GOVERNMENT ASSISTANCE DOES NOT HELP EXPORTS: 
THE CASE OF TAIWAN.

L'AIDE GOUVERNEMENTALE N’AIDE PAS L’EXPORTATION :
LE CAS DE TAIWAN

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ABSTRACT

The purpose of this study is to determine if government assistance is an important factor in export performance of electronic firms in Taiwan. It does achieve this objective by looking at the reasons why some of Taiwan’s electronics exporters have a better export performance than others. In particular, the research determines that government assistance is not a factor to explain the export performance.

In order to see the impact of government assistance, this study looks at 13 factors generally found in the literature as having an impact on export performance and able to explain the differences among the firms of the same industry. Government assistance is one of them. The literature generally refers to these 13 factors:

- **Firm Characteristics**: Firm Size, Export Involvement, and Export Experience.
- **Firm Competencies**: Managerial Characteristics, Motivation to Export, Export Commitment, Export Perception, Personal Characteristics of Manager, Product Characteristics, and Export Marketing Strategy.

This comprehensive empirical study initially applied the viewpoint of the joint influence of environment, organization and strategy in international business, and the internal and external forces affecting the export performance, in order to search out the appropriate match between these factors that best facilitates the Taiwan’s electronics exporters and examine which factors are important to export performance.

Taiwan is a small country with a population of only 24 million people in 2010. However, its influence upon the world has been much greater than its size. It has considerably more importance on the world electronics manufacturing and trading activities than most other countries. Recent figures show Taiwan to be the world’s 24th largest economy; its gross national product in 2009 reached US$ 358 billion, and it is also the 12th biggest exporter of electronics manufactured products (CIA, 2010). Taiwan has transformed itself from a wholly agricultural society into a leader in the group of newly developing countries. Taiwan’s economy is based on manufacturing and trading. It performed remarkably well in the 1980s and is continuing to grow at about 4 percent annually (CIA, 2010). Taiwan has gained wide attention as one of the most dynamic economies within the Asian region. Together with Hong Kong, Singapore and South Korea, it is one of the “Four Tigers” or New Industrialized Countries (NICs) that have achieved impressive economic results.

Taiwan’s natural resources are scarce and most raw materials and critical industrial equipment have to be obtained from other countries. Now, one severe handicap for Taiwan’s export expansion has been the lack of formal diplomatic relations with many of the developed countries of the world. In 2010, only 23 countries keep official diplomatic relation with Taiwan. Notwithstanding, this Taiwan’s export market now embraces more than 150 countries. It may be odd that numerous countries have no official diplomatic tie with Taiwan; nevertheless, they continue to increase their trade with the country. Taiwan’s exporters have to improve their effort to keep going under high global competition around the world market.

Recently, the economic environment in Taiwan has undergone tremendous changes. Unfavorable trade imbalances with Japan have been expanding rapidly for many years, causing very negative effects upon Taiwan’s foreign trade.
Furthermore, the protectionism has become a very serious threat from overseas markets to Taiwan exporters, and competition in the market is getting much more difficult than before. Taiwan must face the reality that direct and indirect trade barriers have been imposed to restrict foreign goods and to protect domestic markets. Fourthly, income has been rising quickly and Taiwan’s labor cost and operation overhead are no longer cheap by comparison with some other developing countries. Finally, after China’s economic reform, the export sector is aggressive. China has succeeded in this effort because of competition in the export sector, constant improvement in export incentives, openness to foreign traders, and its competing with Taiwan directly (World Bank, 2009). Consequently, Taiwan’s electronics manufacturers must learn how to compete more advantageously in international markets. In this period of high instability, Taiwan’s electronics manufacturers must seek out new overseas markets and develop appropriate strategies to cope with these challenges in order to enhance export performance.

