

## **Information Internalisation and Internationalisation – Evidence from Vietnamese Firms**

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## **Information Internalisation and Internationalisation – Evidence from Vietnamese Firms**

### **Abstract**

Previous research on internationalisation has mainly focused on the collection and use of information. In this article we examine the role of information internalisation in international business activities of Vietnamese firms. A theoretical model incorporating key antecedents and outcomes of information internalisation is developed. The antecedents are market orientation and learning orientation, and the outcomes are international orientation and foreign sales intensity. A survey of 144 Vietnamese internationalising firms was conducted to test the model in conjunction with its two competing models by means of a two-step approach to structural equation modelling. We found that both information internalisation has direct and indirect effects (mediated by international orientation) on foreign sales intensity. Further, market orientation and learning orientation underlie information internalisation. Implications for managers and directions for future research are also addressed.

**Key words:** Information internalisation; Internationalisation; Market and learning orientations; Structural equation modelling; Transition markets; Vietnam.

There are several obstacles to internationalisation for firms in the developing world (Ghuri, Lutz, and Tesfom, 2003). One of these is a lack of information and knowledge about foreign markets. Knowledge-related issues have been of interest in the literature on internationalisation for a number of years (e.g., Belich and Dubinsky, 1995; Chaudhry and Crick, 1998; Johanson and Vahlne, 1977; Liesch and Knight, 1999; McAuley, 1993; Reid, 1984; Toften and Olsen, 2003). The significance of the lack of information and knowledge as a barrier to the development of international operations also continues to be highlighted in

academic and trade literature (Eriksson et al., 1997; Haahti et al., 2005; Souchon and Diamantopoulos, 1996). Several researchers have contended that information and knowledge are key strategic resources for facilitating international expansion and for sustaining competitive advantage (Haahti et al., 2005; Knight and Liesch, 2002; Samiee and Walters, 1999; Yeniyurt, Cavusgil, and Hult, 2005). However, internationalisation research has focused primarily on the collection and use of information and knowledge, with less attention being paid to information and knowledge internalisation (Knight and Liesch, 2002). In addition, such research has been mainly conducted in advanced economies; little research has been done in transition markets like Vietnam. In an attempt to bridge this gap, this research develops and tests a model that incorporates the role information internalisation in the internationalisation of Vietnamese firms. Specifically, it investigates (1) the impact of information internalisation on both international orientation and foreign sales intensity, and (2) the role of market orientation and learning orientation on information internalisation. The rest of the article is organised around the following key points: an introduction to Vietnam and Vietnamese firms' internationalisation, information internalisation and internationalisation, the method, data analysis and results, discussion and implications, and limitations and directions for future research.

### **1. Vietnam and firm internationalisation**

Vietnam represents an under-investigated transition economy (Tsang, 2005), especially in terms of firm internationalisation. In 1986 the Vietnamese government initiated a new economic reform program, aiming to transform the economy from a centrally planned economy to a market-oriented economy under socialist guidance (Griffin, 1998; Fforde, 1999). Under the centrally planned system, business activities of Vietnamese firms, domestic as well as international, focused primarily on production. Vietnamese firms lacked knowledge about market economics and management, especially, in marketing. Vietnamese business

managers were not familiar with business concepts such as marketing and market orientation (Napier, 2005).

The movement toward a market economy has pushed Vietnamese firms to change their traditional ways of doing business, especially international business. Prior to the transformation, international business activities of Vietnamese firms had been arranged by the Vietnamese government with other socialist governments within the Soviet trading block. The break-up of the Soviet trading block led to the liberalization of foreign trade by the Vietnamese government in 1989, creating an open economy in Vietnam. This has necessitated Vietnamese firms to find new international business partners because the Soviet trading block could no longer provide outlets for exports (Griffin, 1998), resulting in a dramatic change in the conduct of international business by Vietnamese firms.

Instead of focusing on production and relying primarily on the government, Vietnamese firms are now required to find their own foreign markets for their products. In so doing, they are confronted with several difficulties, one of which is their lack of information and knowledge about foreign markets (Nguyen and Nguyen, 2001; Phan, 2003). At the early stage of internationalisation, Vietnamese firms obtain information and knowledge about foreign markets through informal means such as: working relationships with local and foreign trading partners (exporters and importers) and foreign-market visits arranged by their foreign partners. Vietnamese managers gradually become familiar with the way of doing business in foreign markets, however, they are reluctant to share knowledge with others because they believe that withholding information and knowledge could give them advantage (Napier, 2005). Therefore, foreign market knowledge of Vietnamese firms tends to be very fragmented, making it more difficult to internationalise.

## **2. Information internalisation and internationalisation**

### *2.1. Information internalisation*

The terms information and knowledge are often used interchangeably, however, they are distinct (Nonaka, 1994; Davenport and Prusak, 2000). Drucker (1988, p. 46) defines information as “data endowed with relevance and purpose”. Information has two aspects, ‘syntactic’ and ‘semantic’. The syntactic aspect of information refers to the volume of information, and the semantic aspect of information connotes the meaning of information. The semantic characteristic of information plays an important role in knowledge creation because it conveys meaning (Nonaka, 1994). Information is useful but it is not knowledge; it is the commodity capable of yielding knowledge (Davenport and Prusak, 2000; Nonaka, 1994). Applicability is a key characteristic of knowledge. As Tobin (1998, p. 26) points out, “[t]he key to knowledge development is the application of information to the employee’s job to make a positive difference in individual and company performance”.

