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Headquarters to subsidiary transfer effects on marketing strategy exploitation[☆]

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ABSTRACT

The transfer of locally created marketing strategies worldwide represents a key competitive advantage for multinational corporations (MNCs). Although a research topic of much interest, empirical content of past studies is scarce. Absorptive capacity studies typically test direct effects of either the transfer capacity of the strategy's initiator or the recipient's ability to process and exploit the strategy on related learning outcomes. Mixed findings allow the possibility of more complex relationships. This study examines the relationships between MNC headquarters and marketing units located in subsidiary firms using a sample of 213 marketing managers. The study systematically explores linear, interaction, and quadratic effects within a structural equation modeling paradigm. The findings indicate that the relationship between a MNC headquarters' transfer capacity and a subsidiary marketing unit's processing capacity on the strategy's exploitation is one of mediation and moderation. The subsidiary marketing unit's processing capacity is a key mediating variable and headquarters' transfer capacity moderates the effects of this variable on the exploitation of the marketing strategy by the subsidiary's unit.

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1. Introduction

In the field of strategy, widespread agreement exists that the long-term prosperity of organizations lies in their ability to identify and share strategic assets (Gupta & Govindarajan, 2000; Teece, Pisano, & Schuen, 1997: 226). This perspective is most relevant for the multinational corporation (MNC), where the diffusion of strategic knowledge along lateral and hierarchical flows between geographically distant subunits represents a key source of competitive advantage (Cantwell & Mudambi, 2005; Foss & Pedersen, 2002; Mudambi, 2002). In this context, marketing functions serve as boundary spanning links between customers and other organizational units within the MNC (Schlegelmilch and Chini, 2003: 216). Although marketing functions located in MNC subunits typically create strategic knowledge in their own cultural contexts, they also heavily source this knowledge from other parts in the MNC and subsequently need to balance global strategies with a feasible local application. Marketing strategies are “sticky” because they typically evolve in specific cultural contexts, which make a transfer across time, space, and culture

difficult for both the initiator and the recipient (Szulanski, 1996, 2003).

Researchers on absorptive capacity give interesting insights and useful suggestions on how knowledge receiving units can enhance the ability to absorb external knowledge (Jansen, Van den Bosch, & Volberda, 2005). Other studies point to the dual embeddedness of MNC organizational units (they belong to the MNC network and are simultaneously situated in local markets) and highlight that being embedded in multiple contexts affects a unit's ability to create and absorb external strategies (Meyer, Mudambi, & Narula, 2011; Uzzi, 1996). Despite these advances, however, studies are comparably quiet in regard to the role of the knowledge source in international strategy transfer and absorption. This is surprising, considering that Cohen and Levinthal (1990: 131) explicitly highlight in their seminal paper on knowledge absorption that the intensity of effort by the knowledge source is critical.

This paper takes the view that the effort by the knowledge source is especially important for the transfer of strategies between organizational units, because unlike some external knowledge absorptions (i.e., unintended knowledge spillovers) within an organization, the knowledge initiators usually have an active interest in diffusing knowledge to other parts of the organization due to the shared organizational benefits this transfer promises (Grant & Baden-Fuller, 1995). Due to the socially complex nature, cultural dependence, and highly tacit character inherent in marketing strategies, the intensity of effort by a strategy initiating unit is likely to be critical for the ability of the recipient unit to absorb the strategy.

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Studies that have investigated the knowledge transfer process between and within organizations typically illustrate the transfer efforts by a knowledge sender, the ability (and motivation) to absorb knowledge by the receiver, and the knowledge implementation as a simple mediated process where the impact of the knowledge source on knowledge implementation is mediated by the ability to absorb (Jansen et al., 2005; Minbaeva, Pedersen, Bjoerkman, Fey, & Park, 2003; Zahra & George, 2002). This paper proposes that this process is more complex and responds to recent calls for more systematic, empirical research on the transfer and absorption of specific knowledge within the MNC (Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007; Martin & Salomon, 2003).

By empirically investigating specific source–recipient paths in the transfer of strategic marketing practices, this paper is one of the first to combine empirical testing of knowledge transfer capacities of the source, and processing and exploitation of a marketing strategy by the recipient unit in one process model and represents an initial effort to test domain-specific knowledge absorption in an intra-firm context (Volberda, Foss, & Lyles, 2010).

2. Theoretical framework and hypotheses

This paper draws on the knowledge-based view of organizations, which posits that knowledge is a primary resource and that social networks between different organizational units facilitate the sharing of knowledge (Grant, 1996; Kogut & Zander, 1993). This study specifically focuses on marketing practices of procedural, complex knowledge in the form of strategies. Strategies represent marketing practices that are of strategic importance to the firm and reflect its core competencies (Kostova, 1999). They incorporate decisions relating to market segmentation, targeting, and the development of a positioning strategy. Most international markets are heterogeneous due to different socio-economic and technological development levels, national culture, and consumer behavior (Ghoshal, Korine, & Szulanski, 1994). Therefore, they require MNCs to harmonize marketing strategies towards a particular market.

