THE ROLE OF INDUSTRY COMPETITIVE INTENSITY ON THE FINANCIAL AND STRATEGIC PERFORMANCE OF FIRMS: AN INSIGHT INTO THE HERBAL COSMETIC INDUSTRY OF INDIA

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Abstract

Using an industrial-organizational view, this paper sets out to examine the association of the five forces of Porter with the financial and strategic performance of the firm. The relevant study population is the marketing and project managers of Indian herbal cosmetic firms. Data were collected from 131 respondents using a survey method and analysis using Structural Equation Modelling was done. As per results, no threat from new entrants was seen and there was no influence of buyers' bargaining power on the firms' performance. The bargaining power of the supplier significantly influences strategic performance and not financial. Moreover, the threat of substitute products influences financial performance and not the strategic one. The competitive rivalry among the firms exerts a significantly positive impact on both strategic and financial performance.

Keywords: Indian herbal cosmetic industry; Industry competitive intensity, Industrial-organizational theory, Porter’s Five Forces; Strategic firm performance, Financial firm performance.

Introduction

The concept of using cosmetics to enhance beauty is as old as mankind itself. Indian herbs and their importance are renowned at a global level. During older times, synthetic cosmetics were more prevalent but the trend is changing in the present world. Nowadays, people are becoming aware of the side effects of these chemicals and hence switch towards organic and natural components. There is an increasing consciousness toward appearance and looks, thereby contributing to the expansion of the herbal cosmetic industry around the world. Moreover, people have started productively accepting herbal products. Apart from this, the prominent role of social media and beauty blogs conveying the benefits of herbal cosmetics has paved the way for all companies to enter this market.

Not only this, but herbal cosmetics are also increasingly preferred as a remedy for skin and hair-related problems. To attract new customers passionate about herbal products and increase their customer base, the existing and established market players are acquiring companies dealing in natural beauty products. It is expected that the world herbal beauty segment shall grow at an annual compound rate of 5.2% starting from 2020 to 2027. Also, Indian herbal cosmetics have huge demand in the domestic as well as the global marketplace. Drawing on the growing relevance of this industry, it becomes indispensable to study the competitive intensity of this industry and its contribution to the financial and strategic performance of the firms.
Industrial-organizational (IO) theory of strategic management

A theoretical paradigm that explains the firm's ability to outperform its competitors and performance variation includes the industrial-organization theory (Hoopes et al., 2003). This paradigm holds its basis on the SCP approach (structure-conduct-performance) and emphasizes the structure of the industry, which today is best explained by Porter's Model of five forces (Porter, 1980). This approach suggests that industry effects dominate over time. This framework or perspective is market-oriented and sees the firm as trying to make a competitive edge in the market by adapting itself to the changing environment (Spanos & Lioukas, 2001). It asserts that analysis of industry competitive intensity is predominantly important for formulating a strategy to improve performance (Henderson and Mitchell, 1997). It is an important research area in the literature on strategy and it entails the examination of the external environment to devise effective strategies for marketing and achieve superior performance outcomes (O'Cass & Weerawardena, 2010).

Review of Literature and Hypothesis Development

Industry Competitive Intensity and Porter’s Five Forces

Porter, in 1980, developed a theoretical framework labeled as the Five Forces Framework of analysis of competition in an industry based on industrial-organization economic logic, enormously influencing the field of strategy (Voelpel&Dous, 2004; Bridoux, 2004). This framework helps in understanding how the structure of the industry affects the profit-making capability of the firms. It also attempts to make competitor analysis within an industry in order to devise a resultant strategy for business development (Thompson et al., 2014).

