IMPACT OF MARKETING KNOWLEDGE MANAGEMENT ON MARKETING INNOVATION – EMPIRICAL EVIDENCE FROM NIGERIAN SMEs

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ABSTRACT
The concept of marketing innovation which was described as mechanism for competitive advantage and key to survival in marketplace is multifaceted, involving marketing strategy in one hand and marketing performance on the other. As global business environment is continually characterized by intense competition, change in customer preference, quest for profitability and rapid technological growth, SMEs need to have efficient marketing knowledge management system that can promote marketing innovation, through marketing knowledge acquisition, sharing and application. Consequently, the study used SPSS version 24 to examine the responses of 225 owners/managers of Nigerian SMEs. According to statistical output, the impact of marketing knowledge management on marketing innovation is established. Equally, the study found statistical support on the impact of knowledge acquisition and knowledge application on marketing innovation strategy as well as knowledge acquisition and knowledge sharing on marketing innovation performance. While, knowledge sharing has no significant impact on marketing innovation strategy. So also, knowledge application has no significant impact on marketing innovation performance. As well, the study established statistical support on the varying moderating influence of environmental dynamism on the constructs. Theoretical and managerial implications of the research findings and direction for future study were discussed.
Keywords: Marketing innovation, marketing knowledge management, knowledge acquisition, knowledge sharing, knowledge application and environmental dynamism

1.1 Introduction

As the global business environment is increasingly becoming highly competitive than anyone can ever imagine, due to technological advancement, change in taste and preference of customers and quest for profitability, what Small and Medium Enterprises (SMEs) required is sound marketing knowledge management system that can stimulate marketing innovation. According to researchers such as García-Zamora, González-Benito and Muñoz-Gallego (2013) and Naidoo (2010), marketing innovation is key for firms` competitive advantage, organizational success and survival in the marketplace. Consequently, the study argued that for SMEs to promote their marketing innovation, they need to entrench effective marketing knowledge management system that can guarantee acquisition and sharing of vital market knowledge resource among employees as well as application of the knowledge into innovation. In support of this argument, Alegre, Sengupta and Lapiedra (2013) described knowledge as ingredient for firm competitiveness and innovation. In addition, Andreeva and Kianto (2011) posited that knowledge management processes support organizational innovation.

Literature has established a positive relationship between marketing knowledge management and SMEs innovation performance (Alegre et al., 2013). Likewise, prior study has found a linkage between marketing knowledge competence and market-based innovations (Ozkaya, Droge, Hult, Calantone & Ozkaya, 2015). Similarly, Sok and O'Cass (2011) established a positive connection between marketing knowledge resources and innovation-based performance. Also, previous studies have examined a link between marketing knowledge management dimensions such as knowledge acquisition, sharing and application and product and process innovation as well as technical and non-technical innovation (Ning & Li, 2016; Lee, Leong, Hew & Ooi, 2013). Even though, the impact of marketing knowledge management and its dimensions on different types of SMEs innovation performance has been established. Yet, literature is limited on the impact of marketing knowledge management on marketing innovation.

Equally, there is dearth of literature on the influence of marketing knowledge management dimensions on specifically marketing innovation strategy and performance. Furthermore, according to literature, the outcome of previous studies on these constructs is inconclusive (Ning & Li, 2016; Lee et al., 2013; Aboelmaged, 2012). Moreover, the effect of environmental dynamism as a moderator on the variables has not been examined. Nevertheless, although, prior studies have established the impact of marketing knowledge management and its dimensions on different types of innovation. However, neither the influence of the construct nor its dimensions on SMEs marketing innovation was examined in the Nigerian context. Thus, through convergence of Resource-Based View (RBV) and Dynamic Capability View (DCV), the study examined the impact of marketing knowledge management on marketing innovation; knowledge acquisition, knowledge sharing and knowledge application on marketing innovation strategy and performance; and environmental dynamism on the constructs. The paper is organized as follows: introduction, literature review, methodology, data analysis and conclusion and implication.

LITERATURE REVIEW

2.1 The concept of marketing knowledge management

According to literature, marketing knowledge management concept is purely a subset of knowledge management. Consequently, researchers have defined marketing knowledge management concept in relation to information assimilation (Ellis, 2010), knowledge resources possessed by employees in the marketing department (Morgan, 2012) useful information about external environment (Lee & Song, 2015) and market trends analysis for purpose of understanding social norms, customer preferences and environmental culture, as well as building brand, developing new product and successful marketing activities (Fang, Jiang, Makino & Beamish, 2010).