Given the complexity and context-specificity of marketing strategies (Hewett & Bearden, 2001), this study limits its investigations to the strategy flow in a particular direction. The focus is on the hierarchical flow of marketing strategies from MNC headquarters to a marketing unit in one subsidiary (Gupta & Govindarajan, 2000). This setting permits investigating the transfer process using a source-target lens (Mudambi, 2002) where the source is likely to have the ability to transfer knowledge to the recipient (in reverse knowledge transfer from MNC subsidiary units to MNC headquarters, this ability is more restricted (Monteiro, Arvidsson, & Birkenshaw, 2008)). The transfer under investigation represents only one of the numerous types of marketing strategy flows (Cantwell & Mudambi, 2005). Knowledge transfer processes within MNCs have different motivations and benefits for both source and target (Yang, Mudambi, & Meyer, 2008) and differ depending on the knowledge and direction of knowledge flow (Ambos, Ambos, & Schlegelmilch, 2006). An investigation of these differences is outside the scope of this paper.

A knowledge initiator's capacity to transfer strategically important knowledge is traditionally described in relation to the efforts with which the knowledge source acts (Gupta & Govindarajan, 2000). Accordingly, the source exerts a certain effort to articulate the value of a strategy to the target (Zahra & George, 2002), commits a certain amount of resources in order to transfer the strategy (Menon, Sundar, Phani, & Steven, 1999; Ross & Staw, 1993), and permits a certain degree of adaptation of the strategy at the level of the recipient (Szulanski & Jensen, 2006). These transfer efforts represent the MNC headquarters' *strategy transfer capacity*.

An organizational unit's ability to assimilate and put to use externally acquired knowledge along inter-related yet sequential

dimensions is central to the absorptive capacity concept (Grant, 1996; Phene & Almeida, 2008). This study also distinguishes a subsidiary's capacity to recognize the value and assimilate external knowledge from its ability to internalize this knowledge (Camisón & Forés, 2010; Jansen et al., 2005; Zahra & George, 2002). Therefore, *strategy processing capacity* captures the extent to which the subsidiary's marketing unit understands the value of the strategy and perceives the strategy to be worth undertaking actions in order to internalize the strategy (Minbaeva et al., 2003; Szulanski, 1996).

Strategy exploitation is the enactment of the processing capacity and reflects the effectiveness of the implementation and internalization of the newly acquired strategy into the subsidiary marketing unit's own systems and processes (Camisón & Forés, 2010). Strategy implementation is the evaluation of the behaviors and activities by the subsidiary's marketing unit in relation to the strategy since its absorption (Kostova, 1999). Strategy internalization represents the degree to which the marketing unit accepts and sees value in the absorbed strategy (Von Krogh & Koehne, 1998). The impact the exploited marketing strategy ultimately has on the subsidiary's overall performance in the focal marketplace and the subsidiary's financial performance represent the last stage of the international marketing strategy process. Fig. 1 depicts the variables of interest and relationships in a basic theoretical model. The core hypotheses follow.

Although Foss and Pedersen (2002) found that marketing units (together with production) possess the highest level of competence among subsidiary functions, marketing strategies remain difficult to absorb locally. This is mainly due to a high degree of tacitness of marketing knowledge, high specificity due to transaction specific skills, and a high degree of complexity (Schlegelmilch & Chini, 2003: 221). Therefore, exposing subsidiary marketing units to knowledge created by the MNC headquarters is insufficient (Hewett & Bearden, 2001).

This study proposes that the intensity of effort from the knowledge source is critical (Jensen & Szulanski, 2004; Kotabe et al., 2007). Efforts on behalf of a knowledge source to actively promote the transfer process of strategies ease their assimilation and utilization for the receiver (Martin & Salomon, 2003). Unless MNC headquarters exercises specific efforts to make the strategy valuable and usable, the receiving unit located in the subsidiary will have difficulties understanding and exploiting the strategy (Roth & Nigh, 1992; Tsai, 2001).

Senders influence how receivers perceive the value of the strategy by enhancing verbal articulation of a strategy's details (Martin & Salomon, 2003; Szulanski & Cappetta, 2003). Increasing resource commitments for the strategy's implementation also enhances the ease with which the receiving unit can understand and assimilate the strategy (Menon et al., 1999). The willingness to allow for adaptation of the strategy to fit the subsidiary context also plays an important role in the transfer process (Gupta & Govindarajan, 2000). In particular, a subsidiary marketing unit's capacity to recognize and assimilate how to successfully exploit a strategy increases where headquarters articulates a willingness to adapt the strategy towards the target unit.

H1. In relation to marketing strategies, MNC headquarters' transfer capacity relates positively to the subsidiary marketing unit's strategy processing capacity.

