International Journal of Computer Trends and Technology
ISSN: 2231-2803 / https://doi.org/10.14445/22312803/IJCTT-V67I2P107
Volume 67 Issue 2, 49- 53, February 2019

Type of article

The Impact of New Technological Changes to the Marketing Strategy Formulation

Himendra Balalle

National Institute of Business Management, Colombo, Sri Lanka

Abstract *- To energize the economy by Innovation, it is required to examine how Innovation is practiced inside the organization and how it can be commercialized. Marketing strategies are vital for any innovation to market successfully; otherwise, the market will reject valuable innovations. A limited number of research is conducted to identify how marketing strategies are formulated to market the breakthrough technologies within a traditional organizational context. This study explores how to market and technical ties impact marketing strategy development.*

I.

Keywords *- Innovation, Strategy, Market network ties, Technical network ties*

I. INTRODUCTION

Today, Innovation has become the key driver of the economy. According to Raynolds 2002, approximately 10.1 million individuals are trying to innovate something at any given time. Even if the large number is shown in Innovation, the number of actual success is relatively small. The fundamental reasons behind the high failure rate are insufficient knowledge of planning and ignoring the marketing factors.

Organizations always use teams for new product development, not an individual. Bharadwaj and Menon, 2004 stated that the team made critical success in developing strategic outcomes. Furthermore, Moorman and Miner,1998 explained how cross-functional teams had used experience gathered in marketing and other departments for their outcomes.

According to Fred Nickols, 2012, The concept of strategy has been borrowed from the military and adapted for use in business organizations. However, Teece et al. 1997 have defined strategy as the firm's positioning to gain a competitive advantage in the marketplace. The strategy's primary objective is to get the maximum output from the available resources by performing the right activities at the right time with the right people. Finally, the strategy should support achieving the organizational objectives and optimizing the opportunities available in an external environment by offering the best-matched product and services to the customers.

Objectives

The objectives of this research are to identify.

- The impact of market and technical network ties to marketing strategy development
- Marketing information systems influence the product commercialization process.

II. TECHNICAL NETWORK TIES

The technical network ties provide information for strategy development. The relation between an organization's network, innovative output, and end performance is positive and significant (Ahuja 2000; Hansen 1999; Powell et al. 1996; Tsai 2001; Walker et al. 1997). Always organization network support in several ways for decision making by providing information at different levels. Weak network ties delay the information flow between necessary parties since network members are not close friends or more close like strong ties.“ Weakens often serve as links between networks, thus increasing the diversity of information flow among network members" (Granovetter 1973).

III. CONCEPTUAL FRAMEWORK

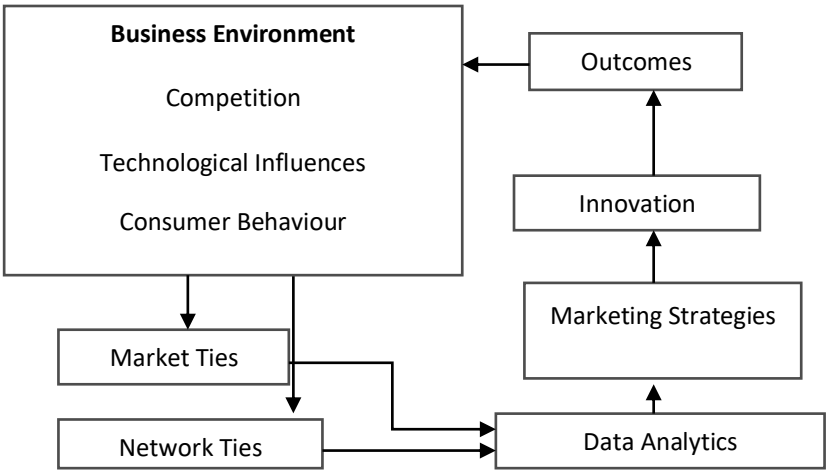

Fig. 1

IV. METHODOLOGY

A. Sample

Fifty-degree level students are selected for the sample and examine the impact of the marketing strategy developed for their technology products.

.

B. Variable

Table 1. Independent and Dependent Variables

Independent Variable	Dependent Variables
MarketNetworkTies	Performance of marketing strategy
TechnicalNetworkTies	The creativity of Marketing Strategy

C. Hypothesis

H A Technical network ties are positively correlated to marketing strategy performance.

This would be statistically expressed by

H A: $\rho > 0$

If there is no relationship between Technical network ties and marketing strategy performance, H 0: $\rho = 0$

If market network ties are positively correlated to marketing strategy performance

H A: $\rho > 0$ and Null hypothesis for above is H 0: $\rho = 0$

The network ties make teams, organizations, and individuals with desired outcomes; this research focused on different network ties, which may hinder

performance. And, there should be a minimum level of network ties to utilize to cross the performance levels. Maintaining the connection with networks is required at individual levels. Having too much of ties make for congested information distribution, and a low number of ties provide insufficient information for decision making.