Industry competition is one of the most important variables for explaining industry structure (Chung, 2001), and so efforts are made to evaluate the Industry Structure in terms of Industry Competitive Intensity. The concept of industry competitive intensity comprises five forces present in a business environment: intensity of rivalry among the existing firms, the threat of new entrants, the threat of substitute products, buyer power, and supplier power (Weerawardena et al., 2006). The basis of the model is that the strengths of each force can be measured, and the collective power of all five forces ultimately determines the industry attractiveness and influences the strategy choice. Drawing on this, companies could improve their competitive position and ultimate profit potential. The concept behind this perspective is that the stronger the forces that affect the firms, the least the expected profitability. Simply by understanding the interplay among the five forces, a firm will be able to make a strategic position in the marketplace that is not easy to attack. All in all, this concept helps to gauge the changing dynamics with respect to the market so that the firm can align itself in a successful manner against each of the forces.

There is an extensive implementation of Porter's five forces model in various research articles. It has also been adopted by Luttgens and Diener (2016) to analyze different business model threats. Moreover, it was also extended to include some non-market variables in the telecommunications industry (Sutherland, 2014). Furthermore, it was also applied in the shale gas market in China by Wu and Yang (2014) to understand the competitive landscape.

Firm Performance

An important dimension of a firm's business is its performance (Pervan et al., 2017). Firm performance basically means measuring the success of the firm (O'Cass& Ngo, 2007b). The ultimate motive behind any strategy formulation or research is improving performance (Venkatraman and Ramanujam, 1986). While it cannot be assumed that only superior financial performance is the ultimate goal of business organizations, it is indeed a central and critical aspect of business performance. Stakeholder satisfaction is also widely used as the basis of firm performance (Richard et al., 2009). This concept of performance should be conceptualized broadly and in a well-balanced manner which should include both objective and subjective measures. It is meaningful to ascertain
how industry structure influences the performance in long-term, which can be measured by the firm's key (both strategic and financial) performance indicators compared with its main competitors or the industry average.

Extensive research has already been done to test the importance of industry structure factors concerning the performance differential (Hawawini et al., 2003, Galbreath and Galvin, 2008). That is whether managers should be concerned about the industry's structure as a significant determinant of performance. Addressing the issue, this paper looks into the role of the industry's business environment on the firm's financial and strategic performance. It has been well established that firms having a turbulent industry environment tend to achieve greater firm performance.

Many studies have previously stated the influence of Porter's competitive strategy framework in terms of industry characteristics on firm performance. An integrated model (based on both competitive strategy and resource-based view) exhibiting the role of information technology in a firm's performance was done by Rivard et., 2006. A study done by Spanos and Lioukas in 2001 and by Galbreath and Galvin, in 2008 relatively explored the impact of industry characteristics and firm resources on competitive advantage and firm performance variation respectively. Pervan et al., 2017 also investigated the impact of industry characteristics on business profitability in their research study. It was also examined by O'Cass and Weerawardena, 2010 that competitive intensity is a driver of superior brand performance.

Similarly, in a study by O'Cass, Weerawardena, and Julian in 2006, it was examined that the structure of the industry does matter in influencing brand performance. Also, the impact of the industry environment on overall performance was examined by Kamasak, 2011. Chen, 2010, in his study, examined how industry factors impact IT performance in Korea. Karabag (2008) also examined industry structure to be significantly affecting firm performance.

Keeping the above everything in mind, we state the following hypothesis:

H1: The rivalry among existing firms has a significant and positive effect on the Financial Performance of herbal cosmetic firms.

H2: The rivalry among existing firms has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.

H3: The bargaining power of the suppliers has a significant and positive effect on the Financial Performance of herbal cosmetic firms.

H4: The bargaining power of the suppliers has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.

H5: The threat of new entrants has a significant and positive effect on the Financial Performance of herbal cosmetic firms.

H6: The threat of new entrants has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.

H7: The threat of substitute products has a significant and positive effect on the Financial Performance of herbal cosmetic firms.

H8: The threat of substitute products has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.

H9: The bargaining power of the buyers has a significant and positive effect on the Financial Performance of herbal cosmetic firms.

H10: The bargaining power of the buyers has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.
Need of the study and Research gap

The market potential in the segment of herbal cosmetics is untapped although these products are a major part of consumer spending. There is intense competition in this industry and hence, arouses a dire need to study the competitive environment.