Being able to recognize the value of and to assimilate an external strategy is a necessary condition if the marketing unit in the subsidiary is to enact the strategy successfully (Escribano, Fosfuri, & Tribo, 2009; Jansen et al., 2005), but this alone may not achieve effective strategy exploitation. Although subsidiaries may understand and see the value of a particular marketing strategy in their local market, deploying the strategy is a step in the absorption process that

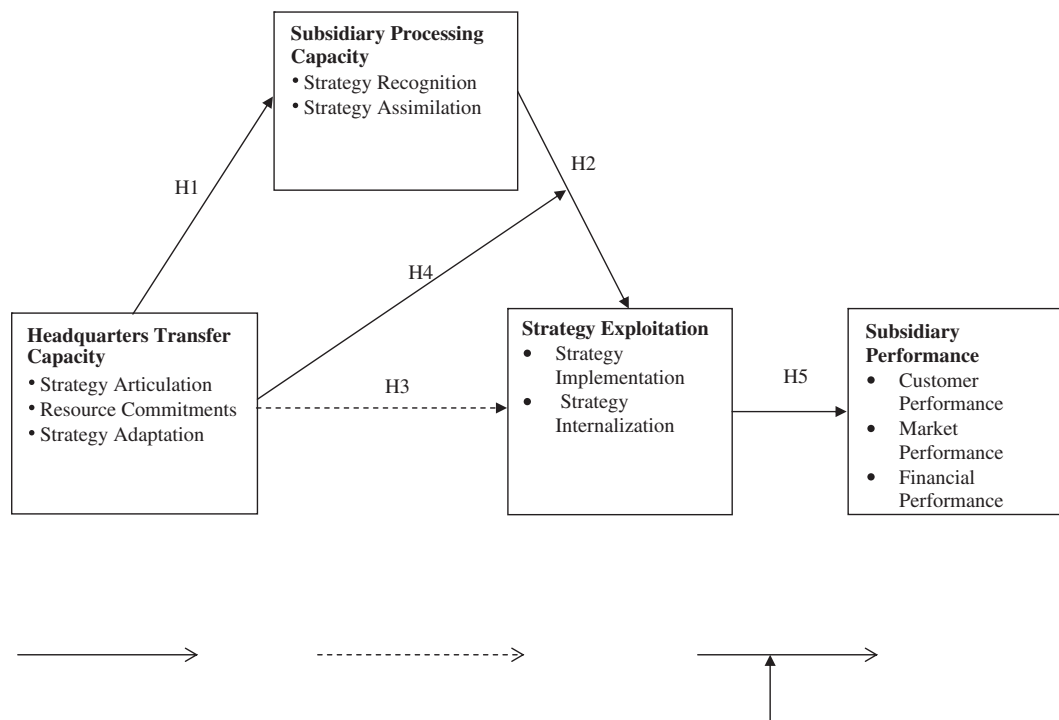


Fig. 1. International marketing strategy implementation process.

requires the target's ability to transform cognitive possibilities into purposeful action. This requires that the target successfully integrates the newly acquired knowledge into its knowledge base (Zahra & George, 2002). The absorption is complete only once a knowledge recipient successfully combines the new knowledge with the existing knowledge base and incorporates this knowledge successfully into operations.

Researchers posit that subsidiary's knowledge-creating capabilities are complementary to their knowledge-exploiting capabilities (Almeida & Phene, 2004). Exploitation of existing knowledge relates to knowledge augmentation. Therefore, the capacity of the recipient to absorb new knowledge is a function of that recipient's knowledge base (Cohen & Levinthal, 1990; Kuemmerle, 2002). Due to these differences in knowledge bases, organizational units differ in their ability to assimilate and understand new knowledge from external sources.

Processing new knowledge requires that organizational units be able to understand the benefits of the knowledge and consider the viability of existing or new procedures to accommodate this new knowledge (Minbaeva et al., 2003). Organizational units with higher levels of knowledge processing capacity are thus more likely to have an enhanced ability to harness new knowledge from other units and use the knowledge (Szulanski, 1996). Hence, a subsidiary marketing unit is more likely to successfully exploit a headquarter-initiated strategy when it possesses a higher capacity to recognize the value of and assimilate this strategy.

H2. The processing capacity of the subsidiary marketing unit relates positively to marketing strategy exploitation at the subsidiary level.

The paths specified in H_1 and H_2 imply a process of mediation; that is, subsidiary processing capacity mediates the effect of headquarters' transfer capacity on successful strategy exploitation. Indeed, evident in much past empirical work is the implicit assumption that

subsidiary processing capacity is a key mediating variable. H_3 states this process as a formal hypothesis.

H3. The subsidiary marketing unit's processing capacity fully mediates the effect of headquarters' transfer capacity on marketing strategy exploitation.

However, the mediating variable hypothesis is not the only viable explanation of effective marketing strategy exploitation. An intriguing possibility is that headquarters transfer capacity moderates the effect of the subsidiary marketing unit's processing capacity on the successful exploitation of the strategy. Consider that a number of organizational drivers influence the exploitation of new knowledge once a recipient receives this knowledge (Jansen et al., 2005; Nahapiet & Ghoshal, 1998). For instance, Jansen et al. (2005) consider specific organizational mechanisms that recipient units can create in order to increase their absorptive capacity of external knowledge. In order to successfully exploit newly acquired knowledge, organizations require structures and linkages that connect different units that facilitate transforming and exploiting this knowledge (Zahra & George, 2002).

