exporters over time. Some firms have a proactive attitude toward international markets right from their inception due to a range of factors that include the background, training and experience of key personnel. Other firms follow the incremental path and progress to regular export involvement more gradually. Sporadic exporters, on the other

hand, exhibit less interest in exporting maintaining a steady state of low-level export activity for long periods. This reflects priorities and circumstances in these firms that often do not change much over time. As a result, there is no inherent momentum for export development. Most scholars agree that the internationalisation process of companies evolves gradually (Chisnall 1977; Cavusgil 1980; Wiedersheim-Paul, Olson and Welch 1978) and that as they gain international experience, their management may develop higher expectations, evolve and adopt better suited internationalisation policies and strategies, and adapt organisational structures and procedures. One of these structures is the company CI system.

In this paper, we will statistically explore the relationship between CI factors and characteristics, as well as information sources, needs and requirements, on the one hand, and the export intensity of exporting companies in the Flemish region of Belgium (about 60% of the Belgian population) and in South Africa, on the other hand. These regions differ substantially in size, with the population of South Africa being more than four times that of Belgium, but a GDP per capita of less than half. Both countries also differ substantially in terms of openness of their economies, whereas Belgium had a total trade volume (exports and imports) as a percentage of GDP of 169.33% in 2000 it was only 55.15% for South Africa. In 2002 Belgium had a world export market share of 3.3% and South Africa 0.5%. Belgium's trade is to a large extent intra-EU whereas South Africa trades more with developing countries (Heston, Summers and Aten 2003; UNCTAD 2003).

In the next section, the empirical literature is reviewed. This review will not deal with the literature on information needs and practices of exporting companies (McAuley 1993), but fully concentrate on whether these needs and practices differ among the exporting companies

categorised according to four export intensity levels (defined as the share of exports in company sales).

In the third section the data collection phase of the present research is briefly outlined, after which the results of the empirical analysis are discussed. Conclusions, implications and suggestions for further research are provided in the final section.

Review of the literature

In spite of the fact that many standard international marketing research textbooks provide suggestions and even prescriptions as to the type of marketing research information needed, the issue whether exporting companies are using this information, or whether the types of information needed tends to change in line with the degree of internationalisation of the companies, is relatively under-covered.

Research has revealed that exporters conduct a more intensive search for information than non-exporters, attach more importance to market knowledge, and are more likely to conduct their own market research (Burton and Schlegelmilch 1987), but the issue we deal with in this paper is rather whether information factors and CI systems differ according to the export intensity of exporters.

Cavusgil distinguished three categories of exporting firms (experimental, active, committed) and then endeavoured to show, based on statistical analysis, differences between these categories. His data set related to exporting manufacturers from Wisconsin and Illinois. One of the many aspects he investigated is differences between the three groups of exporters and

their foreign market research practices. It is shown that as companies progress through their internationalisation process, they will commit more financial and managerial resources to market research, reflecting the need for a more thorough analysis and assessment of potentials in foreign markets. Also the nature of the information and data sources required and used will change from general market information for the experimental exporters, to industry/business publications and trade show contacts for both the experimental and active exporters. When exporters become committed, they will find it necessary to develop an internal information system for market research (Cavusgil 1984a). In another study, Cavusgil found that more internationalised companies are using a wider variety of data sources, without, however, offering a specific definition of information type (Cavusgil 1984b).

In another pioneering study, Koh, Chow and Smittivate looked into the practices of international marketing research of Thai exporters in two industrial sectors (canned food and electronics, electrical appliances and parts). Again, one of the aspects researched is the degree of internationalisation of the companies and international marketing research practices. The authors found no significant differences between export experience or export intensity (measured by the percentage of export sales to total sales, i.e. less than 50% and 50% or more, respectively) and the perceived usefulness of conducting international marketing research. A similar absence of relationship is reported between export experience and the frequency of conducting such research, but export intensity seems to have an impact on the frequency of focussing on issues such as socio-cultural factors, the estimation of market size, competition, pricing, product features and consumer preferences (Koh, Chow and Smittivate 1993).

The results obtained by Hart, Webb and Jones (1994) on British small and medium sized enterprises, showed no statistically significant differences in the type of information, the

market research activities and the use of market research, between companies exporting less than 12 years and these with more than 12 years experience. They, however, state that it is possible that 12 years' export experience is not enough to discriminate marketing research activities.

Using survey data from three Ohio industry groups (non-electrical machinery, electrical and electronic machinery, and measuring, analysing and controlling instruments), Lim, Sharkey and Kim (1996) found a number of significant differences between high-involvement exporters and low-involvement exporters, particularly related to the way information was gathered from primary and secondary sources, and the extent to which they conduct marketing research. Also statistical differences were found relating to the monitoring of competitors' performance and their export intentions. A multiple regression analysis resulted in a positive relationship between export intensity (they used the term "export success") and four variables: information gathering from secondary sources, conducting market research, information gathering about competitors' involvement in exporting, and information on product changes.

In another study, Leonidou (1997) calculated whether high and low export intensities (more or less than 50% share of exports in sales), as well as export experience, of exporters in Cyprus coincide with differences in some factors relating to information. Only three information factors showed a statistically significant positive relationship with export intensity: information on foreign market preferences, the company's market position and issues pertaining to promotional activity abroad. The impact of export experience on information type preferences was minimal.

In their review of 27 studies on the export marketing information system, Leonidou and Theodosiou (2004) conclude that current research is too a-theoretic, fragmented and inconsistent. They distinguish four aspects of export information behaviour: determination, acquisition, dissemination and utilization. None of the studies considered appear to examine all four dimensions of export information behaviour and thereby do not provide a comprehensive analysis of the characteristics, sources, needs and phases/constructs of competitive intelligence.