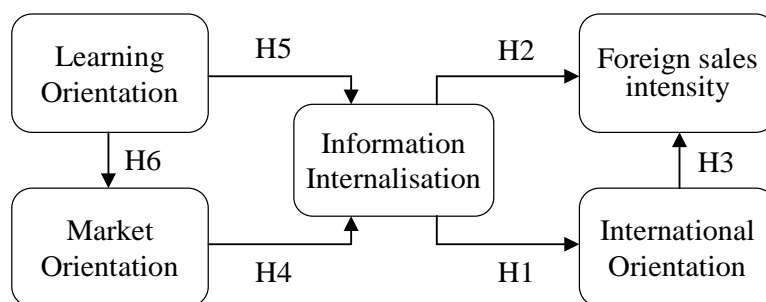
Several researchers have also posited that it is possible to transform information into knowledge (e.g., Akbar, 2003; Davenport and Prusak, 2000; Liesch and Knight, 1999; Nonaka, 1994). For example, Davenport and Prusak (2000, p. 6) argue that information can be converted into knowledge through the process of “comparison (how does information about this situation compare to other situations that have been known?), consequences (what implications does the information have for decisions and actions?), connections (how does this bit of knowledge relate to others?), and conversation (what do other people think about this information?)”. Nonaka (1994) dichotomises two distinct forms of knowledge: explicit and tacit knowledge. Explicit knowledge is codifiable and can be transmitted in formal and systematic language. On the other hand, tacit knowledge is embedded in its possessor which makes it hard to formalise and communicate through formal language (Knight and Liesch, 2002), i.e., “we can know more than we can tell” (Polanyi, 1966, p.4). Nonaka (1994) also postulates that information and knowledge are transformable through four modes of conversion using the tacit-explicit dichotomy. They are ‘socialisation’, ‘combination’,

‘externalisation’, and ‘internalisation’. Among these four modes, internalisation is of particular interest in this study. Information internalisation refers to “the process of absorbing both tacit and explicit information into the organisation and translating it into knowledge, which is then applied to purpose” (Knight and Liesch, 2002, p. 983). This mode of transformation is based on the idea that tacit and explicit information and knowledge are complementary and that they can expand over time through the process of mutual interactions (Nonaka, 1994). Information internalisation occurs when different levels of information and knowledge are collectively compared, interpreted, and used for making decisions (Akbar, 2003; Davenport and Prusak, 2000; Nonaka and Takeuchi, 1995). In conclusion, an organisation can increase its knowledge if it has the capability to tackle four common barriers to knowledge creation: the unavailability of data; the inability to find relevant and purposeful data; the failure to apply information to the work; and, the failure to recognise and share tacit knowledge (Tobin, 1998).

## 2.2. A model of information internalisation and internationalisation

A conceptual model of information internalisation and firm internationalisation, denoted by IIF, and hypotheses are depicted in Figure 1. The internalisation of information into a higher level of knowledge by a firm is expected to affect its foreign sales intensity, directly as well as indirectly (mediated by international orientation). It is also posited that market orientation and learning orientation are antecedents of information internalisation.

**Figure 1: Conceptual model (IIF)**



Due to the lack of information and knowledge about foreign markets and unfamiliarity with foreign marketing environments, which are characterised by heterogeneity, sophistication, and turbulence, a firm entering international markets is confronted with high and multiple risks (Eriksson et al., 1997; Johanson and Vahlne, 1977). Systematic acquisition of information and knowledge about foreign markets, which has been addressed by most internationalisation models, is critical for the firm's success during its internationalisation (Blomstermo and Sharma, 2003). For example, the Uppsala model focuses on the development of an individual firm and its gradual acquisition, integration, and use of knowledge about foreign markets and on its successively increasing commitment to foreign markets (Johanson and Vahlne, 1977; 2003). Information and knowledge about foreign markets are also emphasised in the innovation-related models of internationalisation in which the incremental pattern of firm internationalisation is a result of innovation adoption behaviour (e.g., Cavusgil, 1980; Bilkey and Tsar, 1977).

There are a number of ways that a firm can acquire information and knowledge about foreign markets. Such information and knowledge can be achieved through export assistance, export intelligence, international marketing research (Leonidou and Adam-Florou, 1999), and through the Internet (Nguyen and Barrett, 2006a). Among these sources of information and knowledge, export intelligence is the main source that can allow the firm to obtain (tacit) knowledge because it is the result of day-to-day international business operations (Souchon and Diamantopoulos, 1996). The others are primarily in the form of information. Knowledge obtained through international operations is a valuable asset and is fundamental to internationalisation (Johanson and Vahlne, 1977; Blomstermo and Sharma, 2003). However, it is an expensive and slow mode of knowledge acquisition (Samiee and Walters, 1999). In addition, the status of this form of knowledge has not passed unchallenged. Information and knowledge are complementary and transformable (Knight and Liesch, 2002; Petersen,

Pedersen, and Sharma, 2003). Therefore, it is important that the firm should find a way to transform information into knowledge in order to enhance its internationalisation.

The difficulty is more severe for firms in Vietnam which lack resources and are unfamiliar with international marketing practices (Nguyen and Nguyen, 2001). Our case study (Appendix A) indicates that, among difficulties in firm internationalisation, the lack of foreign market knowledge is the most serious problem. This is because, as discussed previously, for many years international business activities of firms in transition markets like Vietnam have been arranged by their governments. When these markets have been transformed into a new system, i.e., a market-oriented system, arrangements between governments have almost ceased. International business activities are no longer conducted in the 'traditional' way. Firms must find foreign markets for their products rather than relying on governments' arrangements. In so doing, information and knowledge about foreign markets is perhaps a critical factor for their success and a reasonable explanation for their internationalisation (Ling-ye, 2004; Nguyen and Nguyen, 2001). The possibility of information internalisation exists, giving firms an opportunity for obtaining (tacit) knowledge, provided that they are fully aware of this possibility and are prepared to exploit it. A firm that is capable of employing the information internalisation process can significantly enhance its 'knowledge bank' for internationalisation. In short, "[i]n the information age, a company's survival depends on its ability to capture intelligence, transform it into usable knowledge, embed it as organisational learning, and diffuse it rapidly throughout the company" (Bartlett and Ghoshal, 1995, p. 141).

