

Manager's Perception of the Resource-Performance Relationship:

A Case of Intrafirm Causal Ambiguity in an International Context

1. INTRODUCTION

It is generally accepted that having a competitive advantage is what drives firms' performance and success both locally and internationally. Over forty years of research on export performance has identified an array of firm-specific and environment-specific factors and behaviours and explored their association with export performance (Aaby and Slater 1989; Chetty and Hamilton 1993; Leonidou, Katsikeas and Piercy 1998; Zou and Stan 1998; Leonidou, Katsikeas and Samiee 2002). Various models have been advanced to assess empirically the sign and direction of the relationship between these factors and export outcomes and have yielded different results. Consequently, there is an ongoing debate among academics on which of these factors are the most important as the empirical findings point in various directions in different contexts (industry, time, location, perspective, measures, etc.).

The analysis of the relevant literature points to two potential causes of this research discord. One could argue that this plethora of inconsistent research outcomes is a result of the considerable number of factors advanced as performance determinants as well as the inconsistencies in conceptualization and operationalization of performance measures. On the other hand, it could be argued that this variance is due to the causal ambiguity of the managers as to which factors really drive their firms' performance and success. Managers tendency to misperceive even the most objective aspects of their firms' operations is well documented in the literature (e.g., Tosi, Aldag, and Storey, 1973; Starbuck and Milliken, 1988; Bateman and Zeithaml, 1989; Zajac and Bazerman, 1991). Considering that managers

are often the main source of data collected in research surveys the potential causal ambiguity is bound to affect the objectivity of the data and consequently the findings based on that data.

Given that a firm export performance is regarded as one of the key indicators of the success of a firm's export operations, it is critical that the decision makers have clear understanding of what drives that success. The complexity and dynamicity of the everyday corporate activities, particularly in an international context, makes the managing process inherently ambiguous. Causal ambiguity, defined as a degree to which managers' understand the relationships between organizational factors and behaviours and the firm results (Lippman and Rumelt, 1982), has been treated as an important construct particularly pertinent to the resource-based view (RBV) theory. The RBV argues that firm performance is a function of the managers' ability to successfully leverage the firm's resources and capabilities that a firm owns or controls that are valuable, rare, inimitable, and lack substitutes (Barney, 1991).

Causal ambiguity is considered to be the angel guardian of the inimitability property of the firm-specific advantage-generating resources and capabilities. The presence of causal ambiguity among managers at the focal firm about the link between firm resources and sustained competitive advantage is seen as a significant barrier protecting the firm's competitive advantage from imitation by its competitors. Competitors are unable to imitate the focal firm's competitive resources/capabilities not only because they themselves do not understand the causal relationships (causal ambiguity among competitors) but also because this knowledge is ambiguous within the focal firm itself (causal ambiguity among managers) and hence difficult to transfer. However, the causal ambiguity among the managers at the focal firm may also impede the recognition and development of valuable resource within the firm, limiting managers' ability to leverage resources for competitive advantage (Reed and de Fillippi, 1990). This creates the so called causal ambiguity paradox where the 'ambiguity as to

what factors are responsible for superior (or inferior) performance acts as a powerful block on both imitation and factor mobility' (Lippman and Rumelt, 1982: 420).

Evidently, causal ambiguity among managers generates strategically significant consequences (King, 2007) with direct implications on the sustainability of the firm's competitive advantage and consequently its long-term performance. Hence, majority of the research studying this phenomenon focuses predominantly on investigating the effect that casual ambiguity has on the firm's performance, making a general assumption that causal ambiguity among managers is unambiguous. However, there is very little empirical evidence that actually validates the existence of managers' ambiguity about the relationships between firm's inputs and results. Furthermore, the literature argues that the managers' ambiguity is self-serving, i.e. managers have a tendency to overestimate factors directly associated with their own performance and undermine the others.

The purpose of this study is to validate causal ambiguity as a property of management perception. Building on insights from the RBV perspective (Wernerfelt, 1984; Barney, 1986, 1991; Peteraf, 1993) we examine two propositions advanced in the causal ambiguity literature. Firstly, we investigate if there is a linkage ambiguity among the managers about the causal linkages between firm-specific competences and its performance. We ask the managers for their explicit views on the impact that a set of firm-specific resources and capabilities have on the firm's performance. We then compare these findings with the empirical evidence of significant resource/performance relationships derived from the same set of data. A finding of a significant discrepancy between manager's perceptions and empirical observations about significant resource/performance relationships would be considered as an indication of managerial causal ambiguity. Secondly, we look at the nature of the competences where causal ambiguity was identified to establish if complexity and tacitness characteristics were indeed a source of managers' ambiguity.

The next section presents an overview of the causal ambiguity literature as it relates to RBV and performance literature. The methods section includes a description of the sample selection, data collection, measures used in this study, and discussion of the conceptualization and operationalization of the variables. The results section and a discussion of the findings with their implications concludes the paper.

2. THEORETICAL BACKGROUND

Lippman and Rumelt (1982) first defined the concept of causal ambiguity as “ambiguity as to what factors are responsible for superior (or inferior) performance” (1982: 420) or “ambiguity surrounding the linkage between action and performance” (1982: 421). Thus, causal ambiguity refers to the perception (or misperception) that managers and competitors may have regarding the factors that contribute to firm performance (Barney, 1991; Peteraf, 1993; Coff, 1997).

