

Functional Innovation, Bargaining Power and Value Appropriation of Emerging Economy Exporters

Abstract

In order to accrue economic rent a firm not only has to *create* value for its customers, it must also be capable of *appropriating* this value. Without possessing value appropriation capabilities the firm is at risk of passing on the created value to its suppliers, customers or competitors. There is ample evidence that emerging economy firms inserted in global value chains generally have difficulties in appropriating the added value they create - either due to a very competitive industry structure with low entry barriers and numerous suppliers, or because buyers are controlling critical resources, such as strategic information about, and access to, end-users. This study explores two basic initiatives emerging economy firm may take to achieve higher value appropriation. One initiative is to appropriate more value from existing activities - typically assembly manufacturing - by acquiring more market knowledge and better negotiation skills. In this way *bargaining power* improves vis-à-vis buyers and emerging economy firms achieve more equal gains from the global value chain. Another initiative of emerging economy firms is to embark on *functional innovation*, i.e. engage in new business activities that are less exposed to fierce price competition and therefore more lucrative. We test to what extent the two basic value appropriation initiatives have a positive effect on export performance of Vietnamese wood furniture manufacturers inserted in global value chains. 302 manufacturing companies were asked about functional innovation in terms of the extent to which they had engaged in export-related down-stream activities (i.e. export marketing and sales) and export market intelligence. The companies also reported their negotiation skills (self-assessment) and export performance. The results of a path analysis (AMOS, SPSS) suggest that both of the two value appropriation

initiatives have positive pay-offs inasmuch as they improve export performance significantly, though with bargaining power improving measures as the more rewarding initiative. Furthermore, the two initiatives are to some extent mutual supportive in achieving higher value appropriation.

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1. Introduction

In order to achieve economic rent a firm not only has to create value for its customers, it must also be capable of appropriating this value (Teece, 1998). Otherwise competitors or customers will claim it (Ghemawat, 1991). Emerging economy firms create value in global value chain, but in general they have difficulties of appropriating this value (Gereffi, 1999). Instead the value created by the emerging economy firms is appropriated by global buyers which may, or may not, pass it on to end-users. As an example of the former case, fierce cost competition among emerging economy manufacturers of hard-wood furniture and lap-tops has driven prices way down under the reservation price of most consumers. In other words, rent dissipation among emerging economy firms translate into consumer surpluses. In the latter case, global buyers appropriate the value of emerging economy firms by only passing on a minor share of this value, or nothing at all, to end-users. Hence, the global buyers basically sell the output of the global value chain at end-users' reservation price and appropriate the profit margin that may occur. In this paper we look at various initiatives that emerging economy firms may take to appropriate a larger share of the value they create in global value chains. The initiatives may increase value appropriation in basically two ways: Either the initiatives increase the *bargaining power* of emerging economy firms vis-à-vis global buyers - thereby re-distributing the unequal gains throughout the global value chain; or, the initiatives are meant to move emerging economy firms into new activities that are less exposed to fierce, profit-eroding price competition. Assembly manufacturing is often pointed at as particularly exposed to price competition, whereas upstream and downstream value chain activities (e.g., R&D and Marketing & Sales, respectively) are more susceptible to value appropriation.

Our focus on value appropriation does not imply that we dismiss value creation as a source of economic rent to emerging economy firms. To an increasing extent do emerging economy firms pursue value creation through process and product innovation (Pavitt, 1994) and sometimes "catch-up" with firms from developed market economies.¹

However, in this study we are more interested in *functional innovation* as a means for emerging economy firms to "move up the value chain" - that is, to supplement or replace existing low-profit activities, such as assembly manufacturing, with more profitable upstream and downstream activities.

In sum, we examine two different routes to increased value appropriation of emerging economy firms: by gaining more bargaining power vis-à-vis buyers that appropriate the value creation of emerging economy firms inserted in global value chains, or by undertaking functional innovation into value chain activities where competitors, distributors or end-users are less likely to claim the value creation.

