NC STATE UNIVERSITY

JTATM

JOURNAL OF TEXTILE AND APPAREL, TECHNOLOGY AND MANAGEMENT

Volume 2, Issue 3, Summer 2002

Retail Performance in U.S. Apparel Supply Chains: Operational Efficiency, Marketing Effectiveness and Innovation

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ABSTRACT

The profitability of retailers is growing increasingly important as apparel supply chains become integrated. The current research focuses on retailer profitability in the U.S. apparel retailing sector by examining the effect(s) of different strategy approaches on firm level performance. Specifically, operational efficiency, marketing effectiveness and innovation are examined for their influence on operational and financial performance. Findings suggest that operational efficiency (alone) and marketing effectiveness combined with innovation positively influence performance in the domestic retail industry. Implications are presented for theory and practice.

KEYWORDS: Retail profitability, retail strategy, apparel management, supply chain management, strategic management

INTRODUCTION

Along with the concept and practice of supply chain management in the textile and apparel industry, channel members are becoming increasingly concerned with the profitability of their business partners. The retail organization occupies a critical position in the textile and apparel pipeline as the final provider of products and services to the end consumer (Dunne, Lusch and Griffith, 2002). Proponents of supply chain management recognize that when a channel member (retailer) suffers lost profits, the negative effects can reverberate backwards/forwards through the supply chain (Cooper, Lambert and Pagh, 1997; Marien, 1999).

Within the apparel retailing sector we know very little about the manner that retail companies combine their structures/ processes/resources to capture profits in the increasingly competitive marketplace. The current research focuses on understanding the effects of two approaches to strategy within retailing: operational efficiency and marketing effectiveness. Because innovation can affect both of these approaches to strategy, and is increasingly prevalent in the retail industry (Maruca, 1999) it is also examined. Specifically, operational efficiency and marketing effectiveness (combined with innovation) are examined for their effect on overall firm level performance among domestic apparel retailers.

This research provides knowledge of the effectiveness of each strategic focus (along with innovativeness) within the retail competitive environment. It also provides insights for channel partners into the strategies and tactics that retailers use to deliver apparel products to end consumers, thereby helping them to coordinate supply chain management efforts. From an academic perspective, this research offers an examination into the competitive behavior of retail firms from both business and functional (marketing) level perspectives.

LITERATURE REVIEW

Attention to the different approaches to strategy and their effect(s) on performance within the retail industry has been scarce among academic researchers. In the apparel retailing context, there are very few extant studies that have examined the strategic drivers of performance. A number of studies outside the apparel context, but within retailing (i.e., perishables, consumer electronics), have examined elements of functional (i.e., marketing) and tactical level behaviors on various measures of performance (e.g., ROI, ROS, market share, etc.). This limited stream of research will be reviewed to inform the current study and to further demonstrate the need for attention to strategy research within the overall retail sector.

Retail Strategy

The majority of literature that examines the retail strategy-performance relationship tends to focus on individual elements of the retail mix, rather than on elements of business and/or corporate strategy. The retail mix is defined as the combination of factors that retailers use to satisfy consumer needs and influence their purchase decisions including services offered, pricing, advertising and promotion, store design, and visual merchandising (Levy and Weitz, 2001). Specifically, research has examined marketing capabilities (Conant, Smart and Salano Mendez, 1993; Conant and White, 1999; Hawes and Crittenden, 1984), retailer structure & resource allocation (Lewis and Thomas, 1990), and environmental adaptation (Kean, et. al, 1999) for their impact on firm performance. Out of this research, a number of prescriptions for strategy have been generated, particularly at functional strategy levels (e.g., Conant, Smart and Salano Mendez, 1993; Conant and White, 1999). Among this research only Conant, Smart and Salano-Mendez (1993) examined strategy in the apparel context. The majority of research in this area has been performed in other sectors. The prescriptions generated by each of these studies are highly contextual and tend to be tied to their original empirical contexts (e.g., the grocery industry, banking, and consumer electronics).

In order to examine the affect of strategic behavior on firm performance in the apparel industry, attention to the broader approaches to strategy formulation provides a logical starting point. In a recent article, Hunt and Duhan (2002) propose that future competition will be characterized by firms that can incorporate both efficiency and effectiveness into their strategic agendas. In addition, both classical and contemporary thinking acknowledge that innovation enhances competitiveness within organizations (e.g., Rogers, 1995; Varadarajan and Jayachandran, 1999).