Maintaining network connections requires effort and energy by the individual (whether it is a strong or weak tie), which leaves less time to process the information and relate it to the marketing strategy effort. Having too few network ties does not allow for enough dissemination of information and ideas to

enhance performance to the fullest extent, but having too many ties may cause information overload and take away energy from the task at hand (Perry-Smith and Shalley 2003). Therefore, the above relationship is hypothesized:

The creativity of the marketing strategy is also a driver of team performance, in addition to both internal and external marketing environmental factors on marketing strategy performance. Also, an inherent part of creativity includes several problems from all sides and paves the way for alternative solutions development (Amabile 1995).

The performance of marketing strategy collected from external evaluations analyzed with principle-components factor analysis with varimax rotation.

Factor Items	α	CR	AVE	SL(t)	SMC
Performance of Marketing Strategy		0.73	0.75	0.51	
1. The successful Marketing Strategy Development				0.88	0.78
2.Product Commercialization Plan				0.67	0.48
The creativity of Marketing Strategy	0.87	0.86	0.73		
1. Variation of marketing strategy Developed and Industry adaptability				0.76	0.52
2.Current industry marketing strategy effectiveness				0.88	0.77

Table 2. Confirmatory factor analysis

where α=Cronbach'salpha;CR=compositereliabilit y;AVE=averagevarianceextracted; SL(t)=standardizedloading(t-value);andSMC=squaredmultiple correlation.

V. DATA ANALYSIS

Since the sequential nature of the data collection, it shows higher correlations with each other than those collected with further intervals in between. Standard ordinary linear regression analyses cannot be used to estimate a random-effects model because of its biased estimated standard errors. Therefore, generalized least squares will be used to estimate the models.

Different network indicators are required to test the hypotheses. The technical and market ties will be a continuous variable of technical and market ties used by respondents. Technical and market tie strength is calculated as weighted indices.

In this calculation, the strength of tie weight will be calculated from the relationship of the source to the respondent, where 3=strong ties; 2= mid-point; and1= weak tie

A random-effects model is used to analyze panel data. For instance, the random-effects model assumes that the group-specific constant is, if uncorrelated with the independent variables and a random element. The general model is developed as:

$$Yit = Xit + it,$$

$$\text{where } it = i + it$$

To test the assumptions, the Hausman test can also be used to differentiate between the fixed effects model and the random-effects model in panel data when the measured factors (Xit) are orthogonal to the measured covariates (it). Also, i represents the effect of the individual in the regression equation.

Table 3. Panel Fixed Effects Regression

	Model1	Model2	Model3	Model4	Model5
	4.12	4.12	4.17	4.12	4.001
Constant					
Market	-0.042	-0.038	-0.06	-0.037	-0.052
Technical	0.011	0.008	0.038	0.04	0.032
Market Ties	0.012	0.012	0.018	0.018	0.019
Technical Ties	0.022	0.02	0.019	0.02	0.02
Market Tie Strength	-0.005	-0.011	-0.014	-0.017	-0.015
Technical Tie Strength	0.001	0.004	0.005	0.005	0.007
Market Ties2	--	0.002	0.002	0.001	0.003
Technical Ties2	--	-0.014	-0.014	-0.014	-0.014

Table 4. Summary of Results

	Performance		***Creativity***	
	Ho	Result	Ho	Result
Technical Ties	+	+	+	+
Market Ties	+	+	+	-
Technical Tie Strength	+	+	+	**n.s.**
Market Tie Strength	+	-	-	**n.s.**
Early Ties	+	-		
Improvisation	+	+	+	+
Creativity	+	+		

This research focused on the impact of internal and external capabilities on the development of marketing strategies to market new technologies. There is a real need to understand the commercialization of high technology products requires strategies outside of the traditional organizational landscape. The commercialization of new technology will be a critical factor for developing economies. (National Innovation Institute Report 2004) Innovation is a multi-disciplinary and technologically complex process that requires proper communication among development scientists, engineers, marketing, and legal consultants.

Individuals and teams are trying to start new projects without the support of subject expertise. As well as, the well-established organization must use those internal and external information resources to develop and commercialize the technological

products. This research explored technical and market network ties in detail and the requirement for both in formulating a successful marketing strategy.

Market network ties are those interpersonal relationships between individuals or teams to collect information relating to the market as New product development, environment changes, customer buying behavior, etc. Technical network ties are those content of the information exchanged related directly to the technology. By isolating the ties as distinct, it was possible to investigate the unique role in formulating marketing strategies for high-tech products. Technical network ties have been identified as an important factor in predicting marketing strategy performance in the organization.