Researchers have divergence views on how marketing knowledge management benefits SMEs. For example, Morgan (2012) emphasized that optimum benefits can only be derived from marketing knowledge, when a firm is able to develop management capabilities. Equally, other scholars asserted that for enterprise to gain competitive advantage through utilization of marketing knowledge, it must have management capabilities to acquire, share and apply knowledge about market competitors, market trend and customer demand (Marjanova Jovanov & Stojanovski, 2012) and explore or exploit market opportunities (Vorhies, Orr & Bush, 2011). In contrast, other researchers argued that for business enterprise to derive strategic benefits from marketing knowledge, it must develop competitor knowledge management competence as well as customer knowledge management competence (Ozkaya et al., 2015; Atuahene-Gima & Wei, 2011). However, this study has seen marketing knowledge management in terms of management capabilities (marketing knowledge acquisition, sharing and application).

2.2 Marketing knowledge management capabilities

2.2.1 Knowledge acquisition as marketing knowledge management capability

According to Liao and Barnes (2015), the concept of knowledge management process begins with knowledge acquisition. In line with this, Daud and Yusoff (2011) argued that knowledge acquisition is a means of getting useful insights or novel ideas and involves a set of processes for generating, creating, building, constructing and developing of knowledge. Likewise, Ning and Li (2016) defined the concept as the process of gaining knowledge from external sources. Also, other researchers have defined the concept as knowledge seeking ability (Jyoti, Gupta & Kotwal, 2011), knowledge accessing and absorption through communications with knowledge sources (He, Ghobadian & Gallear, 2013) and exhaustive process of knowledge recognition and capturing (Yee-Loong Chong, Ooi, Bao & Lin, 2014). In addition, Gharakhani and Mousakhani (2012) have identified two forms of knowledge acquisition: (a) transformation of old knowledge into new knowledge, and (b) obtaining of entirely new knowledge. Nevertheless, Kamasak and Bulutlar (2010) described knowledge acquisition as a tool for stimulation of SMEs innovativeness.

2.2.2 Knowledge sharing as marketing knowledge management capability

Knowledge sharing as a concept has been defined by Foo, Ng, Lee and Gan (2012), in terms of joy and convenience shared by employees in the evaluation of information. Also, the concept has been defined by Yeoh & June (2016) as well as Gharakhani and Mousakhani (2012), as entrenched culture as well as social interaction of employees for facilitation of knowledge and skills transfer within a business enterprise. Accordingly, Gharakhani and Mousakhani (2012) emphasized that the process of knowledge sharing is a broader concept that is far from usual communication among employees or departments, as it consists of other processes like transfer of knowledge-based experience as well as knowledge organizing, capturing and re-using.

2.2.3 Knowledge application as marketing knowledge management capability

According to literature, researchers have described knowledge application in several ways. For instance, Lee et al. (2013) defined the concept in terms of business enterprises` responsiveness to knowledge accessed from external environment. While, Jyoti et al. (2011) described the concept in terms of knowledge utilization or the actual and genuine use of knowledge. Also, Ning and Li (2016) described knowledge application as the process of interpreting, combining and transforming knowledge essential for refinement, exploitation and conversion. In addition, Gharakhani and Mousakhani (2012) argued that the concept of knowledge application is more than value-addition process and includes a number of processes like production process integration and products adaptation. Thus, it is more of the ability of organizational employees to use knowledge, introduce new business model and solve problems and challenges (Yeoh & June, 2016).

2.3 Theoretical Underpinning

The study is underpinned by RBV and DCV. The first theory was developed by Barney (1991) on the assumptions that competitive advantage of a business enterprise is influenced by its ability to possess tangible and intangible organizational resources such as knowledge and skills or processes that are

valuable, rare, inimitable and non-substitutable (VRIN). Competitive advantage has been defined in terms of value-creation strategies that cannot be easily replicated or used instantaneously by rivals and potential entrants. While, the second theory was built on the assumptions that competitive advantage of a firm is influenced by resources deployment capabilities and proper usage of assets position such as technological assets, relational assets, knowledge assets, complimentary assets, intellectual property and market structure to rapidly respond to situations (Teece, Pisano & Shuen, 1997).

Hence, marketing knowledge by its nature is a strategic resource, while, marketing knowledge management processes such as knowledge acquisition, sharing and application are capabilities. As proclaimed by O'Cass, Ngo and Siahtiri (2015) and Sok and O'Cass (2011), for a business firm to achieve high performance or innovation-based outcome, it must possess both innovation resources as well as innovation resources deployment capability. Thus, through the convergence of the two theories, the study investigated the impact of knowledge management on marketing innovation of Nigerian SMEs. Equally, the study examined the impact of marketing knowledge acquisition, sharing and application on marketing innovation strategy and performance. Likewise, the study examined the influence of environmental dynamism on the relationship between the constructs.