A firm pursues information internalisation to solve the problem of the lack of tacit knowledge about foreign markets. The relationships between knowledge and both internationalisation attitudes and behaviour are well documented in the literature on internationalisation (Haahti et al., 2005; Toften and Olsen, 2003; Leounidou and Theodosiou, 2004). A recent study of exporting firms in China, a transition market, by Ling-ye (2004)



also reveals that knowledge about foreign markets plays a key role in export intensity. Attitudes toward internationalisation reflect a firm's international orientation, i.e., the firm's belief, preference, and willingness to commit to its international expansion (Barrett, 1986; Stump, Athaide, and Axinn, 1998). Several studies have found that internationalisation attitudes play a vital part in the firm's development and performance in foreign markets (e.g., Barrett and Wilkinson, 1986; Madsen, 1987; Bilkey, 1978; Stump, Athaide, and Axinn, 1998; Wiedersheim-Paul, Olson, and Welch, 1978). Accordingly,

H1: *A positive relationship between information internalisation and international orientation is expected.*

H2: *A positive relationship between information internalisation and foreign sales intensity is expected.*

H3: *A positive relationship between international orientation and foreign sales intensity is expected.*

### *2.3. Market orientation, learning orientation, and information internalisation*

Although market orientation and learning orientation have positive, synergistic effects on organisational performance (Baker and Sinkula, 1999; Slater and Narver, 1995), little research has investigated the effects of these two organisational factors on firm internalisation of information. Market orientation entails organisation-wide intelligence generation, dissemination, and responsiveness to the collected information (Kohli and Jaworski, 1990). Narver and Slater (1990) posit that market orientation consists of three behavioural components, i.e., customer orientation, competitor orientation, and interfunctional coordination. Market orientation is valuable to a firm because it directs the firm to create superior value for the customer by acquiring knowledge about the market and responding to it (Slater and Narver, 1995). This implies that the firm is likely to gather and use more

information on the market and the environment, hastening the internalisation process.

Therefore:

*H4: A positive relationship between market orientation and information internalisation is expected.*

Learning orientation gives rise to a set of organisational values that influence the propensity of a firm to create and use knowledge (Sinkula, Baker, and Noordewier, 1997). These researchers propose three components of learning orientation, i.e., commitment to learning, open-mindedness, and shared vision. Commitment to learning reflects the fundamental value that the firm holds towards learning which influences whether the firm is likely to promote a learning culture. A firm that is committed to the learning value needs to understand the causes and effects of its actions. Open-mindedness is linked to the notion of unlearning which refers to the process through which the firm eliminates knowledge (Hedberg, 1981). Open-mindedness advocates the firm reassessing its long-held routines, assumptions, and beliefs. It is “an organisational value that may be necessary for unlearning efforts to transpire”. Shared vision “provides a focus for learning that fosters energy, commitment, and purpose among organisational members” (Sinkula, Baker, and Noordewier, 1997, p. 309). Commitment to learning and open-mindedness influence the intensity of learning. Shared vision influences the direction of learning.

Regarding the process of knowledge creation within the firm, there are links between information acquisition, transformation and use, and organisational learning (Souchon and Diamantopoulos, 1999). A learning-oriented firm creates and encourages a learning environment throughout the firm. The firm continuously promotes the organisational learning process, i.e., information acquisition, information dissemination, and shared interpretation (Sinkula, 1994). It always creates and uses new knowledge that has the potential to influence the firm’s behaviour (Slater and Narver, 1995; (Sinkula, Baker, and Noordewier, 1997).

Learning orientation also advocates an organisational learning process, that encourages creates, shares, and uses newer and deeper knowledge. This means that a learning-oriented firm will never be satisfied with its existing level of knowledge. This will lead to a need for acquisition and transformation of information and knowledge from all accessible sources. For that reason, it can be argued that a learning-oriented firm is more likely to create a learning culture which helps initiate, support, and maximise the internalisation of information within the firm. Therefore,

*H5: A positive relationship between learning orientation and information internalisation is expected.*

It is worth noting that market orientation and learning orientation are not identical (e.g., Baker and Sinkula, 1999; Jaworski and Kohli, 1996). Learning orientation is broader in scope than market orientation because it focuses not only on learning about external issues, but also internal issues. In contrast, market orientation entails learning about markets and responding to what is learnt about them. Learning orientation can help foster market-oriented thought and behaviour in a firm (Jaworski and Kohli, 1996). Slater and Narver (1995) also argue that a key component of learning orientation is the firm's ability to engage in adaptive as well as generative learning. Jaworski and Kohli (1996) contend that generative learning, in which existing values are questioned, relates to how the firm acquires, processes, and subsequently uses market intelligence, i.e., its market orientation. Baker and Sinkula (1999) posit that a superior learning environment will leverage the use of all resources, including the behaviours that accompany a market orientation. Moreover, in Vietnam (where business values are still affected by a centrally-planned approach), the learning-oriented firm tends to adopt a new way of looking at the market, involving a market-oriented approach. The firm is likely to withdraw from its routine ways of doing business which have become embedded in its previous business approach. Accordingly,

H6: *A positive relationship between learning orientation and market orientation is expected.*

### **3. Method**

#### *3.1. The sample*

A systematic sample of 144 internationalising firms in Ho Chi Minh City, the major business centre of Vietnam, was surveyed. The sampling frame was based on the Business Directories in Ho Chi Minh City. It is noted that exporting was the main mode of international business in this market. For that reason, most firms in the sample were exporting firms. Respondents were senior executives of the firms. Face-to-face interviews were utilised. The original questionnaire was in English. This English version was translated into Vietnamese because English was not well understood by managers in the market. Back-translation was used to ensure the equivalence of meanings.