The early work on this concept focused primarily on interfirm causal ambiguity which exists when competitors are uncertain about the source of competitive advantage at the focal firm and hence are not able to successfully replicate that advantage. Therefore, interfirm causal ambiguity acts as a barrier to imitation by competitors and helps to protect a firm’s source of competitive advantage (Lippman and Rumelt, 1982; Dierickx and Cool, 1989; Reed and DeFillippi, 1990; Barney, 1991; Peteraf, 1993). When the causal ambiguity is present among managers within the focal firm, the phenomenon is called intrafirm causal ambiguity (King and Zeithaml, 2001). Intrafirm causal ambiguity exists when managers within the focal firm do not understand which resources or decisions have the most critical effect on their firm’s performance (King and Zeithaml, 2001; King, 2007).

King and Zeithaml (2001) have further segmented interfirm and intrafirm causal ambiguity into linkage (causal) ambiguity and characteristic (competence) ambiguity. Linkage ambiguity is ambiguity of the managers about what factors (internal and external) are the

critical drivers of the firm's competitive advantage and consequently the firm's superior performance (Lippman and Rumelt, 1982; Barney, 1991). Empirical evidence testifies to the existence of the managers' ambiguity as to what factors are responsible for superior performance (King and Zeithaml, 2001). Managers may misperceive even the most objective dimensions of their firms' internal and external environments, because of judgmental biases, self-serving biases, perceptual blind spots, or wishful thinking (e.g., Tosi, Aldag, and Storey, 1973; Starbuck and Milliken, 1988; Bateman and Zeithaml, 1989; Zajac and Bazerman, 1991). Some of these effects are further magnified under ambiguity (Dunning, Meyerowitz, and Holzberg, 1989; Van Yperen, 1992). Barney (1991) argues that causal ambiguity among internal managers is quite plausible given the complexity and messiness of managing strategic resources.

The research suggests that managers' self-reports will systematically overstate firm competencies and then disproportionately emphasize the competence in explaining firm performance. If this is true than findings based on statistical models should differ significantly from findings based on manager's perceptions. However, there is little direct evidence that the ambiguity effect exists in firms or, in particular, in managers' assessments of the relative impact of competencies on their firms' performance.

If the linkage ambiguity effect is as prevalent as studies suggest, and if judgmental biases, misperceptions and opportunistic behaviour are widespread among managers in organizations, then we believe the connection between management perception and causal ambiguity calls for empirical investigation. Therefore, we investigate the following proposition:

Proposition 1: A significant degree of intrafirm linkage ambiguity will result in a relatively significant divergence between managers' perceptions and empirical findings about the causal relationship between firm competences and performance.

Characteristics ambiguity originates from the nature of the competence itself. Some competences have inherent characteristics that make them simultaneous sources of both competitive advantage and causal ambiguity (Reed and DeFillippi, 1990). Resources and capabilities that are either skill-based or knowledge/process-based competences have a higher propensity for characteristics ambiguity as they have high levels of tacitness, complexity and dynamism, and consequently are firm-specific and difficult to duplicate (Winter, 1987; Reed and DeFillippi, 1990; Barney, 1992; Kogut and Zander, 1992; Godfrey and Hill, 1995; Hart, 1995; Zander and Kogut, 1995; Szulanski, 1996; Inkpen and Dinur, 1998; Simonin, 1999). Competences residing in organizational culture and values have even more causally ambiguous characteristics because they are not just tacit but also less mobile (Reed and DeFillippi, 1990; Barney, 1991).

Theoretical and empirical research suggests that certain inherent characteristics of firm-specific resources and capabilities are associated with causal ambiguity (Reed and DeFillippi, 1990; Barney, 1991; Szulanski, 1996; King and Zeithaml, 2001). Two characteristics in particular have been found to exhibit a significant effect on the level of causal ambiguity at a firm: complexity and tacitness of the firm-specific resources and capabilities. Higher degree of complexity, more typical for capabilities than resources, hinders managers' ability to correctly identify the causes of success and failure (Barney, 1991) and subsequently take the best course of action to leverage both for optimal performance. Tacitness is inherently ambiguous as it is not clearly articulated and as such subject to individual interpretation and understanding (or misunderstanding). Empirical evidence shows significant relationship between tacitness and intrafirm causal ambiguity (King and Zeithaml, 2001). We attempt to validate these arguments by testing the following proposition:

Proposition 2: Resources and capabilities with higher degree of complexity and tacitness are more likely to be a source of discrepancy between the manager's

perception and empirical findings, implicating their characteristics as sources of causal ambiguity.