2.4 The possible outcomes of marketing knowledge management

2.4.1 Marketing innovation as outcome of marketing knowledge management

According to literature, marketing innovation as a concept has several meanings. For instance, Simon and Honore Petnji Yaya (2012) defined the concept in terms of introduction of new marketing method or techniques as well as new process of presenting and selling products by an enterprise. While, OECD/Eurostat (2005) defined the concept as substantial improvement in product design, packaging, pricing, placement and promotion. Also, Moreira, Silva, Simoes and Sousa (2012) defined marketing innovation as the product of entire changes implemented by enterprise. Equally, other scholars have defined the concept in relation with incremental improvements in placement, promotion, pricing and product design (Naidoo, 2010), implementation of tactical marketing actions and alteration in product design and packaging, procedure of advertisement and method of sales and distribution (Mothe & Uyen Nguyen Thi, 2010). In addition, Lin, Chen and Kuan-Shun Chiu (2010) defined marketing innovation in terms of market research, price-setting strategy, market segmentation, retailing channels, marketing information systems and promotional activities. However, in this study, marketing innovation is seen in terms of new marketing strategy as well as improved marketing performance.

Although, researchers such as Ozkaya et al. (2015) have identified market knowledge competence as an important factor that influences market-based innovations. However, studies are limited on the impact of marketing knowledge management on marketing innovation of SMEs, as prior studies focused more on the relationship between either market exploitation and exploration or customer focused marketing capabilities and objective financial performance (Vorhies et al., 2011) and subsidiary performance (Fang et al., 2010). Moreover, according to literature the findings of previous studies that investigated the influence of marketing knowledge management as an independent construct were inconclusive. Hence, literature has established the relationship between marketing knowledge resources and innovation-based performance (Sok & O'Cass, 2011). Thus, the study postulated that,

H1: Marketing knowledge management has significant positive impact on marketing innovation

2.4.2 Marketing innovation strategy and performance as outcomes of knowledge acquisition

Although, according literature, prior studies have examined the relationship between knowledge acquisition and innovation efficiency (Ning & Li, 2016), innovation performance (Lai et al., 2014), product and process innovation (Lee et al., 2013) and product innovation flexibility (Liao & Barnes, 2015). However, there is dearth of literature on the impact of knowledge acquisition on marketing innovation. In addition, literature has established that the findings of previous studies are inconsistent. For example, the study of Lee et al. (2013) has established negative relationship between knowledge acquisition and product and process innovation. In contrast, Lai et al. (2014) found positive relationship between knowledge creation and acquisition and innovation performance. Again, Moilanen, Østbye and Woll (2014) reported strong influence of external knowledge inflows and innovation performance. Also, Liao and Barnes (2015) have empirically established that knowledge acquisition exerted significant positive relation with product innovation flexibility. Equally, Ning and Li (2016) have found that knowledge acquisition capacity has positive effect on innovation efficiency. On the contrary, prior studies have found negative influence of knowledge acquisition on technical and non-technical innovation (Jyoti et al., 2011) and innovation performance (Aboelmaged, 2012). Hence, literature has found positive association between knowledge acquisition and different types of innovation performance, the study postulated that,

H1a: Knowledge acquisition has significant positive impact on marketing innovation strategy

H1b: Knowledge acquisition has significant positive impact on marketing innovation performance

2.4.3 Marketing innovation strategy and performance as outcomes of knowledge Sharing

Although, previous studies have examined the relationship between knowledge sharing and SMEs innovativeness (Chen, Huang & Hsiao, 2010), product and process innovation (Lee et al., 2013) and technical and administrative innovation (Aboelmaged, 2012). However, literature is limited on the impact of knowledge sharing on marketing innovation. Moreover, the impact of knowledge sharing on these constructs is inconclusive. For example, Aboelmaged (2012) has found positive relationship between knowledge sharing and technical innovation as well as administrative innovation. Also, the study of Lee et al. (2013) has empirically established significant relationship between knowledge sharing and product innovation as well as process innovation. Likewise, literature has established positive association between knowledge sharing and innovativeness (Chen et al., 2010). In contrast, the study of Jyoti et al. (2011) did not find empirical support on the relationship between knowledge sharing and non-technical and technical innovation. In addition, the study of Lai et al. (2014) has empirically established significant impact of knowledge storage and dissemination and innovation performance. Since, according to literature, knowledge sharing has significant positive influence on various forms of innovation performance, the study postulated that,

