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Stages and Paths of Firm Internationalization: Testing the Value Chain Internationalization Framework

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The value chain internationalization framework allows us to describe and analyze firms' stages and paths of internationalization. To test the framework validity and usefulness for categorizing stages of internationalization, we propose and test hypotheses based on metrics commonly used to measure the degree of internationalization of a firm (Sullivan, 1994). The framework is tested within the context of the internationalization processes of firms located in the greater Indianapolis area. Taking a location that people usually do not associate with global business, we are able to examine firms at all stages of internationalization. The results of the hypotheses tests suggest each framework category is associated with the hypothesized level of degree of internationalization. Therefore, our findings suggest the framework has validity and may be useful to practitioners and academicians to advance our understanding of this phenomenon.

1. Introduction

The internationalization processes of corporations have been a subject of investigation for many decades; nevertheless, this phenomenon is not yet fully understood (see Griffith, Cavusgil, & Xu, 2008). Traditionally internationalization has been conceptualized as an incremental process through which firms gradually increase the degree of international engagement (e.g., Johanson & Vahlne, 1977). However, new phenomena have been identified in recent years that challenge this incremental view of internationalization. For example, born global firms (BGs) typically start international engagements within their first year of establishment (Oviatt & McDougall, 1994). In addition, firm internationalization has traditionally been associated with large firms; however, today a growing number of small and medium-sized enterprises (SMEs) are commonly involved in international business (e.g., Jansson & Sandberg, 2008; Knight, 2001). These new trends demand a revision of the incremental approach towards internationalization, a model for which evidence has primarily been gained from the study of large-scale MNEs. We argue it is imperative to develop and test alternative frameworks that comprehensively take into account the stages and paths of internationalization and as such our understanding of this important business phenomenon.

How can we best describe the evolution of a firm's internationalization development process? This research question was recently highlighted during a Delphi study to identify future research themes and important questions in international business (see Griffith, Cavusgil, & Xu, 2008). The value chain internationalization framework is one of the recent attempts to address the need for a comprehensive model to study the firm internationalization phenomena (Curci, Mackoy, and Yagi, 2012). Specifically, this framework distinguishes the *stages* and *paths* of internationalization that firms follow; however, the existing literature often uses those two terms interchangeably (Kuivalainen, et al., 2012). Those two concepts are different, however. "Stage" refers to how internationally integrated a firm is at any specific point in time. For example, a firm which utilizes both upstream and downstream value chain activities domestically is not at all internationally integrated, while a firm which has significant international activity in both upstream and downstream value chain activities may be fully internationally integrated. A firm which is only upstream integrated and a firm which is only downstream integrated may both be considered partially integrated. These two firms may be at similar stages of internationalization but following different paths towards internationalization.

"Path" refers to the sequence of specific activities in which a firm engages (e.g., upstream and/or downstream value chain activities) and the location of those activities (e.g., domestic and/or international) in the firm, as it becomes more international. For example, consider that two firms are founded as purely domestic firms. If firm A begins to source material internationally before it begins to market internationally and firm B begins to market products internationally before it begins to source internationally, the two firms are following different *paths* to internationalization, though they are at similar stages. The value chain internationalization framework provides a straightforward yet powerful mechanism for examining both the stages and paths of internationalization in a single framework.

Most businesses start, develop, and grow within their immediate domestic markets. This implies that initially businesses normally engage in upstream and downstream value chain activities within domestic markets. Such business activities include both operational and financial activities. However, the potential for higher levels of operational and financial efficiency exist and may be generated by accessing international markets. Foreign markets often present a firm with the possibility to generate higher revenues and rates of return on financial investments as well as lower operating and financing costs.

The value chain internationalization framework allows us to conceptualize and test the array of internationalization patterns that firms undertake as they move from being domestically focused to internationally engaged. To test the stage portion of the framework validity and usefulness, this study proposes and tests hypotheses based on metrics commonly used to measure the degree of internationalization of a firm (Sullivan, 1994). The results of the hypotheses testing suggest each framework category is associated with a different level of degree of internationalization. Therefore, our findings suggest the framework has validity and may be useful to understand the patterns that firms take as they evolve in their internationalization processes.