Despite these insights, the literature generally does not take into account in their examinations whether or not the source of knowledge is also able to actively assist the transformation from acquired knowledge into successful knowledge exploitation at the receiving end. Even if a subsidiary's marketing unit has a high strategy processing capacity, the ability to transcend from processing strategic knowledge to exploiting this knowledge may benefit from higher efforts on behalf of MNC headquarters. The extent to which headquarters commits to transferring the strategy is thus likely to enhance the transformation from the cognitive stage of processing a strategy to the actual exploitation at the subsidiary level. This implies a moderating effect where the relationship between subsidiary processing capacity and marketing strategy exploitation is considerably stronger at high levels of headquarters' transfer capacity.

H4. Headquarters' transfer capacity positively moderates the impact of the subsidiary marketing unit's transfer capacity on exploitation of the strategy at the subsidiary level.

The effective implementation and internalization of the newly acquired knowledge at the marketing unit's level does not necessarily lead to better subsidiary performance. Past research found that often effectively implemented strategies at one level do not lead to better performance at the level of the subunit (Goodman, 2000). Exploiting a newly absorbed marketing strategy effectively usually require substantial resources from the subsidiary (Hewett, Roth, & Roth, 2003) and represent a considerable cost to the subsidiary that could be better invested in another activity. Hence, the final link in the model of Fig. 1 from strategy exploitation to subsidiary performance is important. This paper proposes that subsidiary marketing units, which are better at successfully implementing international marketing strategies and turning these into new strategic competencies, are more likely to turn these into a competitive advantage for the subsidiary. H₅ completes the process model and provides a meaningful criterion measure.

H5. Marketing strategy exploitation at the subsidiary level relates positively to subsidiary performance.

3. Method

3.1. Sampling frame and sample profile

The sampling frame for the study was a contact list purchased from Dun and Bradstreet. The sampling frame members were marketing managers with senior management or head-of unit/department positions in Australian subsidiaries with an overseas headquarters. Australia is a useful location for this study as the Australian economy is an open market-based economy with strong economic ties to MNCs in Asia, Europe, and North America (Johnston & Mengic, 2007). Marketing managers within the subsidiary units represent key informants, because these managers are usually at the center of headquarters–subsidiary relationships (Roth & Nigh, 1992). A total of 1500 survey packets were sent to marketing managers of subsidiary organizations. The survey packets included a cover letter explaining the purpose of the study and instructions on how to complete the survey. A prepaid envelope encouraged reply. The marketing managers subsequently received two follow-up questionnaires in the following weeks. A total of 398 surveys were returned incorrectly addressed, leaving 1102 valid sampling frame members. The final sample size is based on 213 responses from marketing managers for an effective response rate of 19.3%. Data on some variables for some observations was missing (less than half of 1%). These values were replaced using the expectation maximization (EM) approach advanced by Little and Rubin (2002).

Subsequent diagnostic checks tested for selection bias. Briefly, the 213 subsidiaries belong to headquarters located in Asia, Europe, and North America splitting equally by thirds. Subsequent tests separated the sample according to the origin of the headquarters. No statistical differences exist between these on the predictor and criterion variables. A greater number of subsidiaries has between 100 and 200 employees and belong to MNCs that have between 10,000 and 20,000 employees. The vast majority (89%) of responding subsidiaries are from of a variety of industry sectors including manufacturing, wholesale, retail, mining, finance, and other services sectors. No statistical differences emerged in terms of the relationships of interest when splitting the sample according to four broad industry sectors.

The possibility of non-response bias needs to be addressed. A strong test of non-response bias compares the characteristics of respondents to those of the population from which the sample is from. Non-response bias checks included comparing basic recorded information by Dun and Bradstreet and testing the mean differences between responding and non-responding firms along firm size, age, and industry sector; *t*-tests showed all differences to be non-significant ($p > .10$). Further non-response bias tests included comparing early to late respondents, no differences are apparent between these groups.

3.2. Common method bias

Although collecting data through a questionnaire is an appropriate way to capture the type of information of interest here (Sarkar, Aulakh, & Madhok, 2009), surveys are not measurement error free. In designing the survey, measures for the criterion variable appear separate from the predictor variables. Criterion and predictor variables appear methodologically separate, because respondents completed them under different Likert scales. Third, protecting the respondents' anonymity reduces biases of evaluation apprehension as well as social desirability (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Fourth, as Podsakoff et al. (2003) suggests and as the confirmatory factor analysis (CFA) section below highlights, formal statistical tests examine the presence and effects of a possible common method factor.

3.3. Measures

Scales for the study are adapted from items and scales that previous studies use. The definitions of the main constructs and their respective items appeared earlier in Section 2. Appendix A lists all of the items, their respective reliability scores, and their original source. All main constructs have multiple items requiring an indication of agreement on a five point Likert-type scale for each item anchored by 1 (strongly disagree) and 5 (strongly agree).

Table 1
Means, standard deviations, and correlations of composite indicators.