2. Literature review

Without possessing value appropriation capabilities the firm is at risk of passing on the created value to its customers² or to competitors that are imitating its value creation capabilities. Terms like "race to-the-bottom" and

¹ The catch-up concept implies that emerging economy firms over a period of time develop value creation capabilities superior to those of incumbent (lead) firms from developed market economies. The value creation capabilities result from 'fine-slicing' of the value chain and a more or less intended transfer of knowledge from lead firms to emerging economy firms. The catch-up process may consequently and eventually result in relocation of entire "sunset" industries to emerging economies (e.g. Mudambi, 2008). It goes without saying that move of emerging economy firms into upstream or downstream activities without the requisite capabilities would not lead to any value creation (rather value 'destruction') in the short term, but may nevertheless be embarked on by emerging firms for learning purposes. To simplify our analysis of emerging economy firms' value appropriation initiatives we assume equal, and not superior, value creation capabilities of emerging economy firms vis-à-vis developed economy firms as a result of catch-up effects. In other words,

² As consumer surplus when the customers are households (B2C) and monopoly rent when customers are other firms (B-2-B).

“rent dissipation” are basically expressing value appropriation deficiencies of emerging economy firms inserted in global value chains.

Value appropriation and industry structure

The general contention of the global value chain literature (Kaplinsky, 1994; Gereffi, 1999; Mudambi, 2007) is that gains are unequally distributed along the value chain: assembly manufacturers and providers of standardized services - usually being located in low-wage developing countries (some of which are falling in the category of emergent economies) - are exposed to an industry structure characterized by a large number of suppliers and low entry barriers. These near perfect competition conditions work strongly against the possibilities of emerging economy firms to appropriate the value they might create value in the global value chain (Maskell and Malmberg, 1999).

One way for these contract manufacturers and service providers to escape persistent price competition is to assume responsibility for new activities in the global value chain, either upstream or downstream (Wise and Baumgartner, 1999; Powell and Snellman, 2004). Upstream activities include basic and applied research, product design, and inbound logistics, whereas downstream activities comprise outbound logistics/distribution, marketing & sales, after-sales customer servicing (Porter, 1985/1986). The pattern of value appropriation along the global value chain forms a “smile”, that is, a curve showing how the opportunities for value appropriation are inherently higher in the two ends of the value chain. Hence, by embarking on a catch-up process (Mudambi, 2008) or a *functional innovation* process (UNIDO, 2002/2003) in the direction of both higher ends of the global value chain emerging economy firms can improve their possibilities for appropriating the value they create in the global chain and thereby generate economic rent. The focus of this paper is on value appropriation (rather than value creation) of contract manufacturers (rather than providers of standardized services) in emerging economies. We therefore assume that emerging economy firms

moving up the global value chain just match the value creation capabilities of incumbent firms – either more or less.³

Value appropriation and resource dependency

Although functional innovation appears as an important lever of value appropriation of emerging economy firms, it is not the only one. As an alternative to changing or expanding their position in the global value chain emerging economy firms may keep their positions, but improve their bargaining power vis-à-vis suppliers and, in particular, buyers in the value chain. This bargaining power perspective prompts us to switch the analytical level from the industry (and its competitive structure) to the relationship between contract manufacturers and their buyers in global value chains. With reference to the literature on the political economy of distribution channels (see e.g. Arndt, 1979; Stern and Reve, 1980) we conjecture that global buyers - due to their proprietary access to end-users – are able to appropriate disproportionately more value than their contract manufacturers. The market or channel power of global buyers is based on a combination of strong brands, preempted distribution channels and private information about end-users. The lead firm – often global buyer – gets ‘the lion’s share’ as payoffs for its proprietary designs, technologies, brands, or pre-emptive market accesses (Kessing and Lall, 1992; Piore and Ruiz Durán, 1998; Hobday, 1995; Gereffi, 1999; Ernst, 2001). Drawing on resource dependence theory (Pfeffer and Salancik, 1978; Boyd, 1990) one may consider the global buyer’s proprietary access to end-users as a *critical resource* that empowers and harnesses its bargaining position vis-à-vis contract manufacturers in the global

³ Note that the catch-up concept implies that emerging economy firms over a period of time develop value *creation* capabilities superior to those of incumbent (lead) firms from mature economies. The value creation capabilities result from ‘fine-slicing’ of the value chain and a more or less intended transfer of knowledge from lead firms to emerging economy firms. The catch-up process may consequently and eventually result in relocation of entire “sunset” industries to emerging economies (e.g. Mudambi, 2008). It goes without saying that a move of an emergent economy firm into upstream or downstream activities without the requisite capabilities would not lead to any value creation (rather value ‘destruction’) in the short term, but may nevertheless be embarked on by emerging firms for learning purposes.

