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Do service and merchandise exporters behave and perform differently? : A New Zealand investigation

A New Zealand investigation

The Authors

Doren D. Chadee, The University of Auckland, Auckland, New Zealand

Jan Mattsson, Roskilde University, Roskilde, Denmark

Abstract

Research on export behaviour and the determinants of export performance of manufacturing firms abounds in the literature. By contrast relatively little research has been undertaken that focuses on service exporters despite the growing importance of service exports in most advanced industrialised countries. This paper compares the export behaviour and performance of service firms to those of manufacturing firms. The study is based on a survey of 155 small and medium size exporters from New Zealand. The results suggest that service exporters are distinctively unique in many respects and exhibit export behaviours that are different from exporters of merchandise. Generally, service firms have greater flexibility to adapt their products to the specific requirements of their customers, use direct export channels more often and are also more proactive than merchandise firms in the establishment of future export strategies. Overall, the size and commitment of service exporters have the greatest influence on their performance.

Keyword(s):

Organizational performance; Customer satisfaction; Export; Manufacturing industry; New Zealand; Services marketing.

Introduction

Much of the research on internationalisation has focused on the internationalisation process of manufacturing firms mostly in western developed economies. Increasingly, service firms have come under scrutiny because the service sector has been found to be crucial for economic growth in many countries (Riddle, 1986) and because of the phenomenal growth in trade in services over a relatively short period (Bradley, 1995; Mathe and Perras, 1994). The service sector accounts for around 70 percent of the production and an even larger fraction of employment in most developed countries (Burgess, 1995). The export of services is also becoming an increasingly important element of world trade as barriers to trade in services continue to be lowered under the auspices of the World Trade Organisation (1996). The information in Figure 1 shows the overall importance of world service exports compared to world merchandise exports and world economic growth. Clearly, over the last decade, growth in the exports of commercial services world wide has outpaced growth of both the exports of merchandise and world output represented by the Gross National Product (GDP)[1].
Consistent higher growth rates for service exports over the last decade are also believed to have been an important contributor to economic growth; particularly in Asian economies (World Trade Organisation, 1996). As trade liberalisation initiatives for services gain momentum world wide, greater opportunities will be available to service exporters. Thus, in order for exporters to benefit from such opportunities, they need to fully understand the nature of the relationship between the behaviour and performance of service export firms and how they differ from those of manufacturing exporters.

International involvement in services can be classified into three modes: foreign direct investment, contractual arrangements, and export (Erramilli, 1989; 1991). Export of services or of goods-embodied services usually takes three forms: direct export to a foreign country, foreign customer travelling to the exporting country or services embodied in material substances which are exported from the home country (Dunning, 1989). To date, most of the literature on export behaviour such as entry strategies on overseas markets pertain to manufacturing firms. Relatively little research exist on how to take services world wide although recent studies suggest that there may be substantial differences between manufacturing and service firms (Erramilli and Rao, 1994; Patterson and Cicic, 1995). For instance, the organic link between production of goods and services seems to be a key element when assessing international comparative advantages of a firm.

Recent studies also suggest that service exporters use a number of different strategies to enter foreign markets (Mathe and Perras, 1994). Service firms seem to prefer full-control modes but as costs escalate, low specificity firms will increasingly seek out shared control ventures (Erramilli and Rao, 1994). As the information technology component of services increases, internationalisation strategies intertwine with internal marketing (Flipo, 1986) and are converging in “all-in-one” mode having all the characteristics of different levels of foreign involvement such as exporting, access to the infrastructure of third parties and an ongoing presence on the foreign market (Vandermerwe and Chadwick, 1989).

One basic assumption of models of internationalisation is that they are cumulative in nature as to forms of involvement. Early studies on the export behaviour of manufacturing firms tend to differentiate between exporters and non-exporters. Later studies have concentrated on the factors behind successful and unsuccessful export firms. Generally, these two streams of research have yielded diverse and often inconclusive findings (Chetty and Hamilton, 1993). A third stream of export behaviour research has attempted to overcome some of the earlier methodological and conceptual problems by suggesting different types of so called “stages models” of exporting which have found empirical support (Hakam et al., 1993). The central idea behind these models is that firms can be classified into a number of categories based on their degree of export involvement. The importance of the various factors influencing export success will depend on the stage the firm is in (Bilkey, 1978).