Most empirical work is restricted to exporters of a given country/industry and many studies are based on small samples (less than 150 firms). Moreover, as a number of these studies use non-probabilistic sampling designs, Leonidou and Theodosiou question their representativeness.

With respect to antecedent factors (company size, industry, export experience, expansion strategy and distance) empirical work does not seem to provide unambiguous conclusions, though smaller firms seem to use less expensive, easily accessible and more informal information sources than large firms.

Leonidou and Theodosiou found six studies in which export experience is used as a potential discriminator of export information behaviour. They conclude that overall these studies failed to find substantial differences in information requirements between new and established exporters although in the earliest study by Ursic and Czintoka (1984) newer exporters are found to be more aggressive in seeking export information, and McAuley (1993) found that exporting firms use fewer information providers the more experienced they are.

Studies examining the export information behaviour of exporters versus non-exporters found that although exporters more actively search for information, differences between exporters and non-exporters were not significant with respect to most dimensions.

Leonidou and Theodosiou point out that studies in which the information requested is linked to export intensity (i.e. proportion of export sales to total sales) reveal few significant results. In addition to the aforementioned studies by Koh, Chow and Smittivate and Leonidou, they refer to Walters (1983) who found that export intensive firms made more use of export agents, statistical agencies, departments of commerce and company executives, and to Benito, Solberg and Welch (1993) who report greater use of formal procedures and service people, but less use of international journals (newspapers), management consultants and sales representatives by firms that were intensifying their export strategy.

Leonidou and Theodosiou concluded their review of the literature on export information by stating that research could be improved by e.g. a cross-cultural approach, more representative samples and a more comprehensive operationalization and measurement of constructs. By considering all dimensions of the CI process and the link with antecedent factors (with a focus on export intensity), using relatively large firm samples and providing an analysis for two countries, we believe to provide some contribution to the existing literature.

Data collection

The data used in this paper come from a survey, on competitive intelligence practices, that was sent to exporting firms in Flanders and South Africa.

Starting from earlier descriptive research (Calof and Breakspear 1999; Viviers, Saayman, Muller and Calof 2002) a questionnaire was developed and pre-tested. It contained, among others, 39 CI-related questions, to be answered on a 5-point Likert scale. The Likert scale questions were divided into two sections. In the first section (questions 4 to 20), the respondents had to indicate to which degree they agreed or disagreed with the statement (1 strongly disagree and 5 strongly agree). In the second part (questions 21 to 42) the respondents had to indicate to what extent (never or always) they implement a certain action. In this section, 1 equals never and 5 equals always. Additionally, a limited number of general questions pertaining to the firm were asked (activity, size, percentage of sales exported). The South African version was written in English and the Flemish one in Dutch.

The questionnaire was structured to test all theoretical Competitive Intelligence dimensions: planning and focus; collection; analysis; communication; process and structure; and awareness and culture. Based on the data collected through the survey, Saayman et al. (2004) performed an explanatory and confirmatory factor analysis to identify (and test the validity of) factors related to different aspects of competitive intelligence as derived from previous theoretical work. Five dimensions of CI were identified empirically:

1. process and structure
2. planning, focus and collection
3. data analysis and quality control
4. culture and awareness
5. skills development

In addition the survey contained questions with regard to the number of years the firm has CI experience, the number of employees (full- and part-time) performing CI tasks, the time

devoted to different CI activities, whether the firm has a separate CI department or not and who holds the main responsibility for CI within the firm, and the company's information needs and sources.¹

In South Africa data of exporting companies was gathered from two sources, namely (i) the Kompass Southern African database (from Reed Business Southern Africa) and (ii) the directors/CEO's of the respective Export Council (supported by Trade and Industry Southern Africa). In South Africa, a total of 321 responses were received, representing a response rate of 8.11%.

Part of the Flemish exporters database was obtained from Export Vlaanderen, the Flemish export promotion agency, who supplied the list of all the export companies in Flanders. In addition, service export companies were approached by selecting a number of industries such as banking and insurance, transport, distribution, and port-related activities. In Flanders, a total response of 296 companies was obtained, representing a 5% response rate.

Subsequently, the Flemish and South African files were merged, and all companies that did not complete at least 70% of the questions were removed from the analysis. This left us with a useful sample of 601 companies, i.e. 309 South African and 292 Flemish.

Traditionally, two measures of export performance, i.e. export proportion of sales ('export intensity') and average size of export transactions are used to assess export development and performance.

¹ For full details on the questionnaire see Saayman et al. (2004).

In a previous study, four stages were used: no export sales, export intensity 1-24%, intensity of 25-49% and intensity greater than 50% (Viviers, Kroon and Calof 1996). Due to an insufficient number of observations with export intensity above 75% they were not able to use a finer categorization. In the present research exporters were asked the share of exports in the company sales based on the following four groups:

- 1-24% (G 1)
- 25-49% (G 2)
- 50-74% (G 3)
- 75-100% (G 4)

The reason for not including the “no export sales” group is that the population of companies in the present research only consists of exporting companies. On the other hand, we were able to have sufficient data for the 75-100 % group, as quite a number of exporting companies in a small open economy the Flemish region of Belgium belong to this category.

Export Intensity and Competitive Intelligence

Export Intensity

As stated earlier, using the answers of the Competitive Intelligence survey for exporters of South Africa and the Flemish region of Belgium, four categories of export intensity (exports/sales) can be distinguished.