While causal ambiguity among managers about the link between firm resources and sustained competitive advantage benefits a firm by protecting the firm's competitive advantage from imitation, it also creates problems. Intrafirm ambiguity may impede the recognition and development of valuable resource within the firm, limiting managers' ability to leverage resources for competitive advantage (Reed and de Fillippi 1990; Peteraf 1993; McEvily, Das, and Mc- Cabe, 2000; Winter and Szulanski, 2001). It hinders the creation of knowledge and the learning process (Huber, 1991; McEvily, Das, and Mc- Cabe, 2000) and therefore acts as a barrier to the transfer of best practices within a firm (Szulanski, 1996). The firm ability to effectively respond to external changes is also limited by the existence of the managers' uncertainty (Collis, 1994; King, 2007). Consequently, high degree of intrafirm ambiguity impedes the firm in its ability to achieve its optimal performance. For example, King and Zeithaml (2001) found support for the allegation that linkage ambiguity is negatively related to firm performance both at the top management and middle-management levels. These findings contradict the general hypothesis that high levels of linkage ambiguity among internal managers are necessary to sustain competitive advantage and hence superior performance. Hence, the following proposition:

Proposition 3: High performance firms are more likely to have less discrepancy between the manager's perception and empirical findings, than low performance firm, implying negative association between linkage ambiguity and performance.

3. RESEARCH METHODS

3.1. Sample and data collection

The sampling frame for this study was compiled from the British Exporters Database (BED) 2007 (www.exportuk.co.uk). The comprehensiveness of this database was validated by cross-referencing it with the TradeYorkshire Business Database (UK Trade and Investment), and the list of winners of the Queen's award for excellence in exporting for the previous 5 years. In selecting the sampling frame the following search criteria were applied: firms should be current exporters, they must have been active exporters in the last five years or longer, and they should be both independent and indigenous. British exporters were chosen as a sampling population because we wanted to investigate the causal ambiguity in an international context but a less complex one. Having only one entry mode, exporting (and a relatively simple one) should reduce the degree of distortion of respondents' perceptions due to a lower level of complexity. Export managers should have a better perception of the causal links in their organizations than managers of international operations in MNEs.

Given the nature of the information requested, the export manager/director was deemed to be the best source of information and selected as the primary target to receive the survey. For companies that did not have a designated export manager, the top executive of the company was contacted. Based on the above criteria the search procedure generated a list of 1,505 indigenous British exporting companies with data on their top management and their personal e-mails.

A pilot survey, sent to ten managing directors of exporting companies across the UK, randomly selected from the sampling frame, was first conducted to refine the questionnaire and identify potential flaws and sources of bias. Pilot respondents were asked for feedback regarding the clarity of the terminology used, any ambiguity of the questions and concepts investigated, and the ease of completion. Their comments indicated that the research questions were relevant, with terminology and concepts both appropriate and clear.

The primary dataset was collected at the firm level via an internet-based survey questionnaire, designed and conducted adhering to the principles of the Tailored Design Method (TDM) proposed by Dillman (2000), with particular attention being paid to TDM's principles regarding electronic and web-based surveys. The use of an Internet based survey was deemed the most time- and cost-effective tool for administering the survey questionnaire to a sample of this size and type. Participants, especially privately owned firms, were expected to be highly sensitive to requirements to disclose their financial data; hence, in order to reduce the risk of low response rate due to requests for objective financial data, participants were asked for relative data about their sales and profitability.

After three rounds of contact efforts a total of 356 completed surveys were received, resulting in an effective response rate of 23.7%. Non-response bias was assessed by the use of wave analysis, in which first-wave responses are compared with second-wave answers (Armstrong and Overton, 1977). In this survey, 191 firms responded to the first e-mail contact, with 165 responding only after receiving a second or third e-mail request. To examine the relationships between response time and key study variables, such as type of customer market served, major export region, number of employees, annual sales, and export experience, chi-square tests or independent-sample t-tests were employed, respective of the form of the study variables. For continuous study variables, no significant differences at the $p < 0.05$ level were found between first wave and subsequent respondents; likewise, for categorical study variables, chi-square tests found no significant association between them and response time.

3.2. *Constructs and Measures*

3.2.1. *Firm-specific resources and capabilities*

Since the pioneering work of Tookey (1964) in identifying export success factors, the relationship between export performance determinants and export outcomes has been the subject of analysis in over one hundred empirical studies (Katsikeas, Leonidou and Morgan,

2000). In an extensive literature review, Gemunden (1991) counted over 700 variables that were advanced and analysed as determinants of export performance. Studies examining the internal factors are grounded in the RBV approach, and over the past 40 years have identified and tested a number of internal influences.

Based on a comprehensive review of this literature, a list of the potential *resources/capabilities* conceptualized and empirically tested in RBV studies was compiled. Considering the empirical evidence of the relationship between each resource/capability and export performance, this extensive list was narrowed down to 39 resources. Following the most common classification used by RBV scholars and the objectives of this study, these 39 resources were grouped into five sets, namely: physical, managerial, organizational, relational, and knowledge-based resources.