Composite Variable	Means	Std Dev.	Correlations									
1. Strategy articulation	3.22	.92	1.00									
2. Resource commitments	2.83	1.03	.67	1.00								
3. Strategy adaptation	3.24	1.09	.46	.48	1.00							
4. Strategy recognition	3.74	.87	.60	.51	.60	1.00						
5. Strategy assimilation	3.80	.72	.56	.45	.54	.72	1.00					
6. Strategy implementation	3.50	.91	.39	.37	.52	.63	.63	1.00				
7. Strategy internalization	3.51	.80	.48	.40	.42	.62	.61	.73	1.00			
8. Customer performance	4.01	.65	.20	.18	.33	.22	.38	.41	.35	1.00		
9. Market performance	3.67	.88	.24	.19	.26	.27	.30	.33	.23	.50	1.00	
10. Financial performance	3.67	.91	.12	.05	.17	.18	.22	.34	.21	.46	.68	1.00

3.3.1. Measurement validation

3.3.1.1. Exploratory factor analysis. The original survey items were examined first using conventional item analysis and exploratory factor analysis techniques. The original survey items generally operate as expected, but a small number of items were trimmed from some subscales because of low item-total correlations. Following an exploratory factor analysis of all remaining items, ten composite variables were created. The composite variables are subsequently used as indicator variables in the structural equation models that follow. Table 1 reports means, standard deviations, and correlations of the composite variables.

3.3.1.2. Confirmatory factor analysis. The measurement model has four latent variables that capture the four substantive constructs of Fig. 1: subsidiary performance, strategy exploitation, subsidiary processing capacity, and headquarters' transfer capacity. Subsidiary performance and headquarters' transfer capacity are measured by three composite indicator variables each and strategy exploitation and subsidiary processing capacity by two composite indicator variables each. The composite variables relate only to their posited theoretical construct and the theoretical constructs correlate freely. Parameters of the restrictive or confirmatory factor analysis (CFA) model were estimated using the maximum likelihood (ML) estimator in Mplus 6.11 (Muthén & Muthén, 2010). The chi-squared value for the CFA model is significant ($\chi^2=97.44$, d.f.=29, $p=.00$). Other measures of model fit imply adequate fit to the sample data (e.g., comparative fit index = .94, Tucker–Lewis index = .90, root mean square error of approximation = .11). The Akaike information criterion (AIC) and Bayesian information criterion (BIC) are 4469.06 and 4590.07, respectively.

The model parameters have face validity (see Table 2). All of the estimated lambda coefficients are strongly positive and significant ($p<.05$). The standardized lambda coefficients are in the range of .60 to .90. For most of the composite indicators, the square of the standardized coefficient is greater than .50. This establishes reliability for all composite indicators individually. Summary measures of the reliability of the theoretical constructs exceed .70 in all

		Mediation	
		No	Yes
Moderation	No	Model 1 AIC = 4,465.14 BIC = 4,579.43	Model 2 AIC = 4,464.71 BIC = 4,575.63
	Yes	Model 3 AIC = 4,459.08 BIC = 4,583.45 Likelihood ratio test: Model 1 vs. Model 3 ($\chi^2=12.06$, d.f. = 3, $p < .05$)	Model 4 AIC = 4,457.20 BIC = 4,578.20 Likelihood ratio test: Model 2 vs. Model 4 ($\chi^2=13.51$, d.f. = 3, $p < .05$)

Fig. 2. Fit measures for structural models.

cases (Hancock & Mueller, 2001). Subsequent tests established convergent and discriminant validity among all possible pairs of constructs.

Given the survey design, a model with a common method factor added to the CFA model permits a stronger test of the measurement properties of the composite indicators. The common method factor relates to all ten composite indicators, but does not correlate with the theoretical constructs. The specification of the CFA model remains the same. This implies that the indicator variables are now a function of their theoretical construct, the method factor, and an error term (uniqueness). This common method factor yields a significant chi-squared value ($\chi^2=55.21$, d.f. = 22, $p=.00$); however, a likelihood ratio test shows that this model achieves a significant improvement in fit vis-à-vis the original CFA model ($\chi^2=42.22$, d.f. = 7, $p<.05$). This result implies that a common method factor is evident;

Table 2
Measurement model results^{a,b}.

Composite Variable	Headquarters transfer capacity	Subsidiary Processing Capacity	Strategy Exploitation	Subsidiary Performance
1. Strategy articulation	1.00			
2. Resource commitments	1.05 (.09) 11.22			
3. Strategy adaptation	.99 (.12) 8.35			
4. Strategy recognition		1.00		
5. Strategy assimilation		.80 (.06) 14.32		
6. Strategy implementation			1.00	
7. Strategy internalization			1.21 (.09) 13.54	
8. Customer performance				1.00
9. Market performance				1.89 (.23) 8.09
10. Financial performance				1.80 (.22) 8.16

^a Estimates, standard errors in parentheses, and *t*-values.

^b Reference variable $\lambda = 1.00$.

model fit improves when a common method is specified. Although all of the lambda coefficients for the method factor achieve significance, the impact of the common method factor is minimal and the average standardized lambda coefficient is less than .50 for the method factor. None of the theoretical effects attenuate to the point of non-significance. Most of the variation in the composite indicators is due to variation in the theoretical constructs (more than 50%) with less than 20% due to variation in method. On this basis, further model tests proceed without a method factor specified.

3.3.1.3. Structural model tests. The final step in the analysis is the estimation of a series of structural models to test the hypotheses. Four separate structural models are specified. These models test for (i) neither mediation nor moderation (Model 1), (ii) mediation and not moderation (Model 2), (iii) moderation and not mediation (Model 3), and (iv) both mediation and moderation (Model 4). Fig. 2 depicts these four competing models, including their respective AIC and BIC values. An evaluation of the fit of the four structural models and their parameters follows.