Operational Efficiency

Operational efficiency has long been considered an important approach to strategic decision making in the textile & apparel industry. For the current study, operational efficiency refers to the focus on cost control in performing business activities as a competitive tool. Though operational efficiency alone does not constitute a comprehensive business strategy (Porter, 1996) it has been and continues to be an important competitive element in the inventory intensive apparel industry. Academics and practitioners alike have examined supply-chain issues and technologies in pursuit of strategies/tactics that control costs in the fiber-apparel-textile pipeline including sourcing strategy (Lowson, 2001), use of quick response technologies (Hunter and Valentino, 1995), and related inventory management initiatives (Kincade, Vass and Cassill, 2001; King and Hunter, 1996; Ko and Kincade, 2001). For the most part, the literature that has examined operational efficiency in apparel supply chains focuses on distribution initiatives among/between suppliers and manufacturers. To expand understanding of the drivers of profitability among the retail players in the apparel/footwear supply chain, the current research focuses solely on the retail organization.

Marketing Effectiveness

A second approach to strategy formulation in a number of industries is the incorporation of a marketing focus into the corporate agenda. Referred to broadly as market orientation, the idea of integrating the marketing concept into firm culture has been an important driving force in marketing/management research and practice for the past decade (Kohli and Jaworski, 1990; Narver and Slater, 1990). Researchers have linked market orientation to positive outcomes including profitability (Jaworski and Koli, 1993) and employee effectiveness (Siguaw, Brown and Widing, 1994). To date, there is very little evidence of empirical inquiry into marketing effectiveness or market orientation in retailing firms in general (with the exception of Conant and White, 1999) or in the apparel context. The current inquiry seeks to establish a first step towards understanding the strategic impact of marketing effectiveness on apparel retailing firm performance. Note that this research stops short of considering the full market orientation construct due to its extensive nature. The concept of marketing effectiveness is comparatively narrower, dealing only with basic marketing activities: product, price, promotion and place.

Innovation

Academics across of number of business and social science fields agree that innovation is extremely important for business organizations in both administrative and new product contexts (e.g., Rogers, 1995; Henderson and Clark, 1990; Frambach and Schillewaert, 2002). The extant literature on innovation in organizations tends to focus on the determinants of innovativeness (for a review see Frambach and Schillewaert, 2002), particularly in the area of new product development (e.g., Gatignon & Xureb, 1997).

The conceptual literature suggests that innovation is likely to be present among market oriented organizations (Varadarajan and Jayachandran, 1999). However, in the operational context, firm innovativeness has been characterized as working against short-term efficiencies, due to unpredictable time and resource commitments and uncertain outcomes (Boulding, Morgan and Staelin, 1997).

Performance

Retail performance within the apparel sector was previously measured in the Conant, Smart, and Solano-Mendez study (1993). In addition, the construct has been examined in a number of retail sectors including the grocery sector (Hawes and Crittenden 1984, Lewis and Thomas 1990), the hardware/

general merchandise/furniture sectors (Kean et al. 1998) and the retail banking sector (Hay and Napier, 1987). For the most part, measurements of retail performance have been undertaken with a subjective approach. The subjective approach is predominant due to a heavy focus on small business/ independent retailers whose financial information is not public (Conant, Smart, and Solano-Mendez 1993; Conant and White 1999; Kean et al., 1998). Across this literature, a number of different indicators are used to represent the dimensions of retail performance (e.g., return on sales, market share, net income, etc.). However, a common definition/framework and corresponding measurement of the retail performance concept has not been defined. Venkatraman and Ramanujam (1996) suggest that performance is multi-dimensional and should be clearly defined in terms of context and research objectives. Within retailing there are a number of relevant financial indicators (e.g., return on equity, return on assets, net income, etc.) and operational indicators (e.g., inventory turns, net sales per square foot, net sales per employee) that are commonly used in practice but have not been investigated as dimensions of retail performance in academic research.

Hypotheses

Drawing on the interdisciplinary conceptual and empirical literature that deals with marketing effectiveness, operational efficiency, innovation and retail performance, a series of hypotheses is presented to explore the relationship between these constructs and firm level performance in the apparel industry. Though related in practice, both marketing effectiveness and operational efficiency are considered (independently) as positive influences on firm level performance. Therefore, the following hypotheses are stated:

H_1: A positive relationship exists between marketing effectiveness and firm level performance in apparel retailing firms.

