



**THE INFLUENCE OF STRATEGIC TECHNICAL KNOWLEDGE CAPABILITY ON
PERFORMANCE OF VENDOR MANAGED RETAIL FIRMS IN NAIROBI COUNTY,
KENYA**

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Abstract

Despite the retail sector in Kenya comprising of a sizeable part of the economy contributing 30%-50% of Gross Domestic Product and 50% of employment in both formal and informal establishments, it is extremely fragmented and highly sub-optimized. It is also largely informal since 97% of its employment and 70% of value is in informal establishments. The retail sector has inefficient supply chain though there is tremendous opportunity to formalize it. The objective of this study is to determine the extent to which strategic technical knowledge contributes to performance of the vendor managed retail medium and large supermarkets. To achieve this objective the study adopted a descriptive survey. The study population of this study comprised the medium and large sized supermarkets in Nairobi County. According to business licensing department at the Nairobi County, there are 15 medium sized supermarkets and 43 large sized supermarkets in Nairobi County. The target population included the senior managers in these supermarkets. The findings were presented using tables and charts. A multiple linear regression analysis was used in analysis. Strategic technical knowledge capability was found to be significant at 95% confidence level. Strategic technical knowledge capability was also found to be significantly and positively affecting vendor managed retail firms' performance.

Keywords: Knowledge capability, Strategic knowledge, Vendor managed retail

1. Introduction

Global retail industry has experienced tremendous growth with more than 80% of the Top 250 retailers (204 companies) posting an increase in retail revenue. Nevertheless most of other companies experienced declining total sales being due to business sales or restructuring rather than a deterioration of their core business (Delloite, 2013).

In Kenya, the retail sector comprises a sizeable part of the economy contributing 30 percent of GDP and 50 percent of employment in both formal and informal establishments. It is extremely fragmented and highly informal as 97 percent of its employment and 70 percent of value is informal. It has very inefficient supply chain though there is tremendous opportunity to formalize the sector and realize rapid growth. According to Kenya Economic Survey of 2013, the wholesale and Retail sector grew by 6.4%.

Under Vision 2030, the medium term goal of the retail sector is to stimulate additional Ksh 50 billion increase in GDP by; Creating 10 district based wholesale hubs, establishing 1,000-1,500 producer business groups (PBGs); building at least 10 formal 'Tier 1' district based retail market places, Increasing formal market (supermarkets) share from 5 percent to 30 percent, attracting

at least 3 new retailers with 10 or more stores each and creating 1 free trade port in Mombasa in a strategy dubbed 'bringing Dubai to Kenya'. Supermarkets currently control approximately 5 per cent of the retail sector business in Kenya (GOK, 2013).

According to Diop J. and Topping T., 2008, the modern day realities of business severely curtail the ability to increase gross profits through increase in price. The only way to increase gross profits therefore remain only on reduction of expenses. By being price sensitive, customers are simply saying that retailers need to be more efficient. Writings on boundless sustainable competitive advantage aver that firms can obtain competitive advantage by value creating strategies not simultaneously being implemented by any current competitor. These strategies need to be rare, valuable and non-substitutable.

Organizational capabilities may be a source of superior firm performance and competitive advantage when those capabilities create unique value for customers relative to value created by competitors (Ludwig & Pemberton, 2011). Dynamic Capabilities research has extended RBV by incorporating the role of the changing environment to assert that those firms that are able to continuously alter their

resources and capabilities to improve the firm's fit with the environment will be more likely to achieve competitive advantage, growth, and survival (Helfat et al., 2007).

Most organizations possess a number of basic capabilities. These basic capabilities are those that enable the organizations to run as businesses. Strategic capabilities, above and beyond basic capabilities, have three distinctive characteristics, and these are; they are of value to the customer; they are better than that of the majority of other competitors; and they are difficult to imitate or replicate.

The strategic capabilities framework (Teece, 2009) lined up to explain how and why certain firms build competitive advantage under regimes of rapid change. Thereby, it aimed at filling the research gap of other frameworks that explain how a given competitive advantage may be safeguarded or maintained under stable conditions, but neglect to explain how such a competitive advantage was gained in the first place and can be sustained under changing conditions. The competitive forces approach postulates that competitive advantage stems from valuable positioning within an industry and further from protecting this valuable position against competitors and new entrants (Peteraf & Barney, 2003). The resource-based perspective postulates that

competitive advantage stems from firm-level efficiency advantages based on different bundles of resources and capabilities, which are heterogeneously distributed among firms (Peteraf & Barney, 2003).