In table 1 we report the frequencies of the four groups of export intensity in the full sample and the sample of Flemish and South African firms separately. A Chi-square test indicates that the differences between Flanders and South Africa are statistically significant.

Take in table 1

In the sample of Flemish firms almost 60% has an export intensity of more than 50 %, whereas in the South African sample this only holds for 40% of the firms.

CI experience

Figure 1 shows the share of firms in each of the four export intensity groups with 0 years, 1-5 years, 5-10 years and more than 10 years of experience in CI activities. The relationship is not very clear for the full sample. For Flanders the group of most export intensive firms has substantially more experience in CI activities than the three other groups, but the differences do not appear to be significant (Chi-square). For South Africa the contrary seems to be true. South African firms with export intensity between 25% and 74% have more CI experience than firms with less than 25% export intensity, and more surprisingly also more experience than firms with more than 75% export intensity. Moreover, a Chi-square test indicates that these differences are significant

Figure 2 shows the share of firms in each of the four export intensity groups with 0, 1, 2 or more than 2 full-time respectively part-time employees engaged in CI activities. There is apparently no clear-cut relationship between export intensity and the number of employees performing CI tasks, except for the larger share of part-time employees in the group of most

export intensive firms in the full sample and in Flanders. For South Africa, the pattern is again rather mixed. None of the differences in terms of the number of employees engaged in CI activities is found to be significant (Chi-square test).

Take in figure 1 and 2

We will now assess whether significant differences exist between the four groups of respondents with regard to competitive intelligence activities.

CI dimensions

Table 2 shows the five constructs that were previously identified (Saayman et al. 2004), reflecting different dimensions of CI, as well as the questions of the questionnaire to which they refer. For each factor the average score over the variables that loaded onto them has been considered to assess differences between the four export intensity groups.

Take in table 2

Figure 3 shows the average response on the five factors for the four respective export intensity groups, for the full sample, the sample of Flemish firms and the sample of South African firms. Differences appear to be most substantial for Flemish firms.

Take in figure 3

For a statistical assessment of the differences between the four groups, we performed an analysis of variance (ANOVA) in SPSS, which permits to test the statistical significance of differences in average responses between groups. The results of the ANOVA are reported in Table 3. We considered the full sample as well as the sample of Flemish and South African exporters separately. The F value tests the null hypothesis that all group means are equal, i.e. rejection implies that the means differ significantly.

The Brown-Forsythe statistic also tests the hypothesis that means do not differ. This statistic however, does not depend on the assumption that variances are equal. Results of a Levene statistic² show that for some factors the null hypothesis of equal variances is rejected.

For the full sample, the differences between the four groups are found to be significant for factors 1 (Process & Structure) and 2 (Planning, Focus & Collection), albeit only at the 10% level for the latter. For the sample of Flemish firms, the means between the four groups only differ significantly for factor 4 (Culture & Awareness), whereas for the sample of South African firms, there is no factor for which the average responses appear to differ significantly. The results for the full sample do not appear to be very robust, as they are not supported by the results of the separate samples.

Take in table 3

The results so far only permit to establish whether the means between the four groups differ significantly. The means of the groups can also be compared pairwise. These results are reported in Table 4. The Bonferroni statistic is a test on a pairwise comparison between group means, adjusting the significance level for the fact that multiple comparisons are made. The

² Not reported but available upon request.

Tamhane statistic also reports a test on the difference between two group means but, contrary to the Bonferroni statistic, does not assume equal variances.

Take in table 4

The results suggest that for the full sample, the differences in means for factor 1 and 2 can be explained by significant differences in responses between the group of the least export intensive firms (G 1) and the group of the most export intensive firms (G 4). The mean score of G 4 is significantly higher than the mean score of G 1. The same goes for the significant differences in average responses on factor 4 in the sample of Flemish firms.

To check whether the results of the analysis of variance are not merely reflecting differences in company size or economic sectors we performed the same analysis selecting different sectors and company size groups as far as the number of observations made this possible. Overall the previous results (e.g. significance of culture and awareness for Flanders) seem robust although in some cases differences in response between the four export intensity groups are found to be significant for more factors than in the full Flemish and South African samples (e.g. in the sample of South African firms with more than 200 employees differences between the four groups are significant for all five factors). The results of these analyses are not reported but available upon request.

CI activities

Respondents were also asked to rate the importance of different types of CI activities. In table 5 the statistically significant differences - between the four groups of export intensity - in the

share of time devoted to five aspects of CI are reported. For Flanders none of the differences are significant. South African firms of group G 2 devote more time to data collection than firms with export intensity exceeding 50% (G 3 and G 4), whereas group G 4 in South Africa, the group of most export intensive firms, devotes significantly more time to analysis, interpretation and evaluation than group G 2.

Take in table 5

Information sources

For a number of information sources the respondents had to indicate whether they found them unimportant, important or very important. In table 6 the differences in percentage of firms that consider a given type of CI information as very important are reported for the four groups. For the full sample and the two subsamples, the most export intensive firms significantly consider information on how to penetrate world markets to be very important, to a greater extent than less export intensive firms. Most of the other differences are not significant for the full sample and the Flemish sample.

Take in table 6

For the sample of South African firms there are more significant differences. The share of South African export intensive firms that regard information on culture, the political situation, and regulations and barriers as very important, significantly exceeds the share of less export intensive firms. This supports the notion that export-intensity has an impact on the frequency

of focussing on issues such as socio-cultural factors, as suggested by Koh, Chow and Smittivate (1993).

