Internet Capabilities in a Knowledge-based Perspective of Export Marketing Performance

Ingrid Beckers¹, Pieter F.J. Pauwels², Ko de Ruyter³, Martin G.M. Wetzels⁴, & Luis F. Lages⁵

Paper accepted as competitive paper
EMAC 2007

ABSTRACT
The Internet is a prominent medium that increases the efficiency of tactical export marketing activities. Given its open character, the question remains whether the Internet contributes to sustainable export marketing performance. From a knowledge-based perspective (KBV), we conceptualize Internet capabilities and investigate their effect on the knowledge- and strategic basis of export marketing performance. Data from 200 middle-sized industrial exporting firms confirm the short term efficiency effect of Internet tools as well as their indirect yet sustainable performance effect. Findings are stable across IT-poor and IT-endowed firms.

Track: International and Cross-Cultural Marketing

Keywords: Internet Capabilities, Export Marketing Performance, Knowledge-Based View

¹ Corresponding author is Ingrid Beckers, Ph.D. Candidate, Maastricht University, FdEWB, Department of Marketing, P.O. Box 616, 6200 MD Maastricht, The Netherlands, Phone: #31-43-3883904, Fax: #31-43-3884918, E-mail: i.beckers@mw.unimaas.nl.

² Pieter F.J. Pauwels is Assistant Professor of Marketing, Maastricht University, FDEWB, Department of Marketing, P.O. Box 616, 6200 MD Maastricht, The Netherlands, Phone: #31-43-3883774, Fax: #31-43-3884918, E-mail: p.pauwels@mw.unimaas.nl.

³ Ko de Ruyter is Professor of Interactive Marketing, Professor of International Service Research and Chairman of the Department of Marketing, Maastricht University, FdEWB, Department of Marketing, P.O. Box 616, 6200 MD Maastricht, The Netherlands, Phone: #31-43-3883739, E-mail: k.deruyter@mw.unimaas.nl

⁴ Martin G.M. Wetzels is Professor of Marketing Research, Maastricht University, FDEWB, Department of Marketing, P.O. Box 616, 6200 MD Maastricht, The Netherlands, Phone: #31-43-3883250, Fax: #31-43-3884918, E-mail: m.wetzels@mw.unimaas.nl.

⁵ Luis F. Lages is Assistant Professor of Marketing and International Business, Universidade Nova de Lisboa, Faculdade de Economia, Campus de Campolide, 1099-032 Lisboa, Portugal, Phone: #351-21-3801600, Fax: #351-21-387 0933, E-mail: lflages@fe.unl.pt
PURPOSE OF THE STUDY
The Internet has considerably influenced export marketing activities as it helps exporting firms create instant global visibility at very limited cost (Eid, Elbeltagi, & Zairi, 2006; Quelch & Klein, 1996). Among other Internet tools, web browsers offer efficient ways to collect foreign market information (Nguyen & Barrett, 2006) and web sites allow firms to reach dispersed overseas markets in a quick and efficient way (Dou, Nielsen, & Tan, 2002; Sharma & Sheth, 2004). The open character of the Internet may imply, though, that the impact of Internet on export marketing performance is brittle and vanishes as soon as competitors start to imitate (Geyskens, Gielens, & Dekimpe, 2002; Varadarajan & Yadav, 2002).

Literature presents plenty yet mainly anecdotal illustrations of how Internet applications increase the efficiency of export marketing instruments (Dou et al., 2002; Sharma & Sheth, 2004). This, however, only represents the top of the iceberg. Contemporary research found inimitable, non-substitutable and venture-specific knowledge to be the basis of sustainable export marketing performance (Calantone, Kim, Schmidt, & Cavusgil, 2006; Morgan, Zou, Vorhies, & Katsikeas, 2003). This knowledge base underpins particular capabilities and strategies that feed sustainable export marketing performance (Calantone et al., 2006). To date, the impact of Internet on this massive part of the iceberg remains largely uncharted.