Studies of the international activities of professional service firms also suggest a different pattern of internationalisation because of the very different type and significance of their resource commitments (Johanson and Deo Sharma, 1987). Consultancy firms, for instance, normally enter projects with people, knowledge and information only. Complex and intricate relationships with customers are crucial to manage. Sales and production cannot be separated (Gummesson, 1978). Formal routines evolve gradually and result in what has been termed the structural capital consisting of the organisation of the packaged service (Edvardsson et al., 1993).
Although considerable opportunities will emerge in global services in the future (Aydin and Kacker, 1989), very few suppliers will have a protected market as services markets will generally become easier to enter and exit (Trondsen and Edfeldt, 1987; World Trade Organisation, 1996). Paradoxically, the old “manufacturing approach” to delivering services has been suggested as outmoded. The emerging model puts customers and front line workers first and designs the business systems around them (Mattsson, 1994; Schelsinger and Heskett, 1991) to focus on the creation and delivery of the actual service.

The main objective of this paper is to investigate whether service exporters behave differently from firms exporting merchandise. In particular, this paper focuses on the influence that firm’s characteristics, management and export strategies have on the performance of exporters of services and merchandise. The rest of the article is structured as follows. Next, the key constructs in modelling export behaviour are reviewed. Then the methodology and data are discussed followed by the development and estimation of regression models of export performance for service and manufacturing exporters. The conclusions and suggestions for future research are discussed in the last section.

Export behaviour: a review

The recent findings from the internationalisation research of service firms seem to suggest crucial differences between service and manufacturing firms (Erramilli and Rao, 1994; Patterson and Cicic, 1995). The aim of this study is to investigate if this holds true for the export behaviour of manufacturing and service firms by considering a few key constructs from the export behaviour literature. These include firm characteristics, managerial competence, export strategy and export success (Aaby and Slater, 1989). We will not attempt a review of the major findings of the field as these have been documented elsewhere (see Cavusgil and Zou, 1994, for a comprehensive review).

This paper postulates that a deliberate export marketing strategy implementation (Bilkey, 1982; Dwyer and Mellor, 1992), the international competence of the firm and the firm’s characteristics (Cavusgil and Zou, 1994; Christensen et al., 1987) would influence the export performance of firms. Conceptually, the relationship between export performance and export strategy, managerial competence and firm’s characteristics is shown in Figure 2. Depending on the culture of the home country of the firm, different areas of export expertise have been linked to export success (Seringhaus, 1993). The more involved a firm becomes in exports, the more extensive the coverage of world markets becomes (Cooper and Kleinschmidt, 1985). Successful exporters also seem to utilise appropriate channels (Bilkey, 1982) and are more flexible to adapt their products (Cavusgil and Zou, 1994) to match the specific requirements for each export market.

The strategy construct adopted in this paper draws on these findings and conceptualises export strategy as consisting of three components (see Figure 2). The first component is the export channels used by the exporter. The decision to use direct or indirect means of exporting may impact on the export performance of the firm. The second component of our strategy construct is the traditional one used in market entry research: present and future selection and establishment of export strategies for a particular export market. As a third component of strategy we use the firm’s flexibility as regards product adaptation for a particular export market.
Managerial perceptions of export markets change over time as the firm gains more experience (Mattsson, 1986) from different markets, a stage of internationalisation which has been referred to as “expansion of national markets” (Douglas and Craig, 1989). The two types of firms in this study (exporters of services and manufacturing products) all belong to this stage of internationalisation. Firm resources as a key construct has generally incorporated state variables such as technology, management planning and control systems and not perceptual variables such as management commitment to export and attitudes to profit and risk (Aaby and Slater, 1989). In this study we use a set of both perceptual and state constructs to classify firms as having either a narrow or broad resource base. Export commitment and export aspiration are included as two distinct constructs to capture management’s changing competencies towards export market. Together, these two variables also indicate the firm’s capacity to undertake and perform efficient exports.

The final construct in our model of export behaviour is export performance and is operationalised as a crude measure of the cumulative change of the firm’s export revenue during the last three years. A great variety of performance measures have been adopted by export researchers, most of which have been economic such as export sales growth or profit from exports (Aaby and Slater, 1989). Although it has been suggested that export success and export performance are separate constructs (Flint, 1994), we will use these concepts interchangeably to refer to the recent change in the firm’s total export revenue.