H1c: Knowledge sharing has significant positive impact on marketing innovation strategy

H1d: Knowledge sharing has significant positive impact on marketing innovation performance

2.4.4 Marketing innovation strategy and performance as outcomes of knowledge application

Although, prior studies have investigated the impact of knowledge application on a number of constructs. However, the findings remain inconclusive. Moreover, there is death of literature on the impact of knowledge application on marketing innovation of SMEs. For example, literature has established positive association between knowledge application and product innovation and process innovation (Lee et al., 2013), technical and administrative innovation (Aboelmaged, 2012), innovation efficiency and efficacy (Ning & Li, 2016), sales growth, customer satisfaction and quality improvement (Garakhani & Mousakhani, 2012) and firm performance (Daud & Yusoff, 2010). On the contrary, non-significant impact of knowledge application on social capital has been established (Daud & Yusoff, 2010). While, the study of Jyoti et al. (2011) has found statistical support on the significant influence of knowledge utilization on non-technical innovation as well as technical innovation. Hence, literature has established positive influence of knowledge application on a number of SMEs innovation performance. Therefore, the study postulated that,

H1e: Knowledge application has significant positive impact on marketing innovation strategy

H1f: Knowledge application has significant positive impact on marketing innovation performance

2.5 Environmental Dynamism as Moderator

Environmental dynamism as a concept has been defined in several ways. For example, researchers have defined the concept in terms of environmental uncertainties Pérez-Luño, Wiklund and Cabrera (2011) and environmental changes and challenges Jiao, Alon, Koo and Cui (2013). Likewise, García-Zamora et al. (2013) have divided environmental dynamism into general and specific. Asserting that general perspective of environmental dynamism involves technological and market turbulence as well as competition. While, the specific aspect of environmental dynamism involves competitive rivalry and hostility in the market environment. According to García-Zamora et al. (2013), environmental dynamism fosters marketing innovation. Also, researchers have found positive significant influence of environmental dynamism as a moderator on the relationship between creativity and firm-level innovation (Baron & Tang, 2011), multidimensional innovation and performance (García-Zamora et al., 2013) and risk taking and innovative tendency (Pérez-Luño et al., 2011). Based on this argument, the study postulated that,

H2: Environmental dynamism positively moderates the relationship between marketing knowledge management and marketing innovation

H2a: Environmental dynamism positively moderates the relationship between knowledge acquisition and marketing innovation strategy

H2b: Environmental dynamism positively moderates the relationship between knowledge acquisition and marketing innovation performance

H2c: Environmental dynamism positively moderates the relationship between knowledge sharing and marketing innovation strategy

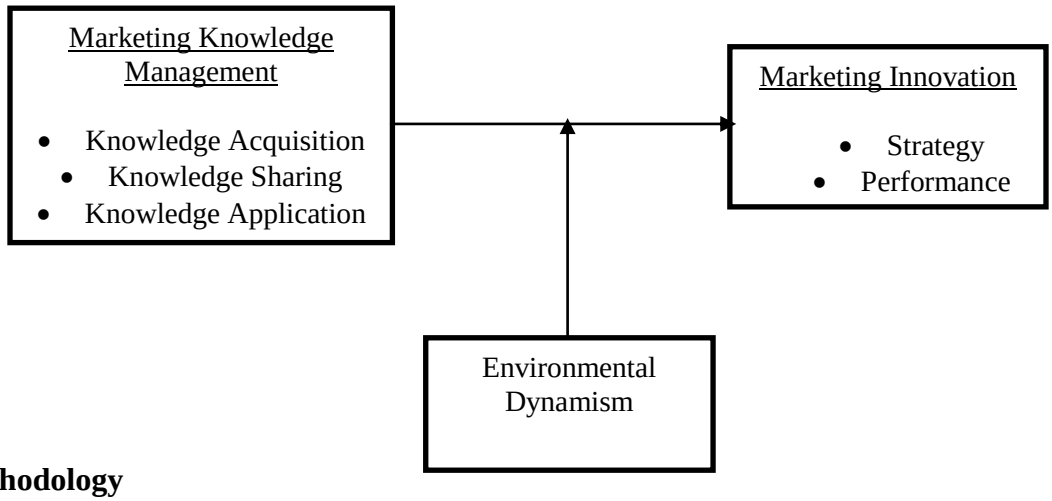
H2d: Environmental dynamism positively moderates the relationship between knowledge sharing and marketing innovation performance

H2e: Environmental dynamism positively moderates the relationship between knowledge application and marketing innovation strategy

H2f: Environmental dynamism positively moderates the relationship between knowledge application and marketing innovation performance