Exports play a predominant role in Taiwan’s economic development. The electronics industry is Taiwan’s most important industrial category and many people would say that the role of the government is crucial in its development. In order to explore why some Taiwanese electronics exporters have better export performance than others, and to examine the determinants of export performance, the present research attempts to examine the relationship between, on the one hand, environment, strategy, firm characteristics and the managerial characteristics of the firms engaged in export marketing and, on the other hand, their export performance. Export performance can be conceptualized as a strategic response by management to the interplay of internal and external forces (Cavusgil, Sinkovics & Ghauri, 2009).

The internal forces relate to organizational characteristics such as firm characteristics, product characteristics, and type of management, while the external forces include industry characteristics, export market characteristics, and government supporting relationships. The degree of coalignment of these forces with the strategy of the firm determines the results of export performance, in line with the strategy-environment coalignment principle (Porter, 1980).

An empirical investigation of internal and external forces as regards Taiwan’s electronics exporters was performed. This was a cross-sectional study intending to examine and investigate the determinants of export performance among Taiwan’s electronics exporters as well as to analyze the internal and external forces of the exporters. In order to complete this study, a survey research design was employed. A survey was made of 200 among Taiwan’s electronics exporters. The sampling selection used a stratified systematic process. Data was analyzed using simple and multiple regression analysis.

The population in this study consisted of those electronics products manufacturers engaged in exporting for at least one year. The participants were selected from Taiwan Electrical and Electronic Manufacturing Association. There are 15 product categories in TEEMA’s listing: 8 categories for electric products, and 7 categories for electronics products. The sample size of 550 electronics exporters (about 20%) were chosen from 2,733 electronics exporters of TEEMA’s registered firms using a stratified sample method to select the sample. The sample in this research population totaled 550 electronics exporters. The subjects of this study were randomly selected from the membership regardless of the size of firm, the number of employees, age of the company, total sales of the company and so forth. Management level positions (top managers or exporting managers) involved in electronics and electronics manufacturers were selected as the respondents. A questionnaire in Mandarin was developed to successfully measure the factors mentioned above.

In order to improve the effectiveness of the measurement instrument, content validity and reliability tests of the Chinese version of the questionnaire were conducted. The content validity of a measuring instrument is the extent to which it provides adequate coverage of the topic under study (Cooper & Schindler, 1998). For each variable group, several conceptual items were investigated. The conceptual variables chosen have a strong foundation from the literature and also are supported by previous empirical export performance studies. Each conceptual variable was measured by multiple indicators items. The purpose of such a procedure is to allow the development of measures to improve the validity and reliability of the measures (Churchill, 1991). In the pre-test, the results from the Cronbach Alpha showed each section of questionnaire had relatively high coefficient alphas around 0.87. The score of the fourteen constructs were 0.7050, 0.7280, 0.6715, 0.8704, 0.8728, 0.8732, 0.8728, 0.8729, 0.8729, 0.8729, 0.8728, 0.8727, 0.8731, and 0.8734. Following the validity and reliability test, several modifications were made in the questionnaire based on the committee’s comments and the results from the pre-tests.
The data was collected using a mailed questionnaire and follow-up personal calls to export marketing managers who were involved in the exporting operations of exporters. The four-page questionnaire was pre-tested with experts and non-experts to check primarily the wording and understanding of this research study. The follow-up personal calls interviews were used in order to get a higher response rate for this research study.

The data was analyzed by both simple and multiple linear regression analysis. The simple linear regression technique was used to analyze the results. The multiple regression analysis was conducted to find the best predictive variable for the export performance of Taiwan’s electronics exporters. Questionnaires were mailed to the export marketing managers of 550 Taiwanese electronics exporters. These firms were chosen from 2,733 electronics exporters. The questionnaires were returned by 211 of the 550, amounting to a response rate of 38.36 percent. Only 200 firms completed them in details worth analyzing. This amounted to a 36.36 percent effective response rate. The questionnaire was divided into three sections. Section A was developed for a company profile which was based on the export experiences. Section B was developed for examining the internal forces of Taiwan’s electronics exporters. Section C was developed for examining the external forces of Taiwan’s electronics exporters.