Previous research from various theoretical streams has found strong evidence of the critical impact of these resources on international performance:

- (1) Managerial resources – the top management’s knowledge and experience of, and attitudes and commitment to, international activities (Reid, 1983; Aaby and Slater, 1989; Oviatt and McDougall, 1994; Zou and Stan, 1998; Jones, 1999; Katsikeas, Leonidou and Morgan, 2000; Ibeh and Young, 2001; Ibeh, 2003; Ibeh and Wheeler, 2005);
- (2) Knowledge-based resources – export market knowledge, and export expertise (Kogut and Zander, 1992; Conner and Prahalad, 1996; Grant, 1996; Morgan et al., 2003);
- (3) Organizational resources/capabilities
 - a. Export planning capabilities (Cavusgil and Nevin, 1981; Madsen, 1987; Aaby and Slater, 1989; Bell, 1995; Zou and Stan, 1998; Etemad and Lee, 2003; Dhanaraj and Beamish, 2003; Ibeh and Wheeler, 2005),

- b. Marketing mix competences (Aaby and Slater, 1989; Zou and Stan, 1998; Katsikeas, Leonidou and Morgan, 2000), and
 - c. Advanced technology capabilities (McGuinness and Little, 1981; Burton and Schlegelmilch, 1987; Madsen, 1989; Cavusgil, Zou, and Naidu, 1993; Styles and Ambler, 1994);
- (4) Relational resources – business and government relational resources (Madsen, 1987; Coviello and Munro, 1997; Srivastava, Shervani and Fahey, 1998; Zou and Stan, 1998; Crick and Jones, 2000; Etemad and Lee, 2003; Ray, Barney and Muhanna, 2004; Ibeh and Wheeler, 2005; Styles, Patterson and Ahmed, 2008); and
- (5) Physical resources (Penrose, 1959; Bilkey, 1978; Reid, 1983; Miesenbock, 1988; Ford and Leonidou, 1991; Chetty and Hamilton, 1993; Zou and Stan, 1998; Ibeh and Wheeler, 2005).

The managers were asked to assess the importance of each of the 39 firm-specific resource factors for the firm's export performance over the previous five years on a five-point scale ranging from 1 ('Not important') to 5 ('Very important'). The use of perceptual measures in combination with Likert-type scales is a common practice in the export literature as it has been proven to be a valid approach in improving data collection success particularly in the case of smaller firms which are more reluctant to disclose their factual data (Zou et al., 1998; Dhanaraj and Beamish, 2003).

3.3. *Export performance*

Attainment of successful export performance is at the heart of the strategic decision making process for both corporate and public policy decision makers. For companies, the success of the export performance indicates the extent to which the firm's objectives, both economic and noneconomic, are achieved in an international context at a given point of time and reflects the

suitability of the chosen export strategy in responding successfully to the firm and environmental circumstances. Given that exporting is a strategic choice for a firm, the objectives can vary widely between firms, industries, national contexts and time horizons. Consequently, there is a plethora of export performance indicators used in the exporting literature (Katsikeas, Leonidou and Morgan, 2000; Sousa, 2004; Sousa et al., 2008).

Recognizing the reluctance of privately owned companies to disclose financial data on export performance, data were derived from the manager's perception of the level and the relative importance of the firm's export performance over the previous five years. Export performance was measured by employing a composite, three-dimensional scale called the EXPERF scale which is comprised of financial export performance measures, strategic export performance measures, and measures of satisfaction with the export venture (Zou et al., 1998). The composite measure consists of eight items that were assessed using a five-point scale ranging from 1 ('strongly disagree') to 5 ('strongly agree').

Based on their mean score for the export performance factor, the survey respondents were classified into two categories. Exporters with a mean performance factor of less than 3.00 were categorized as 'Low performance firms', and exporters with a mean performance factor higher than 3.00 were categorised as 'High performance firms'. A number of general questions were also asked with respect to the firm characteristics (size, export experience, export intensity).

3.4. *Statistical analysis*

In order to validate the grouping of the 47 items measuring resources (39 items) and performance (8 items) into scales and to evaluate their measurement of the underlying constructs they were designed to measure, a preliminary measurement model was derived using Exploratory Factor Analysis (EFA) on one randomly-selected half of the data. This was then tested using Confirmatory Factor Analysis on the other half of the data (using Path

Analysis software Amos). This split-half cross-validation was used to guard against overfitting the factors caused by testing them on the same data used to construct them. The internal consistency reliabilities of each of the scales derived from the item groupings resulting from the factor analyses were then checked on the full data set.

After checking basic sample properties, and correlations between items, tests were performed to identify significant differences in observed mean managerial perceptions between firms with high and low export performance.

4. FINDINGS

4.1. *Determinants of export performance*

The managers were asked to assess the importance of a set of firm-specific resources and capabilities for the export performance over the previous five years. The exploratory and confirmatory factor analysis produced eight theoretically meaningful and statistically reliable resource factors, as shown in Table 1.

[Insert Table 1 Here]

In the exploratory and confirmatory factor analysis after the removal of several items, which either cross-loaded or had very low loadings, a clear eight factor solution was found from the remaining 37 items. All factor-item loadings were greater than 0.30, the communalities for all items were above 0.49, and the factors together explained 77 percent of the observed variance.

The internal consistency reliability of each of the constructs suggested by the measurement model was tested on the full sample. The Cronbach alpha coefficients for all nine factors were more than adequate, with values no less than 0.73, and no instances of item removal improving the consistency of a factor. The results of these exploratory and confirmatory factor analyses and the reliabilities of the resulting factors of items are given in Table 1.