More than 50 percent of the firms surveyed were state-owned, and about 35 percent were limited proprietary. It is also worth noting that state-owned enterprises were the dominant ownership type in Vietnam. The rest were joint stock (4%) and privately owned (8%). About 75 percent of the firms had business experience of less than 10 years. In addition, only about 20 percent of firms employed more than 300 employees.

#### *3.2. Measurement*

For measuring learning orientation, the scale developed by Sinkula, Baker, and Noordewier (1997) was utilised. Learning orientation was a second-order construct consisting of three dimensions: commitment to learning (measured by four items), shared vision (measured by four items), and open-mindedness (measured by four items). Market orientation was measured using the scale developed by Narver and Slater (1990) with some modification. The modification was based on an analysis of Australian export award winners (Wilkinson and Barrett, 1987). These researchers found that rapid response and quick adaptation of a firm's

products to customer needs is a key to success. Therefore, two additional items were added to the scale. Market orientation comprised three components: customer orientation (measured by eight items); competitor orientation (measured by four items); and, interfunctional coordination (measured by five items).

Information internalisation was hypothesised to have two components: information transformation and information use. The scale measuring information transformation was based on the dynamic theory of knowledge creation (Nonaka, 1994) and knowledge transformation (Davenport and Prusak, 1998). A focus group was facilitated with business executives to specify the items. There were six items measuring this component. Information use was also measured by six items. This scale was based on the scale developed by Diamantopoulos and Souchon (1999). International orientation was measured by the scale developed by Barrett (1986). This scale was modified and tested in the Vietnamese market by Nguyen and Nguyen (2001). International orientation also consisted of two components: international conviction (measured by six items), and international intention (measured by five items). Foreign sales intensity was measured by the percentage of foreign sales over total sales (Ling-yee 2004; Moini 1995). Except for foreign sales intensity, which was measured by a 10 point scale (1: 0-10%, 2: 11-20%, etc.), all of the other scales were measured by a five-point rating scale, anchored by 1: strongly disagree, and 5: strongly agree (see Appendix B for the scale items and Appendix D for the correlation/covariance matrix of items).

#### **4. Data analysis and results**

A two-step approach to structural equation modelling (SEM) (Anderson and Gerbing, 1988) was utilised to analyse the data. Except for foreign sales intensity which was measured by one item, other the measures were first refined via Cronbach alpha and exploratory factor analysis (EFA), and then tested by confirmatory factor analysis (CFA).

##### *4.1. Measurement assessment*

The results of the exploratory analysis show that two items measuring market orientation, one item measuring international orientation, and two items measuring information internalisation were deleted due to their low item-total correlations ( $< .30$ ). Other items of the scales used in this study had acceptable item-total correlations ( $> .30$ ). The EFA results (principal-axis factoring with promax rotation) show that the dimensions hypothesised in each scale were reasonable (factor loadings  $> .50$ ; variances extracted  $> 50\%$ ). The Cronbach alphas of the components of the constructs varied from .81 to .91 (see Appendix C1).

The data exhibited slight deviations from normal distribution, however, the univariate kurtoses were nonsignificant and the skewnesses were within the range of  $[-1, 1]$ . Therefore, maximum likelihood estimation was used (Muthen and Kaplan, 1985). The CFA results indicate that all measurement models received good fit to the data (see Appendix C1). In addition, the factor loadings of all items were substantial ( $\lambda_{\min} = .58$ ) and significant ( $p < .001$ ), indicating that the components of each construct were unidimensional and that the within-method convergent validity was achieved (Steenkamp and van Trijp, 1991). Further, all variances extracted ( $\rho_{vc}$ ) were greater than .50 (Fornell and Larcker, 1981) (see Appendix C2). In addition, the correlations between the components of each construct were significantly less than unity, indicating that the within-construct discriminant validity was achieved (Steenkamp and van Trijp, 1991). Finally, the final measurement fitted the data well (see Table 1) and the correlations between constructs were significantly less than unity (see Appendix C2), indicating that the discriminant validity between constructs was also achieved (Steenkamp and van Trijp, 1991).

#### *4.2. Test of hypotheses*

##### *4.2.1. Competing models*

Before estimating the hypothesised model, it is important to establish that this model fits better than other plausible competing models (e.g., Bollen and Long, 1993). Two plausible

competing models were proposed. The first competing model (IIFu) specified two additional paths: (1) market orientation → international orientation, and (2) foreign sales intensity → information internalisation. It can be argued that market orientation facilitates a firm's innovativeness (Hurley and Hult, 1998). Therefore, a market-oriented firm is likely to look for opportunities in foreign markets, a business practice traditionally regarded as an innovation adoption process (Cavusgil, 1980). In addition, market orientation in an international setting, i.e., international market orientation, is not different from that of a domestic setting (Cadogan and Diamantopoulos, 1995). The market-oriented firm tends to respond to the complexity of foreign markets by increasing its information requirements (e.g., Cadogan, Diamantopoulos, and de Mortanges, 1999), resulting in a better understanding of foreign markets. This may lead to an increase in its international orientation. In addition, it can also be argued that when the firm acquires and uses knowledge about foreign markets, it tends to enhance its international operations (Johanson and Vahlne, 1977), leading to an increase in information internalisation.

The second competing model (IIFc) dropped the path between information internalisation and foreign sales intensity. It can be argued that information internalisation is more likely to help a firm to understand and to identify opportunities in foreign markets. This may result in a change in attitudes of the firm towards internationalisation, leading to a change in its international behaviour (Frazier and Sheth, 1985). Therefore, the impact of information internalisation on foreign sales intensity is indirect, and is mediated by international orientation.