Although the exponential sales of herbal cosmetics have intrigued various interest groups, the scope of research regarding the organic personal care industry has been limited to consumer behavior and not much is explored regarding the industry analysis. As many firms like The Body Shop, Forest Essentials, Kama Ayurveda, and Soulflower have established their presence in this industry, it becomes critical to understand the determinants of industry structure. The research in the personal care segment majorly involves non-herbal products and not many herbal products, Thus it becomes essential for the firms to study the entire industry environment to achieve above-average profitability and stand out among the competitors.

The application of the Industrial-organisation approach in the herbal cosmetic industry is relatively new although this theory has seen extensive application in other sectors like IT and SMEs.

Research Methodology

Problem Statement

The role of Industry competitive intensity on the financial and strategic performance of firms: An insight into the herbal cosmetic industry of India

Conceptual Framework

It is conjectured here that the firms operating within an intense industry environment will tend to develop effective marketing strategies and achieve better firm performance leading to the formation of the proposed conceptual framework as shown in Fig. 1.
Data Collection instrument and scale measures

A non-disguised and standardized questionnaire is being used to collect independent responses.

The variable of Industry competitive intensity is studied using a 21-item scale by O’Cass and Ngo (2007a). It is a five-point scale anchored by one as 'strongly disagree' and five as 'strongly agree'. It is a latent variable explained by five dimensions, including existing rivalry among firms, bargaining power of suppliers, the threat of new entrants, threat of substitutes, and bargaining power of buyers (O’Cass & Ngo, 2007a).

The scale for firm performance will be adapted from Santos & Brito (2012), and two dimensions have been taken to measure this construct, i.e., Financial Performance and Strategic Performance. The financial dimension is represented by profitability and growth (Cho & Pucik, 2005; Morgan, 2012) and is studied via a 6-item scale and a 5-item scale, respectively. The strategic performance is measured in terms of customer satisfaction and employee satisfaction via a 6-item scale. All measurements are taken on a five-point Likert scale anchored by one as 'below average and five as 'above average.

Sampling Design

The key informants for the study include the marketing and project managers from the top herbal cosmetic companies taken from the Forbes list and the Economic Times. They are a suitable population of interest due to their knowledge about the relevant subject area and practical industry experience. A total sample of 131 managers has been taken via contact on the telephone, LinkedIn profiles, email surveys, and personal appointments.

Pre-testing of research instrument and Pilot study

Pre-testing of the questionnaire is carried out on 10 managers of selected herbal cosmetic firms, chosen based on judgemental sampling. A pilot study on 50 employees has also been conducted to see if the reliability and validity of the scale is in place.

Data Analysis and Interpretation

Data Cleaning and pre-processing

Data were cleaned by looking out for missing values, unengaged values, and outlier detection. We could not find any missing values in the data used. Two respondents marked the same response for all or majority of the questions and these respondents were deleted from the dataset. No outliers were detected in the dataset.

Assumptions

To implement Structural equation modeling, the assumption of multicollinearity was checked which was determined through the Variable Inflation Factor (VIF) which must be below 10 (Field, 2009). The VIF for all the variables came out to be 1 and is in an acceptable range.

Exploratory Factor analysis

This is used to get a rough factor structure and approximate idea of item loadings. Maximum Likelihood estimation has been used to extract the factors along with varimax rotation. During the initial EFA, the item naming S-B1 (first question) of supplier power was dropped. The items named TS-D1 and TS-D2 of the threat of substitutes were dropped. The item named TE-C4 was dropped too. Also, the CS-D2 item of strategic performance was deleted to get EFA results.
Measurement Model

A measurement model is constructed and tested for model fit, reliability, and validity as discussed below. Based on the constructs determined in the previous section, a measurement model is developed consisting of 12 latent constructs. The measurement model along with their standardized regression weights is displayed in the Fig. 2 below.

From the measurement model, it was observed that all the constructs have high loadings with their respective observed variables. This represents the presence of convergent validity in the model. Also, the covariance between unrelated constructs was low, thereby, signifying the distinctiveness of the constructs. This highlights the presence of discriminant validity.