<table>
<thead>
<tr>
<th>Products</th>
<th>Population</th>
<th>Sample</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer &amp; Peripheral</td>
<td>327</td>
<td>66</td>
<td>28</td>
</tr>
<tr>
<td>Telecommunication Equipment</td>
<td>594</td>
<td>119</td>
<td>44</td>
</tr>
<tr>
<td>Test and Measuring Instrument</td>
<td>175</td>
<td>160</td>
<td>70</td>
</tr>
<tr>
<td>Electronics Finished Products</td>
<td>796</td>
<td>160</td>
<td>70</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>131</td>
<td>27</td>
<td>7</td>
</tr>
<tr>
<td>Optoelectronic Products</td>
<td>19</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Electronic Components</td>
<td>691</td>
<td>139</td>
<td>40</td>
</tr>
</tbody>
</table>

**TABLE 1 -**

A multiple regression analysis was conducted to evaluate the prediction of export performance, and was used to determine whether the internal and external forces were useful in explaining the export performance of the firms in the sample. Export sales volume consisted in the measures of export performance. These are the results for the 13 factors listed above:

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>P</th>
<th>Relationship to performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Size</td>
<td>8.169E-02</td>
<td>0.14</td>
<td>0.393</td>
<td>.154</td>
<td>0.000</td>
<td>yes</td>
</tr>
<tr>
<td>Export Experience</td>
<td>6.488</td>
<td>0.933</td>
<td>0.446</td>
<td>0.199</td>
<td>0.000</td>
<td>yes</td>
</tr>
<tr>
<td>Export Involvement</td>
<td>0.424</td>
<td>0.086</td>
<td>0.331</td>
<td>0.109</td>
<td>0.000</td>
<td>yes</td>
</tr>
<tr>
<td>Firm Competencies</td>
<td>5.836</td>
<td>8.360</td>
<td>0.050</td>
<td>0.002</td>
<td>0.486</td>
<td>no</td>
</tr>
<tr>
<td>Export Motivation</td>
<td>14.541</td>
<td>15.199</td>
<td>0.068</td>
<td>0.005</td>
<td>0.340</td>
<td>no</td>
</tr>
<tr>
<td>Export Commitment</td>
<td>25.935</td>
<td>10.541</td>
<td>0.173</td>
<td>0.030</td>
<td>0.015</td>
<td>yes</td>
</tr>
<tr>
<td>Export Perception</td>
<td>34.478</td>
<td>12.328</td>
<td>0.195</td>
<td>0.038</td>
<td>0.006</td>
<td>yes</td>
</tr>
<tr>
<td>Personal Characteristics</td>
<td>6.901</td>
<td>12.027</td>
<td>0.041</td>
<td>0.002</td>
<td>0.567</td>
<td>no</td>
</tr>
<tr>
<td>Product Characteristics</td>
<td>14.063</td>
<td>15.078</td>
<td>0.066</td>
<td>0.157</td>
<td>0.018</td>
<td>yes</td>
</tr>
<tr>
<td>Export Marketing Strategy</td>
<td>-19.210</td>
<td>14.719</td>
<td>-0.093</td>
<td>0.29</td>
<td>0.036</td>
<td>yes</td>
</tr>
<tr>
<td>Industry Characteristic</td>
<td>21.010</td>
<td>10.525</td>
<td>0.141</td>
<td>0.141</td>
<td>0.047</td>
<td>yes</td>
</tr>
<tr>
<td>Export Market Characteristics</td>
<td>2.871</td>
<td>11.617</td>
<td>0.018</td>
<td>0.09</td>
<td>0.805</td>
<td>no</td>
</tr>
<tr>
<td>Taiwan Government help</td>
<td>-1.745</td>
<td>8.551</td>
<td>-0.015</td>
<td>0.005</td>
<td>0.839</td>
<td>no</td>
</tr>
</tbody>
</table>

