

COMMITMENT ENHANCES KNOWLEDGE SHARING AGAINST OPPORTUNISM IN NEW PRODUCT DEVELOPMENT

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Abstract:

In today business, firms are riding on the wave of globalization to enhance competitiveness through business networking or corporate collaboration. Firms inevitably need to share knowledge among different business partners, in particular, during new product development (NPD). However, knowledge sharing itself would invite opportunism, i. e. knowledge being leaked to other parties or competitors, which is regarded as a threat for innovation. This is the dilemma facing today's global business. This study examines firm's competitiveness in relation to firm's commitment, knowledge sharing and potential opportunism. Data were collection through a questionnaire survey and the 220 valid responses were analysed using structural equation modelling. Our findings indicate that commitment among business partners would enhance knowledge sharing. Contradicting to many research findings, knowledge sharing among committed partner firms actually reduce rather than increase opportunism. Strong commitment between business partners encourages the willingness of firms to share knowledge and strengthen trust among firms which would subsequently reduce opportunism. This controversial finding is new to existing knowledge with strong managerial implication to encourage knowledge sharing among business partners.

Keywords: knowledge sharing, opportunism, contract, commitment, trust.

1. INTRODUCTION

In an economy of rapid change, continuous innovation is a necessity and new product introductions have accelerated in recent years. Highly innovative firms are able to identify and quickly seize new market opportunities through working closely with their business partners. Knowledge sharing is an essential process for new product development (NPD) activities therefore huge amount of information and knowledge are being interchanged between firms (Henderson, 2002; Li, 2002). However, industrial experience and research findings indicate that opportunism often exists in the inter-firm relations (Murry & Heide, 1998; Wilkie et al., 1998; Wathne & Heide, 2000). People worry that knowledge sharing would lead to opportunism, i.e. knowledge being stolen or leaked to other parties or competitors (Wathne & Heide, 2000; Williamson 1993), which is a threat for innovation.

Researchers indicate the importance of collaborative relationship to induce sense of commitment between parties (Nyaga & et al., 2010; Williamson, 1993). Buyers and suppliers are encouraged to share information to build commitment relationship. However, empirical studies exploring the dilemma of “knowledge sharing Vs opportunism” are scarce. To fill this gap, this research was conducted to investigate the relationships between commitment, knowledge sharing, opportunism and company competitive strength in NPD.

2. LITERATURE REVIEW AND RESEARCH MODEL DEVELOPMENT

2.1. Commitment and Opportunism

Commitment refers to the willingness of partners to comply with the negotiated practices on behalf of the relationship (Fynes & Voss, 2002). Welty et al. (2001) defined commitment as a sort of binding between a customer and a performer, based on a set of conditions of satisfaction within a predefined cycle time. Strong inter firm collaboration would lead to commitment from all parties to accomplish certain goals (Jap & Ganesan, 2000). Established commitments would administer the relationship such that both parties can adapt to new and unforeseen circumstances. Serious commitment among business partners would facilitate various future situations to be handled and the parties involved would become more closely linked. The clarified roles among committed parties would help to reduce partner’s opportunism. To summarize, serious commitment among business parties would suppress opportunism in NPD, H1 is therefore proposed as follows:

Hypothesis 1 (H1): Commitment is negatively associated with opportunism.

2.2. Commitment to enhance knowledge sharing

Lee (2001) says knowledge sharing is the transferring or disseminating of knowledge from one person, group or organization to another (Lee, 2001). NPD demands open communications and knowledge sharing among parties. High level of commitment builds trust among business parties (Wuyts & Geyskens, 2005). Commitment encourages inter firm communications and knowledge sharing. It also provides strong signals to business partners the willingness to communicate and exchange critical information and knowledge to support business growth. In their study on the buyer-supplier collaboration relationship, Nyaga found that when a buyer shares important information with its suppliers, it signals its commitment to the supplier, and encourages the supplier to share its knowledge in return (Nyaga et al., 2010). H2 is therefore proposed as follows:

Hypothesis 2 (H2): Commitment is positively associated with knowledge sharing.