value chain. However, there are various ways in which contract manufacturers may lessen the criticality of this resource: Firstly, functional innovation into e.g. design, promotion and distribution may create direct links to end-users and thereby challenge the market power of global buyers (Hsing, 1999; Bazan and Navas-Aleman, 2004). Secondly, contract manufacturers may get a better idea of the true market value of their manufacturing services by conducting their own export market analyses. This would diminish the information asymmetry in relation to global market conditions that usually exists between the global buyers and their contract manufacturers, thereby strengthening the bargaining position of the latter. Thirdly, contract manufacturers may improve their general negotiation skills and thereby obtain better price deals.

Altogether, the three above-mentioned initiatives pull in the direction of providing a more even distribution of gains between global buyers and their contract manufacturers. In practice, the contract manufacturers reduce the global buyers' ability to dictate buying-in prices and enforce genuine price negotiations. In turn, the greater influence on pricing affects the export performance of contract manufacturers positively.

3. Development of hypotheses and conceptual model

Hence, the paper addresses the question of how emergent economy firms inserted in global value chains – *in casu* Vietnamese wooden furniture exporters – may achieve higher value appropriation. We focus on two different ways to appropriate more value: One way to is to undertake *functional innovation*, i.e. assuming responsibility for activities in the global value chain – such as design and marketing – that are less exposed to fierce price competition. Another value appropriation strategy of contract manufacturers is to gain more *bargaining power vis-à-vis* global buyers, e.g. through conduction of global market intelligence and enhancement of

negotiation skills. On this background we forward the following hypotheses (that are divided in five subsets H₁-H₅):

The first hypothesis conjectures a positive relationship between contract manufacturers' bargaining power (in price negotiations with global buyers) and their export performance. Hence,

H₁: The greater bargaining power of contract manufacturers in price negotiations with global buyers the better the export performance of the former.

The next two hypotheses (H_{2a-b}) conjecture a positive effect of export market intelligence and acquisition of negotiation skills on the bargaining power of contractual manufacturers vis-à-vis global buyers.

H_{2a}: *Contract manufactures' involvement in export market intelligence activities increases their bargaining power vis-à-vis global buyers.*

H_{2b}: *Contract manufactures' acquiring of negotiation skills increases their bargaining power vis-à-vis global buyers.*

The next eight hypotheses (H_{3a-h}) conjecture that in addition to increasing the bargaining power export market intelligence and negotiation skills also facilitate contract manufacturers' functional upgrading of various high end value chain activities, namely: (a) export product modification, (b) export promotion, (c) export distribution, and (d) export after sales services. Hence:

H_{3a}: *Contract manufactures' export market intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3b}: *Contract manufactures' export market intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3c}: *Contract manufactures' export market intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3d}: *Contract manufactures' export market intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3e}: *Contract manufactures' negotiation intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3f}: *Contract manufactures' negotiation intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3g}: *Contract manufactures' negotiation intelligence skills facilitate functional upgrading in terms of export product modification activities.*

H_{3h}: *Contract manufactures' negotiation intelligence skills facilitate functional upgrading in terms of export product modification activities.*

The next four hypotheses (H_{4a-d}) conjecture a positive effect of contractual manufacturers' functional innovation of four high end value chain activities on their bargaining power of vis-à-vis global buyers. The functional innovation includes four different high end value chain activities, namely: (a) export product modification, (b) export promotion, (c) export distribution, and (d) export after sales services. Hence:

H_{4a}: *Contract manufactures' functional innovation into export product modification activities increases their bargaining power vis-à-vis global buyers.*

H_{4b}: *Contract manufactures' functional innovation into export promotion activities increases their bargaining power vis-à-vis global buyers.*

H_{4c}: *Contract manufactures' functional innovation into export distribution activities increases their bargaining power vis-à-vis global buyers.*

H_{4d}: *Contract manufactures' functional innovation into export product modification activities increases their bargaining power vis-à-vis global buyers.*