This study evaluates the internationalization processes of firms within the greater Indianapolis (Indiana) area. The State of Indiana, a landlocked Midwestern state, is not a region normally identified as a primary international business center. Factors that may affect the level of internationalization of firms in such a region may include the lack of proximity to maritime ports and a more provincial environment with relatively lower levels of interactions with foreigners. Therefore, this regional focus allows us to evaluate firms' stages and paths of internationalization under a set of conditions which are not typically associated with internationalization. We obtain a better view of the local firms' degree of internationalization and the ways by which firms have successfully engaged in international business.

This paper is organized as follows: the literature section provides a discussion of how our study fits within the current state of knowledge in the field of international business. The *value chain internationalization framework* section proposes an approach to facilitate the study and understanding of the stages and paths of internationalization of the firm. The next sections present research hypotheses, research methodology and an application of the framework; and the last section provides discussion and concluding remarks.

2. Literature Review

A majority of the theory development in internationalization has revolved around multinational enterprises (MNEs). Rugman (2009) suggests that *internalization theory* is the consensus and core theory of international business which is related to the issue of "efficiency". Internalization theory was first introduced by Hymer (1960) in his doctoral dissertation. He identified market imperfections in international product markets as a rationale to explain the international firm. This theory was further developed by Buckley and Casson (1976) who argue MNEs exist as a result of imperfect markets, mainly related to knowledge. "Since knowledge is a public good it will be underproduced unless property rights are established in an institution such as an MNE. In this sense the MNE is an efficient response to the external market and imperfections," (Rugman, 2009: p. 5).

The eclectic paradigm is widely regarded as an overarching explanation of international production (Dunning, 2000). The eclectic paradigm states that the extent, form, and pattern of international production was determined by the configuration of three sets of advantages as perceived by enterprises, also known as the OLI paradigm—the ownership-specific advantages (O), the location-specific factors (L), and the internalization advantages (I). *Internalization theory* may or may not necessarily be location-bounded. In other words, a firm uses internalization strategies to perform value chain activities not only within home markets (domestic markets) but also across host markets (foreign markets). Also, the eclectic paradigm identifies three, later four, key motives for firms to pursue international production: market-seeking, resource-seeking, efficiency-seeking, and strategic asset-seeking (Dunning, 1998). This extension of the eclectic paradigm makes it fully incorporate the dynamic elements of the behavior of MNEs. In that regard, it can be said that the eclectic paradigm has a capability to bridge the "why" and the "how" approaches toward theory development of internationalization.

Independently of the rationale for internationalization, business leaders and researchers alike continue to wonder to what extent a firm's degree of internationalization has a positive impact on firm performance. The results of prior studies are inconclusive. For instance, some studies find a curvilinear relationship suggesting declining performance for firms with high degrees of internationalization. Recent findings by Contractor, Kundu, and Hsu (2003) propose yet another relationship between DOI and firm performance. Their three-stage theory argues that the international expansion and the firm performance can be described by an S-shaped curve. In the first stage the relationship is negative. There are significant "startup" costs when a firm begins to internationalize. These learning costs are associated with insufficient returns relative to the initial efforts. However, a second stage is characterized by a positive relationship. Positive performance is gained because benefits of international expansion (e.g. sufficient economies of scale) are realized at a more advanced stage of internationalization. The third stage, however, is characterized by another negative relationship. This suggests that beyond some point the cost and complexity of expand international operations passes beyond a point of diminishing returns.

A major challenge to this divergent understanding on the relationship between the DOI and the firm performance appears to be associated with accurately measuring a firm's DOI. For instance, Sullivan (1994) argues the results of some empirical studies might be due to unreliable measurement of the internationalization of firms. He develops a measurement of a firm's degree of internationalization. The measurement consist of nine attributes that are classified into three categories: attitudinal (what is top management's international orientation), structural (what resources are overseas), and performance (what goes on overseas). Nevertheless, the issue of the measurement of DOI has been contested and unresolved in international business research (Ramaswamy, Kroeck, & Renforth, 1996; Sullivan, 1994, 1996).

An empirical test of the validity of theories and frameworks is expected to further develop our understanding of the relationship between degree of internationalization and firm performance. In the next section, the value chain internationalization framework is introduced.