2.3. Knowledge sharing and opportunism

In Lee & Whang's (2000) survey of supply chain information sharing practice, they voiced out firms' concerns about the confidentiality of their shared information being leaked to competitors. Most firms do not feel comfortable exposing important information to other firms, fearing a loss of control. The needs of inter-organizational governance emerge to alleviate the fear that the exchange partner will act opportunistically (Gundlach and Achrol, 1993) and builds confidence in the exchange partner's reliability and integrity (Morgan and Hunt, 1994). Nyaga & et al. (2010) from their research in buyer-supplier collaboration found that sharing proprietary information might expose a partner to opportunistic behavior by the other party. Sharing of critical information or knowledge is risky as the receiving firm may misappropriate the information and knowledge.

On the other hand, sharing knowledge with suppliers in NPD would help problem solving, reduce product design cost, improve manufacturability and product quality (Takeishi, 2001). Socialization mechanisms, such as team meetings and joint workshops connecting individuals across firms would create a network of interdependent social exchanges. This would increase the level of mutual trust and respect across inter-firm NPD teams (Lawson et al., 2009). There are numerous successful inter-firm collaboration cases such as Apple Inc., Samsung, HTC, etc. The close collaboration among these contractual partners encourages information and knowledge sharing in NPD teams without much opportunistic problems reported.

There are diverse views on the relationship between knowledge sharing and opportunism. Past researches seem to favor the view that knowledge sharing would lead to opportunism. H3 is therefore proposed as follows:

Hypothesis 3 (H3): Knowledge sharing is positively associated with opportunism.

2.4. Knowledge sharing and product performance

Product quality is one of the key measurements to a company's competitive capability (Rosenzweig et al., 2003; Rosenzweig & Roth, 2004). Knowledge sharing is crucial in NPD (Court, 1997) in which firms must be able to efficiently transfer, integrate, and further develop knowledge and product (Ghemawat, 2003; Zhao, M., 2006). Knowledge sharing will improve product design, quality and overall product performance (Lau, 2005; Rosenzweig, 2003, 2004). H3 is therefore proposed as follows:

Hypothesis 4 (H4): Knowledge sharing is positively associated with product performance.

2.5. Opportunism and product performance

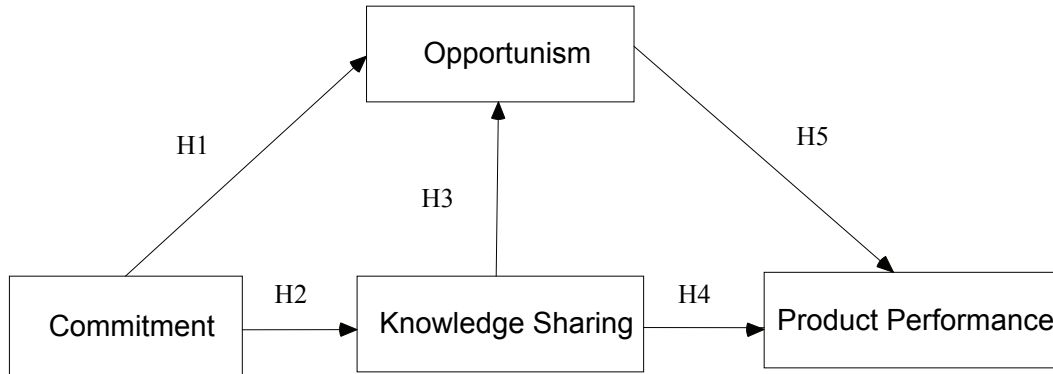
In the global market, opportunistic behaviors have caused numerous lawsuit cases between companies locally or internationally due to technology or patent infringements or different kinds of knowledge leakage. These opportunistic problems would cause skeptical behaviors among NPD personnel which in turn may affect product performance. When there are threats of opportunism, firms will invest in costly mechanisms to protect themselves to reduce the threat, i.e. the setting up of more performance monitoring and auditing systems among partners. Opportunism may also reduce the reliance on the outside suppliers by falling back to internal resources which may be costly and ineffective. H5 is therefore proposed as follows:

Hypothesis 5 (H5): Opportunism is negatively associated with product performance.