A last set of hypotheses (H_{5a-d}) conjectures a positive effect of functional innovation on export performance of contractual manufacturers inserted in global value chains. The functional innovation comprises the same four high end value chain activities mentioned above:

H_{5a}: *Contract manufactures' functional innovation into export product modification activities has a positive effect on their export performance.*

H_{5b}: *Contract manufactures' functional innovation into export promotion activities has a positive effect on their export performance.*

H_{5c}: *Contract manufactures' functional innovation into export distribution activities has a positive effect on their export performance.*

H_{5d}: *Contract manufactures' functional innovation into export after sales activities has a positive effect on their export performance.*

Figure 1 summarizes our conceptual model and indicates the five sets of hypotheses. Hypothesized value appropriation *initiatives* of contract manufacturers are indicated in the left-hand side of the model and value appropriation *effects* in the right-hand side. In the upper left side of the figure are indicated two value appropriation measures that are hypothesized to affect bargaining power of contract manufacturers positively, namely engagement in export market intelligence and development of negotiation skills (H_{2a} and H_{2b} respectively). As a “side effect” to increasing the bargaining power, export market intelligence and negotiation skills also facilitate contract manufacturers’ functional upgrading of four high end value chain activities (export product modification, promotion, distribution, and after sales servicing). Neither of the two value appropriation measures is assumed to have a *direct* (positive) effect on export performance. In the lower left side of the figure are indicated four forms of functional innovation of contract manufacturers: export product modification, export promotion, export distribution and export after sales servicing. Each of the four forms of functional innovation is hypothesized to affect export performance directly (H₅) and indirectly via increased bargaining power (H₄).

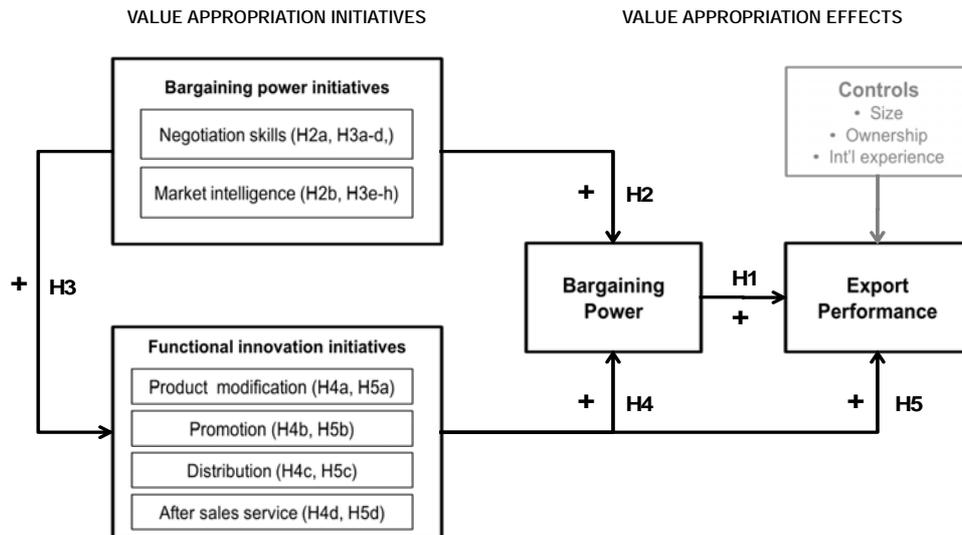


Figure 1: *Conceptual model of the study*

4. Empirical Study

Sample and data collection

The population was defined as exporting contract manufacturers in emerging economies. The convenience and cluster sample was made up of exporting manufacturers from the three largest wooden furniture processing clusters in Vietnam. The sample consisted of mostly of private firms with a few SOEs. A large-scale, personal interview survey was conducted in three rounds in 2007/2008 by one of the authors and her research assistants. The survey resulted in 302 usable replies (filled out questionnaires) equivalent to a 31 % response rate. Late respondents (ANOVA) analysis found no non-response bias.

Model estimation and results

Structural equation modeling (SPSS Amos algorithm) was used for model estimation, see Figure 2.