**TABLE 2 -**

The findings showed that firm size, export involvement, export experience, expert commitment, export perception, product characteristics, export marketing strategy, and industry characteristics have a direct impact on export performance. The results revealed that export performance stemmed from relationships between many different factors. Neither operation environment, firm managerial characteristics, nor export marketing strategy acting alone could sufficiently explain the differences in export performance. The total annual sales and total number of
employees were chosen as a measure of firm size in this study. The positive relationship between firm size and export performance has been confirmed by many previous studies (Axinn & Matthysssens, 2001).

The result suggested that there is a significant relationship between the size of firms and the export performance of Taiwan’s electronics exporters. Firm size seemed to be the most significant factor according to both the simple regression and the multiple regression analysis. Firm size was extremely important in determining the export performance of a firm. The large firms possess more managerial and financial resources, have greater production capacity, and attain perceived risks in exporting business. In examining the impact of firm size on export performance, we found that there is a general tendency for higher export performance to be associated with firm size. The fourth highest R², at 15.4% of the export performance, was accounted for by its linear relationship with the size of firms. The number of export staff was chosen as a measure of export involvement of a firm in this study. Export involvement is used to describe the extent to which an exporter is dependent upon export activity for its business (Bernard & Jensen, 2004).

There is a significant relationship between the export involvement of firms and the export performance of Taiwan’s electronics exporters. It was found that firms engaged in relatively high levels of exporting activities employ large numbers of export staff and have better organized export departments, and that higher export involvement shows a firm’s greater capacity for developing the export operation. The greater the number of export staff, the more probable it is that the firm would be an aggressive exporter. The number of export staff is positively related to export sales, and a significant relationship is indicated between the number of export staff and export performance. The standardized beta showed export involvement of firms to be the second highest beta associated with one of the highest levels of significance at p = 0.000. Moreover, it yielded the fifth highest R², at 10.9% of the variance of the export performance, and was accounted for by its linear relationship with the export involvement of firms. The international experience of a firm has been shown to influence its export behavior (Cavusgil and Zou, 1994; Leonidou 2000; Majocchi, Bacchiocchi, & Mayrhofer, 2005).

There is a significant relationship between the export experience of firms and the export performance of Taiwan’s electronics exporters. The relationship yielded the highest R square, at 19.9% of the variance of the export performance, and was accounted for by its linear relationship with the export experience of firms. The standardized beta showed export experience of firms to be the highest beta associated with one of the highest levels of significance at p = 0.000. The present study found that firms that had extensive experience in international markets tended to have better export performance than firms with limited experience; the export experience being one of the key success factors of export business. With respect to the effect of export experience upon export performance, the assumption of a significant relationship between export experience and export performance was confirmed. Multiple years of export experience have a direct influence on export performance. The greater the number of years of export experience, the better the export performance of the firm would be.

The firm competencies are probably more important in export operation; many studies suggest that firm competencies are significantly related to the export performance. The firm competencies have been found to affect export performance in the areas of export planning, technology level, quality control, and human resources. Several studies confirmed that all these were important for export performance (Balabanis & Katsikea, 2003; Tan, Brewer, & Liesch, 2007; Axinn, 1988).

No significant relationship is found between firm competencies and export performance. There was not a significant relationship between the firm competencies and the export performance of Taiwan’s electronics exporters. This result was not consistent with the studies of Aaby & Slater (1989) and Zou & Stan (1998), who found firm competencies to be an important determinant of export performance. Management’s particular orientations do have an impact on the firm’s performance; specifically, export motivation is assumed to have an impact on export performance. This result was not consistent with the studies of Albarm, Strandskov, & Duerr (1998) and Da Rocha & Christensen (1994).