From a Knowledge-Based View (KBV) of the firm we investigate the impact of a firm’s Internet capabilities on export marketing knowledge and, eventually, on sustainable or long-term export marketing performance. More in particular, the present study contributes to the literature in four ways. First, we conceptualize Internet capabilities as a firm’s capacity to systematically develop and implement particular Internet tools. We rely on information systems research (Rachivandran & Chalermsak, 2005) to develop Internet capability as a functional capability (Zhu & Kraemer, 2002). Second, we assess the impact of Internet capabilities as a functional capability that feeds a knowledge-based model of export marketing performance in two fundamental ways: Internet capabilities impact the knowledge base as well as it complements export marketing capabilities as the foundation of export marketing strategies. Eventually, this dual impact affects sustainable export marketing performance. Next to this long-term performance effect, we show that the much heralded yet fragile efficiency-effect of Internet capabilities remains substantial in the short-run despite the immediate risk of competitive imitation. As a final contribution, we assess the external validity of both the fundamental impact and the efficiency-logic. Therefore, we control the validity of our model in IT-endowed versus IT-poor companies.

CONCEPTUAL MODEL
Isolated Internet tools cannot bring sustainable export marketing performance for the simple reason that apparently successful tools will immediately be imitated by competitors which makes any resulting competitive advantage soon to fade (Geyskens et al., 2002; Varadarajan & Yadav, 2002). Only a systematically refurbished or even recreated Internet toolbox may bring sustainable performance. To grasp the effect of a firm’s Internet activity on sustainable export marketing performance, we, therefore, focus on the organization’s Internet capabilities that underpin this toolbox. We define Internet capabilities as a firm’s overall capacity to systematically develop and implement particular Internet tools in four functional areas: in informational, transactional, interactive exchanges with customers and in connecting to suppliers (Zhu, 2004; Zhu & Kraemer, 2002).

We study the effect of Internet capabilities on a knowledge-based model of export marketing performance. This model identifies export marketing knowledge, export marketing
capabilities, and export marketing strategy as essential drivers of sustainable export marketing performance (Leonidou, Katsikeas, & Samiee, 2002; Morgan, Kaleka, & Katsikeas, 2004). Export marketing knowledge is defined as a firm’s understanding about the export market (informational knowledge) and about export-related procedures (experiential knowledge) (Morgan et al., 2003). While export marketing knowledge is a resource, capabilities transform resources. Export marketing capabilities are the organizational processes by which available resources are developed, combined, and translated into value offerings for the export market (Morgan et al., 2004). Three important types of export marketing capabilities are distinguished: informational, relationship building, and product development capabilities. Export marketing strategy is defined as the means by which a firm responds to internal and external forces to create market value (Cavusgil & Zou, 1994). It is the mechanism by which companies determine the way in which they want to differentiate from competitors and thereby identify which capabilities are crucial for the problems at hand.

In line with empirical findings in Morgan et al. (2003) and Calantone et al. (2006), we present a knowledge-based foundation of Internet capabilities and export marketing capabilities that underpin a firm’s export marketing strategy. We expect Internet capabilities to affect the informational and experiential knowledge base. The more companies are able to provide functional capabilities to customers and suppliers on the Internet, the more they will comprehend the export market and export-related procedures. Besides, by translating knowledge into value offerings, export marketing capabilities will positively affect export marketing strategy. In addition, Internet capabilities will underpin export marketing strategy. Based on their four functional domains, Internet capabilities will enhance the extent to which companies can react to internal and external forces in a competitive way. Accordingly, we set:

\[ H_{1a,b} \]: Internet capabilities positively affect (a) informational knowledge and (b) experiential knowledge.

\[ H_2 \]: Export marketing capabilities positively affect export marketing strategy.

\[ H_3 \]: Internet capabilities positively affect export marketing strategy.

To address rapidly changing environments and to build customer-based advantages, ventures need to gain, create, release, deploy, and integrate knowledge. To transform informational and experiential knowledge into explicit understanding and market value, firms need capabilities. Export marketing capabilities will mediate the effect of informational and experiential knowledge, since they entail among others the development of relationships with particular customers and the modification of products to meet specific export market requirements. Hence,

\[ H_{4, 5, 6} \] (4) Informational and (5) experiential knowledge positively affect export marketing capabilities, which underpin (6) the venture’s export marketing strategy.