Model development and estimation

This paper focuses on one main research question: do service exporters behave differently compared to exporters of manufactured products? We address this question by specifying and estimating an econometric model based on Figure 2 as follows:

\[
\text{EXPER}_i = \alpha_i + \beta_1 \ast \text{SIZE}_i + \beta_2 \ast \text{COMMIT}_i + \beta_3 \ast \text{ASP}_i + \beta_4 \ast \text{ADAP}_i + \beta_5 \ast \text{CHANNEL}_i + \beta_6 \ast \text{FSTRAT}_i + (1)
\]

The data used for estimating equation 1 is from a mail survey carried out in 1995/1996 in New Zealand. A comprehensive questionnaire that was pretested with a small group of exporters was sent out to 525 small and medium size exporters selected randomly from the New Zealand Export Directory. The Chief Executive or the next appropriate person in the organisation familiar with the international activities of the firm was asked to fill out and return the questionnaire by a given date. A total of 155 useable questionnaires (approximately equal to a response rate of 30 percent) were retained for the purposes of analysis in the present paper.

The questionnaire enquired about the general characteristics of firms, their recent performance in exporting, the distribution channels they use, future expansion strategies and their commitment to export activities. All survey instruments were pretested with a smaller sample of export firms and corrections were then incorporated into the final questionnaire. The Total Design Method for conducting mail surveys (Dillman, 1978) was followed closely in implementing the survey.

The dependent variable (EXPER) is a measure of the cumulative changes in export revenue over the last three years as a proxy for export performance. In the questionnaire, respondents were asked about how their export revenues had changed over the last three years and they
were asked to choose one of five alternatives which best describes each respondent’s case (1 = increased substantially: by more than 30 percent; 2 = increased moderately by 1-30 percent; 3 = no change; 4 = decreased slightly by 1-10 percent and 5 = decreased considerably by more than 10 percent). The responses to this question can only assume values of 1, 2, 3, 4 and 5. However, a closer look at the responses suggest that the data can be categorised into three distinct groups. These include firms reporting: substantial increase in export revenue (22 percent); moderate increase in export revenue (51 percent); and no change in export revenue. No firms reported a decline in export revenues. Thus dependent variable assumes values of 1 when export revenue increase substantially; 2 = export revenue increase moderately and 3 = no change in export revenue. The explanatory variables are defined as follows:

- **SIZE**=1 if firm is small (< $5 million in annual sales and/or less than ten full time employees), 0 otherwise.
- **COMMIT**=firm’s commitment to exporting measured as the average of the sum of three different subconstructs: 1 if highly committed to export activities, 0 otherwise.
- **ASP**=0-1 index which measures the firm’s export aspiration as the difference between the firm’s present and future geographical scope and assumes the value of 1 if export aspiration is broad and 0 otherwise.
- **ADAP**=degree of firm’s ability to adapt its product to the needs and requirements of overseas markets (measured on a five point scale where 1 = highly flexible; 5 = not flexible at all).
- **CHANNEL**=choice of distribution channel used by exporter; measured by the sum score of five subconstructs for each of the direct and indirect methods of exporting on a five point scale.
- **FSTRAT**=future establishment of production and distribution strategies of firms measured as the sum score of four subconstructs rated on a five point scale.

**Model estimation**

The estimation of equation (1) deserves careful consideration because the application of ordinary least squares (OLS) techniques is not entirely appropriate for models where the dependent variable is not continuous as in the present case. Typically, logit regression[2] models are more appropriate when the dependent variable is qualitative and dichotomous in nature. For example in the binomial logit model, the dependent variable can assume values of say Y = 1 (an event will happen) and Y = 2 otherwise. In this case, the probability (P) of selecting a particular choice is specified as:

Logit (P) = Log (P/1-P) = α + β’x (2)

Where P = Pr (Y = 1|x) is the response probability to be modelled and α is the intercept. The estimated β coefficients show the effect of a change in the explanatory variables (x) on the logarithm of the odds that a particular choice will be made.