The physical resources items had failed to group into a clearly identifiable factor at the exploratory factor analysis stage. In fact these items focused on five distinctly different physical resources, reflected in the weak to medium correlations amongst them ($r < 0.35$), suggesting an index-like quality. As a result of this, and to ensure that physical resources were included in the subsequent analysis, the mean score across the five items was computed, and the resulting observed variable was used as a ‘physical resources index’.

The distribution of the resources items amongst the eight factors revealed distinct patterns consistent with the theoretical propositions for four of the five resource groups in the model. *Management resources* loaded in one factor and have the highest percentage of variance explained (37%). *Organizational resources/capabilities* loaded in three factors: *Advanced technology*, *Quality product/service*, and *Export planning capabilities*. *Knowledge-based resources* loaded in two factors: *Export expertise*, and *Export knowledge*. *Relational resources* also loaded in two factors: *Business relationships*, and *Government relationships*.

As a first step, the correlations were examined between the nine factors (eight resource factors and the observed physical resources index) and the export performance factor. All nine factors shared positive correlations with the export performance factor, with varying degrees of significance indicating that there is a correlation between the managers’ perceptions of resource importance and the export performance. Correlations between resources were all positive, and almost all of medium to large size, but not so large as to compromise the divergent validity of the factors ($r < 0.66$). These inter-correlations are given in full in Table 2.

[Insert Table 2 Here]

The observed factor mean scores of each resource factor shown in Table 1, indicate that on average, the sample respondents perceive all resources, except government relationships, to be important for the firm’s export performance (average factor means higher than the median

of the scale). Among the nine resource groups, organizational capabilities in providing good quality goods and customer service were perceived to be most important factor for the firm's export success (based on the highest factor mean score of 4.36), followed by the management resources, the knowledge-based resources (both export expertise and export knowledge), and business relationships capabilities. In managers' view physical resources, advanced technology and export planning capabilities were fairly important, and government relationships the least important.

4.2. Determinants of export performance – empirical versus perceptual observations

In a separate study (Beleska-Spasova, 2009) an empirical analysis of the resource/performance relationship was conducted using a structural equation modelling (SEM) approach on the same sample data of 356 British exporters. In this study the same comprehensive list of resources and capabilities was utilized. Exploratory and Confirmatory Factor Analysis were again used to validate the constructs resulting in a nine factor solution consistent with the one derived in this study. The managers were asked to appraise the extent of a firm's ownership/control of each of these factors using a Likert-type five-point response coding ranging from 'strongly disagree' (1) to 'strongly agree' (5). A series of structural equation models were tested and the individual as well as the concurrent (simultaneous) direct and indirect effects of the resource bundles on export performance were examined. The empirical findings based on the SEM analysis presented in Table 3 indicate that certain resource factors have a significant direct or indirect relationship with export performance. In particular, management resources, export knowledge resources and advanced technology capabilities were found to have a significant direct relationship with export performance when all resources are considered both individually and concurrently.

[Insert Table 3 Here]

Table 3 shows the nine resource bundles ranked in descending order of their mean management perceptions, and the empirical findings of significance of the resource/performance relationship. A comparison of results presented in Table 3 indicates that there is an obvious discrepancy between the findings based on managerial perception and the empirical findings based on the SEM analysis for three of the nine resource factors: organizational capability in providing quality of product/service, and export expertise capability. The analysis in this paper has found that these two resources are perceived by the managers to be very important for the firm's export performance. However, the empirical analysis of the relationship of the firm's endowments with these resources and its export performance shows that these relationships are insignificant, i.e. the SEM findings indicate that these two resource factors have no individual or concurrent direct effect on the firm's export performance. This finding is even more noteworthy considering that these resources are two of the three highest ranked by their mean importance for export performance as perceived by the surveyed managers. This apparent divergence between the empirical results and the perceptual observations testifies that there is an evident linkage ambiguity among the managers about which factors drive their firms' success, providing a strong support for our first proposition.

Furthermore, an interesting observation can be made about the characteristics of the factors that were identified in Table 3 as indicators of linkage ambiguity among managers. Namely, all three competences that were found in the SAM analysis (but not by the managers) to have significant performance impact: management resources, export-knowledge resources and advanced technology capabilities, all have a higher degree of tactiness and complexity. These competences are either skill-based or knowledge/process-based and as such are not clearly articulated and hence more prone to misinterpretation or misperception. These findings therefore provide support for our second proposition that resources and capabilities with

higher degree of complexity and tacitness are more likely to be a source of discrepancy between the manager's perception and empirical findings, implicating their characteristics as sources of causal ambiguity.

To determine if there are significant differences in causal ambiguity between low performance and high performance exporters the t-test for two unrelated means was performed. The results, presented in Table 4, indicate that there are significant differences in the management's perceptions of the importance of the resource for the firm's export performance between low performance and high performance respondents for all but one resource factor – government relationships were perceived as the least important factor for the firm's export performance equally by both low and high performing exporters. The other eight resource factors were perceived as being significantly more important (scored higher means of perceived importance) by high performance respondents than by the low performance respondents.