The objective of the Kenya Vision 2030 is to create at least 10 wholesale hubs to improve the supply chain of small operator retail market and expand formal market outreach. This can only happen when individual Medium and Large Supermarkets which are significant stakeholders in the retail sector grow individually and their growth contributes to that of the market. There exists a gap in literature as to whether this is happening in Kenyan retail sector. Further, the retail sector in Kenya continues to remain vulnerable to external competition that are more formal, agile and with more efficient supply chains. This study therefore sought to address these gaps by answering the research question; what is the relationship of strategic technical knowledge dynamic capability with the performance of vendor managed retail medium and large supermarkets in Nairobi county, Kenya?

2. Research Objectives

- i. To determine the extent to which strategic knowledge management capability contributes to performance of the vendor managed retail medium and large supermarkets

- ii. To establish the extent to which strategic management of talents and skills capability contributes to performance of the vendor managed retail medium and large supermarkets.
- iii. To make recommendations on the way forward based on the findings

3. Research Hypotheses

- a) Strategic knowledge management capability significantly contributes to performance of vendor managed retail medium and large supermarkets
- b) Strategic management of talents and skills capability significantly contributes to performance of vendor managed retail medium and large supermarkets

4. Strategic Technical Knowledge Capability

The ability to create new knowledge is often at the heart of the organization's competitive advantage (Wellman, 2009). Sometimes this issue is however not treated as part of knowledge management since it borders and overlaps with innovation management which basically entails development and adoption of new and better ideas. Botha et al (2008) also emphasized on the importance of shared experiences in the knowledge creation process when dealing with tacit knowledge,

and the need for an environment where these can be created and developed.

The importance of knowledge has been highlighted by both academics and practitioners (Wu & Lin, 2009). Nowadays, knowledge is the fundamental basis of competition and particularly, tacit knowledge can be a source of advantage because it is unique, imperfectly mobile, imperfectly imitable and non-substitutable. However, the mere act of processing knowledge itself does not guarantee strategic advantage; instead, knowledge has to be managed. Becerra-Fernandez, Gonzales & Sabherwal (2004) argued that knowledge management can help create knowledge, which can then contribute to improved organization's performance.

Lee and Choi (2003) developed a model that includes seven knowledge management enablers (both social and technical) as being positively related to a firm's knowledge creation processes which, in turn, are positively related to the firm's innovations and its overall performance. Using a 6-point Likert scale, multiple informants from 58 firms were surveyed for their perceptions about their respective firm's status with respect to the enablers, its knowledge creation processes, its innovativeness, and its performance relative to competitors (in terms of perceived market share,

profitability, growth rate, and success). They found out that trust is an important enabler of knowledge creation, technology is an enabler of one kind of knowledge creation process, and firm innovativeness is critical for achieving better relative performance.

Lee and Choi (2003) emphasized that knowledge management consists of processes to manage knowledge and enablers (or capabilities) to support these processes. They also argued that knowledge management enablers consist of organizational culture, structure, people, and information technology support. Salina & Wan Fadzilah (2008) also suggested that knowledge management processes have a significant relationship with organization's performance.

In a study on Information and Communication Technology (ICT) in banking operations in Nigeria, Agboola (2006) found out that technology was the main driving force of competition in the banking industry. Embracing the proposition that a firm needs strong knowledge management in order to realize a competitive advantage, Liao and Chuang (2006) focused on the extent to which a firm's social and technical knowledge management resources are related to its knowledge management process capabilities, the degree to which these

process capabilities (which are exercised in knowledge management initiatives) are related to the firm's speed and magnitude of innovation, and the extent to which these two innovation dimensions are related to firm performance in terms of market share gain, sales growth, profitability, operational efficiency, and service quality. To investigate these relationships, they conducted a survey for which each respondent gave subjective perceptions on 7-point Likert scales about the levels of his/her respective firm's knowledge management resources, knowledge management process capabilities, innovativeness, and performance relative to competitors.