However, in the present case the dependent variable can assume one of several values that are ranked in either ascending or descending order. In such cases, ordered logit models where the response Y can assume one of a number of ordinal values; say 1, ..., j, j + 1 (j ≥ 1) are more appropriate (Amemiya, 1985) and takes the following general form:

g (Pr(Y ≤ i | x)) = α_i + β’ x where 1 ≤ i ≤ j (3)
and $\alpha_1, \ldots, \alpha_j$ are $j$ intercept parameters and $\beta$ is the vector of slope coefficients.

Equation (1) is estimated using the maximum-likelihood nonlinear estimation routine of the LOGISTIC procedure available as part of the Statistical Analysis System (SAS)[3]. (For details of the program, please refer to the documentation in SAS, 1990, chapter 27.) The parameter estimates ($\beta_1 - \beta_6$) can be used to evaluate the influence of the various explanatory variables on the dependent variable (EXPER) for service and manufacturing firms of different sizes.

**Discussion of results**

The descriptive statistics for selected characteristics of the export firms surveyed are summarised in Table I. Of the 155 firms in the sample, 103 firms are exporters of manufacturing products and 52 are classified as service exporters. For the purposes of this paper, service exporters include exporters of such services as consultancy, education, legal, insurance, banking, transportation, telecommunications, medical as well as exporters of service embedded products such as software and training films.

It is interesting to note from Table I that although the service firms in our sample are relatively younger there is no statistically significant difference between their export experience and that of manufacturing firms although service firms have been exporting for a slightly longer time. However, service firms have a much higher export intensity than manufacturing firms with the former’s export sales accounting for approximately 44 percent of total sales compared to 32 percent for manufacturing firms. Service firms also appear to be more market focused with export interests in fewer countries and more committed to export activities than manufacturing firms. Both of these findings confirm previous findings that in small open economies such as New Zealand, the service sector accounts for a relatively high proportion of total export revenues (10 percent in NZ compared to 5 percent for Australia and Canada and approximately 2 percent for the USA and Japan (Patterson and Cicic, 1995)).

**Regression results**

The parameter estimates and the associated Wald Chi-Square statistics for two logit models of export performance for manufacturing and service exporters are summarised in Table II. Both models perform reasonably well when judging by the respective AIC values. The low values of the MC Fadden R-Square is to be expected in Logit models (Pindyck and Rubinfeld, 1981). The estimated Wald Chi-Square statistics suggest that all explanatory variables, except for export aspiration, are statistically significant at the 0.05 level. The following inferences can be made from the results.

All explanatory variables for service exporters have parameter estimates that are larger than those of exporters of manufactured products. This suggests that each of the explanatory variables under consideration has a higher influence on the export performance of service exporters compared to exporters of manufactured products. For example, although a service and a merchandise exporter may be equally committed towards export activities, the service exporter will benefit more from incremental increases in its commitment compared to the merchandise exporter.

Commitment to export activities and firm size are the two most important variables influencing export performance of both service and manufacturing exporters. However, the
extent to which these variables affects export performance is significantly larger for service compared to that of merchandise exporters. The parameter estimate for commitment to export activities for service firms (1.90) is both statistically significant and also much larger than that of merchandise exporters (0.28). Similarly, the parameter estimates for SIZE are both positive and statistically different from zero and indicate that medium size exporters perform better than their small size counterparts. Although there is little consensus about the relationship between firm size and export performance, the finding of this paper is consistent with previous research of Australian firms (Evangelista, 1994). However, medium size service firms perform better than medium size manufacturing firms as indicated by the larger parameter estimates associated with the size variable for service firms.

The positive sign with the variable CHANNEL indicates that direct methods of exporting for both service and merchandise exporters contribute more to export performance compared to indirect methods of exporting. However, the findings suggest that the benefits from using direct channels of export are far greater for service exporters compared to merchandise exporters. This confirms previous results which suggest that because of the non homogeneous and inseparability characteristics of services, service providers and exporters prefer full control and use direct channels as opposed to indirect channels (Erramilli and Rao, 1994).

The ability of service exporters to adapt their exports to the specific needs and requirements of their customers (Cavusgil and Zou, 1994) is also confirmed in the present study. The parameter estimate with the ADAP variable for service exporters is both positive and significantly different from zero. By comparison, merchandise exporters are more rigid in adapting their products and this is indicated by the statistically insignificant parameter estimate.