#### *4.2.2. Structural results*

Because the components of each scale achieved unidimensionality, summated measures were used to run the structural equation models (Gerbing and Anderson, 1988). For testing the proposed theoretical model against its two competitors, a system of five nested models was

investigated: the theoretical model (IIF); the two competing models (IIFc and IIFu); the saturated model (IIFs) (the model in which all parameters relating the constructs to one another were estimated); and, the null model (IIFn) (the model in which no relationships between any pair of constructs in the model were included). The Chi-square statistics, degrees of freedom, and p-values of these models are shown in Table 1.

**Table 1: Results of the structural tests**

| Types of test | Models/compared models         | Degrees of freedom | Chi-square | p-value |
|---------------|--------------------------------|--------------------|------------|---------|
| Chi-square    | IIFn                           | 45                 |            |         |
|               | IIFc                           | 40                 | 52.17      | .090    |
|               | IIF                            | 39                 | 41.59      | .359    |
|               | IIFu                           | 37                 | 38.36      | .408    |
|               | IIFs                           | 35                 | 37.18      | .369    |
| PCST          | Chi-square (IIFs) vs. df(IIFn) | 45                 | 37.18      | .790    |
| SCDTs         | IIF-IIFs                       | 4                  | 4.41       | .353    |
|               | IIFc-IIF                       | 1                  | 10.58      | .001    |
|               | IIF-IIFu                       | 2                  | 3.23       | .199    |

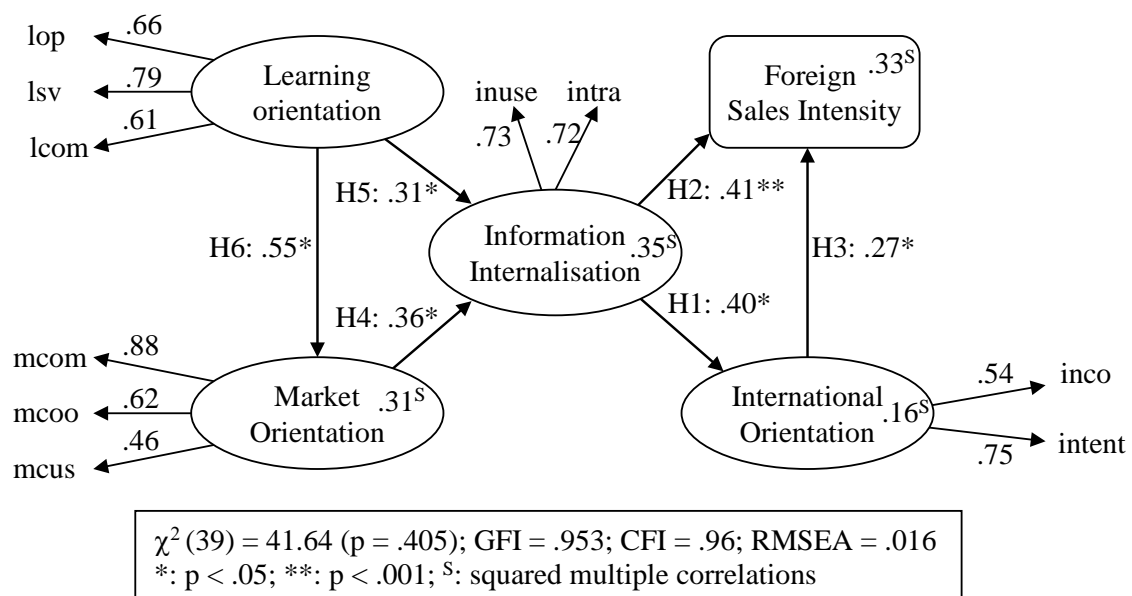
A pseudo chi-square test (PCST) was first used to explore the possibility of model fit. The null model (IIFn) had 45 degrees of freedom and the saturated model (IIFs) had a chi-square statistic of 37.18, indicating a nonsignificant pseudo chi-square statistic ( $p = .790$ ). This result shows that there should be a model that can have a possible fit to the data. Accordingly, the comparisons between IIF and its two competing models (IIFc and IIFu) via sequential chi-square difference tests (SCDTs) followed. The comparison of IIF-IIFs was nonsignificant ( $p = .353$ ). Therefore, the comparison of IIFc-IIF was undertaken. The comparison of IIFc-IIF was significant ( $p = .001$ ), resulting in the selection of IIF over IIFc. Consequently, the comparison of IIF-IIFu was conducted to choose the final model. This comparison was nonsignificant ( $p = .199$ ), resulting in the selection of IIF over IIFu (Anderson and Gerbing, 1988).

The proposed model (IIF) received a good fit to the data:  $\chi^2_{[39]} = 41.59$  ( $p = .359$ ); GFI = .950; CFI = .992; and, RMSEA = .022. Moreover, all estimated paths with standard errors (se) indicate that all hypotheses were supported: H1:  $\beta = .40$ , se = .161 ( $p = .012$ ); H2:  $\beta = .41$ , se



= .111 ( $p = .000$ ); H3:  $\beta = .27$ ,  $se = .117$  ( $p = .020$ ); H4:  $\beta = .36$ ,  $se = .142$  ( $p = .010$ ); H5:  $\gamma = .31$ ,  $se = .142$  ( $p = .029$ ); and, H6:  $\gamma = .55$ ,  $se = .120$ , ( $p = .000$ ) (Figure 2). The squared multiple correlations ( $R^2$ ) of the endogenous constructs, i.e., market orientation, information internalisation, international orientation, and foreign sales intensity were .31, .35, .16, and .33, respectively<sup>1</sup>. It is further noted that no improper solutions were found in any results of the tests (Heywood cases were absent; all standardised residuals were less than  $|2.58|$ ).