Value Chain Internationalization Framework

The *Value Chain Internationalization Framework* classifies firms according to the intensity of domestic and international upstream and downstream value chain activities. It captures the extent to which firms' value chain activities occur within domestic markets or in foreign markets and also the patterns that firms undertake as they move from being domestically focused to being internationally engaged. The analysis of firms' internationalization processes through this framework allows us to identify the drivers and characteristics that may explain a firm's level of success or failure in internationalization processes.

Figure 1: Value Chain Internationalization Framework

Intensity of Downstream Activities Intensity of Upstream Activities	Domestic (Home Market)	International (Host Markets)
Domestic (Home Market)	1 Domestically Focused	3 Downstream-Integrated
International (Host Markets)	2 Upstream-Integrated	4 Internationally Engaged

As Figure 1 shows, the value chain internationalization framework separates a firm's activities into its value chain's domestic and international *upstream* activities (e.g., research and development, sourcing, and financing) and *downstream* activities (e.g., marketing, sales, and investments). In addition, the framework allows us to study the patterns that firms follow as they move from being domestically focused to internationally engage. The proposed framework provides an intuitive, clear, and consistent approach through which current firm-level internationalization theories and constructs can be tested.

The framework contains four categories. The first category includes domestically focused firms, whose upstream and downstream value chain activities focus on domestic markets exclusively. Firms in this category may be unaware of the benefits of internationalizing parts of their value chains or they may be unaware of how to go about doing it. Alternatively, they may believe they lack the resources needed to pursue international business opportunities. The second category contains upstream-integrated firms, which have integrated international elements into their upstream value chain activities, but have not integrated international elements into their downstream value chain activities. Firms in category two are thus "partially internationally integrated." Less expensive factors of production are a common motivation for firms to seek international upstream value chain activities. The third category includes downstream-integrated firms, which have integrated international elements into their downstream value chain activities, but have not integrated international elements into their upstream value chain activities. Firms in category four are also considered partially internationally integrated. Expanding the customer base is a common motivation for firms to seek international downstream value chain activities. Lastly, the fourth category contains internationally engaged firms, which have integrated both upstream and downstream international elements into their value chain activities and thus are considered to be "internationally engaged." In essence, category four firms seek the benefits of upstream value chain activities sought by category two firms and the benefits of downstream value chain activities sought by category three firms.

The value chain internationalization framework may allow us to identify factors that drive or impede success across framework categories and development patterns and would allow us to uncover appropriate metrics for analyzing the internationalization processes. Empirical investigation of firms' international business activities guided by this framework will contribute to our understanding of the internationalization of a firm, as some researchers have called for (e.g. Contractor, 2008).

3. Research Hypotheses

Given that the value chain internationalization framework is designed to categorize firms based on their degree of upstream and downstream international integration, it is logical to expect that characteristics of firms across framework stages ought to be related to standard degree of internationalization measures. Specifically, we anticipate the characteristics of businesses and the attitudes of managers will be different across framework categories as follows: domestically focused (category 1) organizations will exhibit the lowest degree of internationalization while internationally engaged (category 4) firms will exhibit the highest degree of internationalization, while firms classified as upstream-integrated (category 2) and downstream-integrated (category 3) categories will exhibit an intermediate degree of internationalization. Based on this logic, we propose six hypotheses that are related to a firm's degree of internationalization and are derived from the extensive literature on international business. According to Sullivan (1994) "the degree of internationalization (DOI) of a firm has three attributes: *performance* (what goes on overseas, Vernon (1971)), *structural* (what resources are overseas, Stopford & Wells (1972)), and *attitudinal* (what is top management's international orientation, Perlmutter (1969))."