2.6. Research Model

To consolidate the above, the research model is proposed as follows:

Figure 1: The Research Model



3. RESEARCH METHOD

An on-line questionnaire survey was conducted to test the research hypotheses. An invitation e-mail was sent to each target respondent with a hyper-link to the survey questions. Follow up reminder e-mails were sent to non-respondents every two weeks which had helped to boost up the survey response rate. Product engineers, managers and R & D staff etc. were the targeted respondents and 1350 samples were selected. During the 4-months survey period, 312 completed and valid responses were received representing a 23.1 % response rate. To avoid the influence of industry variations, the analyses reported in this paper focused on the 220 replies from the electronic industry only.

A seven-point Likert scale (from “strongly disagreed” = 1 to “strongly agreed” = 7) was used to measure each of the constructs in the model. Instruments were adopted and modified from existing well known literature therefore the validity of the measurement scales is ensured. The references are shown in Table 1.

Table 1: Measurement Scale References

Construct	No. of indicators	Source
Commitment	4	Morgan & Hunt 1994; Nyaga et al., 2010
Knowledge sharing	5	Droge et al., 2003; Sabherwal & Becerra-Fernandez, 2003; Lawson B. et al., 2009; Nyaga G.N. et al., 2010.
Opportunism	4	Liu, Y. et al., 2008; Rokkan et al., 2003
Product performance	4	Lau, 2005; Rosenzweig, 2003, 2004

Prior to the large scale survey, a pilot study was conducted with senior engineers, managers or industrial experts in the field to further validate the instruments.

4. ANALYSIS RESULTS

The respondents indeed had substantial NPD experience as shown in Table 2.

Table 2: New Product Development Experience of Sample Firms

Years	Frequency	Percentage
1–3 years	1	0.5 %
3–5 years	33	15.0 %
6–10 years	48	21.8 %
11–15 years	23	10.4 %
More than 15 years	82	37.3 %
Not released	33	15.0 %
Total	220	100 %

Prior to examining the hypotheses of the proposed research model, several statistical analyses were performed to check whether the data are proper. Harman's one-factor test was employed to assess the existence of common method variance. A principal component analysis was conducted on the items of all constructs in an un-rotated factor structure. Four factors with eigenvalues greater than one were extracted, accounting for 71 % in total. The findings provide evidence that common method variance is not a problem. Internal consistency and descriptive statistics of the measured constructs were assessed to check for scale reliability and correlations of the measured constructs. Descriptive statistics including means, standard deviations, Cronbach's Alpha and correlation coefficients for all measured variables are presented in Table 3. The reliability estimates for the multi-item scales in the study are good (0.737 to 0.922), indicating acceptable reliability.

Table 3: Descriptive Statistics and Correlation Matrix

	Mean	S.D.	1	2	3	4
1. Commitment	5.60	0.82	.737			
2. Knowledge sharing	5.44	0.90	.611**	.857		
3. Opportunism	3.63	1.49	-.214**	-.294**	.922	
4. New Product Performance	5.59	1.06	.350**	.344**	-.132*	.880

** correlation is significant at the 0.01 level

* correlation is significant at the 0.05 level

Note: Numbers on the diagonal are Cronbach's Alphas (reliabilities). Off-diagonal elements are Pearson correlation coefficients.

The SEM result is shown in Figure 2. The fit indices (GFI > 0.9; AGFI > 0.8; CFI > 0.9) suggest that the data fit the model very well. The result of our hypotheses testings is shown in Table 3.