2.6 The research framework

Figure 2.1: Research Framework



3.1 Methodology

Hence, the aim is to explore relationships between the variables, the study adopted quantitative research approach and cross-sectional designed. Thus, the study accessed the list of 950 active SMEs in Katsina State, Nigeria, from the Ministry of Commerce and Industry. Out of the population, 411 questionnaires were self-administered to owners/managers of SMEs who were randomly selected using systematic sampling technique. All the research variables were measured in a five-point Likert scale questionnaire that consisted of 42 items adopted from previous scholars. The study achieved a valid response rate of 53%, accounting for 225 useable questionnaires. While, Statistical Package for Social Sciences (SPSS) was used in both the reliability and validity testing of the instruments as well as regression analysis.

The measure for marketing innovation has 11 items adopted from (Gunday, Ulusoy, Kilic & Alpkan, 2011) and (García, Sanzo & Trespalacios, 2008) and has a Cronbach`s alpha coefficient of 0.81. While, marketing strategy and marketing performance were measured based 5 and 6 items which have a Cronbach`s alpha coefficient of 0.63 and 0.86 respectively. Likewise, the measure for marketing knowledge management has 27 items adopted from (Daud & Yusoff, 2011) and Hsu (2008). The overall construct has a Cronbach`s alpha of 0.92, whereas, knowledge acquisition, knowledge sharing and knowledge application have Cronbach`s alpha coefficient of 0.80, 0.83 and 0.85 respectively. Finally, the measure for environmental dynamism consisted of 6 items adopted from (Omri, 2015) and has a Cronbach`s alpha value of 0.70. Thus, signifying that all the variables have an acceptable reliability alpha value of 0.6 and above (Nunnally, 1967). Correspondingly, the results of principal component

analysis show that all the 11 items that measure marketing innovation have strong factor loadings above 0.5. However, based on the exploratory factor analysis, marketing knowledge management was measured by 24 items, as 3 items were dropped for having factor loadings lower than 0.5. Similarly, the 6 items that measure environmental dynamism construct were retained for having factor loadings above 0.5. Thus, signifying that all the items that measure the variables have good factor loadings of 0.5 and above (Tabachnick & Fidell, 2007).

4.1 Data Analysis and Findings

In exploring the relationship between the variables, both multiple regression analysis as well as hierarchical regression analysis were conducted. Specifically, the multiple regression was used by the study to examine the relationship between the main constructs marketing knowledge management and marketing innovation using (bivariate regression) and various dimensions (multivariate regression). While, the hierarchical regression was used to test the moderating effect of environmental dynamism on the constructs.

4.1.1 Marketing knowledge management and marketing innovation

From the outcome of bivariate regression analysis, marketing knowledge management explained 30.9% variance of marketing innovation. Also, marketing knowledge management (β = .556, t-value 9.981, p< 0.01) exerted significant positive impact on marketing innovation. Thus, based on the result shown in table 4.1, statistical H1 which postulated that marketing knowledge management has significant positive impact on marketing innovation is supported.

Table 4.1
Bivariate Regression Result

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t-value**	**Sig.**	**R^2**	**Decision**
	B	**Std. Error**	**Beta**				
(Constant)	1.628	.205		7.937	.000		
MKTKNMGT	.566	.057	.556	9.981***	.000	.309	Supported

Note: MKTKNMGT = Marketing knowledge management
***p< 0.01

4.1.2 Marketing Knowledge Management Capabilities and Marketing Innovation Strategy

According to the regression result, all the dimensional constructs have achieved good correlation at 0.01 level of significance (1-tailed) and value ranges from .329 to .719 (Cohen, 1988). Similarly, based on Hair, Hult, Ringle and Sarstedt (2014) criteria, there is no multicollinearity problem among the independent constructs, hence tolerance value exceeded 0.2 and variance inflation factor (VIF) value is less than 5. Equally, according to the mean value that ranges from 3.4876 to 3.6593, the respondents have average perception on the variables. Whereas, from the standard deviation value of .38575 and .47961, there is no much variability on the respondents` perceptions on the variables.

Accordingly, from the results of multiple regression analysis, knowledge acquisition, knowledge sharing and knowledge application explained 28.8% variance of marketing innovation strategy. Equally, based on the results as depicted in table 4.2, 2 out of the 3 postulated hypotheses were supported, while, 1 hypothesis is not supported. According to the results, knowledge acquisition (β = .430, t-value 6.143, p< 0.01) and knowledge application (β = .199, t-value 2.343, p< 0.05) have significant positive impact on marketing innovation strategy. Nevertheless, knowledge sharing (β = -.045, t-value -.534, p> 0.05) has no relationship with marketing innovation strategy. Based on the result, H1a and H1e were supported. While, H1c is not supported.