It is important to recognize that we are not claiming that the value chain internationalization framework is another "measure" of degree of internationalization. Rather, we propose that firms classified within this framework will systematically exhibit degree of internationalization metrics one might logically expect to find and thus propose the following hypotheses:

Performance Hypotheses: The survey instrument asked respondents to indicate how much they believe their company's management team would agree or disagree with a series of statements that measure the extent to which international activities have contributed to firm performance. The following perceptional performance related hypotheses are developed:

(H1) Firm Profitability**:** There will be a positive relationship between a manager's perception of the effect of internationalization on a firm's profitability level and its classification within the framework. We argue firms that engage in international business activities are more likely to generate operational efficiencies and as a result, profits. Higher profitability levels may be associated with either lower cost of operations incurred by engaging in international upstream value chain activities or higher revenues generated from international downstream value chain activities (Dunning, 2008). Hypothesis 1 is stated as follows:

> H1: Perception of the effect of internationalization on a firm's profitability will be higher for firms classified as internationally engaged (category 4) than for firms classified as upstream-integrated (category 2) or downstream-integrated (category 3).

(H2) Firm Experience**:** There will be a positive relationship between firms' experience and firms' classification category. As discussed previously, traditionally, most businesses start, develop, and grow within domestic markets. A domestic bias may be partially explained by the fact that business owners and/or managers are more likely to be familiar with domestic markets and customers. Nevertheless, while the domestic markets provide a relatively safe environment for businesses to start and develop, it may be restrictive in terms of growth opportunities. Indeed, the potential for higher levels of growth and efficiency exists in expanded global markets. As firms gain knowledge, experience, and other resources they may be more likely to internationalize (Eriksson, et al., 1997; Johanson & Vahlne, 1977). Thus, at higher levels of experience, firms are more likely to engage in international upstream and downstream value chain activities. Hypothesis 2 is stated as follows:

H2: The mean age of firms will be the highest for internationally engaged firms (category 4), lowest for domestic firms (category 1), and at intermediate levels for firms classified as upstream-integrated (category 2) or downstream-integrated (category 3).

Structural Hypotheses: The survey instrument asked respondents to indicate whether their company has committed resources to international business activities and the extent of such commitments. We expect that such commitments will be highest for firms classified as internationally engaged (category 4), lowest for domestic firms (category 1), and at intermediate levels for firms classified as upstream-integrated (category 2) or downstream-integrated (category 3). Therefore, the following *structural* related hypotheses are developed:

(H3) Foreign Subsidiaries**:** There will be a positive relationship between firms' ownership of foreign subsidiaries and firms' degree of upstream and/or downstream integration. We argue firms that engage in international business activities are more likely to own foreign subsidiaries (Sullivan, 1994). In addition, firms that are classified as internationally engaged (category 4) may own more foreign subsidiaries than firms that are either upstream-integrated (category 2) or downstream-integrated (category 3). Nevertheless, we do not anticipate significant differences in the ownership of foreign subsidiaries by firms in any of those two partially-integrated categories (downstream-integrated and upstream-integrated). Hypothesis 3 is:

H3: The proportion of firms owning foreign subsidiaries will be highest for internationally engaged firm (category 4), lowest for domestic firms (category 1), and at intermediate levels for category 2 or category 3 firms.

(H4) Assets Outside the U.S. or in Foreign currency**:** There will be a positive relationship between firms' ownership of assets outside the U.S. (or in foreign currency) and firms' classification category. Firms that engage in international business activities are more likely to own assets outside the U.S. or in foreign currency (Sullivan, 1994). Therefore, firms that are classified as internationally engaged (category 4) should have a higher proportion of ownership of assets outside the U.S. or in foreign currency than firms that are either upstream-integrated (category 2) or downstream-integrated (category 3). Nonetheless, similar to the hypothesis related to the ownership of foreign subsidiaries, we do not anticipate differences in the ownership of assets outside the U.S. or in foreign currency by firms in any of the two partially-integrated categories (upstream- and downstream-integrated). Hypothesis 4 is:

> H4: The proportion of firms with assets outside the U.S. or in foreign currency will be highest for firms classified as internationally engaged (category 4), lowest for domestic firms (category 1), and at intermediate levels for firms classified as upstream-integrated (category 2) or downstream-integrated (category 3).