H_2: A positive relationship exists between operational efficiency and firm level performance in apparel retailing firms.

H_3: A positive relationship exists between marketing effectiveness and operational efficiency combined and firm level performance in apparel retailing firms.

Within the apparel industry, innovation is widespread. From new product development to distribution and planning contexts, new technologies are constantly being developed to create value for customers. The second purpose of this inquiry is to examine the impact of innovation combined with marketing effectiveness and operational efficiency on performance. Drawing on the conceptual work stated in the literature review, the following hypotheses are posited to investigate the impact of innovation (combined with marketing effectiveness and operational efficiency) on performance:

H_4: A positive relationship exists between marketing effectiveness and innovation combined and firm level performance in apparel retailing firms.

H_5: There is no relationship between operational efficiency and innovativeness combined and firm level performance in apparel retailing firms.

METHODOLOGY

A mail survey methodology was developed to capture information from key informants inside domestic apparel and footwear chains. Efforts were focused on targeting key informants who were capable of answering broad strategy questions, reaching these informants effectively, and eliciting their participation in the study, which is typically difficult to obtain from organizational retail samples.

Sample

Apparel and footwear retail chains within in the United States were selected as the general frame for the study. A mailing list was compiled from two sources: Plunkett's Retail Directory and Chain Store Guide's Database. 360 apparel and footwear retailers were queried according to the following criteria: a minimum of five stores per chain, regional and/or national operating coverage (store locations), and a minimum of $2 million in sales per annum.

Data Collection & Response Rate

The data collection process took place in a total of three waves. Each named key informant was sent a survey during the second week of January 2002. A reminder postcard was sent ten days following the original mailing. Three weeks after the original mailing a replacement survey was sent to non-respondents. After all mailing waves, a total of 60 retailers responded to the study, for a 17 percent response rate. The first wave accounted for 75 percent of the total sample with 45 returned surveys. The balance of the sample was returned after the final mailing wave. For an organizational study, a 17 percent response rate is generally considered as reasonable (e.g., Conant and White, 1999).

Measures

Operational efficiency and marketing effectiveness were measured using a modified version of the Conant, Mokwa and Varadarahan (1990) marketing capabilities scale. Three items were used to examine each respondent's self-evaluation of operational efficiency and five items were used to measure marketing effectiveness. Innovation was measured using three items which probed the degree of each chain's innovation behavior (i.e., technological and administrative innovation) on a seven point Lickert-type scale. Performance was measured using the Conant, Smart and Salano-Mendez scale which tapped into both financial and operational dimensions of performance using eight different indicators [i.e., general profitability, return on investment (ROI), return on assets (ROA), sales per square foot, effectiveness of cost control, sales per employee, total sales growth over the past three years, and overall company performance]. Reliability coefficients for each of the scales indicated acceptable values according to Nunnally and Bernstein (2001): marketing capabilities (.8245), operational efficiency (.6714), innovation (.8827) and performance (.945).

Analysis

Linear regression was used to test the effect of each strategic focus (i.e., marketing effectiveness, operational efficiency—combined with innovation) on firm performance. Because there was a single dependent variable, firm performance, the regression model provided a straightforward approach for examining the main effects and interactions of the different strategic focuses with innovation.

RESULTS

Sample Characteristics

Sample characteristics for the respondent firms are presented in Table 1. The sample is composed of 40 apparel retailers (67 percent) and 20 footwear retailers (23 percent). The apparel retail chains are comparatively larger than the footwear chains according to average sales volume, average number of stores, and average number of operating regions (i.e., a maximum of six inside the U.S.). In addition more apparel retailers (35 percent) reported that they were publicly held compared to the footwear retailers (15 percent). Key informants indicated adequate experience/positions for answering survey questions with an average 21.3 years of industry experience at or above the director level within their respective firms.