Figure 2: SEM Result

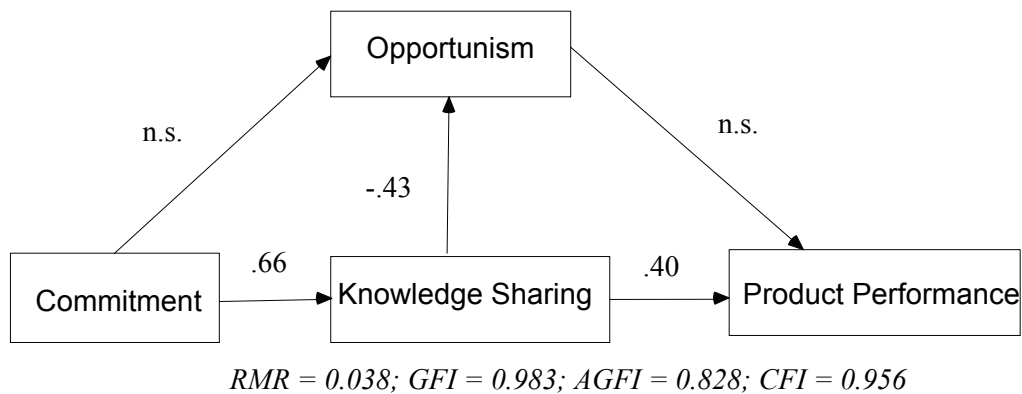


Table 3: Summary of Hypotheses Tests

Hypotheses	Results
H1 Commitment suppresses opportunism	Not Supported
H2 Commitment encourages knowledge sharing	Supported
H3 Knowledge sharing invites opportunism	Not Supported
H4 Knowledge Sharing is positively associated with product performance	Supported
H5 Opportunism leads to inferior product performance	Not Supported

5. FINDINGS AND DISCUSSION

It is not surprised that commitment does not have significant relationship with opportunism, i.e. H1 is not supported. As commitment is only a very weak link among business parties without formal and informal bonding established by contract and trust respectively.

The hypothesis that “Commitment is positively associated with knowledge sharing” (H2) is strongly supported. Our findings agree with the past research that committed parties are eager to exchange information and share knowledge during NPD to accomplish project objectives and deliverables. Respondents in our follow up interviews had expressed their trust on their long term partners in sharing knowledge. Previous research findings indicated that long term commitment between parties would furnish trust among them (Morgan & Hunt, 1994; Kwon et al., 2005). Any actions buyers and suppliers take to improve trust and commitment will result in greater benefits from their relationship including more extensive knowledge sharing (Nyaga et al., 2010).

The finding for H3 is the most contraversail, i.e. the hypothesis that “knowledge sharing invites opportunism” is not supported. Most people perceive that the more knowledge shared, the higher the chance for opportunistic actions in NPD. To avoid opportunism, people become more skeptical and choose to avoid knowledge sharing without adequate protection measures. The spiral effect of this would seriously affect NPD.

The finding of this study revert people's belief by confirming that the more knowledge sharing in NPD, the less chance for opportunism. The implication of this is that knowledge sharing may not lead to opportunism. Social capital (Coleman, 1988; Putnam, 1995) is an important element in building cohesive relationships among business parties leading to cooperative behavior among firms. Trust is an important social capital to improve inter-firm collaboration. Socialization mechanisms are recognized as a key means (O'Donnell, 2000) to enable partners to learn from each other and to adjust its behavior accordingly to establish successful outcomes (Lawson et al., 2009). Morgan and Hunt (1994) called trust a major determinant of relationship commitment to improve inter-firm relationship. It is the trust from inter-firm commitment that encourages NPD personnel share knowledge. With more knowledge sharing and successful interaction among firms, the firms would trust each other more.

This research finding echoes the success stories of many famous collaborations such as Apple Inc. & Samsung, HTC; or the recent waves of compact size mirror-less single lens digital camera makers like Sony, Fujifilm, Olympus & Panasonic etc. Their collaborating successes have big impact to the market and change people's way of living. Their commitments allow extensive knowledge sharing among partners which enhance more NPD with no worry of opportunism. The follow up interviews of this study also show that the NPD teams of the committed firms have little worry about opportunistic problems as trust has been developed among them. They are eager to share knowledge in NPD leading to better product performance. Non of them has encountered opportunistic problems. With the continuous success of the collaboration, it is not worthy for any party to take any opportunistic behavior against others.

This study finds that knowledge sharing is strongly associated with product performance, i.e. H4 is supported. This matches past research findings nicely as knowledge sharing has been extensively reported as a crucial process in NPD and other practices (Zhou & Benton, 2007).

The relationship between "Opportunism" and "Product performance" is not significant, i.e. H5 is not supported. Firstly the degrees of opportunism observed in this study are not high therefore its effect on product performance is not significant. Secondly, firms have other ways to ensure new product performance.

6. CONCLUSION

Contradicting to most research findings, this study finds out that extensive knowledge sharing among business partners would suppress opportunism as trust and commitments have been established among knowledge sharing firms. This finding has strong managerial implication to those firms already committed to their business partners that they can extensively share their knowhow in NPD with no fear of opportunism. Rather they should share more knowledge as it can improve product performance. The current study only takes a simplistic approach to analyze means to reduce opportunism in NPD. Other factors, like contract and trust, are also very important measures to be analyzed extensively in the future study.

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