Attitudinal Hypotheses: The survey instrument asked respondents to indicate how much they believe their company's management team would agree or disagree with a series of statements that measure the extent to which managers are globally-minded, internationally knowledgeable, and internationally experienced. We expect management teams that are more internationally oriented and capable will have higher levels of commitment to internationalization. Specifically, category 4 firms should exhibit the strongest attitudes, category 1 firms should exhibit the weakest attitudes, and firms in the other two categories should exhibit attitudes between these two extremes. The following perceptional *attitudinal* related hypotheses are developed:

(H5) International Perspective: There will be a positive relationship between a manager's perception of a firm's internationalization perspectives and its classification category. Here we define "international perspective" as the degree to which managers agree that internationalization is critical to the success of the organization (Levy, et al., 2007). Firms that are engaged in downstream value chain activities in foreign markets (firms categorized as either downstream-integrated or internationally engaged) are more likely to have a positive international perspective than those that are domestically focused. A more positive international outlook for firms in those two categories may be partially explained by firms' anticipation of increased revenues. On the other hand, we suggest firms that are upstream-integrated may exhibit a more balanced international perspective while domestically focused firms may display a lower international perspective. Hypothesis 5 is stated as follows:

> H5: Manager's perception of a firm's international perspective will be highest for firms classified as internationally engaged (category

4) or downstream-integrated (category 3), lowest for domestic firms (category 1), and at an intermediate level for firms classified as upstream-integrated (category 2).

(H6) Perception of Availability of Foreign Customers: There will be a positive relationship between a manager's perception of the existence of prospective foreign customers for a firm's products or services all over the world and its classification category. We expect firms that are engaged in international downstream value chain activities (downstream-integrated and internationally engaged) are more likely to recognize the existence of prospective foreign customers than firms that are classified as either upstream-integrated or domestically focused. Hypothesis 6 is stated as follows:

H6: Managers' perception of the existence of prospective foreign customers will be higher for firms classified as internationally engaged (category 4) or downstream-integrated (category 3), than for upstream-integrated (category 2) or domestically focused firms (category 1).

4. Research Methodology

Context and Sample

Data were collected from business owners and managers of organizations based in Indianapolis, Indiana, and surrounding counties. Indianapolis is the state's largest city and the center of commerce within the state. Indianapolis is the twelfth largest city in the United States, and is located near the population-weighted center of the country. Despite its central location, Indianapolis does not have a highly evolved global business community, though numerous initiatives are underway to increase its involvement in the global economy. Therefore, for the purpose of examining the globalization processes of organizations at all stages of development, this location is nearly ideal.

The sample frame for this project was a modified member listing of the Greater Indianapolis Chamber of Commerce (GICC). The listing was modified by removing members without email addresses and members who were associated with branch offices of businesses for which we had contact information. The final sample listing included 2,282 GICC members.

Questionnaire Development

Questionnaire development included three distinct stages: 1) question generation, 2) question refinement using expert feedback, and 3) pretesting. 1)

Questions were generated using relevant literature sources, especially for the attitudinal questions. The information required to classify businesses according to the proposed conceptual framework also yielded questions. Finally, basic business classification and performance questions were proposed. 2) The list of generated questions was submitted to a panel of experts in international business. These experts were interviewed individually and suggested revisions regarding the structure and content of the draft questionnaire. 3) The revised draft questionnaire was distributed to ten contacts from firms fitting the profile of GICC member organizations. Respondents were asked to complete the online questionnaire and then to critique it. Six executives completed both tasks and provided the final suggestions for revising the questionnaire.

Key Variables

Conceptual Framework Variables: The two major types of conceptual framework variables are strategic orientation and quantitative. Strategic orientation was determined using two questions. The first question addressed firm orientation towards downstream activities and the second addressed firm orientation towards upstream activities. These questions were used to classify respondents into the value chain internationalization framework. Quantitative variables were also collected to examine actual upstream and downstream activities. These variables included questions regarding year of first attempt to market (and/or source) internationally, year of first successful marketing (and/or sourcing) activity, percentage of revenues (and/or costs) associated with international activity, and countries of marketing (and/or sourcing) activities.

Attitudinal Variables: Numerous authors (e.g., Hassel, Höpner, Kurdelbusch, Rehder, & Zugehör, 2003; Sullivan, 1994) have addressed the issue of management attitudes toward international business. Such attitudes include perceptions about the importance of internationalization for future success, the internationalization of competitors, the dispersion of potential customers internationally, and the role of internationalization in growth opportunities. Attitudes were measured on 7-point Likert scales ranging from “strongly disagree” to “strongly agree.”