Table 4.2
Multiple Regression Result

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t-value**	**Sig.**	**R^2**	**Decision**
	B	**Std. Error**	**Beta**				
(Constant)	1.508	.216		6.975	.000		
MKTKACQ	.428	.070	.430	6.143***	.000	.288	Supported
MKTKSHR	-.036	.067	-.045	-.534	.594		Not Supported
MKTKAPP	.165	.070	.199	2.343**	.020		Supported

Note: MKTKACQ = Marketing knowledge acquisition, MKTKSHR = Marketing knowledge sharing, MKTKAPP = Marketing knowledge application,
***p< 0.01, ** p< 0.05

4.1.3 Marketing Knowledge Management Capabilities and Marketing Innovation Performance

Similarly, from the multiple regression analysis, knowledge acquisition, knowledge sharing and knowledge application explained 25.8% variance of marketing innovation performance. Also, from the result as depicted in table 4.3, H1b and H1d were supported. While, H1f is not supported. According to the result, knowledge acquisition (β = .378, t-value 5.287, p< 0.01) and knowledge sharing (β = .248, t-value 2.888, p< 0.01) have significant positive impact on marketing innovation performance. However, knowledge application (β = -.067, t-value -.777, p> 0.05) has no impact on marketing innovation performance.

Table 4.3
Multiple Regression Result

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t-value**	**Sig.**	**R^2**	**Decision**
	B	**Std. Error**	**Beta**				
(Constant)	1.219	.307		3.967	.000		
MKTKACQ	.524	.099	.378	5.287***	.000	.258	Supported
MKTKSHR	.277	.096	.248	2.888***	.004		Supported
MKTKAPP	-.078	.100	-.067	-.777	.438		Not Supported

Note: MKTKACQ = Marketing knowledge acquisition, MKTKSHR = Marketing knowledge sharing, MKTKAPP = Marketing knowledge application,
***p< 0.01

4.2.1 Effect of Environmental Dynamism on Marketing Knowledge Management and Marketing Innovation

Based on the hierarchical regression, at step 1, marketing knowledge management explained 30.9% variance of marketing innovation. At step 2, when environmental dynamism was entered, there was no additional variance explained by the constructs. While, at step when interaction term was entered, the constructs explained additional 1.6% variance of marketing innovation. As depicted in appendix 1, H2 has been statistical supported. Thus, environmental dynamism (β = .145, t-value 2.260, p< 0.05) has significant positive moderating influence on marketing the relationship between knowledge management and marketing innovation.

4.2.2 Effect of Environmental Dynamism on Marketing Knowledge Acquisition Marketing Innovation Strategy and Performance

According to the hierarchical regression outcome, at step 1, marketing knowledge acquisition explained 26.6% variance of marketing innovation strategy. Equally, at step 2, when environmental dynamism was entered, the model explained additional variance in marketing innovation strategy of 2.3%. Similarly, at step 3, when the interaction term was entered additional variance of 0.7% in marketing innovation strategy was explained. However, as depicted in appendix 2, there was no statistical support for H2a, which postulated that environmental dynamism has a significant positive influence on knowledge acquisition and marketing innovation strategy (β = .101, t-value 1.492, p> 0.05).

In addition, the outcome of the hierarchical regression shows that at step 1, marketing knowledge acquisition explained 22.5% variance of marketing innovation performance. Also, at step 2, the inclusion of environmental dynamism explained additional 2% variance of marketing innovation performance. Whereas, at step 3, when interaction term was entered there was no additional variance explained by the model. Based on the results depicted in appendix 3, environmental dynamism (β = .022, t-value .311, p> 0.05) has no moderating influence on the relationship between marketing knowledge acquisition and marketing innovation performance. Thus, H2b is not supported.

4.2.3 Effect of Environmental Dynamism on Marketing Knowledge Sharing and Marketing Innovation Strategy and Performance

Likewise, from the hierarchical regression results, at step 1, marketing knowledge sharing explained 10.8% variance of marketing innovation strategy. At step 2, the presence of environmental dynamism in the model, added additional variance of 7.3% in marketing innovation strategy. While, at step 3, the inclusion of interaction term explained additional variance in marketing innovation strategy of 2.8%. As depicted in appendix 4, environmental dynamism (β = .185, t-value 2.819, p< 0.01) has significant positive moderation influence on the relationship between marketing knowledge sharing and marketing innovation strategy. Thus, H2c is supported.