Analysis of the data led the authors to conclude that both social and technical knowledge management resources have significant positive influences on knowledge management process capabilities, and these capabilities have significant positive influences on both innovation dimensions, which, in turn, have significant positive influences on firm performance. Syed-Ikhsan & Rowland (2004) observed that very few empirical studies have been done on knowledge management and knowledge transfer, and even less in the developing countries. Daud and Yusoff (2010) studied the mediating role of social capital in the

relationship between the relationship of knowledge management and firm performance in SMEs in Malaysia. This study revealed that acquisition of new knowledge helps SMEs to update their collection of knowledge and to compete better in the market. Such firms were found to use their updated knowledge directly to improve their performance. The empirical results of a study by Syed-Ikhsan & Rowland (2004) demonstrated no significant relationship between organizational structure and knowledge transfer performance. However, they noted that management should consider ensuring that information or knowledge is accessible and shared in the organization.

Marques and Simon (2006) studied SMEs in the biotechnology and telecommunication industries and found that knowledge development, transfer and protection improve organization's performance. Syed-Ikhsan & Rowland (2004) asserted that creation and transfer of knowledge in an organization has become a critical factor in an organization's success and competitiveness. Many organizations are now concentrating their efforts on how knowledge, particularly tacit knowledge can be transferred across the organization. Syed-Ikhsan & Rowland found that availability of knowledge assets has a direct effect on the

performance of knowledge transfer in an organization.

Becheikh, Ziam, Idrissi, Castonguay and Landry (2012) built on systematic review methodology to examine the knowledge transfer process in education and its main determinants in this specific context. Their findings suggest that linkage agents are central actors in the knowledge transfer process. Their intervention is critical to help adapt the knowledge produced by researchers and make it easier to adopt and use by practitioners. Moreover, the effectiveness of this process hinges on several factors that Becheikh et al. (2012) broken down into three major categories: determinants related to transferred knowledge attributes, those related to the actors involved in the process, and determinants related to transfer mechanisms. According to the empirical research carried out by Momeni, Monavarian, Shaabani, & Ghasemi (2011), knowledge management process capabilities refers to a higher-order construct which represents knowledge acquisition, knowledge conversion, knowledge application and knowledge protection. The empirical results of their study showed that KMPC positively influence the core competences of the Iranian Automotive Industry. The study focused on Integrative competencies and

Marketing competencies as the most critical dimensions of core competences. The argument made by Mohrman, Finegold & Mohrman (2003), suggested that organization's performance is improved when organisations create and use knowledge.

The issue of a firm's knowledge management performance is directly addressed by McKeen, Zack and Singh (2006) who conducted a survey to explore whether twelve knowledge management practices are antecedents of organizational performance (in terms of product leadership, customer intimacy, operational excellence) and/or financial performance (relative to other firms in its industry). It is assumed that high degrees of adoption for the twelve knowledge management practices are indicative of high knowledge management performance. Each survey respondent gave perceptions of his/her respective firm's knowledge management practices, organizational performance, and relative financial performance on 5-point Likert scales. Controlling for various contextual influences, analysis of the survey data shows statistically significant positive links between perceptions of high adoption of the knowledge management practices and perceptions of high organizational performance, and between perceptions of

high organizational performance and perceptions of strong relative financial performance. There was no statistically significant link evident between perceived knowledge management practice adoption and perceived relative financial performance.

Viewing knowledge management as an organizational capability, Chuang (2004) empirically examined the association between knowledge management capabilities and competitive advantage through a resource-based view of the firm. The author classified knowledge management resources into two kinds: social knowledge management resources and technical knowledge management resources. Based on the survey data collected from 177 firms, the author finds evidence that greater knowledge management capabilities are significantly associated with greater competitiveness and that social knowledge management resource has a significant impact on competitive advantage.

Arguing that metrics are needed to justify knowledge management initiatives and to assess knowledge management performance, Lee, McEvil and Reagans (2005) proposed a knowledge management performance index (KMPI) defined in terms of a logistic function with five components: knowledge creation, accumulation, sharing, utilization,

and internalization. Multiple constructs are advanced to gauge each of these five contributors to KMPI. A cross-sectional survey was used to collect data for each of these constructs, with each firm's KMPI being determined from perceptions provided by that firm's respondent. The data are used to test three hypotheses that assert higher KMPI is associated with "better" stock price, price-earnings ratio, and R&D expenditure. The first two are supported at a 10% significance level, while the third hypothesis is significant at a 5% level.