[Insert Table 4 Here]

The most notable divergence between low and high performance firms seems to be the managers' perceptions of the effect of business relationships and managerial resources. Namely, Table 4 shows that managers from the low performing firms perceive business relationships as the second most important factor for the firm's performance while the managers from the high performance firms view the management resources to have the second most significant effect on performance.

The results of the analysis of low versus high performance firms have provided further evidence in support to our first proposition. Managers from both low and high performance firms have implied three resource factors with high perceived impact on performance that are significantly different from the ones identified in the SEM analysis. These findings confirmed that there is a significant divergence not only between the managers' perceptions and

empirical findings of the causal resource-performance relationships but also between the perceptual observations of the managers from low versus high performance firms.

Furthermore, these findings challenge the arguments that high linkage ambiguity is associated with better performance, i.e. that high causal ambiguity is necessary to protect the firm's core competence from imitation and hence sustain the superior performance. The results of this research indicate that the managers' perceptions of causal relationships in high performance firms were more aligned with the empirical findings than the managers' views from low performance firms. These findings corroborate our third proposition that there is a negative association between causal ambiguity and firm's performance.

5. DISCUSSION, CONCLUSIONS AND IMPLICATIONS

The critical importance of export performance for both practitioners and policy-makers has been reflected in a widespread interest of the subject among academic researchers. Even though export performance has been one of the most studied subjects in the exporting literature it has been criticized for being methodologically fragmented and conceptually diverse providing inconclusive results. In this study we explore the presence of causal ambiguity among a sample of British exporters as a potential explanation for the inconsistent findings in the export literature.

Our study differs from other studies on causal ambiguity in three aspects. First, prior empirical research has investigated causal ambiguity predominantly by comparing and contrasting beliefs about firm competencies or performance causation among managers within a focal firm; this study examines ambiguity by comparing subjective, perceptual data with empirical findings of the same causal relationships within a focal firm. Second, characteristic ambiguity seems to have attracted more interest among researchers than linkage ambiguity, with very few studies focusing on both; our study examines empirical evidence on both characteristics and linkage ambiguity (King and Zeithaml, 2001). Finally, majority of the

studies make a general assumption that intrafirm casual ambiguity is unambiguous, i.e. very few studies provide empirical evidence of the scope and scale of the intrafirm casual ambiguity.

A number of observations could be derived based on the results in this study. First, the study findings present sound empirical testimony of the presence of intrafirm linkage ambiguity. They provide empirical evidence, lacking in prior research, in support of the theoretical arguments that “causal ambiguity about competencies is inextricably bound to organizational decision makers” (King, 2007: 173). The study’s findings indicate that in the view of the managers, organizational capabilities in providing good quality of products and customer service is the most important factor determining export outcomes. This competence scored the highest mean, followed by management resources, export expertise, export knowledge, and business relationships. These results were significantly different from the empirical findings of the causal resource-performance relationships derived from the same set of data.

When the managerial perceptions of the importance of individual resource factors for the firm’s export performance were contrasted with the empirical findings (Table 3), two evident divergences in the findings were evident. One, the results of the SEM procedure show that quality of products/services does not have a significant relationship with export performance, neither direct nor indirect. However, this variable scored the highest mean managerial perception for its importance to export performance. The apparent disparity between the perceptual observations and empirical results of causal relationships derived from the same set of data could provide an explanation as a probable cause of the inconsistent results associated with product quality and customer support export research. It seems that when this causal relationship was analysed based on empirical data the findings implied neutral or insignificant association, while when perceptual data was utilized the findings suggest significant positive causal relationship. For example, Ibeh and Wheeler (2005) and Wheeler

et al. (2008) in their analysis of the empirical evidence of UK-focused studies concluded that marketing mix variables exhibit predominantly neutral effects on export performance. Conversely, the managers in this study's sample of British exporters perceived this organizational capability as the most important resource for the firm's export performance (based on the highest observed mean of management's perceptions). Similar findings were reported by Lages, Lages and Lages (2005) in one of the very few studies that investigates managers' explicit views of performance determinants. In their study of British and Portuguese managers' perspectives on export performance determinants, Lages Lages and Lages (2005) found that the most important determinant was product quality, followed in importance by price competitiveness/value for money, and service quality.

Another significant disparity between the results in Table 3 is the factor export expertise. This resource factor was perceived as highly important by the surveyed managers while the empirical results indicated that this variable had no significant direct relationship with performance outcomes. Export expertise in this study was defined in terms of the skills and experience of the export personnel. The surveyed managers indicated that the highly-skilled and experienced export personnel is very important for the firm's export performance. In fact it was perceived as one of the three most important factors impacting performance outcomes. Such evidence of overstatement of this competence is aligned with the assertions that managers are systematically overstating firm competences due to self-serving biases. As Powell et al. (2006) argue: "If a competence is lexically ambiguous, managers will denote the construct self-servingly, overstate the competence, then disproportionately emphasize the competence in explaining firm performance".