Information on opportunities in new markets and potential partners or agents tops the list of important types of CI information for all firms, irrespective of their export intensity. This supports the finding of Leonidou (1997) as well of Hart, Webb and Jones (1994) that export experience has a minimal impact on information type preferences.

There are no significant differences between the four groups of export intensity as to the importance of different information sources (e.g. information of company staff, published information, internet, government organizations) in any of the three samples.

This finding is somewhat in contrast with McAuley (1993) who found that more experienced exporters use fewer information providers, and with Benito, Solberg and Welch (1993), who found that more intensive exporters make less use of published (secondary) sources of information.

Conclusions, implications and suggestions for further research

Using data from a competitive intelligence survey sent to Flemish and South African exporting firms, we have tried to establish whether there are significant differences between firms, grouped according to export intensity, with respect to the awareness, use, information sources and attitude towards CI activities. To our knowledge, the present study is the first one to link the constructs of CI, the number of years in exports, the number of staff in CI, time devoted to CI activities as well as information needed for CI to export intensity

Following the five constructs of CI that have been identified previously, we find that for the full sample (Flemish and South African firms combined) the most export intensive firms (75-100 % of sales from exports) tend to consider aspects related to process and structure, and the planning, focus and collection of CI activities, as more important than the least export intensive firms (1-24 % of sales from exports).

For the sample of Flemish firms we find that the most export intensive firms more frequently support a culture and awareness of the importance of CI activities than the least export intensive firms, but for the sample of South African firms the average responses of the four groups do not seem to differ for any of the five factors that have been identified and verified as constructs of CI activities.

Our results have significant managerial implications for exporters of more and less export intensity alike. Recognising the value of CI as a strategic management instrument could enhance an exporter's competitiveness for various reasons: It gives management a more comprehensive and accurate picture of the competitive environment in various markets the exporter is playing in it could forewarn the exporter of impending threats and emerging opportunities such as new product opportunities it can assist in strategic, long-term decision-making and it could be used for tactical, immediate decision-making.

As far as the relationship between CI factors and characteristics, information sources and information needs on the one hand and export intensity on the other hand is concerned, the research results show that export intensive companies value the importance of CI planning, CI structures and focusing on and collecting the right information and that especially the Flemish export intensive companies regard a CI culture as important.

The extent of CI activities seem to relate to the export intensity of firms in that the more export intensive firms are more experienced in CI. This is possibly explained by the increased and sustained need for better, faster and more accurate strategic and tactical decisions and the recognition that an effective CI capability could enhance such decisions. For the South African group, it was interesting to note that the most export intensive firms devoted most of their CI time on analysis, interpretation and evaluation. This is possibly due to the fact that there is an abundance of information available but that the real meaning of that information for a particular exporter is not easily discernable. South African exporters are also geographically and culturally further removed from their markets than their Flemish counterparts and this probably leads to less knowledge about the different export markets hence the increased need for CI.

In terms of CI sources, no significant differences between the various groups of export intensity are found. Relevant information is available in abundance from various sources and the use (or not) of a variety of sources might not be directly related to the export intensity of companies. The competitive environment with its changing players, consumer preferences and changing regulatory and technological factors to name a few variables, is volatile. Sources of information and what they yield in terms of information also change continuously and therefore it could be argued that export intensity and the importance of different information sources need not be directly related.

The extent to which exporters practice CI and their export intensity are shown to be related in many ways. CI could yield better knowledge of the market, better understanding of competitive factors, better understanding of where the exporter wants to go, measure of performance, products and services, existing customer base versus potential customer base

and in general benchmarking against the best in the market. Better knowledge by means of continuous and focused CI activities could pave the way for increased export intensity.

Further research is however required in order to develop a thorough understanding of the use and benefits of CI relative to the export intensity of exporting companies and to clarify the ambiguities that arise from this research.

The research has shown that the extent to which exporters practice CI and their export intensity are related in many ways. CI could yield better knowledge of the market, better understanding of competitive factors, better understanding of where the exporter wants to go, measures of performance, products and services, an idea about existing customers versus potential customers, and in general benchmarking against the best in the market.