**Figure 2: SEM results of IIF (standardised estimates)**



## 5. Discussion and implications

The objective of this research is to examine the role of information internalisation in the internationalisation of Vietnamese firms. Drawing on theories of knowledge creation (e.g., Nonaka 1994) and internationalisation (e.g., Johanson and Vahlne, 1977), this study developed a model that incorporates key antecedents (market orientation and learning orientation) and outcomes (international orientation and foreign sales intensity) of information

<sup>1</sup> It is noted that, the multiple correlation of international orientation was low (.16). However, “nothing in the classical regression model requires that  $R^2$  be high. Hence a high  $R^2$  is not evidence in favour of the model, and a low  $R^2$  is not evidence against it” (Goldberger, 1991, p. 177).

internalisation. The model was supported by the data collected from 144 Vietnamese internationalising firms. The research results contribute to the literature on internationalisation in a number of ways.

The significant impact of information internalisation on both international orientation ( $\beta = .40, p < .05$ ) and foreign sales intensity ( $\beta = .41, p < .001$ ) reinforces the role of foreign market knowledge and international expansion. Internalisation is an effective means of enhancing foreign market knowledge. These findings enhance our understanding of knowledge creation during firm internationalisation. Knowledge is created by individuals (Nonaka, 1994). Information internalisation is implemented through the process of sharing and using knowledge for making business decisions. It assists a firm to convert information obtained from various sources into useful knowledge as well as to translate knowledge from individual to organisational levels, a process which is largely ignored in models of internationalisation (Knight and Liesch, 2002). The capability of transforming individual knowledge into organisational knowledge depends upon the firm's system for information and knowledge collection, storage, and retrieval (Arvidsson, 1998; Lam, 2000).

In addition, market and learning orientations have been widely researched (e.g., Slater and Narver, 1995; Hurley and Hult, 1998). However, their roles in information internalisation have not been explored. The significant impacts of both market orientation and learning orientation on information internalisation ( $\beta = .36, p < .05$  and  $\gamma = .31, p < .05$ ) found in this study provide evidence that these two organisational factors facilitate the process of information internalisation. The findings also make a clear distinction between market orientation and learning orientation ( $\gamma = .55, p < .001$ ) in Vietnam. Adopting a market-oriented approach in doing business can also be considered as an innovation in the market. A learning-oriented firm is more likely to adopt a market-oriented approach. In other words, the

firm has an inclination to accept the value of ‘unlearning’ by reassessing its long-held routine (Hedberg, 1981), and is willing to adopt a new approach to doing business.

The findings of this study suggest a number of implications for Vietnamese senior management as well as international managers. Managers of internationalising firms should recognise the role of information internalisation and be prepared to utilise it in order to facilitate their firms’ internationalisation. In so doing, managers of Vietnamese internationalising firms should create a knowledge sharing system that encourages and supports members to acquire information and knowledge and to participate in the knowledge creating process. As discussed in our case study, people are reluctant to share their information and knowledge with each other. To nurture an organisational culture that supports and promotes the value of questioning existing norms and knowledge, as well as the sharing of information and knowledge is not an easy task for Vietnamese firms. Compared to firms in the West, the social hierarchy and seniority tradition in Vietnam has discouraged such a sharing environment. Information internalisation can be implemented at a greater speed when all types of knowledge are possessed by individuals involved. This is because the internalisation process occurs when all types of knowledge are discussed, shared, and used by members involved (Nonaka and Takeuchi, 1995). Therefore, Vietnamese internationalising firms should adopt market-oriented and learning-oriented approaches in order to place high values on information acquisition and internalisation. These approaches would encourage individuals to actively gather information and knowledge from a variety of sources, such as foreign market visits, trade fairs, and the internet (Nguyen and Barrett, 2006b), enabling the information internalisation process. Baker and Sinkula (1999, p. 413) state that “[m]arket orientation is reflected by knowledge producing behaviour. Learning orientation is reflected by a set of knowledge-questioning values”. In other words, market orientation and learning

orientation are necessary approaches for firms which are willing to internalise information for their internationalisation.

## **6. Limitations and directions for future research**

This study has a number of limitations. Firstly, the study was conducted in a single transition economy, Vietnam. Information internalisation may be affected by national culture. Therefore, replication research in other transition economies, such as in China and Russia, will be of interest in future research. In addition, this study focussed solely on the internalisation process. However, the knowledge creation process involves dynamic interactions between different modes of knowledge conversion, i.e., socialisation, combination, externalisation, and internalisation (Lam, 2000; Nonaka, 1994). In addition, the acquisition of information and knowledge about foreign markets for internationalisation, which has been researched intensively in advanced countries, is largely under-investigated in transition economies (Ling-ye, 2004). However, it is a prerequisite for knowledge conversion. Therefore, using an appropriate method of investigation, such as action research, to explore the process of information and knowledge acquisition and conversion within internationalising firms is worthy of investigation in future research. Finally, even though the key informant approach is commonly used in organisational research (Kumar, Stern, and Anderson, 1993), collecting data from multiple informants is an alternative method for future research.