The future establishment of production and distribution strategies is also positive and statistically significant for both merchandise and service firms. To the extent that parameter estimates for service exporters (0.134) are larger than those of merchandise exporters (0.10), the results indicate that the former are more proactive than the latter in export related activities. This may be due to the nature of the two types of exports under consideration. Service exporters tend to be relatively more market focused with export activities in a smaller number of markets compared to exporters of merchandise and as a result may be more efficient in formulating future establishment strategies.

Summary and discussion

This paper compares and evaluates the relationships between selected core export behaviour constructs and the performance of firms exporting services and manufactured products from New Zealand. The paper draws from the extensive export behaviour literature of manufacturing firms and attempts to establish whether the findings can be generalised to service exporters.

The overall findings from this study suggest that service exporters are distinctively different from traditional exporters of merchandise. Export firms from these two sectors seem to have quite different characteristics and thus should be expected to behave differently. In particular, service exporters are somewhat narrower in their export market selection compared to exporters of manufactured products. This may be explained by the fact that it is usually less complicated to export tangible goods as opposed to intangible services. Thus, service firms have a tendency to concentrate on a few important and strategic markets; a form of concentric
diversification; a strategy which has been found to be typical of smaller exporters which attempt to keep market development costs at a reasonable level (Chong and Yoo, 1990). Service exporters in this study are also relatively smaller than their manufacturing counterparts and therefore have limited resources (human and capital) to devote to market development activities on a large scale.

Another important finding of this paper is that the resource base, as reflected by export commitment, of firms is a major determinant of performance. This finding is interesting in that it highlights the fact that although service firms are relatively smaller than manufacturing firms in our sample, and therefore have limited resources available to explore opportunities in overseas markets, they are more committed to export activities. The findings suggest that commitment is the most important variable that influences performance.

The export channels used are also found to be an important determinant of export performance for service firms. The use of direct channels of distribution in export markets contributes far more to the export performance of service firms compared to manufacturing firms. The use of indirect methods of exporting results in a lower level of export performance for both service and manufacturing firms although both methods of export contribute positively to the performance of exporters.

The future establishment of export strategies is also slightly more important for service firms compared to manufacturing firms. Nevertheless, future establishment of export strategies contributes only slightly to export performance and this may be explained by the lack of such strategies for the firms under investigation. The absence of such strategies in general may be explained by the fact that, by world standard, the firms in this study are relatively small and therefore have limited resources to undertake strategic market research and development activities.

The findings in this paper shed light on several aspects of behaviour and performance of service and merchandise exporters. The modelling approach undertaken draws heavily on past research in conceptualising the various constructs used. Some of these constructs are at best crude measures and therefore offer an opportunity for further research. For example, export aspiration is not statistically significant for either service or merchandise exporters. One explanation for this may lie in the way that export aspiration was conceptualised in this study. To recall, we defined export aspiration as the change in the geographical scope of the firm. An increase in geographical scope indicated that firms had higher export aspirations. To some extent this definition is somewhat narrow and we suggest that further research be undertaken in conceptualising a construct that properly reflects management’s aspirations towards export.

Another area for further research is related to the geographical and service scope of firms. This research has investigated firms exporting different types of services to several regions and as such has a rather wide geographical and service scope. To the extent that a particular firm exporting the same product to several regions or exporting several services to the same market may use different export strategies to suit particular regions or services, we recommend that future research focuses on specific service exporters to specific regions only. Because of the small size of the population of service exporters in this study, such a restriction would have resulted in too few firms for any meaningful statistical analysis.
Another area of future research is to compare the characteristics of merchandise and service firms which are already exporting to those which are not exporting. Such a study would provide valuable information on the reasons for service firms not to undertake export activities. Such information could assist domestically oriented service firms in undertaking export activities in the future as well as highlight the factors constraining service and merchandise firms from exporting. These factors could be different for these two types of firms and their identification could assist in the design of export promotion programmes that would enhance export performance.

This study uses only one measure of export performance for the dependent variable; changes in export revenue of exporters. To the extent that previous research has used a number of export performance measures, it would be constructive for future research to compare the results of models with different measures of the dependent variable. Such comparisons would generate a much broader picture of how the various constructs affect export performance, not just export revenues.