Furthermore, the regression model shows that at step1, marketing knowledge sharing explained 16.2% variance of marketing innovation performance. Also, at step 2, the inclusion of environmental dynamism

in the model explained additional variance of 0.2% in marketing innovation performance. Likewise, the introduction of interaction term has added additional variance in marketing innovation performance of 1.4%. Based on the results depicted in appendix 5, environmental dynamism (β = .129, t-value 1.932, p< 0.05) has significant positive influence on the relationship between marketing knowledge sharing and marketing innovation performance. Thus, H2d is supported statistically.

4.2.4 Effect of Environmental Dynamism on Marketing Knowledge Application and Marketing Innovation Strategy and Performance

According to the regression analysis outcome, at step 1, marketing knowledge application explained 16.3% variance of marketing innovation strategy. While, at step 2, additional 5.1% variance of marketing innovation strategy was explained by the inclusion of the environmental dynamism. Also, at step 3, an additional 4% variance of marketing innovation strategy was explained by the inclusion of interactive term in the model. As depicted in appendix 6, environmental dynamism (β = .221, t-value 3.420, p< 0.01) has significant positive moderating influence on the relationship between marketing knowledge application and marketing innovation strategy. Thus, H2e is statistically supported.

Equally, according to the hierarchical regression, marketing knowledge application explained 10.2% variance of marketing innovation performance. Also, the inclusion of environmental dynamism in the model at step 2, explained additional 0.2% variance in marketing innovation performance. Additional variance of 1.8% in marketing innovation performance was also explained by the inclusion of the interaction term into the model. Based on the results depicted in appendix 7, environmental dynamism (β = .148, t-value 2.118, p< 0.01) has significant positive moderating influence on the relationship between marketing knowledge application and marketing innovation performance. Therefore, H2f is supported.

5.1 Discussion and Implications

For proper sustenance of marketing innovation among SMEs, which is operationalized in terms of new marketing strategy and improved marketing performance. SMEs need to entrench an efficient marketing knowledge management system that can guarantee knowledge acquisition from market environment, sharing of knowledge resource among employees as well as application or conversion of the knowledge resource into innovation output. Based on this argument, the study empirically investigated the impact of marketing knowledge management on marketing innovation. Similarly, the study examined the impact of three marketing knowledge management capabilities (knowledge acquisition, knowledge sharing and knowledge application) on marketing innovation strategy and performance. Likewise, the study investigated influence of environmental dynamism as moderator on the constructs.

Based on the research outcome, at the constructs level marketing knowledge management exerted significant positive impact on marketing innovation. Equally, at dimensions` level knowledge acquisition exerted significant positive impact on both marketing innovation strategy and performance. In contrast, knowledge sharing has no significant impact on marketing innovation strategy, but it has on marketing innovation performance. Likewise, knowledge application exerted significant positive impact on marketing innovation strategy, but statistically it does not impact marketing innovation performance significantly.

Furthermore, the study found statistical support on the moderating influence of environmental dynamism on the constructs. While, the relationship between marketing knowledge management and marketing innovation was positively and significantly influenced by environmental dynamism at constructs level. However, at the level of dimensions, environmental dynamism has no significant moderating influence on the relationship between knowledge acquisition and marketing innovation strategy as well as marketing innovation performance. Surprisingly, environmental dynamism was statistically found to exert significant positive moderating influence on the relationship between knowledge sharing and marketing innovation strategy and performance, as well as between knowledge application and marketing innovation strategy and performance.

By implication, the current findings implied that even though, marketing knowledge management impacts marketing innovation positively, however, dynamic business environment in which the SMEs operate, also exerts a greater influence on how marketing knowledge management impacts marketing innovation among the selected SMEs. Therefore, the study has revalidated the findings of previous studies that established a connection between market competence and market-based innovations (Ozkaya et al., 2015) as well as between market knowledge resources and innovation-based performance (Sok & O'Cass, 2011). Similarly, the study has gone a step further to establish the impact of marketing knowledge management on marketing innovation both at constructs and dimensional levels. Likewise, the study contributed to literature in terms of investigating the influence of environmental dynamism in the model as well as converging of RBV and DCV notions.

5.2 Limitations

One of the limitations of the study is that it is quantitative and cross-section. The second limitation is that it was conducted in the context of Nigerian SMEs. Likewise, the data was collected from single respondent (SMEs owners/managers). Based on these limitations, future research may adopt either qualitative or mix-mode research approach. Similarly, future research may conduct a longitudinal study or collect data from multiple respondents. Equally, the model can be investigated in a different country setting. Notwithstanding, the study has brought new insights in terms of the way marketing knowledge management impacted marketing innovation of SMEs both at constructs and multi-dimensional levels. Also, the examination of the environmental dynamism influence, being a moderator has brought another interesting insight. Lastly, the study is among the few that contributed to literature in terms of how RBV and DCV jointly supported research investigation.