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## **Appendix A: A case study of information internalisation in a Vietnamese internationalising firm.**

Saigon Cosmetic Company (SCC) is a state-owned company in Ho Chi Minh City, Vietnam. It has more than 400 employees and is a leading local company producing and marketing a variety of personal care products for domestic as well as international markets. Compared to other Vietnamese internationalising firms, SCC is a pioneer and has been expanding rapidly into foreign markets. SCC has been present in several foreign markets such as Angola, Australia, China, Mongolia, New Zealand, Philippines, Russia, and North America, and its foreign sales are accounted for about 70 percent of total sales. In-depth interviews with two key persons in the company – the general manager and deputy general manager responsible for international business activities – reveal that the company is deficient in foreign-market knowledge. In the early 1990's, as a pioneer in internationalisation, the company recognised the need for knowledge about foreign markets. In order to fill its knowledge gap, the company sent employees to attend several short-term training programs, local as well as international, in international business and marketing. SCC also requested local professors from the University of Economics, HCM City, and international professors from RMIT University, Australia, to train their staff in international business and marketing. At the same time, SCC developed a strategy to establish stronger relationships with its foreign partners (importers of its products and exporters of its raw materials). These relationships enable SCC to send their staff to visit foreign markets and to attend foreign trade fairs to investigate international opportunities. However, a severe problem, as stated by the general and deputy general managers, is information and knowledge sharing. They confirm that in the past, knowledge about foreign markets in the company was fragmented. Individuals were unwilling to share their information and knowledge with each other, and believed such practice would give them

power, as Napier (2005) has observed in several other organisations in Vietnam. In addition, the hierarchy and seniority traditions have discouraged Vietnamese to question the knowledge of people with higher rank or who are older. To solve the problem, SCC has established a friendly knowledge sharing environment. Individuals are encouraged to be actively involved in foreign-market analyses by interacting with other members, sharing their own information, knowledge, experience, and points of view. This practice has created a “willingness to learn and to share” environment, leading to a significant improvement in knowledge about foreign markets throughout the company.

## **Appendix B: Scale items (d: deleted items)**

### **International orientation**

#### *International conviction (inco)*

1. International business activities are an essential part contributing to our firm’s competitive advantage.
2. International business activities increase the prestige of our firm in the Vietnamese market.
3. International business activities enhance our firm’s competitiveness by acquiring market knowledge.
4. International business activities contribute to our firm’s long-term expansion.
5. International business activities represent an opportunity for our firm to exploit an expanded market.
6. International business activities are a profitable means of making use of our firm’s idle factory capacity (d).
7. International business activities reduce our firm’s risks by selling to diverse markets.
8. International business activities improve our firm’s overall return on investment (d).

#### *International intention (intent)*

9. Formal planning is a necessity for our firm’s international business activities.
10. International business activities are a necessity for our firm whether or not Vietnamese market sales come up to expectation.
11. In our view, international business activities should be considered whether or not opportunities in Vietnam are completely exhausted.
12. In our view, international business activities are so important to the national interest that every Vietnamese firm should commit its resources to the international business drive.

### **Information internalisation**

#### *Information transformation (intra)*

1. Staff of our international business department often compare information about foreign markets obtained from various sources
2. Staff of our international business department often interpret the information about foreign markets to discover its implication for decision making
3. Staff of our international business department spend time to share information about foreign markets among themselves
4. Staff in our international business department spend time to discuss with other related functional departments within the firm about information on foreign markets
5. Our top management often spend time to discuss with the international business department about information on foreign markets
6. There is a maximum communication between international business department with other related departments concerning international market development (d)

#### *Information use (insue)*

7. In our firm, information is often used specifically to make a particular international business decision
8. In our view, decisions based on information are more accurate than wholly intuitive ones
9. Our confidence in marking international business decision increases as a result of information

10. In our firm, information is preserved so that it can be used by individuals other than the person who collected it (d)
11. Our uncertainty associated with international business activities is greatly reduced by information
12. In our firm, information plays an important role for making decision

### **Market orientation**

#### *Customer orientation (mcus)*

1. We closely monitor and assess our level of commitment in serving customers' needs
2. Business strategies are driven by the goal of increasing customer value
3. Our competitive advantage is based on understanding customers' needs
4. Our business objectives are driven by customer satisfaction
5. We frequently measure customer satisfaction (d)
6. We pay close attention to after-sales service
7. We respond quickly to customer needs
8. We rapidly adapt our products in response to customers' needs

#### *Competitor orientation (mcom)*

9. In our firm, our sales people share information about competitors
10. We respond rapidly to competitor actions
11. Top management regularly discuss competitors' strengths and weaknesses
12. Customers are targeted when we have an opportunity for competitive advantage
13. Our top managers from each business function regularly visit customers

#### *Interfunctional coordination (mcoo)*

14. Information about customers is freely communicated throughout our firm (d)
15. Business functions within our firm are integrated to serve our target market needs
16. Our managers understand how employees can contribute to customers' value
17. We share resources with other business units

### **Learning orientation**

#### *Commitment to learning (lcom)*

1. Managers basically agree that our firm's ability to learn is the key to our competitive advantage
2. The basic values of our firm include learning as a key to improvement
3. In our firm, employee learning is an investment, not an expense
4. Learning in our firm is seen as a key commodity necessary to guarantee organisational survival

#### *Shared vision (lsv)*

5. There is a commonality of purpose in our firm
6. There is total agreement on our organisational vision across all levels, functions, and divisions
7. All employees are committed to the goals of our firm
8. Employees view themselves as partners in charting the direction of our firm

#### *Open mindedness (lop)*

9. We are not afraid to reflect critically on the shared assumptions we have made about our markets
10. Personnel in our firm realise that the very way they perceive the marketplace must be continually questioned
11. We always collectively question our own biases about the way we interpret market information

## Appendix C1: Summary of scale validation

| Constructs with scale fit indexes  | Components                   | $\alpha$ | $\rho_{vc}$ |
|--|------------------------------|----------|-------------|
| Learning orientation: $\chi^2_{[41]} = 9.58$ (p=.168),<br>CFI = .990, GFI = .942, RMSEA = .038           | Commitment to learning       | .88      | .65         |
|  | Open mindedness              | .84      | .70         |
|  | Shared vision                | .88      | .58         |
| Market orientation: $\chi^2_{[87]} = 104.67$ (p = .095),<br>CFI = .981, GFI = .905, RMSEA = .038         | Customer orientation         | .86      | .47         |
|  | Competitor orientation       | .85      | .58         |
|  | Interfunctional coordination | .86      | .62         |
| Information internalisation: $\chi^2_{[34]} = 38.73$ (p = .265),<br>CFI = .986, GFI = .949, RMSEA = .031 | Information transformation   | .91      | .68         |
|  | Information use              | .90      | .64         |
| International orientation: $\chi^2_{[34]} = 42.84$ (p = .142), CFI = .986, GFI = .948, RMSEA = .043      | International conviction     | .88      | .56         |
|  | International intention      | .81      | .52         |
| Foreign sales intensity  | Foreign sales/total sales    | na       | na          |

$\alpha$ : Cronbach alpha;  $\rho_{vc}$ : average variance extracted; na: not applicable.