On the other hand, two competences identified by the empirical results as having a significant direct relationship with performance, export knowledge resources and advanced technology capabilities, were perceived by the managers to be significantly less important. These two

firm-specific competences are the most prominent indicators of causal ambiguity among the surveyed sample of British exporters. Both of these resource factors are either knowledge- or process-based and as such are inherently complex, dynamic and tacit. Tacit knowledge is intrinsically more ambiguous than articulated knowledge (Reed and DeFillippi, 1990; Kogut and Zander, 1992; Zander and Kogut, 1995). Resources characterized by a higher level of tacitness and complexity, such as knowledge-based resources and organizational capabilities, are well documented as competences with high propensity for characteristics ambiguity (Reed and DeFillippi, 1990; Barney, 1992; Godfrey and Hill, 1995; Hart, 1995; Szulanski, 1996; Inkpen and Dinur, 1998; Simonin, 1999). The findings in this study support these arguments and our proposition that the competences identified to have a causally ambiguous relationship with performance are the ones with inherent characteristics to be complex and tacit.

One of the most striking disparities between managers' perceptions and empirical evidence is the causal relationship of advanced technology and performance. Advanced technology capabilities are perceived by the surveyed managers in this study to be one of the three least important factors for export performance. Given that there is ample empirical evidence showing that advanced technology is one of the critical success factors for the firm's international ventures (Aaby and Slater, 1989; Madsen, 1989; Cavusgil, Zou, and Naidu, 1993; Styles and Ambler, 1994; Zou and Stan, 1998; Dhanaraj and Beamish, 2003; Ibeh and Wheeler, 2005; Rodriguez and Rodriguez, 2005) there is an obvious misperception among managers about the role of this firm competence. A possible explanation for this finding could be that managers perceive these activities to be costly and time and resource consuming, particularly for resource constrained exporting SMEs. Consequently, managers may have a negative perception of the cost/benefit ratio of these resources.

This study produced empirical evidence in support of the propositions that the significant discrepancy between empirical findings and managers' views of causal relationships within a

firm are due to the causal ambiguity of the managers. The results imply that there is an obvious misperception among managers about the critical competences that drive the firm's performance. It could be the case that managers, who are absorbed in managing everyday survival in the international market and the achievement of their short term performance targets, are unable to identify what really drives the success of their exporting activities. There is an apparent misperception among managers about the real degree of importance of having a sustainable competitive advantage based on innovation, knowledge and managerial capabilities.

Managers as key creators and executors of strategic decisions play a critical role in sustaining the competitive advantage of the firm. Managers' ability to recognize the core competences of the firm is critical to their ability to sustain the future development of that competence, to transfer that knowledge within the organization, and to protect its competitive advantage from external imitation. Therefore, linkage ambiguity among managers should be given a serious consideration in the strategic decision making process of the firms (Mosakowski, 1997). Furthermore, the results of this study are aligned with prior research findings (King and Zeithaml, 2001) that lower intrafirm causal ambiguity is associated with higher performance, making the issue of managers (mis)perceptions of key causal relationships within a firm even more crucial.

Close collaboration between top and operations managers through open channels of communication and joint discussions may help flag potential ambiguities about firm's core competences and key drivers of firm's performance. However, this is easier said than done. Organizations are intrinsically messy, complex and dynamic. The key competitive advantages have moved from the traditional tangible and static resources to increasingly more complex and dynamic skill- and knowledge-based processes. Superior performance is driven by interactions of multiple core competences. Establishing and measuring causal ambiguity in

such a complex and dynamic environment particularly in an international context is complicated and presents a real challenge for the decision makers.

Academic research could facilitate this process by providing better specifications of the nature (direct or indirect), the direction (positive or negative), and the degree of association of causal ambiguity and performance outcomes. Identification of industry specific ambiguities could also help focus on areas of higher susceptibility to misperception tendencies.

This study found strong evidence of both linkage and characteristics ambiguity among a sample of British exporting managers. Considering that managers are the main source of primary data in academic research, their ambiguity may well be the underlying cause of the inconsistent findings in management research in general and export related research in particular. Even if researchers manage to find a reliable objective measure of unobservable constructs such as ambiguity, they should always consider the possibility of human perceptual biases overstating ambiguous competencies.

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Table 1 Exploratory and confirmatory factor analysis, internal consistency reliabilities and observed mean scores for resources and performance items