Export marketing strategy has short-term implications such as targeting customers and long-term implications such as the maintenance of relationships with customers and suppliers (Cavusgil & Zou, 1994; Piercy, Kaleka, & Katsikeas, 1998). By setting up export marketing strategies, firms ensure that customers perceive their offerings to be valuable and to be different from competitive products. Export marketing strategy will hence impact short-and long-term
export performance. Export performance is measured from both a short- and long-term perspective to assess the sustainability of performance effects. Therefore,

\[ H_{7a,b}: \text{Export marketing strategy affects (a) short- and (b) long-term export marketing performance.} \]

Internet capabilities connect a firm to its market and enhance a firm’s potential of reaching customers. Therefore, we expect Internet capabilities to reinforce the efficiency of export marketing strategy on short-term export marketing performance. Because of their functional character, Internet capabilities do not necessarily spur value perceptions of products or help firms to maintain competitive advantages. Hence, Internet capabilities cannot serve to enhance the effect of export market strategy on long-term export marketing performance.

\[ H_8: \text{Internet capabilities strengthen the effect of export marketing strategy on short-term export marketing performance.} \]

These hypotheses are summarized in Figure 1 and present a dual perspective on the impact of Internet. First, we investigate its sustainable performance impact by examining the relationships between Internet capabilities, knowledge, strategy and export performance. Second, we look at the role of the Internet as a short-term efficiency-enhancer of export marketing strategy.

**RESEARCH METHOD**

A preliminary survey instrument was created on the basis of a scrutiny of top marketing and information systems journals. The instrument was refined through several pre-tests in academia and with export marketing practitioners. Table 1 presents the second order constructs, the dimensions, the main references as well as the reliability for each construct.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Dimensions (# items)</th>
<th>Reference</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Capabilities</td>
<td>Information (4)</td>
<td>Zhu &amp; Kraemer (2002)</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>Transaction (5)</td>
<td></td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>Interaction (5)</td>
<td></td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Supplier Connection (5)</td>
<td></td>
<td>.70</td>
</tr>
<tr>
<td>Export Marketing Knowledge</td>
<td>Experiential Knowledge (3)</td>
<td>Morgan, Zou, Vorhies, &amp; Katsikeas (2003)</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Informational Knowledge (3)</td>
<td>Morgan, Zou, Vorhies, &amp; Katsikeas (2003)</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Relationship Building (3)</td>
<td>Katsikeas (2004)</td>
<td>.84</td>
</tr>
<tr>
<td>Export Marketing Capabilities</td>
<td>Product Development (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost Leadership (3)</td>
<td>Morgan, Kaleka, &amp; Katsikeas (2004)</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>Market Differentiation (3)</td>
<td>Katsikeas (2004)</td>
<td>.81</td>
</tr>
<tr>
<td>Strategy</td>
<td>Service Differentiation (3)</td>
<td></td>
<td>.76</td>
</tr>
</tbody>
</table>

*Table 1: Constructs, Dimensions, References, and Reliabilities*
<table>
<thead>
<tr>
<th>Construct</th>
<th>Dimensions (# items)</th>
<th>Reference</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term (ST) export marketing performance</td>
<td>Satisfaction with ST Performance Improvement (4)</td>
<td>Lages &amp; Lages (2004)</td>
<td>.95</td>
</tr>
<tr>
<td></td>
<td>ST Export Intensity Improvement (2)</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Expected ST Performance Improvement (4) - (over a 1-year period)</td>
<td></td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>Strategic Export Performance (3)</td>
<td></td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Satisfaction with Export venture (3)</td>
<td></td>
<td>.91</td>
</tr>
</tbody>
</table>

Table 1 (Continued): Constructs, Dimensions, References, and Reliabilities

Data collection was performed on the basis of a random sample from the Dun & Bradstreet database of 1853 Dutch manufacturing exporting firms that employed between 50 and 1000 full-time personnel. We contacted each firm by telephone to identify (1) the firms that had export activities for at least three years and had a website and (2) an appropriate key informant. Eventually, we identified 913 eligible respondents willing to complete our survey. An invitation including the link to the online questionnaire was mailed to each of them. Respondents were asked to provide information for one specific export venture (product/market combination) for at least three years. The initial e-mailing and one reminder (D+7) yielded 218 responses. Of these, four failed our informant competency test and fourteen had excessive missing data, leaving a data set comprising observations from 200 export ventures, for a response rate of 22%.