## Appendix C2: Correlations (r) with standard errors (se) between latent variables

| Correlations  | r(se)    | 1-r | t-value (1-r) |
|---|----------|-----|---------------|
| <i>Correlations between components of a construct</i>   |          |     |               |
| Commitment to learning ↔ Shared vision                  | .54(.11) | .46 | 4.18          |
| Commitment to learning ↔ Open mindedness                | .46(.12) | .54 | 4.50          |
| Shared vision ↔ Open mindedness                         | .62(.13) | .38 | 2.92          |
| Customer orientation ↔ Competitor orientation           | .30(.11) | .70 | 6.36          |
| Customer orientation ↔ Interfunctional coordination     | .47(.11) | .53 | 4.82          |
| Competitor orientation ↔ Interfunctional coordination   | .63(.13) | .37 | 2.85          |
| Information transformation ↔ Information use            | .58(.12) | .42 | 3.50          |
| International conviction ↔ International intention      | .50(.12) | .50 | 4.17          |
| <i>Correlation between constructs</i>                   |          |     |               |
| Learning orientation ↔ Market orientation               | .55(.14) | .45 | 3.21          |
| Learning orientation ↔ Information internalisation      | .51(.14) | .49 | 3.50          |
| Learning orientation ↔ Foreign sales intensity          | .27(.10) | .73 | 7.30          |
| Learning orientation ↔ International orientation        | .16(.13) | .84 | 6.46          |
| Market orientation ↔ Information internalisation        | .52(.13) | .48 | 3.69          |
| Market orientation ↔ Foreign sales intensity            | .29(.10) | .71 | 7.10          |
| Market orientation ↔ International orientation          | .41(.15) | .59 | 3.93          |
| Information internalisation ↔ Foreign sales intensity   | .51(.12) | .49 | 4.08          |
| Information internalisation ↔ International orientation | .39(.16) | .61 | 3.81          |
| International orientation ↔ Foreign sales intensity     | .44(.14) | .56 | 4.00          |

## Appendix D: Covariance/correlation matrix of the summated measures

|        | Mean  | SD    | FSI  | Inco  | Intent | Intra | Inuse | Mcus  | Mcom  | Mcoo  | Lcom  | Lsv  | Lop  |
|--------|-------|-------|------|-------|--------|-------|-------|-------|-------|-------|-------|------|------|
| FSI    | 2.35  | 1.310 | 1.71 | 0.21  | 0.34   | 0.35  | 0.39  | 0.17  | 0.15  | 0.26  | 0.14  | 0.21 | 0.18 |
| Inco   | 24.68 | 4.434 | 1.22 | 19.66 | 0.40   | 0.15  | 0.22  | 0.23  | 0.11  | 0.23  | -0.06 | 0.00 | 0.09 |
| Intent | 13.76 | 3.355 | 1.47 | 5.96  | 11.26  | 0.19  | 0.18  | 0.11  | 0.16  | 0.23  | 0.09  | 0.10 | 0.16 |
| Intra  | 20.38 | 4.215 | 1.94 | 2.84  | 2.66   | 17.76 | 0.53  | 0.20  | 0.21  | 0.31  | 0.19  | 0.37 | 0.23 |
| Inuse  | 21.60 | 3.540 | 1.80 | 3.43  | 2.15   | 7.97  | 12.54 | 0.23  | 0.18  | 0.35  | 0.23  | 0.27 | 0.20 |
| Mcus   | 24.21 | 4.467 | 0.98 | 4.61  | 1.62   | 3.73  | 3.60  | 19.96 | 0.25  | 0.42  | 0.13  | 0.17 | 0.02 |
| Mcom   | 15.30 | 3.347 | 0.67 | 1.68  | 1.85   | 3.03  | 2.09  | 3.67  | 11.20 | 0.55  | 0.20  | 0.40 | 0.31 |
| Mcoo   | 14.94 | 3.259 | 1.10 | 3.31  | 2.52   | 4.32  | 4.07  | 6.12  | 5.94  | 10.62 | 0.35  | 0.34 | 0.31 |
| Lcom   | 16.25 | 3.152 | 0.59 | -0.84 | 0.96   | 2.55  | 2.54  | 1.89  | 2.14  | 3.59  | 9.94  | 0.47 | 0.41 |
| Lsv    | 16.22 | 2.952 | 0.83 | 0.05  | 1.03   | 4.62  | 2.80  | 2.17  | 3.99  | 3.24  | 4.36  | 8.72 | 0.52 |
| Lop    | 11.40 | 2.807 | 0.68 | 1.08  | 1.49   | 2.73  | 1.97  | 0.21  | 2.91  | 2.79  | 3.59  | 4.32 | 7.88 |

SD: standard deviation; FSI: foreign sales intensity. Correlations are above the diagonal; variances are on the diagonal and covariances are below the diagonal. Correlations  $\geq .21$  are significant at  $p \leq .01$  level; and correlation  $\geq .17$  are significant at  $p \leq .05$  level.