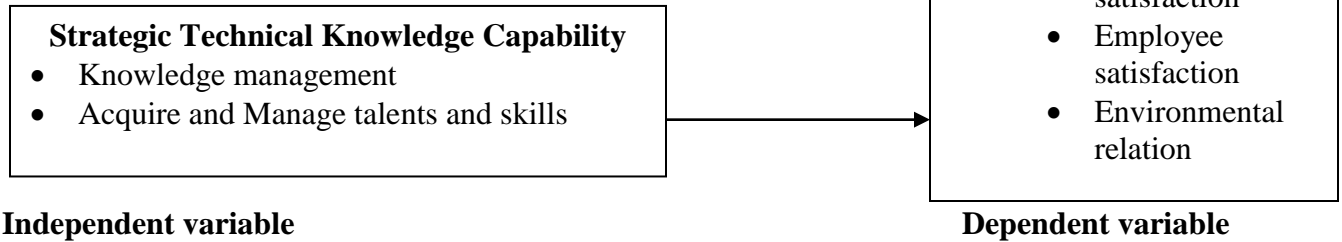
The knowledge chain theory has been the subject of empirical studies looking for survey-based evidence of linkages between the nine knowledge management activities and the four pair approaches to competitiveness (Holsapple & Singh, 2005; Holsapple & Jones, 2007). These studies revealed that every one of the knowledge chain activities can be performed in ways that improve organizational competitiveness, and can do so in each/all of four ways: enhanced productivity, agility, innovation, and reputation. Thus, the authors suggest that each knowledge chain activity deserves to be considered as a candidate for improving firm performance; combinations of these activities may well lead to even

more potent or sustainable performance edges.

In a study of large multi-business firms, Tanriverdi (2005) surveys senior business executives about their respective firms' knowledge management capabilities with respect to complementary product knowledge, customer knowledge, and managerial knowledge. Controlling for such factors as firm size, industry profitability, and risk level, Tanriverdi's analysis of these data concluded that knowledge management capability has a positive effect on firms' return-on-assets and Tobin's q, as calculated from the COMPUSTAT database. If we assume that high knowledge management capability translates into high knowledge management performance, it follows that this study's result is consistent with the contention that superior knowledge management performance is an antecedent of superior return-on-assets.

Previous studies have viewed strategic technical knowledge as an enabler of organizational performance with no direct link (Agboola, 2006; Syed-Ikhsan & Rowland, 2004; Daud & Yusoff, 2010). These studies were not therefore keen to quantify the contribution of strategic technical knowledge to firm profitability.

5. Conceptual Framework



6. Methodology

This study utilized a mixed research design which includes qualitative and quantitative research methods. Qualitative and quantitative research methods complemented each other in this study in the sense that while quantitative research method involved use of the multiple linear regression model whose coefficients were tested using Analysis of Variance (ANOVA) for overall model significance, qualitative research method involved content analysis where issues emerging from the key open ended questions were clustered into the respective thematic areas upon which interpretation and conclusions were drawn.

The study population comprised the senior management staff of the medium and large vendor managed retail supermarkets located in Nairobi. According to business licensing department at the Nairobi County, there are 58 medium and large supermarkets in

Nairobi County. The target population therefore included the senior managers in the 58 medium and large supermarkets. Random sampling technique was used to select two management staff in the fifty eight medium and large supermarkets licensed in Nairobi County making a sample size of 116 respondents. The study used both primary and secondary data. Data collection methods for primary data were structured questionnaires and secondary data was obtained from firm records, reports, publications, magazines and books.

A Cronbach's alpha (Cronbach coefficient alpha), which is based on internal consistency was calculated using SPSS to establish the reliability of the survey instrument. The pilot results realized Cronbach's alpha coefficient of 0.810 which was above the set threshold of 0.70 eligible reliability.