Taken together, the first set of hypotheses (H₁₋₃) implies that the processing capacity of the subsidiary marketing unit mediates the posited effect of headquarters transfer capacity on strategy exploitation by this unit. Models 1 and 2 test these hypotheses. Model 1 is considered first. Estimating Model 1 produces a significant chi-squared value ($\chi^2=97.52$, d.f.=31, $p=.00$). The path from headquarters transfer capacity to subsidiary processing capacity is positive and significant ($\beta=.87$, $t=9.56$) and the path from subsidiary processing capacity to strategy exploitation is positive and significant ($\beta=.93$, $t=5.09$). However, the direct path from headquarters transfer capacity to strategy exploitation is not significant. These results support the predictions of H₁₋₃. Also, the path from strategy exploitation to subsidiary performance is positive and significant ($\beta=.27$, $t=4.82$). This result supports the prediction of H₅.

Model 2 is the same as Model 1 with the exception that the possible direct path from headquarters' transfer capacity to strategy exploitation is set to zero. Estimating Model 2 yields a significant chi-squared value ($\chi^2=99.08$, d.f.=32, $p=.00$). Setting the direct path from headquarters' transfer capacity to strategy exploitation yields no decrement in fit vis-à-vis Model 1. Path estimates for Model 2 are generally consistent with Model 1. Taken together, the tests of Models 1 and 2 support H₁₋₃. Nevertheless, other model specifications are worth considering.

The specifications of Models 3 and 4 include an additional latent variable, the interaction of headquarters' transfer capacity and subsidiary processing capacity. Modeling the effect of this latent variable following Klein and Moosbrugger (2000) allows testing H₄, which implies an interaction effect of headquarters' transfer capacity and subsidiary processing capacity on strategy exploitation. Model 3 extends the specification of Model 1 to include this interaction effect (i.e., moderation and not mediation). Based on a likelihood ratio test, Model 3 yields a significant improvement in fit to the sample data compared to Model 1 ($\chi^2=12.06$, d.f.=3, $p<.05$). The parameter estimates for Model 3 are generally consistent with the estimates from Model 1. The direct path from headquarters' transfer capacity to strategy exploitation is not significant. The effect of the interaction of headquarters' transfer capacity and subsidiary processing capacity on strategy exploitation is positive and significant ($\beta=2.87$, $t=3.91$). This result supports H₄.

Model 3 also specifies quadratic effects of both headquarters' transfer capacity and subsidiary processing capacity on strategy exploitation. The quadratic effect of subsidiary processing capacity on strategy exploitation is negative and significant ($\beta=-1.39$, $t=-3.77$) and the quadratic effect of headquarters' transfer capacity on strategy exploitation is negative and significant ($\beta=-1.46$, $t=-3.20$). This pattern of results demonstrates that models with linear effects only

Table 3
Structural Model Results^a.

Path	Estimate
Strategy exploitation → subsidiary performance	.28 (.07) 3.96
Subsidiary processing capacity → strategy exploitation	.71 (.08) 9.51
Headquarters transfer capacity → subsidiary processing capacity	.95 (.11) 8.44
Headquarters transfer capacity × subsidiary processing capacity → strategy exploitation	3.02 (1.14) 2.65
Subsidiary processing capacity ² → strategy exploitation	-1.44 (.53) -2.73
Headquarters' transfer capacity ² → strategy exploitation	-1.56 (.68) -2.28

^a Estimates, standard errors in parentheses, and t-values.

do not fully capture the process of knowledge transfer and strategy exploitation.

The final model is Model 4 and implies a process of mediation and moderation. The direct effect of headquarters' transfer capacity on strategy exploitation is set to zero (per Model 2) and the interaction of headquarters' transfer capacity and subsidiary processing capacity on strategy exploitation is specified (per Model 3). A likelihood ratio test shows that Model 4 achieves significantly better fit to the sample data than does Model 2 ($\chi^2=13.51$, d.f.=3, $p<.05$). The contrast with Model 3 also favors the specification of Model 4. Model 4 is more parsimonious than Model 3, but shows no decrement in fit. A likelihood ratio test is non-significant and the AIC and BIC values for Model 4 show it to have better fit than Model 3. Parameter estimates for Model 4 are reported in Table 3. Note that the pattern of results is entirely consistent with the predictions of H₁₋₅. In summary, Model 4 is preferred on the grounds of achieving better fit and being the most