Export commitment has long been identified as an important construct in the export literature. The result shows that there is a significant relationship between the firms’ export commitments and the export performance of Taiwan’s electronics exporters. Firms with more managerial and financial resources can be expected to display high commitment to export markets. By testing the impact of the two dimensions of export commitment on export performance, the present study makes an important contribution. The standardized beta showed export commitment
of firms to be the fourth highest beta associated with one of the highest levels of significance at 0.015, while commitment yielded only 3% of the variation in explaining the export performance.

Successful export performance for firms has been linked to management’s positive expectations concerning the effects of exporting on the business’s profitability, as well as to negative perceptions about risk and potential barriers to export (Cavusgil & Nevin, 1981; Ogunkun, Chin, & McPhail, 2005). There is a significant relationship between the firms’ export perceptions and the export performance of Taiwan’s electronics exporters. This study has already confirmed that the managerial perceptions of export profit, export sales, and firm goal are factors that affect the firm’s export performance for Taiwan’s electronics exporters. Success of Taiwanese electronics exporters has been linked to management’s positive export perceptions concerning export sales.

Personal characteristics of managers of exporting firms have not been studied in the Taiwanese exporting literature. In general, Da Rocha and Christensen (1994) found no significant associations between export performance and the top executive’s formal education, knowledge of foreign languages, professional experience and amount of time traveling overseas.

Four personal characteristics of managers have been included in this study: education level, overseas experience, foreign language skills, and age. The result shows there is no significant effect on export performance. The most interesting result in this study is that the personal characteristics of managers did not have any significant relationship with export performance. Results reported in the literature indicate that personal characteristics of managers may have an important effect (Deng & Benson, 2003).

The result suggested that there is a significant relationship between the product characteristics of firms and export performance. $R^2$ was 5.7%, showing 15.7% of the variance of the export performance, and was accounted for by its linear relationship with product characteristics. It is these characteristics of a given product that create in managers a sense of opportunity as regards foreign markets, and these characteristics also build in managers a sense of need for additional sales in foreign markets. The quality and price of the product are the key successful factors as regards export markets. This study provides strong evidence for the influence of product quality and price on export performance.

There is strong empirical evidence supporting the importance of the export marketing strategy for exporters. Successful export marketing requires the development and implementation of marketing strategies responsive to different markets worldwide. Understanding the link between export strategies and performance is crucial for the success of multinational firms as world markets globalize (Aulakh & Kotabe, 2000).

There is a significant relationship between the export marketing strategy of firms and the export performance of Taiwan’s electronics exporters. In explaining the export performance, the relationship yielded the highest $R^2$ at 29% of the variation. The international business environment is highly complex; the exporters have to assess their firms’ resources and capabilities, changes in business conditions, the competitive environment, the regulatory environment, and consumer behavior, as well as to implement their export marketing strategies. This study confirmed that all components of export marketing strategies are very important for export performance.

The empirical studies have established that the relative contribution of industry structure, corporate and business units affects performance (Christmann, Day, & Yip, 1999). Industry growth affects the extent to which competitors have to compete with each other for sales growth. Industry growth has also been found to be related to high levels of profitability. Technological leadership and substantial R & D are important for the international success of exporters. Firms must analyze their industry structures and competitors, understand their buyer and the sources of buyer value, diagnose their relative competitive positions, and seek to establish a sustainable competitive advantage (Porter, 1986). The result of the test confirmed that there is a significant relationship between the industry characteristics of firms and the export performance of Taiwanese electronics exporters. In explaining the export performance, the relationship was a low $R^2$ of only 2% of the variation. But the standardized beta showed the industry characteristics of firms to be the third highest beta associated with one of the highest levels of significance at $p = 0.044$. The study suggested that industry characteristics are one of the key factors affecting the export performance, and the degree of competition in industry is most important for export marketing. In evaluating export performance, firms must pay attention to the effects of conditions beyond management’s control, such as macroeconomic and industry characteristics.
The role of market conditions as a determinant of firm performance is especially important to exporters; the export market characteristics pose both opportunities and threats for exporters. Such exporters face many challenges not faced by purely domestic competitors. The higher profit potential of high-growth markets should make these markets more attractive to non-incumbent businesses. Trade barriers may determine the attainable profitability for complete or only partial exporters (Bernard & Jensen, 2007).