To commercialize a technological product, it is essential that sufficient information about the technology and proper analysis for the decision-making. Technical network tie helps enhance the ability to develop effective marketing strategies, but there may be controlling the creativity of the strategy on some occasions. Since marketing strategy creativity directly enhances the marketing strategy performance

VI. CONCLUSION

This research focused on the formulation of marketing strategies for new technologies. The research examines how Technical and Market ties respond to individual and team levels. Also, the study distinguishes between market and technical network ties and the impact on marketing strategy development in the organization. This study helps to make effective marketing strategies for the organization and understand the nature of strategy formation, especially for new technologies at the strategic level. This will encourage successful marketing entrepreneurship.

REFERENCE

[1] Amabile, Theresa M. (1988), A Model of Creativity and Innovation in Organizations, in Research in Organizational Behavior Volume 10, Barry M. Staw and L.L. Cummings (Eds). Greenwich, CT: JAI Press, 123-167.

[2] Aiken, Michael, Samuel B. Bacharach, and J. Lawrence French (1980), Organizational Structure, Work Processes, and Proposal Making in Administrative Bureaucracies, Academy of Management Journal, 20, 631-52.

[3] Ali, Abdul, Jr Robert Krapfel, and Douglas LaBahn (1995), Product Innovativeness and Entry Strategy: Impact on Cycle Time and Break-Even Time, Journal of Product Innovation Management, 12, 54-69.

[4] Ahuja, Gautam (2000), Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study, Administrative Science Quarterly, 45 (September), 425-55.

[5] Ahuja, Gautam and Curba Morris Lampert (2001), Entrepreneurship in the Large Corporation: A Longitudinal Study of How Established Firms Create Breakthrough Inventions, Strategic Management Journal, 22, 521-43.

[6] Bharadwaj, Sundar G. and Anil Menon (2004), Cross-Functional Product Teams and Marketing Strategy Creativity and Learning: The Role of Team Interactional Routines, Working Paper, Emory University.

[7] Boeker, Warren (1997), Executive Migration and Strategic Change: The Effect of Top Manager Movement on Product-Market Entry, Administrative Science Quarterly, 42 (June), 213-36.

[8] Brown, Shona L. and Kathleen M. Eisenhardt (1997), Product Development: Past Research, Present Findings and Future Directions, Academy of Management Review, 20, 343-378.

[9] Camison-Zornoza, Cesar, Raphael Lapiedra-Alcami, Mercedes Segarra-Cipres, and Montserrat Boronat-Navarro (2004), A Meta-Analysis of Innovation and Organizational Size, Organizational Studies, 25(3), 331-361.

[10] Campbell, Rita A. (1993), Igniting Innovation in Fire Service Organizations: Top Management Team Characteristics and Selected Organizational Factors, Ph.D. Dissertation, University of Colorado-Boulder.

[11] Daft, Richard L. (1982), Bureaucratic Versus Nonbureaucratic Structure and the Process of Innovation and Change, in Research in the Sociology of Organizations, Samuel B. Bacharach, Ed. Greenwich: JAI Press.

[12] Damanpour, Fariborz and 1987 (1987), The Adoption of Technological, Administrative, and Ancillary Innovations: Impact of Organizational Factors, Journal of Management,13 (4), 675-88.

[13] Granovetter, Mark S. (1973), The Strength of Weak Ties, The American Journal of Sociology, 78(6), 1360-1380.

[14] Hansen, Morten T. (1999), The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organizational Subunits, Administrative Science Quarterly, 44(1), 82-111.

[15] Nickols, F. (2012). HTM Praxis. HTM Journal of Heat Treatment and Materials, 67(6), pp.A6-A16.

[16] December, National Innovation Initiative Report (2004), Innovate America, Council on Competitiveness. www.compete.org

[17] Powell, Walter W., Kenneth W. Koput, and Laurel Smith-Doerr (1996), Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology, Administrative Science Quarterly, 41 (March), 116-45

[18] Perry-Smith, Jill E. and Christina E. Shalley (2003), The Social Side of Creativity: A Static and Dynamic Social Network Perspective, Academy of Management Review, 28(1): 89-106

[19] Raynolds, L. (2002). Consumer/Producer Links in Fair Trade Coffee Networks. https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-9523.00224 (Accessed 20th November 2018)

[20] Tsai, Wenpin (2001), Knowledge Transfer in Intraorganizational Networks: Effects of Network Position and Absorptive Capacity on Business Unit Innovation and Performance, Academy of Management Journal, 44 (October), 996-1004.

[21] Tsai, Wenpin and Sumantra Ghoshal (1998), Social Capital and Value Creation: The Role of Intrafirm Networks, Academy of Management Journal, 41(4), 464-476.