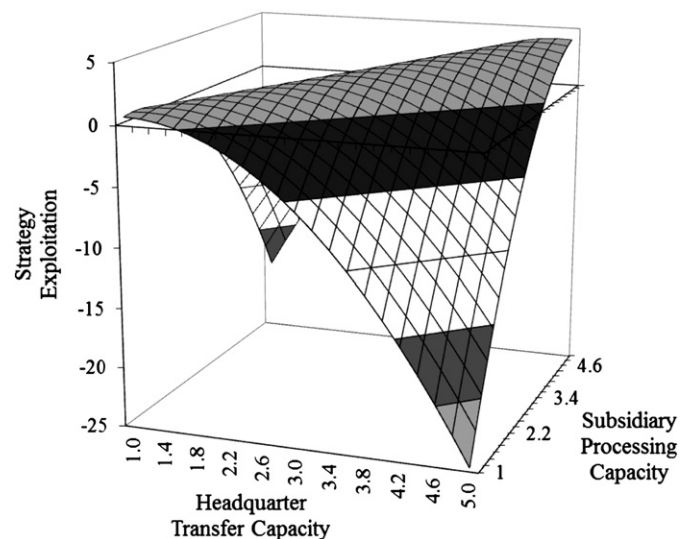


Fig. 3. Effects of headquarters transfer capacity and subsidiary processing capacity on strategy exploitation.

parsimonious representation of the data, and having better interpretations and better fit with emergent theory.

Adding additional explanation to the patterns of results requires graphing the data (see Fig. 3). The graph is based on the specification of Model 4 and parameter estimates. The interaction effect of headquarter transfer and subsidiary processing capacity on strategy exploitation is immediately evident. The effect of subsidiary transfer capacity on strategy exploitation is negative at low levels of headquarters' transfer capacity and positive at high levels of headquarters' transfer capacity. Indeed, the highest point on the surface is at the point where subsidiary and processing and headquarters' transfer capacity are at their highest. The graph therefore adds greatly to the basic claim of this study, because maximizing strategy exploitation is only possible where headquarter transfer and subsidiary processing capacity combine. Also note the curvilinear (quadratic) effects of headquarters transfer capacity and subsidiary processing capacity on strategy exploitation. Explanations of these effects appear in the discussion.

4. Discussion and implications

This study offers several conclusions that have substantive implications for knowledge transfer and absorption within the MNC. First, this study is one of few (Lane, Koka, & Pathak, 2006; Phene & Almeida, 2008) that addresses recent calls to empirically test specific knowledge absorption processes in an intra-firm context. Second, this study proposes and empirically finds novel relationships between the knowledge source and stages of the target's capacity to process and exploit in a specific knowledge absorption process. In particular, this study investigates both cognitive and exploitative parts of the absorptive capacity concept. Third, the moderated-mediation path highlights the importance of examining a number of relationship paths between knowledge source and absorption dimensions at the level of the recipient for the context of intra-firm strategy exploitation.

Bringing clarity to past studies, the effect of MNC headquarters' transfer capacity and the processing capacity of the subsidiary marketing unit on marketing strategy implementation effectiveness is one of mediation as well as moderation. The subsidiary marketing unit's processing capacity accounts for the relationship between headquarters' transfer capacity and successful strategy exploitation at the subsidiary. Further, headquarters' transfer capacity determines the strength of the relationship between the marketing unit's processing capacity and successful strategy integration. The findings suggest a moderated-mediation path where the mediating path of the subsidiary marketing unit's processing capacity, which is responsible for producing the effect of headquarters' transfer capacity on subsidiary performance, depends on the extent of headquarters' inputs.

The potency of the intermediating variable that the subsidiary marketing unit's processing capacity represents depends on the moderating role of headquarters' transfer capacity. This finding is both interesting and novel not just on a methodological level, considering that the majority of prior studies illustrate the relationship between headquarters to subsidiary knowledge transfers as one of a sequential, mediating nature (Hewett & Bearden, 2001; Roth & Nigh, 1992) without testing whether headquarters' transfer capacity also influences knowledge absorption processes at a different stage in the transfer.

Besides immediate empirical contributions, the results also strengthen existing research on business unit strategy, given that improving performance in subunits represents an imperative for MNCs (Tsai, 2001). Most international marketing strategies are difficult to comprehend and exploit for marketing units located in a MNC subsidiary as they originate in a different social context. The findings of this study suggest that although the subsidiary marketing unit's capacity

to process an international marketing strategy depends on the intensity of efforts headquarters puts into the transfer process, actual transformation from cognitive comprehension into an applied strategy that is part of the subsidiary's routines and processes depends also on the intensity of transfer capacity by the parent firm. The role of headquarters' transfer capacity affects the process at more stages and in different ways than existing general models of external knowledge absorption depict (Jansen et al., 2005; Zahra & George, 2002).

5. Limitations and research directions

First, knowledge transfer and absorption is specific to both the context of the organizational process, the content of the strategy studied, and the characteristics of the source and target (Mudambi, 2002). The underlying processes may differ as different factors, features, processes or events take place within other strategic or knowledge transfer contexts. In this study, the knowledge under investigation was domain-specific and the transfer one-directional from MNC headquarters to one subsidiary. Reproducing these results in different knowledge contexts and flows is warranted. Previous research reports that the subsidiary's relative importance in creating value for the MNC does not affect the underlying strategic processes in absorbing external marketing knowledge (e.g. Schleimer & Riege, 2009), perhaps due to firm-wide adoption guidelines. Further testing taking into account the value-creating role of the subsidiary (i.e. subsidiary mandates) is also warranted. Other opportunities stem from examining other possible influences on the process studied such as how international strategy transfer processes differ where parent firm and subsidiary engage in complementary versus similar activities.