Firms should be able to compete successfully in international markets, regardless of their general resources, the technological intensity of their product, the type of market in which they operate. However, firms with large resources and high technological intensity might expect slightly better export performance. In summary, the key export market characteristics that can affect the choices of export marketing operations included amount of trade barriers, physical distance to market, competitor pressures, economic development and market sizes in export market, as well as cultural similarity to home markets. The result of the test confirmed that there was no statistically significant relationship between the export market characteristics of firms and export performance among Taiwan’s electronics exporters.

In explaining export performance, the relationship yielded a low $R^2$ at only 9% of the variation. According to the Hypothesis testing, the export performance of firms is not influenced by export market characteristics.

**Government Export Assistance**

The study looked at all the 13 factors, but our main interest is on government assistance. Generating exports is a primary policy concern for most governments. Many dollars are devoted to export promotion programs designed to increase the propensity of companies to export. Government export assistance refers to the policies that a government puts forth to help exporters conduct international business (Weaver, Berkowitz, & Davies, 1998; Ghosh, 2003).

Typically, they help by providing information, sales leads, tax incentives, insurance, promotions, and financing programs. In this study, there was three major government export assistance activities designed to support Taiwan’s electronics exporters: gathering marketing information, promotion and advertising, and financing and tax reduction. The result confirmed that there was not a statistically significant relationship between Taiwan government export assistance programs and export performance among Taiwan’s electronics exporters. There was only a weak positive relationship between Taiwan government export assistance programs and the export performance in Taiwan’s electronics exporters. This result was not consistent with the results of Czinkota and Ricks (1981) and those of Reid (1983), which found that government export assistance could stimulate export activities by providing information, promotion, and financial support (Gençtürk & Kotabe, 2001).

**CONCLUSION**

The performance of exporters is the result of the complex interaction of many factors of both the internal and external environments at the firm level. Improving the understanding of the factors impacting export performance is an important strategic concern in view of the rapidly changing global scope of business.

The study found that contrary to the literature and to the general beliefs, at least in the case of Taiwan, Government Assistance is not a factor in export performance, in the electronic industry at any rate.

The findings confirmed that firm characteristics such as firm size, export involvement, and export experience can all substantially influence a firm’s export performance. Other managerial characteristics such as export commitment and export perception have an impact on export performance, but export motivation and personal characteristics of manager have weak positive relations with export performance. There is a lack of relationship between firm competencies and export performance.

There is a growing belief that new and innovative products with competitive costs have a better than average chance of developing strong export sales, and a significant relationship between product characteristics and export
performance was confirmed. A marketing strategy that emphasizes a new product may be an effective way for a firm
to build greater exporting sales.

Successful exporters require the development and implementation of an export marketing strategy responsive to
different environments. The present study was concerned with the choice of export market numbers and the
adaptation of the export marketing mix. This study confirmed that the export marketing strategies such as product
adaptation, pricing strategy, promotion adaptation, and distribution strategy can all substantially affect a firm’s
export performance. The intensity of exporting activity and the nature of export marketing strategy vary
considerably across industries. Industry characteristics have been considered key determinants of a firm’s strategy in
the exporting areas. This study confirmed that there is a statistically significant relationship between industry
characteristics and the export performance.

Governments seem to be searching for more effective ways to intervene to promote and support exporting. In the
present study, government export assistance was found to have no impact on a firm’s export performance. Maybe
governments should review the way they assist in the export! Maybe they should focus on training the managers as
regards the factors indicated above, that is, the ones having an impact.

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