Data collected was purely quantitative and it was analyzed by descriptive statistics such as frequencies, percentages, means and standard deviations. IBM SPSS Statistics Version 20 was used to aid in data analysis. Tables were used to summarize responses for further analysis and facilitate comparison. The findings were presented using tables and charts. A multiple linear regression analysis was done using the following formula:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where

Y= vendor managed retail medium and large supermarkets` performance

X₁= Strategic Technical Knowledge Capability variable

β₁ = Beta coefficient for corresponding variable

ε= Stochastic term

Results of the Study

7. Response Rate

This study had a response rate of 78.4% (91 of 116 questionnaires administered were filled and returned). A response rate of 50% and above is adequate for analysis and reporting hence a response rate of 78.4% was considered excellent for analysis and reporting in this study (Babbie (2002), Mugenda (2008)).

8. Descriptive Statistics on Firms Performance of Vendor Managed Retail medium and large supermarkets

Table 1 Vendor Managed Medium and Large Supermarkets Performance

Variables	N		Mean	Std. Deviation	Variance	Skewness	Kurtosis
	Valid	Missing					
We have increased the number of employees	91	0	3.45	.703	.495	-.115	-.223
We have increased the number of products and services offered in this supermarket	91	0	4.03	.547	.299	.023	.458
We have improved our sales	91	0	4.00	.596	.356	.000	-.096
We have better profits	91	0	3.82	.693	.480	.249	-.884
We have increased number of customers	91	0	4.14	.797	.635	-.399	-.919
We have opened new branches	91	0	3.16	1.258	1.584	.023	-1.289
We are more efficient in service delivery	91	0	4.47	.689	.474	-1.152	.903

Table 1 above shows a summation of statistical measures for each performance indicator. The mean represents the statistical average of the data on performance by respondents. The standard deviation is a measure of the dispersion of a set of data from its mean. The more spread apart the data is, the higher the deviation. Variance is a measure of dispersion of a set of data

points around the mean value. This is a mathematical expression of the average squared deviations from the mean. This measures the variability from an average. Skewness characterizes the degree of asymmetry of a distribution around its mean. Kurtosis on the other hand is a measure of flatness of the distributions.

Table 2 Overall performance measures

Statistical measure	N	Range	Minimum	Maximum	Mean	Std. Error	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
Variable	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Firm Performance	91	2.29	2.71	5.00	3.8697	.05045	.48123	.232	.079	.253	.562	.500

From table 2, the respondents considered for rating the performance of vendor managed retail medium and large supermarkets` performance were 91. The mean score of the vendor managed retail medium and large supermarkets` performance data was 3.8697. The standard error is a statistical term that measures the accuracy with which a sample represents a population. The dependent variable mean had a standard error of .05045

and this was subject to 95% confidence interval. The standard deviation for the vendor managed retail medium and large supermarkets` performance data was 0.48123 and variance of 0.232. . The skewness of the dependent variable was positive 0.079 which indicates a distribution with a symmetric tail extending towards the right of the mean values of vendor managed retail medium and large supermarkets`

performance data. The kurtosis of vendor managed retail firms' performance data was positive 0.562 which indicates a relatively peaked distribution since (Kurtosis > 0). This indicates that there are fewer vendor managed retail medium and large supermarkets around the mean performance.

9. Influence of strategic technical knowledge capability on performance

The data for the strategic technical knowledge capability variable was correlated with the one on firm performance and the results were as follows;

Table 3: Strategic technical knowledge capability and performance correlation

		Vendor Managed Retail Firm Performance	Strategic Technical Knowledge Capability
Vendor Managed Retail medium And large supermarket` Performance	Pearson Correlation Sig. (2-tailed)	1	.260* .014
	N	91	90
Strategic Technical Knowledge Capability	Pearson Correlation Sig. (2-tailed)	.260* .014	1
	N	90	90

*. Correlation is significant at the 0.05 level (2-tailed).

The results in table 3 show that there was a weak positive correlation between vendor managed retail firms' performance and strategic technical knowledge capability ($r=0.260$, $p<0.05$). This relationship was weak but statistically significant ($p<0.05$) at 95% confidence level.