Classification and Performance Variables: Respondents were asked standard classification and performance variables such as revenue, number of employees, company age, NAICS code, general industry category, and IRS ownership classification. In addition, respondents from categories 2, 3, and 4 were asked their perception of the degree to which international activities have (or have not) contributed to sales growth, share growth, profit margins, operational efficiency, earnings volatility, and image. These were measured on 7-point Likert scales ranging from “strongly disagree” to “strongly agree.”

Questionnaire Administration

An email was sent to each potential respondent describing the survey and asking the recipient to participate in the survey by clicking on an embedded link. Invitation letters were distributed during the fall, 2009. One reminder invitation was distributed. When the link was followed, respondents were presented with additional details about the survey. Respondents were given the option of responding from the perspective of the entire organization or from the perspective of a strategic business unit within the organization.

5. Results and Framework Application

Response

Two hundred seventy one (271) of the invitations were returned as "hard bounces" or persistent "soft bounces." A total of 123 executives responded to the survey, which represents a response rate of 6.1%. This response rates appears to be similar to commercial online surveys of similar populations. We compared the industry profile and organizational sizes of the sample and the GICC membership to determine whether the sample matched the population profile.

For most comparable categories, the sample seems to accurately mirror the distribution of GICC organizations. The only exception seems to be that our sample slightly under-represents the retail/restaurant/lodging category, and may over-represent the professional services category.

Descriptive Statistics

Responses to the two strategic orientation questions were used to classify organizations into the value chain internationalization framework (See Figure 2).

Figure 2: Value Chain Internationalization Framework – Sample Composition

Intensity of Downstream Activities Intensity of Upstream Activities	Domestic (Home Market)	International (Host Markets)
Domestic (Home Market)	1 Domestically Focused n=44 (36%)	3 Downstream-Integrated n=24 (19%)
International (Host Markets)	2 Upstream-Integrated n=47 (38%)	4 Internationally Engaged n=8 (7%)

Most of the organizations in the sample were relatively small. For example, about half had revenues of $1 million or less (see Table 1). About one quarter (26.5%) were classified as LLC/LLP organizations, just under one third (30.1%) were subchapter S corporations, and just over one third (35.4%) were corporations. One quarter (27.4%) of the organizations classified themselves as being professional services. The age of organizations in the sample varied widely. Approximately equal proportions were younger than 5 years old (13.1%) and older than 50 years (15.0%). The modal age category was the "20 to 50 year" category with 31.8% of the organizations so classified.

Table 1: Descriptive Statistics

Sample Characteristics, Percentages (Frequencies)		
Ownership Structure		
Proprietorship/Partnership	3.6%	(4)
LLC/LLP	26.5%	(30)
Subchapter S Corporation	30.1%	(34)
Corporation	35.4%	(40)
Other	4.4%	(5)
Revenue		
Less than $500,000	23.1%	(25)
$500,000 - $1 million	17.6%	(19)
$1 million - $4.9 million	34.3%	(37)
$5 million - $9.9 million	7.4%	(8)
$10 million - $100 million	8.3%	(9)
More than $100 million	9.3%	(10)
Age of Organization		
Less than 5 years	13.1%	(14)
5 years - 9 years	17.8%	(19)
10 years - 19 years	22.4%	(24)
20 years - 50 years	31.8%	(34)
More than 50 years	15.0%	(16)

Results of Hypotheses Testing

The hypotheses were tested using appropriate statistical procedures; results are presented in Table 2. Included in the table are variable values for each of the relevant framework categories, the general statistical test used to test each hypothesis, and the test used to identify category-specific differences. One way ANOVAs were used to test relationships involving means and chi-square tests were used to test relationships involving percentages.