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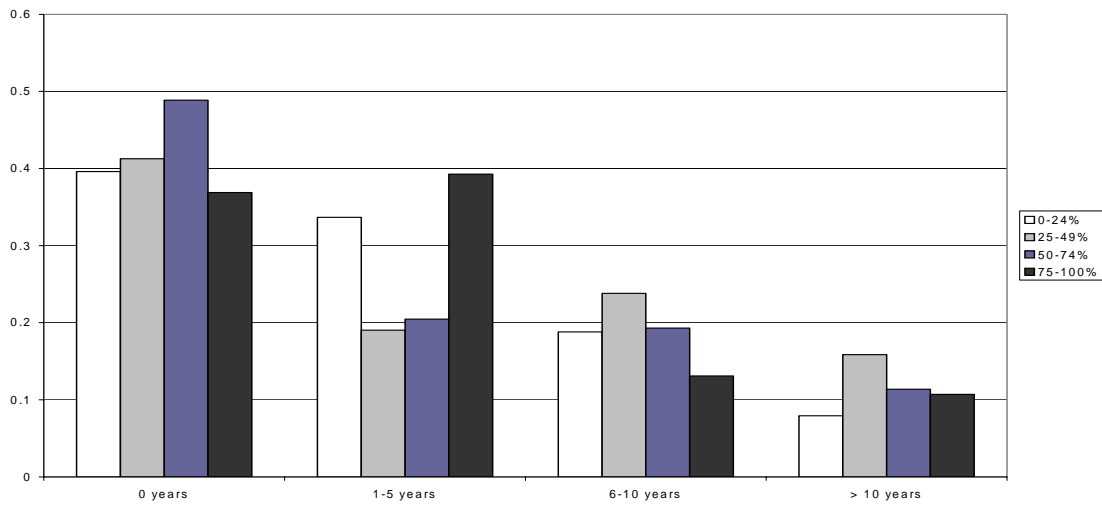
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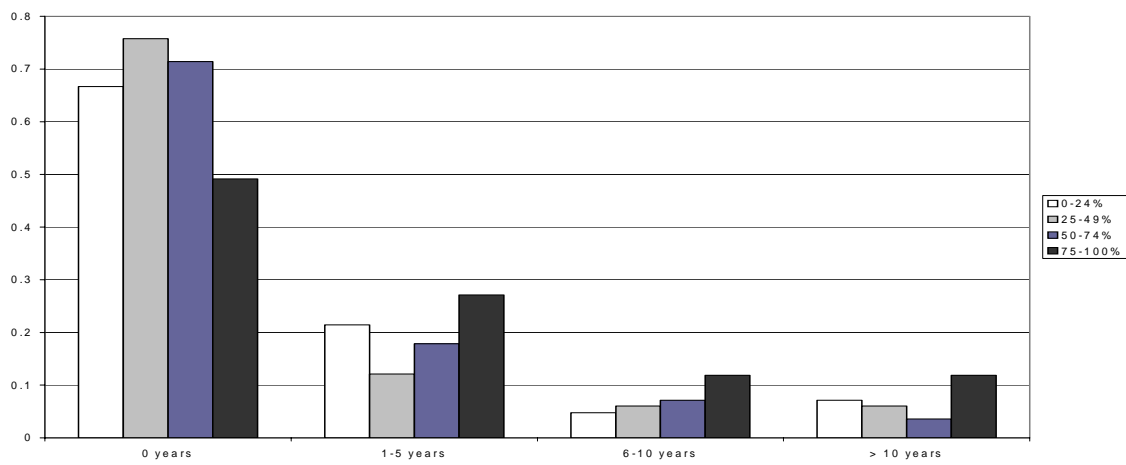
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Figure 1: Number of years CI experience broken down by export intensity

FULL SAMPLE



FLANDERS



SOUTH AFRICA

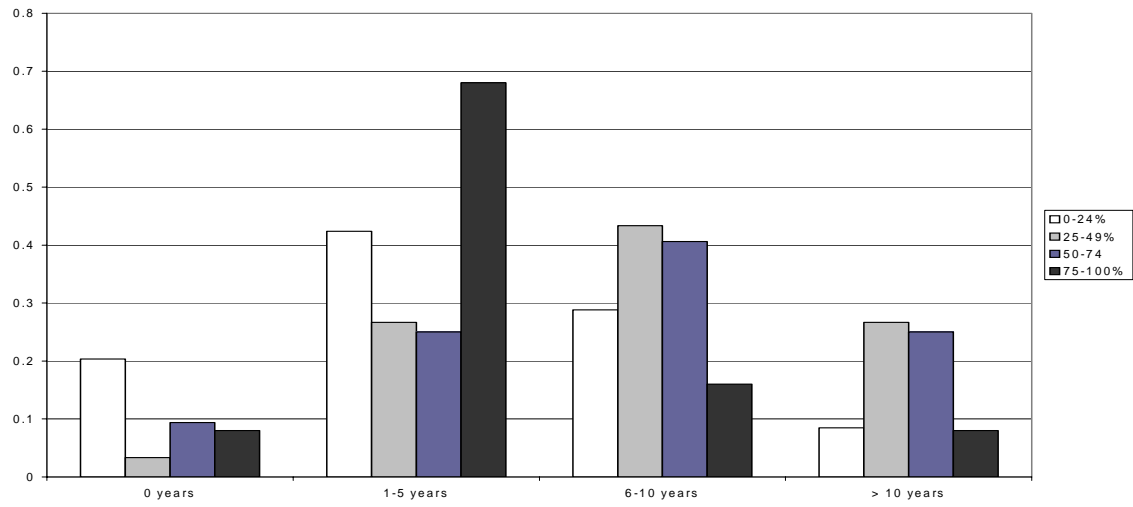
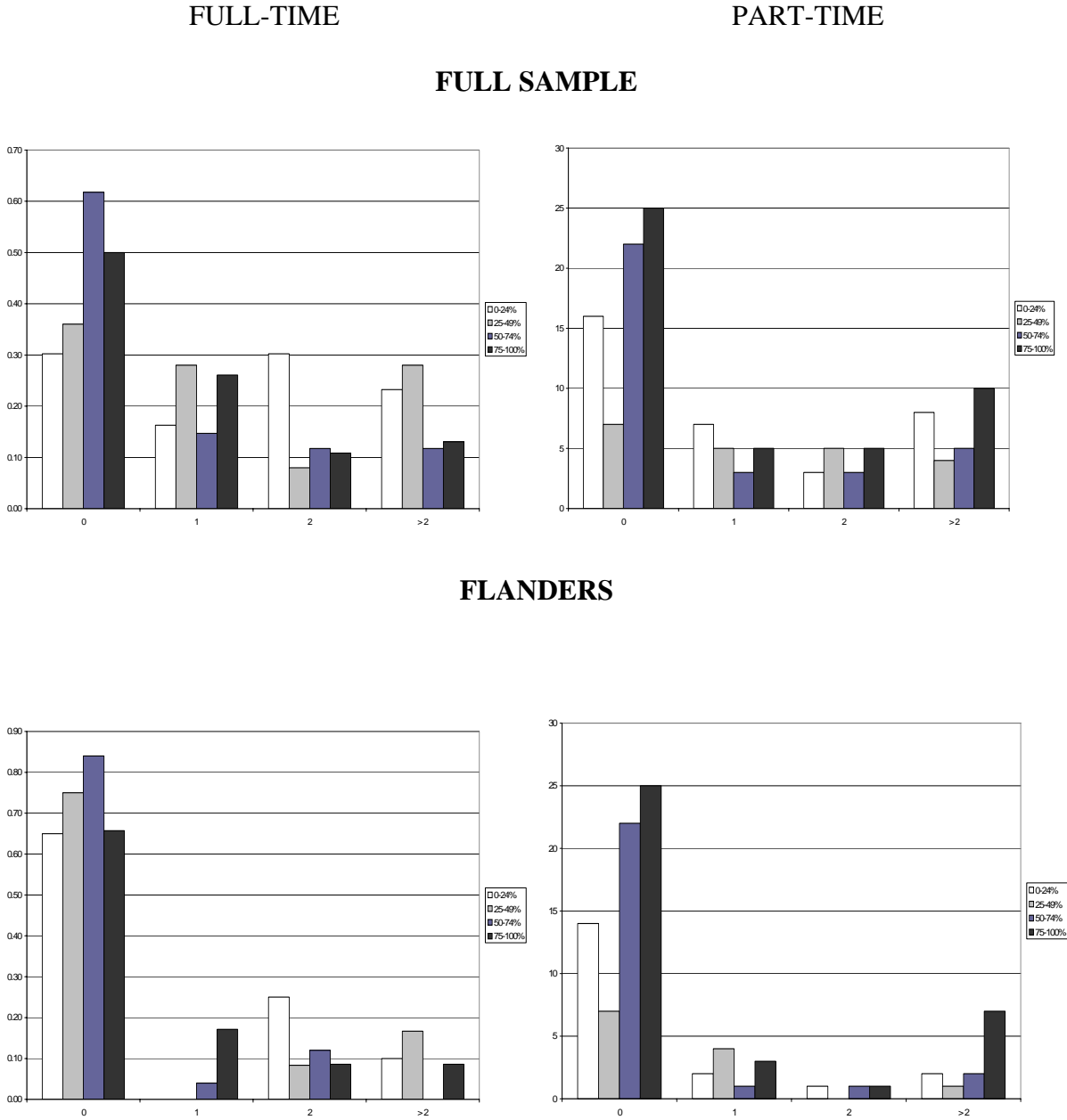