The values of Composite Reliability, Average Variance Extracted, and Maximum Shared Variance are used to look into the reliability and validity of the measurement model. These values are calculated using the “Master Validity Tool” - an AMOS plugin from Gaskination’s StatWiki (Gaskin & Lim, 2016) shown in Table 2 below. The minimum threshold for the values of CR, AVE, and MSV are given in Table 1 below.

Table 1: Criterion for achieving Convergent and Discriminant Validity

<table>
<thead>
<tr>
<th>Convergent Validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR &gt; 0.7</td>
<td>AVE &gt; MSV</td>
</tr>
</tbody>
</table>
AVE > 0.5

The square root of AVE should be greater than its inter-construct correlations.

CR > AVE

CR = Composite Reliability; AVE = Average Variance Extracted; MSV = Maximum Shared Variance

Table 2: Estimated Values of CR, AVE, and MSV

<table>
<thead>
<tr>
<th>Measure</th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>Max R(H)</th>
<th>Rivalry</th>
<th>Supplier</th>
<th>Threat Entrant</th>
<th>Threat Substitute</th>
<th>Buyer</th>
<th>Firm Perf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp Rivalry</td>
<td>0.945</td>
<td>0.812</td>
<td>0.486</td>
<td>0.948</td>
<td>0.901</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td>0.873</td>
<td>0.697</td>
<td>0.358</td>
<td>0.894</td>
<td>0.503</td>
<td>0.835</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threat Entrant</td>
<td>0.884</td>
<td>0.721</td>
<td>0.486</td>
<td>0.916</td>
<td>0.697</td>
<td>0.598</td>
<td>0.849</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threat Substitute</td>
<td>0.885</td>
<td>0.794</td>
<td>0.387</td>
<td>0.886</td>
<td>0.330</td>
<td>0.490</td>
<td>0.163</td>
<td>0.891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buyer</td>
<td>0.889</td>
<td>0.616</td>
<td>0.426</td>
<td>0.895</td>
<td>0.652</td>
<td>0.597</td>
<td>0.575</td>
<td>0.622</td>
<td>0.785</td>
<td></td>
</tr>
</tbody>
</table>

Determination of Model Fitness of Measurement Model

The model fitness is determined based on recommendations given by Hu and Bentler (1999). The initial model fit indices are slightly below the acceptable level, therefore, modification indices are used. The figures are shown in Table 3 below after covarying few error terms (e20 with e21; e28 with e29; e36 with e37; e31 with e32; and e30 with e33). A value of RMSEA less than 0.08 is also acceptable (MacCallum, Browne & Sugawara, 1996), making the measurement model a good fit.

Table 3: Model Fit Indices of Measurement model

<table>
<thead>
<tr>
<th>Measure</th>
<th>Estimate</th>
<th>Threshold</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN</td>
<td>1156.940</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>DF</td>
<td>676</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>1.711</td>
<td>Between 1 and 3</td>
<td>Excellent</td>
</tr>
<tr>
<td>CFI</td>
<td>.906</td>
<td>&gt; .95</td>
<td>Acceptable</td>
</tr>
<tr>
<td>SRMR</td>
<td>.062</td>
<td>&lt; .08</td>
<td>Excellent</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.074</td>
<td>&lt; .06</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>
A structural model has been made to test for model fitness along with the values of squared multiple correlations as follows. Based on the hypotheses developed from the review of literature, a structural model is prepared to represent the constructs shown in Figure 3.

From Table 4, it is evident that the structural model has an excellent fit, except for RMSEA. A value of RMSEA less than 0.08 is acceptable (MacCallum, Browne & Sugawara, 1996), making the structural model a good fit.