Notes

1. It should be noted, however, that in 1994 and 1995, the rapid depreciation of the US$ vis à vis the Japanese Yen and most European currencies led to a world wide surge in the exports of major commodities such as crude oil and other minerals which contributed to the rapid growth in merchandise exports during that period (World Trade Organisation, 1996).


3. When the response is ordered as in the cases under consideration, the LOGISTIC procedure in SAS fits a parallel lines regression model that is based on the cumulative distribution probabilities of the response categories, rather than on their individual probabilities (SAS/STAT manual, 1990, Chapter 27, p. 1073). Thus, under such conditions, the estimated intercept terms are different while the slope parameters are exactly the same. Theoretically, the total probability must add up to one and therefore the number of intercepts estimated is always one less than the number of categories under consideration. The base intercept can be derived as a residual.
Figure 1: World growth in service and merchandise exports vs GDP growth


Figure 2: Conceptual model of export behaviour of service firm
# Table I: Characteristics of exporters

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<th></th>
<th>Industry</th>
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<tbody>
<tr>
<td></td>
<td>Manufacturing</td>
<td>Services</td>
<td>T-value</td>
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<td>Age of firm</td>
<td>32</td>
<td>21</td>
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<tr>
<td>Years exporting</td>
<td>12</td>
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<tr>
<td>Percent of export sales to total sales (percent)</td>
<td>32</td>
<td>44</td>
<td>5.24*</td>
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<td>Number of countries exported to</td>
<td>8</td>
<td>5</td>
<td>2.06*</td>
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<td>Export commitment:</td>
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<tr>
<td>Percentage with export department</td>
<td>18</td>
<td>33</td>
<td>2.16*</td>
</tr>
<tr>
<td>Percentage with export manager</td>
<td>34</td>
<td>46</td>
<td>2.07*</td>
</tr>
<tr>
<td>Percentage using R&amp;D on export</td>
<td>84</td>
<td>67</td>
<td>2.27*</td>
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<td>Source of overseas market information:</td>
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<tr>
<td>Own formal research</td>
<td>41</td>
<td>65</td>
<td>2.96*</td>
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<tr>
<td>Informal research</td>
<td>63</td>
<td>48</td>
<td>1.80</td>
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<td>Export assistance services</td>
<td>27</td>
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<td>0.55</td>
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<tr>
<td>Firm size:</td>
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</tr>
<tr>
<td>Small</td>
<td>50</td>
<td>28</td>
<td>na</td>
</tr>
<tr>
<td>Medium</td>
<td>53</td>
<td>24</td>
<td>na</td>
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**Table I: Characteristics of exporters**

*Notes:* Statistically significant difference at the 0.05 level

na = not applicable

---

<table>
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<tr>
<th>Variable</th>
<th>Parameter estimates</th>
<th>Wald chi-square</th>
<th>Parameter estimates</th>
<th>Wald chi-square</th>
<th>Manufacturing</th>
<th>Services</th>
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<td>0.025</td>
<td>-1.153</td>
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<tr>
<td>Intercept 2</td>
<td>2.15</td>
<td>2.219*</td>
<td>1.562</td>
<td>0.683</td>
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<tr>
<td>SIZE</td>
<td>1.00</td>
<td>5.102*</td>
<td>1.132</td>
<td>3.670*</td>
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<tr>
<td>COMMIT</td>
<td>0.28</td>
<td>2.942*</td>
<td>1.904</td>
<td>8.383*</td>
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<tr>
<td>ASP</td>
<td>0.06</td>
<td>0.064</td>
<td>0.127</td>
<td>0.222</td>
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<tr>
<td>ADAP</td>
<td>0.26</td>
<td>1.206</td>
<td>0.602</td>
<td>2.541*</td>
<td></td>
<td></td>
</tr>
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<td>CHANNEL</td>
<td>0.11</td>
<td>3.752*</td>
<td>0.141</td>
<td>2.736*</td>
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<td>FSTRAT</td>
<td>0.10</td>
<td>3.165*</td>
<td>0.134</td>
<td>2.366*</td>
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<td>0.28</td>
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<td>–</td>
<td>109</td>
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<td>–</td>
<td>52</td>
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**Table II: Logit regression results**

*Note:* *denotes statistical significance at the 0.05 level
References