Figure 2: Number of full-time and part-time CI employees



SOUTH AFRICA

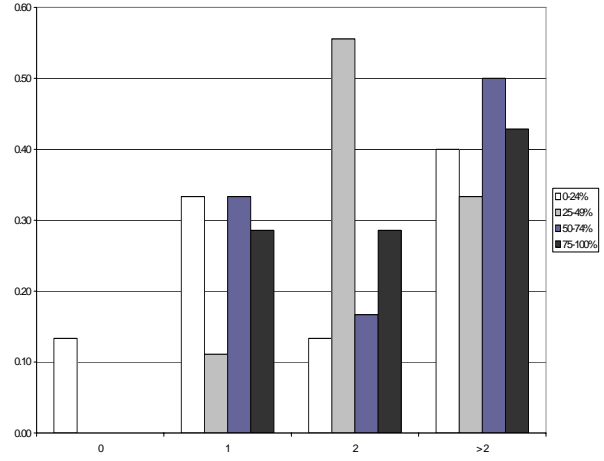
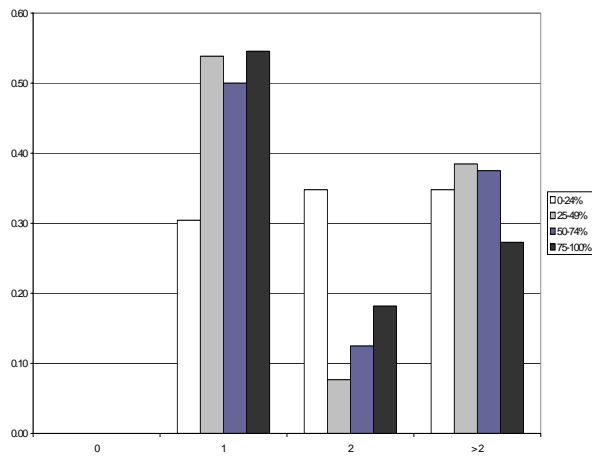
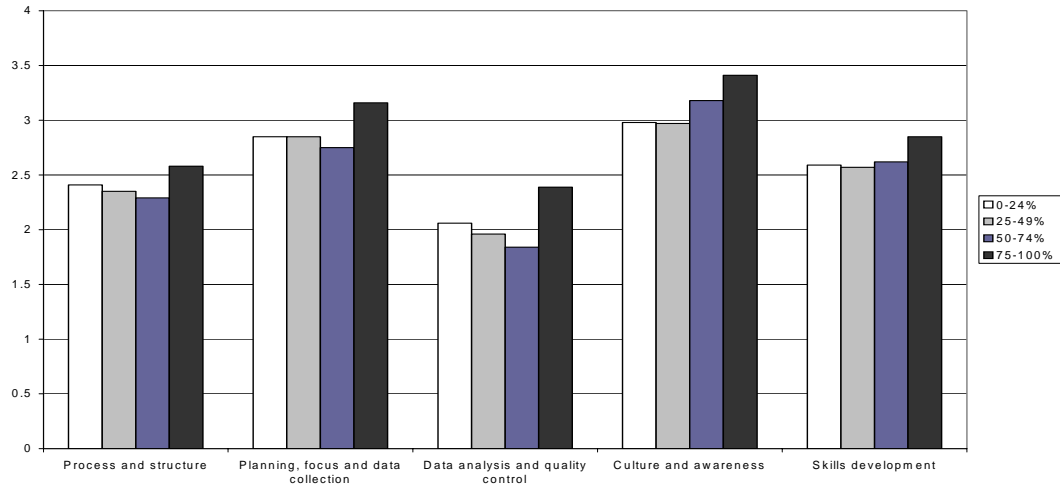