The weak positive correlation that exist between strategic technical knowledge capability and vendor managed retail medium and large supermarkets`

performance could be attributed to the fact that not all firms have developed and employed the strategic technical knowledge capability in their business and the performance is therefore expected to be lower than those who possess and have employed it.

10. Regression Line Fitting

Table 4 shows that p-value for unstandardized beta coefficient (0.227) was 0.14. It was less than 0.05 and therefore statistically significant ($p<0.05$).

Table 4: Strategic technical knowledge capability and performance coefficients

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	3.008	.342		8.791	.000
1	Strategic Technical Knowledge Capability	.227	.090	.260	2.521	.014

a. Dependent Variable: Vendor Managed Retail medium and large supermarkets` Performance

The results in table 4 show that strategic technical knowledge capability had a statistically significant positive effect on vendor managed retail firms` performance. Therefore a unit application of strategic knowledge capability will lead to increase in vendor managed retail firms` performance.

11. Goodness of Fit

In order to establish the goodness of fit, the model equation summary results as shown in table 5 were used.

Table 5: Strategic technical knowledge capability and performance model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.260 ^a	.067	.057	.46435

a. Predictors: (Constant), Strategic Technical Knowledge Capability

b. Dependent Variable: Vendor Managed Retail Firm Performance

vendor managed retail medium and large supermarkets

The results indicate that the model equation $Y = \beta_1 X_1 + \varepsilon$ explained 5.7% of variance in vendor managed retail firms` performance as measured by the goodness of fit. Therefore this study concludes that strategic technical knowledge capability affects performance in vendor managed retail firms.

This study intended to test whether strategic technical knowledge capability affects vendor managed retail supermarkets` performance. $H_0: \beta_1 = 0$ versus $H_1: \beta_1 \neq 0$ were tested using regression coefficients.

12. Hypothesis 1: Strategic technical knowledge capability significantly contributes to firm performance in

Table 6: Testing hypothesis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Critical-t
	B	Std. Error	Beta		
Strategic Technical Knowledge Capability	.227	.090	.260	2.521	1.734

a. Dependent Variable: Vendor Managed Retail Firm Performance

As table 6 indicates, the calculated t was 2.521 while critical t is 1.734. The calculated t is therefore greater than the critical t (0.05). Based on these results, the researcher rejected the null hypothesis ($H_0: \beta_1=0$). The results therefore supported the alternative hypothesis ($H_1: \beta_1 \neq 0$). The study therefore concluded that strategic technical knowledge capability significantly and positively affected vendor managed retail firms' performance.

13. Conclusion

The study findings led the researcher to conclude that strategic technical knowledge capability contributes to performance of the vendor managed retail firms. The results of this study have shown that strategic technical knowledge capability had a statistically significant positive effect on vendor managed retail firms' performance. A unit increase of strategic knowledge capability will lead to a unit increase in vendor managed retail medium and large supermarkets' performance. The researcher rejected the null hypothesis ($H_0: \beta_1=0$) and

agreed with the alternative hypothesis ($H_1: \beta_1 \neq 0$) that strategic technical knowledge capability significantly and positively affected vendor managed retail firms' performance. Strategic technical knowledge capability explained 5.7% of variance in vendor managed retail firms' performance as measured by the goodness of fit. Correlation analysis results have also shown that there was a weak positive correlation between vendor managed retail firms' performance and strategic technical knowledge capability ($r=0.260, p<0.05$) at 95% confidence level.

14. Recommendations

This study recommends that strategic technical knowledge capability among vendor managed retail medium and large supermarkets should be emphasized as it has been seen to affect performance. This study also recommends that managers of vendor managed retail firms should receive training on strategic capabilities that their firms can develop and employ to remain competitive. The study recommends that there should be

adequate preparation and human resource reengineering in vendor managed retail medium and large supermarkets for effective development and implementation of strategic technical knowledge dynamic capabilities to ensure efficient adoption and success. Future studies should look into the specific aspects of strategic capabilities that vendor managed retail supermarkets should adopt. They should also delve to examine

why firms shy from developing and implementing these strategic capabilities which are indeed a key source of sustainable competitive advantage. Future studies should also examine the drivers of strategic capabilities adoption among the vendor managed retail firms. Finally, future studies should enlarge scope to look into adoption of strategic capabilities in different sectors and by different firm sizes.

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