ANALYSIS

Hereafter we discuss why and how we performed pairwise confirmatory factor analysis, partially aggregated the data, and tested the structural model in LISREL 8.7. First, we conducted pairwise confirmatory factor analysis (CFA) at the lowest possible level that comprised each pair of constructs to check for discriminant validity. Specifically, two-factor models for each possible pair of constructs were set up and analyzed. For each model the variance was set at unity and the correlation coefficients were checked. Our analysis reveals that all measures exhibit sufficient reliability with coefficient alphas ranging from .85 to .92. To meet the ratio of sample size to items greater than 5 to 1 and to ensure the reliability of our estimates (Bentler & Chou, 1987), we partially aggregated the items (Bagozzi & Heatherton, 1994; Bandalos, 2002; Little, Cunningham, & Shahar, 2002; McDonald, 1996).

The model was tested in two consecutive steps in LISREL 8.7. In step one, we tested hypothesis H1(a,b) to H7(a,b). Generally, the fit indexes for the model suggest good model fit ($\chi^2$ =384.52, df = 200, p < .001, CFI = .934; NNFI = .924, RMSEA = .068). All path coefficients and t-values proposed in the model are significant and in the expected direction. Besides, squared multiple correlations confirm good explanatory power, ranging from .48 for long-term export market performance to .57 for export marketing capabilities.

Figure 1 presents the conceptual model and the standardized coefficients for all direct relationships. Furthermore, additional analysis revealed that informational and experiential knowledge indirectly affect export marketing strategy. Export marketing capabilities mediate the effect of informational knowledge on export marketing strategy (standardized coefficient: .48; t-
value: 4.99) and the effect of experiential knowledge on export marketing strategy (standardized coefficient: .59; t-value: 4.59).

In step two, we test H₈ by way of a three-sample median split test. A chi-square difference test ($\Delta \chi^2 = 6.31$, df = 2, p < .005) confirmed a significant, inverted U-shaped moderating effect of Internet capabilities on short-term export marketing performance (standardized coefficients: $\beta_{\text{Low}}$: 0.09, t-value: 0.43; $\beta_{\text{Medium}}$: 0.41, t-value: 3.09; $\beta_{\text{High}}$: 0.18, t-value: -0.87). Finally, we controlled for IT infrastructure-related effects on all of our relationships by way of two-sample median split tests.

**Figure 1: Conceptual Model and Standardized Coefficients**

**IMPLICATIONS**

Based on KBV, we developed a conceptual model, in which we embed Internet capabilities and show their relationship to export marketing performance. We distinguish between the long-term sustainable and the short-term efficiency role of Internet capabilities. Our analysis supports all eight hypotheses and hence confirms both roles of Internet capabilities. First, Internet capabilities can have a sustainable yet indirect impact on export performance if firms use Internet capabilities to increase their stocks of informational and experiential knowledge. Moreover, Internet capabilities and export marketing capabilities have positive effects on export marketing strategy, which, on its turn, positively affects short-term and long-term export performance. Taken together, these results support the notion that Internet capabilities are indirect yet sustainable drivers of export marketing performance. Second, if firms use Internet capabilities as efficiency-enhancers of export marketing strategy, Internet capabilities also lead to short-term wins. However, statistical results show that moderate investments in Internet capabilities have the highest efficiency-effect.

The present study specifies and empirically tests the importance of Internet capabilities both in a short- and long-term performance context (Wu, Mahajan, & Balasubramanian, 2003). Future research could expand our work by integrating customers and suppliers perspectives on the Internet capabilities of the supplier. This would represent a valuable addition to the key informant technique we applied. Besides, future research could complement our findings by studying the extent to which resources and capabilities at the firm level influence knowledge and capabilities at the export venture level.
REFERENCES