**Table 4: Model Fit Indices of Structural model**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Estimate</th>
<th>Threshold</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN</td>
<td>1130.657</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>DF</td>
<td>680</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>CMIN/DF</td>
<td>1.661</td>
<td>Between 1 and 3</td>
<td>Excellent</td>
</tr>
<tr>
<td>CFI</td>
<td>.920</td>
<td>&gt;.95</td>
<td>Acceptable</td>
</tr>
<tr>
<td>SRMR</td>
<td>.058</td>
<td>&lt;.08</td>
<td>Excellent</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.07</td>
<td>&lt;.06</td>
<td>Acceptable</td>
</tr>
<tr>
<td>IFI</td>
<td>.915</td>
<td>&gt;.90</td>
<td>Excellent</td>
</tr>
</tbody>
</table>
Value of R square– Squared Multiple Correlation

As per Hair et al., 1998, R square having values of 0.75, 0.50, or 0.25 signify substantial, moderate, and weak respectively outcome variables. However, even low values are acceptable in the field of social science, provided they are not less than 0.025. Table 5 shows the values of R square for each dependent variable in the model.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>R square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Performance</td>
<td>.438</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>.432</td>
</tr>
</tbody>
</table>

From Table 5, it is clear that all the dependent variables in the structural model have sufficient R2 values. As evident, around 43% of the variance in Strategic and Financial Performance is explained by the independent variables under study. This signifies that several other factors have a bearing on the performance parameters which have not been accounted for in the present study. Even though this percentage is considered as sufficient by Hair et al. (1998), it points toward a plethora of factors that can impact firm performance apart from the ones considered in this study.

Hypothesis Testing

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypothesis</th>
<th>p-value</th>
<th>Accepted/Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>The rivalry among existing firms has a significant and positive effect on the Financial Performance of herbal cosmetic firms.</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>The rivalry among existing firms has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>The bargaining power of the suppliers has a significant and positive effect on the Financial Performance of herbal cosmetic firms.</td>
<td>.162</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4</td>
<td>The bargaining power of the suppliers has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.</td>
<td>.049</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5</td>
<td>The threat of new entrants has a significant and positive effect on the Financial Performance of herbal cosmetic firms.</td>
<td>.239</td>
<td>Rejected</td>
</tr>
<tr>
<td>H6</td>
<td>The threat of new entrants has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.</td>
<td>.70</td>
<td>Rejected</td>
</tr>
<tr>
<td>H7</td>
<td>The threat of substitute products has a significant and positive effect on the Financial Performance of herbal cosmetic firms.</td>
<td>.018</td>
<td>Accepted</td>
</tr>
<tr>
<td>H8</td>
<td>The threat of substitute products has a significant and positive effect on the Strategic Performance of herbal cosmetic firms.</td>
<td>.213</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
Conclusion

In this research, the role of industry variables on the performance of firms is studied. For analysis, structural equation modeling was applied to a sample of 131 respondents from the herbal cosmetic industry. The analysis results support the hypothesized relationships proposed in the study.

Many conclusions can be drawn concerning the impact of the five forces model on the performance of herbal cosmetic firms in India. At the onset, it can be indicated that there was no new entrants threat to the herbal cosmetic firms in India. This could be because the herbal cosmetics market is new and unexplored. The firms already existing are also not primitive rather they are new in the market. The study went on to indicate that the bargaining power of the buyers did not affect the performance as well. This indicates the product differentiation exhibited by all the companies and hence, the difficulty of switching by the customers. The bargaining power of the suppliers has a significant effect on the strategic performance of the firms and not on the financial one. Moreover, the threat of substitute products influences financial performance, not the strategic one. The results indicate that the competitive rivalry among the firms has a significant and positive effect on both the strategic and financial performance of the firms. To be in a position to deal with Industry rivalry, firms need to have to place good strategies aimed at maintaining competitiveness. In this regard, firms had to have highly flexible prices, watertight marketing strategies, and robust customer care among others.

Limitations and Future recommendations

The scope is limited to the Indian herbal cosmetic industry. Future research can envisage exploring different industries as well as countries. Also, the research work is limited to the industry structure (internal characteristic) as a determinant of performance. The study in the future can also incorporate new characteristics (external) like marketing capabilities, competitive advantage, IT and social media marketing capability, etc. This work has used subjective measures of performance and future work can also include objective measures.

References