Figure 3: Average scores CI dimensions

FLANDERS



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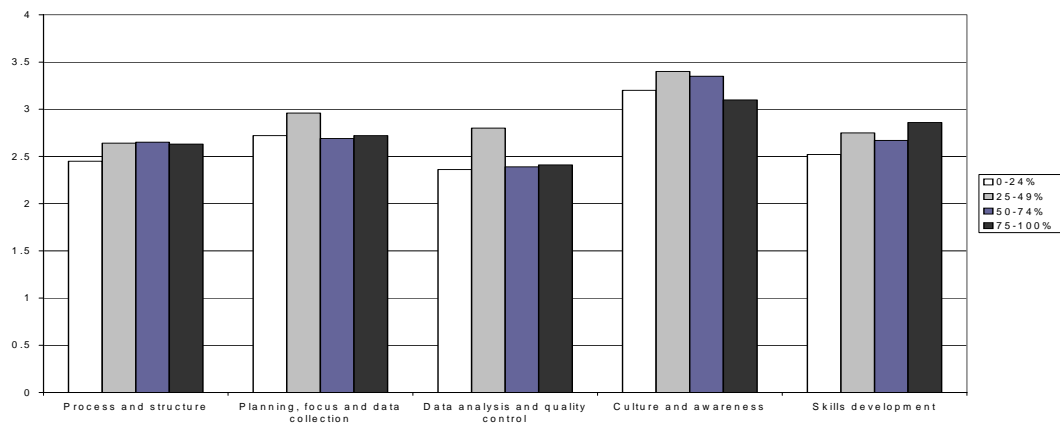


Table 1: Frequencies of export intensity for the full sample and the sample of Flemish and South African firms

Export Intensity	Full sample	Flanders	South Africa
1-24 %	35 %	26 %	43 %
25-49 %	17 %	16 %	17 %
50-74 %	23 %	28 %	18 %
75-100 %	26 %	30 %	22 %
N	590	287	303

Table 2: Items in the five-factor model

<u>Factor</u>	<u>Items</u>
Process & Structure	<p>Our intelligence findings are widely distributed within the firm (Q13)</p> <p>We maintain a comprehensive map or inventory of internal information and knowledge (Q14)</p> <p>There is a central co-ordination point for receiving information (Q15)</p> <p>Our firm maintains a central record of reliable sources of information (Q20)</p>
Planning, Focus & Collection	<p>Our firm produces assessments that address several possible outcomes of our competitors' actions that might be threats or opportunities for our firm (Q26)</p> <p>We meet with executives to identify their intelligence needs (Q31)</p> <p>We train/prepare our employees before they go to trade shows, exhibitions, conventions, etc. about what information they should look for (Q37)</p> <p>Results of exit interviews/job interviews are used in our intelligence system (Q38)</p>
Data analysis & quality control	<p>Our company develops profiles on emerging technologies to better understand their characteristics, potential application and market advantages (Q33)</p> <p>Key decision-makers are surveyed/interviewed to verify that the intelligence products produced for them satisfy their needs (Q35)</p> <p>All information is checked for accuracy and validated by at least one source (Q36)</p> <p>We evaluate the reliability of our sources of information (e.g. persons, publications, internet) (Q41)</p>
Culture & Awareness	<p>Our firm recognizes competitive intelligence as a legitimate and necessary activity for business (Q5)</p> <p>Senior management supports intelligence findings (Q8)</p> <p>Competitive intelligence can be used to create a competitive advantage (Q9)</p>
Skills development	<p>Most employees understand what competitive intelligence is (Q7)</p> <p>Our firm has incentives to encourage employees to report their competitive observations and information (Q10)</p> <p>We make competitive intelligence training (e.g. collection and analysis techniques) available to our employees (Q16)</p>

Source: Saayman et al. (2004)

Table 3: Results ANOVA**Full sample**

		Sum of Squares	Df	F (significance)	Brown-Forsythe
	Between Groups	7.63	3		
F1	Within Groups	543.92	567		
	Total	551.552	570	2.65 (0.048) **	2.64 (0.049) **
	Between Groups	6.66	3		
F2	Within Groups	514.97	575		
	Total	521.63	578	2.48 (0.060)*	2.52 (0.057)*
	Between Groups	4.00	3		
F3	Within Groups	533.83	574		
	Total	537.83	577	1.44 (0.232)	1.41 (0.239)
	Between Groups	4.80	3		
F4	Within Groups	482.81	569		
	Total	487.61	572	1.89 (0.131)	1.87 (0.135)
	Between Groups	4.57	3		
F5	Within Groups	423.89	575		
	Total	428.46	578	2.07 (0.104)	2.06 (0.104)