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Appendices

Appendix 1

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	1.628		7.937	.000		
MKTKNMGT	.566	.556	9.981**	.000	.309	
Step 2: (Constant)	1.646		7.585	.000		
MKTKNMGT	.572	.562	9.275	.000		
ENVDYNAM	-.012	-.016	-.263	.793	.000	
Step 3: (Constant)	1.895		7.844	.000		
MKTKNMGT	.535	.525	8.441	.000		
ENVDYNAM	-.049	-.066	-1.031	.304		
Interaction	.039	.145	2.260**	.025	.016	Supported

Dependent variable: Marketing Innovation,
P< **0.05

Appendix 2

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	1.667		8.185	.000		
MKTKACQ	.513	.516	8.993	.000	.266	
Step 2: (Constant)	1.481		6.972	.000		
MKTKACQ	.446	.448	7.241	.000		
ENVDYNAM	.123	.166	2.686	.008	.023	
Step 3: (Constant)	1.678		6.724	.000		
MKTKACQ	.409	.411	6.162	.000		
ENVDYNAM	.101	.137	2.110	.036		
Interaction	.027	.101	1.492	.137	.007	Not Supported

Dependent variable: Marketing Innovation Strategy,
P< **0.05

Appendix 3

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	1.481		5.079	.000		
MKTKACQ	.657	.474	8.041	.000	.225	
Step 2: (Constant)	1.724		5.654	.000		
MKTKACQ	.745	.538	8.425	.000		
ENVDYNAM	-.161	-.156	-2.451	.015	.020	
Step 3: (Constant)	1.783		4.955	.000		
MKTKACQ	.734	.530	7.670	.000		
ENVDYNAM	-.168	-.163	-2.424	.016		
Interaction	.008	.022	.311	.756	.000	Not Supported

Dependent variable: Marketing Innovation Performance,
P< **0.05

Appendix 4

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	2.524		13.512	.000		
MKTKSHR	.263	.329	5.204***	.000	.108	
Step 2: (Constant)	2.027		9.602	.000		
MKTKSHR	.203	.254	4.035	.000		
ENVDYNAM	.208	.281	4.453	.000	.073	
Step 3: (Constant)	2.238		10.130	.000		
MKTKSHR	.190	.238	3.817	.000		
ENVDYNAM	.156	.211	3.151	.002		
Interaction	.059	.185	2.819***	.005	.028	Supported

Dependent variable: Marketing Innovation Strategy,
P< ***0.01

Appendix 5

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	2.170		8.603	.000		
MKTKSHR	.449	.402	6.564**	.000	.162	
Step 2: (Constant)	2.290		7.706	.000		
MKTKSHR	.463	.415	6.525	.000		
ENVDYNAM	-.050	-.049	-.768	.443	.002	
Step 3: (Constant)	2.495		7.950	.000		
MKTKSHR	.450	.404	6.357	.000		
ENVDYNAM	-.101	-.098	-1.435	.153		
Interaction	.058	.129	1.932**	.055	.014	Supported

Dependent variable: Marketing Innovation Performance,
P< **0.05

Appendix 6

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	2.288		12.461	.000		
MKTKAPP	.334	.404	6.588***	.000	.163	
Step 2: (Constant)	1.919		9.441	.000		
MKTKAPP	.267	.323	5.098	.000		
ENVDYNAM	.177	.239	3.777	.000	.051	
Step 3: (Constant)	2.203		10.237	.000		
MKTKAPP	.238	.288	4.592	.000		
ENVDYNAM	.118	.160	2.423	.016		
Interaction	.065	.221	3.420***	.001	.040	Supported

Dependent variable: Marketing Innovation Strategy,
P< ***0.01

Appendix 7

	Unstd. Beta	Std. Beta	t-value	Sig.	R^2 Change	Decision
Step 1: (Constant)	2.492		9.405	.000		
MKTKAPP	.367	.319	5.023**	.000	.102	
Step 2: (Constant)	2.604		8.615	.000		
MKTKAPP	.387	.337	4.983	.000		
ENVDYNAM	-.054	-.052	-.773	.440	.002	
Step 3: (Constant)	2.869		8.828	.000		
MKTKAPP	.360	.313	4.609	.000		
ENVDYNAM	-.109	-.105	-1.472	.143		
Interaction	.061	.148	2.118**	.035	.018	Supported

Dependent variable: Marketing Innovation Performance,
P< **0.05