Table 2: Results of Hypotheses Testing

Hypothesis Number (relevant variable)	1 Domestically Focused	2 Upstream Integrated	3 Downstream Integrated	4 Internationally Engaged	General Statistical Test (p- value)	Test of Individual Differences
Performance						
H1 (mean perception of profitability)	-	3.94[d]	4.18[d]	6.67[b,c]	ANOVA (p=0.017)	Least Significant Difference
H2 (mean age of business)	19.8[c]	31.6	35.5[a]	11.0	ANOVA (p=0.065)	Least Significant Difference
Structural						
H3 (% with foreign subsidiaries)	0.0%[d]	4.3%[d]	4.5%[d]	42.9%[a,b,c]	Chi Square (p<0.000)	Difference of Proportions
H4 (% with assets outside U.S. or in foreign currency)	0.0%[b,c,d]	10.6%[a,d]	13.6%[a,d]	50.0%[a,b,c]	Chi Square (p<0.000)	Difference of Proportions
Attitudinal						
H5 (mean belief internationalization is critical for success)	1.56[b,c,d]	3.15[a,d]	3.62[a,d]	6.43[a,b,c]	ANOVA (p<0.001)	Least Significant Difference
H6 (mean belief customers all over world)	3.37[b,c,d]	5.46[a,d]	6.04[a]	7.00[a,b,c]	ANOVA (p<0.001)	Least Significant Difference

a: Significantly different from Domestically Focused (p < 0.05)
b: Significantly different from Upstream Integrated (p < 0.05)
c: Significantly different from Downstream Integrated (p < 0.05)
d: Significantly different from Internationally Engaged (p < 0.05)

(H1) Firm Profitability: On the 7-point Likert scale, mean perception that international activities contributed positively to organizational profitability was significantly higher for those in category 4 (6.67) than for those in categories 2 (3.94) or 3 (4.18). The question was not asked of domestically focused companies. The hypothesis is supported.

(H2) Firm Experience: The mean number of years of experience of domestically focused firms (category 1) was 19.8 years, upstream integrated companies (Category 2) was 31.6 years, while number of years of experience of downstream integrated companies (Category 3) was 35.5. The mean age for internationally engaged firms was 11.0 years. The ANOVA results suggest statistical significant difference were only found between firms in category 1 and category 3. Thus, the hypothesis s not supported.

(H3) Foreign Subsidiaries: Forty-three percent of internationally engaged organizations (category 4) reported having foreign subsidiaries, while no domestically focused organizations (category 1) reported having foreign subsidiaries. Few in the two intermediate categories reported having such subsidiaries (4.3% and 4.5%, respectively). The hypothesis is partially supported, because the difference in proportions between category 1 organizations and category 2 and/or category 3 organizations is not statistically significant.

(H4) Assets Outside the U.S. or in Foreign Currency: None of the domestically focused organizations (0.0%) report having assets outside the U.S. or in a foreign currency, while half (50.0%) of internationally engaged organizations have such assets. About 10.6% of category 2 and 13.6% of category 3 organizations claim such assets. All differences are statistically significant, except for the difference between category 2 and category 3. Thus, the hypothesis is supported.

(H5) International Perspective: On the 7-point Likert scale, mean perception that internationalization of their organization is critical to its success was significantly higher for those in category 4 (6.43), internationally engaged, than for those in categories 2 (3.15) or 3 (3.62). The difference between category 2 and category 3 firms is not significant. The mean of this perception among domestically focused firms (1.56) was significantly lower than it was for the two intervening categories. The hypothesis is partially supported.

(H6) Perception of Availability of Foreign Customers: On the 7-point Likert scale, mean perception that customers exist worldwide was not statistically different for those in category 4 (7.00) and those in category 3 (6.04). The category 4 mean was significantly higher than for those in category 2 (5.46). However, the difference between the means for category 3 and category 2 was not statistically significant. The mean of this perception among category 1 (domestically focused) organizations (3.37) was significantly lower than it was for the two intervening categories. Thus, the hypothesis is partially supported.

In general, it appears that there was at least partial support for most hypotheses. The differences between results for category 2 and category 3 firms were, however, usually not statistically significant. The consistent pattern of responses may indicate that a larger sample may have yielded complete, rather than partial, support for most hypotheses.