Flanders

		Sum of Squares	Df	F (significance)	Brown-Forsythe
F1	Between Groups	4.18	3		
	Within Groups	241.20	271		
	Total	245.39	274	1.57 (0.198)	1.62 (0.186)
F2	Between Groups	3.31	3		
	Within Groups	282	282		
	Total	285	285	1.26 (0.289)	1.25 (0.291)
F3	Between Groups	3.34	3		
	Within Groups	233.05	278		
	Total	236.385	281	1.33 (0.266)	1.30 (0.277)
F4	Between Groups	11.831	3		
	Within Groups	189.321	270		
	Total	201.15	273	5.63 (0.001)***	5.39 (0.001)***
F5	Between Groups	3.134	3		
	Within Groups	180.54	279		
	Total	183.68	282	1.62 (0.186)	1.59 (0.192)

South Africa

		Sum of Squares	Df	F (significance)	Brown-Forsythe
F1	Between Groups	5.12	3	1.66 (0.177)	1.57 (0.199)
	Within Groups	301.04	292		
	Total	306.16	295		
F2	Between Groups	2.67	3	1.03 (0.378)	1.07 (0.364)
	Within Groups	248.95	289		
	Total	251.62	292		
F3	Between Groups	3.77	3	1.27 (0.285)	1.26 (0.290)
	Within Groups	288.88	292		
	Total	292.65	295		
F4	Between Groups	4.92	3	1.73 (0.161)	1.67 (0.198)
	Within Groups	279.83	295		
	Total	284.75	298		
F5	Between Groups	3.38	3	1.36 (0.254)	1.24 (0.295)
	Within Groups	241.03	292		
	Total	244.41	295		

Note: *: $p < 0.10$, **: $p < 0.05$ and ***: $p < 0.01$.

Table 4: Pairwise Comparisons between group means

	Bonferroni	Tamhane
Full Sample		
Factor 1 G1-G4	-0.29 (0.03) **	-0.29 (0.04) **
Factor 2 G1-G4	-0.27 (0.05) **	-0.27 (0.06)*
Flanders		
Factor 4 G1-G4	-0.54 (0.001)***	-0.54 (0.002)***

Note: G1= Export intensity 1-24 %- G4= Export Intensity > 75%

Table 5: Share of time (% of total time) devoted to specific CI activities

	Full sample	South Africa
Data collection		G2 (58.00) > G3 (39.23)*
Analysis and interpretation	G4 (24.22) > G3 (17.59)**	G2 (58.00) > G4 (31.92)** G4 (27.69) > G2 (17.67)*
Evaluation		G4 (15.00) > G2 (8.39)*
Recommendations	G4 (13.53) > G2 (8.50)*	

Note: **Significant at 5%, *significant at 10% level.

Table 6: Percentage of firms per export intensity category that consider a type of CI information to be very important (top 3 of important types shaded)

Full Sample

	1-24%	25-49%	50-74%	75-100%
How to penetrate on world markets ***	43.6%	27.6%	47.7%	70.8%
Profiles of potential customers	45.3%	50.0%	62.2%	60.0%
Opportunities in new markets	70.9%	71.4%	77.3%	63.1%
Reputation and activities of competitors	34.5%	44.4%	44.4%	46.9%
Potential partners or agents	60.0%	81.5%	68.2%	66.0%
Distribution channels	45.5%	51.9%	55.6%	38.5%
Culture	12.7%	18.5%	31.1%	33.8%
Political situation	21.8%	18.5%	28.9%	31.3%
Statistical information about markets	30.9%	33.3%	26.7%	40.0%
Regulations, barriers	32.1%	32.1%	37.8%	44.4%
Trade fairs	22.2%	48.1%	37.8%	40.0%
Exchange regulations	25.5%	14.8%	27.9%	31.7%

Note: *: $p < 0.10$, **: $p < 0.05$ and ***: $p < 0.01$.

Flanders

	1-24%	25-49%	50-74%	75-100%
How to penetrate on world markets ***	15%	25%	34.6%	56.8%
Profiles of potential customers *	27.8%	58.3%	61.5%	51.4%
Opportunities in new markets	52.6%	58.3%	72.0%	43.2%
Reputation and activities of competitors	30.0%	54.5%	30.8%	36.1%
Potential partners or agents*	30.0%	81.8%	56.0%	48.6%
Distribution channels	30.0%	45.5%	38.5%	21.6%
Culture	5%	18.2%	15.4%	10.8%
Political situation	5%	18.2%	11.5%	11.1%
Statistical information about markets	10%	36.4%	19.2%	16.2%
Regulations, barriers	20%	33.3%	34.6%	25.0%
Trade fairs	15%	36.4%	23.1%	21.6%
Exchange regulations	10%	0%	8%	5.6%

Note: *: $p < 0.10$, **: $p < 0.05$ and ***: $p < 0.01$.

South Africa

	1-24%	25-49%	50-74%	75-100%
How to penetrate on world markets ***	60.0%	29.4%	66.7%	89.3%
Profiles of potential customers	54.3%	43.8%	63.2%	71.4%
Opportunities in new markets	80.6%	81.3%	84.2%	89.3%
Reputation and activities of competitors *	37.1%	37.5%	63.2%	60.7%
Potential partners or agents	77.1%	81.3%	84.2%	82.1%
Distribution channels	51.3%	56.3%	78.9%	60.7%
Culture ***	17.1%	18.8%	52.6%	64.3%
Political situation**	31.4%	18.8%	52.6%	57.1%
Statistical information about markets *	42.9%	31.3%	36.8%	71.4%
Regulations, barriers ****	38.9%	31.3%	42.1%	70.4%
Trade fairs *	26.5%	56.3%	57.9%	64.3%
Exchange regulations *	34.3%	25.0%	55.6%	66.7%

Note: *: p< 0.10, **: p< 0.05 and ***: p< 0.01.