Factor/Variable importance for export performance over past 5 years:	Factor loadings - EFA †	Stand'sd Coeff's - CFA ‡	Factor Mean Score	C'bach's alpha
<i>Export performance</i>			3.60	0.94
Over the past 5 years our exporting activities...				
... Have contributed significantly to our overall profitability.	0.70	0.69	3.98	
... Have generated a high volume of sales.	0.79	0.80	3.83	
... Have achieved rapid growth.	0.78	0.79	3.26	
... Have improved our international competitiveness.	0.80	0.78	3.48	
... Have strengthened our strategic position in the international market.	0.70	0.70	3.63	
... Have significantly increased our international market share.	0.82	0.83	3.41	
... Have been very successful.	0.82	0.83	3.78	
... Have fully met our goals and expectations.	0.63	0.66	3.43	
<i>How important were each of the following resources for your company's export performance over the last 5 years?</i>				
<i>Management resources</i>			3.83	0.92
Management's strong commitment to exporting	0.74	0.76		
Management's global, internationally-oriented strategy	0.34	0.48		
Management's proactive attitude towards exporting	0.83	0.84		
Management's positive perception of export advantages	0.88	0.88		
Management's ability to overcome export barriers	0.43	0.55		
<i>Organizational capabilities: Advanced technology</i>			3.25	0.86
Having a strong leadership in technology	0.88	0.84		
Developing technology by investing in R&D	0.84	0.86		
Acquiring new technology	0.75	0.68		
Adopting new methods and concepts in manufacturing/service process	0.64	0.56		
<i>Organizational capabilities: Quality of product/service</i>			4.36	0.87
Providing consistent quality of products/ services	0.76	0.71		
Meeting customer specifications and requirements	0.86	0.85		
Meeting delivery dates	0.76	0.82		
Providing good quality after-sales service	0.62	0.70		
<i>Organizational capabilities: Export planning</i>			3.05	0.93
Implementing a separate, well-defined export strategy	0.87	0.73		
Having a formalized export planning activity	0.64	0.82		
Researching the export market actively	0.60	0.57		
Having a well-defined market selection strategy	0.67	0.64		
<i>Knowledge-based resources: Export expertise</i>			3.79	0.91
Having highly-skilled export personnel that deals with international markets	0.85	0.87		
Having export personnel that is experienced in international operations	0.94	0.91		
Having a significant company international experience	0.62	0.57		
<i>Knowledge-based resources: Export knowledge</i>			3.62	0.80
Having knowledge about the customers in our export markets	0.61	0.44		
Having knowledge about the competitors in our export markets	0.61	0.39		
Having knowledge about doing business in export markets	0.42	0.30		
<i>Relational resources: Business relationships</i>			3.53	0.73
Having good relationships with the distributors in our export markets	0.40	0.66		
Having good relationships with the supply chain in our export markets	0.31	0.65		
<i>Relational resources: Institutional relationships</i>			2.28	0.89
Having good government links in the UK	0.85	0.80		
Having good government links in our export markets	0.80	0.76		
Being a member of a UK business network	0.79	0.84		
Being a member of a business network in our export markets	0.80	0.82		
<i>Physical Resources Index ††</i>			3.42	N/A

† Absolute values. Construction half of the sample; N = 188

‡ Validation half of the sample; N = 168

†† Physical Resources items observed mean score created as index

Table 2 Inter-correlations between firm resources and performance factors on full sample

	<i>Correlations</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
1	Management resources									
2	Advanced technology capabilities	0.415								
3	Quality of product/service	0.371	0.293							
4	Export planning/strategy capabilities	0.648	0.422	0.286						
5	Export expertise	0.647	0.286	0.277	0.517					
6	Export knowledge	0.616	0.372	0.366	0.654	0.557				
7	Business relationships	0.406	0.329	0.171	0.534	0.405	0.554			
8	Institutional relationships	0.285	0.330	0.044	0.482	0.209	0.414	0.400		
9	Physical resources index	0.578	0.662	0.428	0.581	0.480	0.559	0.476	0.448	
10	Company's export performance	0.616	0.322	0.252	0.463	0.446	0.410	0.237	0.167	0.412

All correlations significant at the 0.01 level (1-tailed).

Table 3 Empirical findings versus perceptual observations of the importance of resource/performance relationship

Resource [†]	Perceptual observations	Empirical observations	
	Mean management perception of	Direct resource/performance relationship ^{††}	
	resource importance	Individual effects	Concurrent effects
<i>Organizational capabilities: Quality of product</i>	4.36		
<i>Management resources</i>	3.83	0.411*	0.345*
<i>Knowledge-based resources: Export expertise</i>	3.79		
<i>Knowledge-based resources: Export knowledge</i>	3.62	0.339*	0.215*
<i>Relational resources: Business relationships</i>	3.53	0.180*	
<i>Physical Resources Index</i>	3.42	0.221*	
<i>Organizational capabilities: Advanced technology</i>	3.25	0.179*	0.140*
<i>Organizational capabilities: Export planning</i>	3.05	0.277*	
<i>Relational resources: Institutional relationships</i>	2.28	0.149*	

[†] Resources are ranked according to the observed mean perception of the resource importance for the export performance (descending).

^{††} Direct resource/performance relationship results are derived from a separate study that utilized SEM to empirically validate a proposed RBV framework of export performance.

* $p < 0.05$ (1-tailed test).

Table 4 Management's perceptions of resource importance of Low versus High export performance firms

Variables	Low export performance		High export performance		t-test	SEM findings Concurrent effects
	Mean	Rank	Mean	Rank		
Quality product/service	4.15	(1)	4.47	(1)	3.811*	
Business relationships	3.20	(2)	3.65	(5)	3.056*	
Export expertise	3.17	(3)	4.04	(3)	6.843*	
Export knowledge	3.13	(4)	3.81	(4)	6.291*	0.215*
Management resources	3.11	(5)	4.16	(2)	10.113*	0.345*
Physical resources index	3.09	(6)	3.58	(6)	4.884*	
Advanced technology	2.84	(7)	3.43	(7)	4.559*	0.140*
Export strategy	2.43	(8)	3.30	(8)	6.877*	
Institutional relationships	2.14	(9)	2.33	(9)	1.452	

* $p < 0.01$ (2-tailed test)

Calculate what is the split between low and high performance firms.