Table 1: Sample Characteristics

Variable	Retail Sectors	
	Apparel (N=40)	Footwear (N=200)
Sales volume ($millions)	$30	$12
# employees	3,767	1,324
# stores	187	106
# regions	3.05	2.10
% Public	35%	15%
% Private	65%	85%

Regression Model

The regression model indicated significance at the overall level (F=8.683, p=.000). Prior to fitting the final model, a saturated model was tested. After finding that the three way interaction term for marketing effectiveness, operational efficiency and innovation was non-significant, the model was re-fitted with only main effects and two way interactions. The model consisting of all three main effects and all two way interactions produced an r-square of .486 (Table 2).

Table 2: Regression Model for Effects of Marketing Effectiveness, Operational Efficiency and Innovation on Firm Performance

Source	Type III Sum of Squares	df	F	Sig.
Corrected model	3281.36	6	8.363	.000**
Intercept	1.23	1	.01	.891
Marketing Effectiveness * Operational Efficiency	16.73	1	.256	.615
Marketing Effectiveness * Innovation	265.59	1	4.061	..049*
Operational Efficiency * Innovation	77.37	1	1.183	.282
Marketing Effectiveness	1.617	1	.025	.876
Operational Efficiency	300.95	1	4.062	.037*
Innovation	21.44	1	.328	.569
Error	3465.88	53		
Total	87781.00	60		
Corrected Total	6747.25	59		

* Significant at a <.05, ** a <.001.

Hypothesis Tests

The results indicated support for three out of five hypotheses. Hypothesis one, which suggested a positive relationship between marketing effectiveness and performance was not supported (F=.025, p<.876). However, hypothesis two which tested a positive relationship between operational efficiency and performance, was supported with a significant statistic (F=4.602, p<.037). The third hypothesis which examined the relationship between marketing effectiveness & operational efficiency combined and performance was not significant (F=.256. p<.615). Hypothesis four examined the combined effect of marketing effectiveness and innovation on performance. Results indicated support for hypothesis four with a significant test statistic (F= 4.061, p<.049). The fifth and final hypothesis tested the combined effect of operational efficiency and innovation on performance. The non-significant test statistic was consistent with hypothesis five which posited no relationship between operational efficiency and innovation.

CONCLUSIONS, LIMITATIONS & FUTURE RESEARCH

The results of this inquiry provide mixed agreement with theoretical and practical knowledge in the cross-disciplinary academic literature. The hypothesis tests suggest that the sample retail chains that reported high levels of operational efficiency tended to report higher performance levels along both financial and operational dimensions. In keeping with the conceptual extant innovation literature, there was no interactive effect of the innovation factor and operational efficiency on levels of performance.

As a single effect, marketing effectiveness was not influential on performance among the sample respondents. In the presence of innovation however, marketing effectiveness was positively related to performance. It is surprising that the marketing effectiveness factor was not a positive influence on performance among the retail sample. Five items were used to capture marketing effectiveness. These items probed effectiveness in the selection of new products/product lines, promotions, pricing programs, advertising, and store layout and merchandising. It is possible that the measurement of marketing effectiveness was not comprehensive enough to adequately capture the nature of the construct (i.e., segmentation effectiveness, knowledge of consumers/competitors, etc). The market orientation literature has a great deal of conceptual and empirical knowledge to guide a more comprehensive conception of the marketing effectiveness construct. For future study, measuring market orientation would provide greater knowledge and practical implications for researchers.

A number of limitations are present in the study's conception, measurement and sampling method. As a first step towards understanding different strategic approaches in apparel retailing, the study conception draws on three different theoretical areas: marketing effectiveness, operational efficiency and innovation. Rather than piecing together knowledge from these diverse areas, a more comprehensive approach to future study would be beneficial for deeper understanding (i.e., focusing on any one of the three approaches). The measures used for marketing effectiveness and operational efficiency could be more extensive including additional dimensions of these constructs. In addition, the sample respondents were predominantly represented by small, privately held firms. Because the number of privately held retailers outweighs the number of publicly-held retailers in the U.S. (Levy and Weitz, 2001) this research may not be as applicable to large, public firms.

Overall, the results suggest that retail/marketing executives who defined their firms as operationally efficient and high in marketing effectiveness & innovation at the same time, reported higher levels of performance. In general the results suggest that retail chains likely approach strategy from different perspectives and these approaches affect performance. Therefore, it is important for researchers and practitioners (supply chain partners) to consider the effects of different approaches to business level strategy when making decisions in this increasingly integrated and competitive retail sector.

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