6. Discussion and Conclusions

The results generally support the hypotheses as stated, and therefore we conclude that the findings of this study are consistent with the value chain internationalization framework as presented. We have tested and reported statistical results on the relationship of three sets of attributes that the literature proposes to measure a firm's degree of internationalization (e.g., Sullivan, 1994). Specifically, hypotheses associated with performance, structural, and attitudinal measures of a firm's degree of internationalization were tested. Our findings suggest the characteristics of businesses and the attitudes of managers vary across framework categories or the level of firms' international integration. Therefore, we conclude the value chain internationalization framework is useful, has some validity, and to some extent is compatible with previous studies that measure firms' degree of internationalization.

Our study has focused on testing and validating the value chain internationalization framework. A formal testing of firms' movement across categories or through the paths to internationalization is beyond the scope of this study. However, we find partial evidence of movement across framework categories. First of all, it is obvious firms move between category 1 (domestically focused) and either category 2 (upstream-integrated) or 3 (downstream-integrated); however, it appears after such a movement, firms tend to stay within the intermediate categories. We find the percentage of firms classified in category 2 (upstream-integrated) is higher than the percentage of firms classified in category 3 (downstream-integrated), which confirms our expectation that firms may find it easier to engage in upstream rather than downstream international value chain activities. In addition, there is little evidence of movement from categories 2 or 3 to category 4. To move from category 2 (upstream-integrated) to category 4 (internationally engaged), firms are faced with the challenge of developing international marketing knowledge, expertise, and networks to successfully engage in downstream international value chain activities whether they choose to engage within the foreign markets in which they have already operated or in new foreign markets. The knowledge, expertise, and networks developed by firms in upstream international value chain activities may not be necessarily transferable to downstream value chain activities. Finally, as previously indicated the results suggest, within the context of Indianapolis, there may be a growing number of born-global firms which are firms that operate from their beginnings in category 4 (internationally engaged). Indeed, mean age of business is the lowest in category 4. In born-global firms, managers bring an international mindset to the business from start; thereby, exhibiting the highest level of international integration.

Managerial Implications

Since there is evidence that internationally integrated firms in general perform better than those which are purely domestic (Curci et al, 2012), this framework has numerous potential applications for business managers. First, the framework can be useful for helping change managerial perspective to become more strategic. Especially in SMEs, it appears that managers tend to take advantage of some opportunities that become obvious, but are not part of a well-planned comprehensive effort. Since managers often have no training or experience in internationalization processes, more subtle—but perhaps more important—opportunities are usually overlooked. The framework can become a first step for developing an internationalization strategy.

To begin this process, the framework can be used to assess into which category a firm may be placed, and to consider how the firm came to be in this category. For example, the firm may learn that it is currently located in category 3 because it has some international customers who happened to place orders via the internet. What organizational knowledge and expertise, if any, has accrued regarding these customers? Perhaps the inside sales, shipping, and customer service departments already have some knowledge about specific target markets.

Next, the framework can be used to determine in which category the firm ideally ought to be located and perhaps how to get there. Again, SMEs tend to focus on the status quo because of limited resources and challenges of conducting business on a daily basis. Top management could be challenged to look at the framework and explicitly decide where opportunities might exist. For example, how ***might*** the firm utilize international upstream value chain opportunities to reduce costs?

The framework could be used to assess the firm's industry and competitors. What is the "usual" path firms take that have become internationally integrated? Why have they taken that particular path? What factors promote success and which introduce challenges for specific path options? Should we follow that path or perhaps look at alternative paths to becoming internationally integrated?

The empirical findings suggest that the characteristics of businesses and the attitudes of managers differ across framework categories. Therefore, firms located in different framework categories are likely to face different opportunities and challenges as they try to become more internationally engaged. The support provided by governments and business development organizations should be customized and based on the value chain internationalization framework category of a particular firm. For instance, the support offerings for businesses in category 1 (domestically focused) should emphasize samples of firm internationalization successes and should also make firms aware of international business opportunities in general; for businesses in category 2 (upstream-integrated), international sourcing and new business development strategies could be highlighted; for businesses in category 3 (downstream-integrated), they need to emphasize international marketing strategies and perhaps also sourcing strategies, while for businesses in category

4 (internationally engaged) perhaps more advanced international business subjects such as international strategic planning, international mergers and acquisitions, and foreign direct investments should be provided.

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