Model: Upgrading bargaining power and export performance

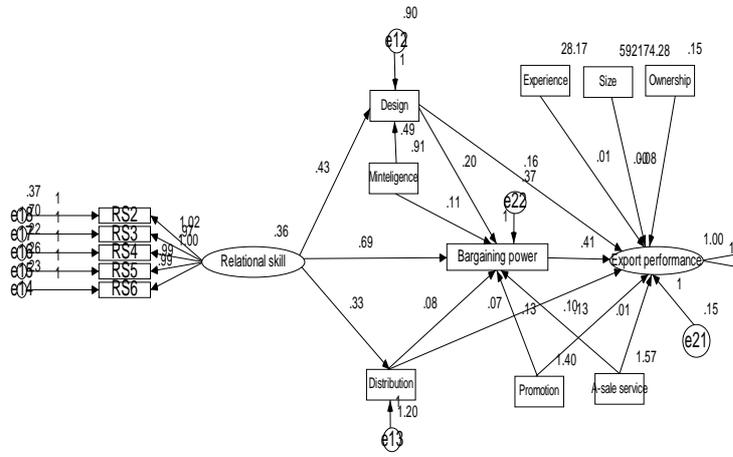


Figure 2: Results of SEM model

The model showed good fit with the data, see goodness-of-fit summary in Table 1 below.

Table 1: Model fit results

	Chi-square	D. F	p-value	GFI	CFI	RMSEA
Model	298.019	122	.004	.933	.949	.066

All hypotheses, except H_{5d}, were supported although some - H_{3c}, H_{3g}, H_{4c} and H_{5c} - only at a p < 0.05 significance level, see Table 2 (next page).

Table 2: Results of hypothesis testing

Hypothesis			Estimate	S.E.	C.R.	P	Hypothesis testing result	
Controls	Igsize	=>	Exp performance	.021	.052	.393	.694	Not significant
	IgIE	=>	Exp performance	.139	.097	1.433	.152	Not significant
	Ownership	=>	Exp performance	-.062	.084	-.743	.457	Not significant
H1	Bargaining power	=>	Exp performance	.409	.047	8.737	***	Supported at 0.001 level
H2a	Market intelligence	=>	Bargaining power	.122	.046	2.630	.009	Supported at 0.01 level
H2b	Negotiation skills	=>	Bargaining power	.699	.082	8.494	***	Supported at 0.001 level
H3a	Market intelligence	=>	Product modific.	.489	.057	8.571	***	Supported at 0.001 level
H3b	Market intelligence	=>	Promotion	.425	.063	6.758	***	Supported at 0.001 level
H3c	Market intelligence	=>	Distribution	.137	.065	2.100	.036	Supported at 0.05 level
H3d	Market intelligence	=>	Aftersales service	.319	.069	4.631	***	Supported at 0.001 level
H3e	Negotiation skills	=>	Product modific.	.468	.101	4.611	***	Supported at 0.001 level
H3f	Negotiation skills	=>	Promotion	.432	.111	3.890	***	Supported at 0.001 level
H3g	Negotiation skills	=>	Distribution	.270	.114	2.373	.018	Supported at 0.05 level
H3h	Negotiation skills	=>	Aftersales service	.542	.122	4.439	***	Supported at 0.001 level
H4a	Product modification	=>	Bargaining power	.196	.039	5.070	***	Supported at 0.001 level
H4b	Promotion	=>	Bargaining power	.116	.035	3.325	***	Supported at 0.001 level
H4c	Distribution	=>	Bargaining power	.078	.034	2.315	.021	Supported at 0.05 level
H4d	Aftersales service	=>	Bargaining power	.093	.032	2.912	.004	Supported at 0.01 level
H5a	Product modification	=>	Exp performance	.147	.034	4.358	***	Supported at 0.001 level
H5b	Promotion	=>	Exp performance	.136	.030	4.480	***	Supported at 0.001 level
H5c	Distribution	=>	Exp performance	.076	.030	2.538	.011	Supported at 0.05 level
H5d	Aftersales service	=>	Exp performance	.011	.028	.389	.697	Not supported

5. Conclusion

Our primary survey data of Vietnamese wooden furniture exporters suggest that both routes to greater value appropriation are feasible; though, measures that strengthen the bargaining power of emergent economy firms seem more rewarding than functional innovation activities.

References

Teece, D.J. 1998. Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets. *California Management Review*, 40(3): 55-79.