Second, the study provides only a snapshot of the transfer process at a specific point in time of the firms in the sample. Longitudinal studies offer a stronger design with the possibility of gaining specific insight into the temporal dynamics of the processes studied here. Such a design would also offer opportunities for stronger tests of the generality of the process model established by this study and the model's predictive validity. As an initial step towards achieving these goals, the analyses reported here were rerun using randomly drawn split samples (based on the original sample). The analysis of the split samples yielded results that are essentially the same as the results reported earlier. The process of mediation is consistently supported as is the interaction between headquarter transfer and subsidiary processing capacity. These are important tests, because the results provide at least an initial test of the generality of the model of Fig. 1. Related to this limitation is that in this study, data on the implementation process stems from the viewpoint of subsidiaries and their perception of the strategy exploitation process. The data do not include direct responses from the view of headquarters on the process and neither from other subsidiaries of the MNC. Future research may include other respondents within the same subsidiary and also within different subunits of the MNC.

The key learning from the current study is that simple direct effects may not offer sufficient explanation of the strategy exploitation process. Perhaps the most pressing substantive opportunity is to build theory for the nonlinear effects evident in the patterns of results. Returning to the graph of Fig. 3, nonlinear effects of headquarters transfer and subsidiary processing capacity are clearly evident. Assuming linear effects and estimating models with linear effects only may offer a good first approximation, but is not sufficient for capturing the nature of the relationships studied here. The escalation of effort by headquarters and subsidiary units clearly has limits. Resource inputs are useful up to a point then have marginal decreasing returns. Researchers should consider the possibility of more complex mediating and moderating effects in future studies in this domain.

Appendix A

Construct	Source
Headquarters transfer capacity <i>Strategy articulation</i> ($\alpha = .91$) Head office: 1. Helped in assessing the feasibility of transferring the strategy. Helped in planning the transfer of the strategy. Outlined the benefits of the strategy. Specified the limits of the strategy. Indicated its commitment to the strategy. Went to some effort to explain the importance of the strategy. Giving direction for implementing the strategy.	
<i>Headquarters resource commitments</i> ($\alpha = .91$) Head office: 1. Allocated adequate support to the implementation efforts of the strategy. Gave us the support we needed to implement the strategy. Provided financial and other resources to implement the strategy. Provided resources allowing us to meet the deadlines in implementing the strategy. Trained or assisted our personnel to implement the strategy.	Adapted from: Jensen and Szulanski (2004) and Menon et al. (1999)
<i>Headquarters strategy adaptation</i> ($\alpha = .94$) 1. Compared to the strategy of head office, our strategy was allowed to differ somewhat. Head office understood our subsidiary's unique situation. Head office encouraged modifications to the strategy. Head office recognized that the strategy had to be adapted to make it workable in our local market. Head office encouraged us to select only those components that were most relevant to our local market. Head office allowed us to replace some components of the strategy with existing ones at our subsidiary level.	
<i>Subsidiary processing capacity</i> <i>Strategy recognition</i> ($\alpha = .92$) Management in our subsidiary: Recognized the benefits of the strategy. Understand the importance of the strategy. Recognized the potential of the strategy to create value for the organization. Thought that the justification for implementing the strategy made sense. Understood the language required to communicate the strategy.	Adapted from: Jensen and Szulanski (2004)
<i>Strategy assimilation</i> ($\alpha = .89$) In our subsidiary: Management understood the key components of the strategy. Management understood how the components of the strategy fitted together to make it work in the local market. Even if the strategy included some new components compared to previous strategies, management were still able to understand it. Management recognized what steps we had to take to make the strategy successful. Management had the technical competence to understand the strategy. Management had the managerial competence to understand the strategy. There was little ambiguity about the strategy.	Adapted from: Szulanski (1996)
<i>Strategy exploitation</i> <i>Strategy implementation</i> ($\alpha = .88$) Within our subsidiary: 1. We have created new routines that reflect the integration of the strategy into our everyday thinking and practice. We have moved beyond the trial and error stage to a point where modifications of the strategy are no longer necessary. We have integrated the strategy successfully in a way that head office asked us. After a period of time, the strategy became integrated seamlessly into our operations. We have integrated the new strategy successfully into our organizational routines.	Adapted from: Kostova (1999) and Szulanski (1996)
<i>Strategy internalization</i> ($\alpha = .95$) 1. Thinking about the strategy overall, we have achieved what head office asked us to achieve. The strategy was applied successfully, or better. The process of implementing the strategy has been a success for our organization. I would describe the implementation of the strategy as a success, if I had to appraise it. All things considered, the strategy implementation exceeds my expectations. The strategy implementation effort is generally considered a success within our organization. We are satisfied with the way the strategy was implemented.	
<i>Subsidiary performance</i> <i>Customer satisfaction</i> ($\alpha = .80$) Achieving customer satisfaction. Providing value for customers. Keeping current customers	
<i>Market growth</i> ($\alpha = .84$) Attracting new customers. Attaining desired growth. Securing desired market share	Adapted from: Homburg and Pflesser (2000)
<i>Financial performance</i> ($\alpha = .86$) Overall revenue. Overall profitability. Overall cash flows	

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