

**Marketing Variables Critical to Successful  
High-Technology Launches Overseas:  
Insights from a Finnish Versus California Comparison**

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# **Marketing Variables Critical to Successful High-Technology Launches**

**Overseas:**

## **Cross Cultural Insights from a Finnish Versus California Comparison**

### **ABSTRACT**

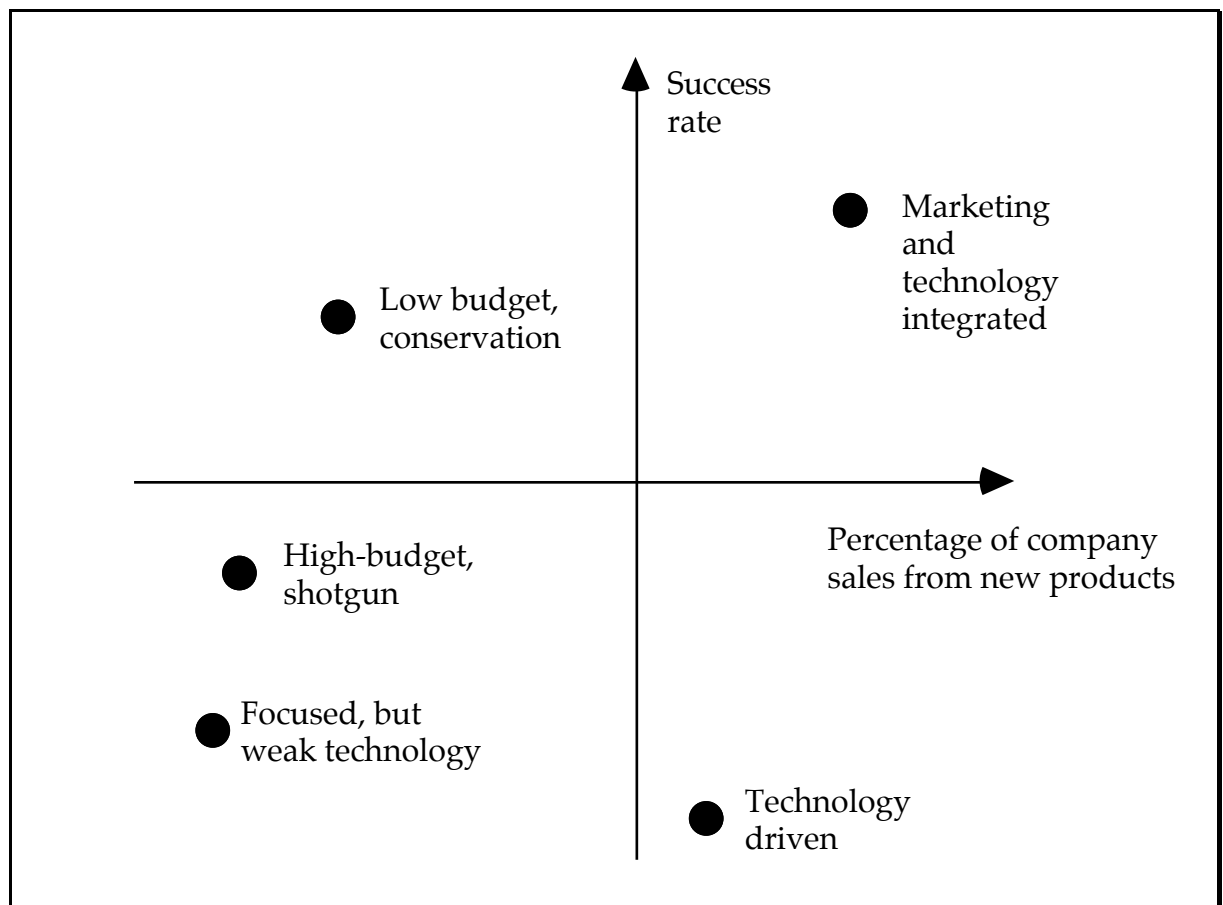
While much research has been directed at the variables critical to successful Research and Development of new and high-technology products, much less work has been directed at those factors crucial to the success of these products when the firm first attempts to enter the international marketplace. This study surveys California high-technology firms and identifies those variables associated with successful attempts to enter the international marketplace. These findings are then compared and contrasted to an identical study done of Finnish high-technology exporters. Variable salience to export success as a function of the two different markets are then examined to gain a better understanding of the relationship between market environmental factors and their association with current usage in gaining entry into international markets.

### **INTRODUCTION**

This study will be a replication of Matti Haverila's (1995) doctoral work attempting to identify those marketing variables and methods associated with the successful launches of high-technology products into non-domestic markets. It is hoped, that by examining the similarities and differences between Finnish and Californian high-technology firms, that insights can be gleaned into each.

## TECHNOLOGY-MARKETING AND GLOBAL MARKETING

An aspect of the strategy/success relationship between marketing and the integration of technology can be found in Cooper and Kleinschmidt's (1987) study. As shown in Figure 1, the most successful strategy is one that integrates marketing and technology. Here the focus is on the needs of the customer and, at the same time, on the state-of-the-art technology.



*Figure 1. Comparison of new-product strategies on the percent of sales and on the percent of projects that were successful.*

High-technology markets are often newly emerging and are characterized by a lack of latent demand. Markets are often taken completely by surprise, never having dreamed such a product was possible. It was also concluded by Kohli and Jaworski (1995) concerning market orientation that, "*The greater the technological turbulence, the*

*weaker the relationship between market orientation and business performance* " The proposition is not that a market orientation is unimportant, but rather that it is less important.

Buskirk (1986) suggests that the role of marketing varies depending upon the stage of technology. While a high-tech firm may be able to gain rapid adaptation into its home marketplace through superior engineering design, by the time the firm is ready to enter overseas markets, the technology has often matured to the point that increased marketing efforts are required to be successful. High-technology was found to be related in two distinct categories, "Cutting Edge" and "State of the Art". The "Cutting Edge" classification of high-technology was found to be dominated by research efforts, and as such engineering. The "State of the Art" classification was found to be dominated by firms commercializing new technologies both in terms of large scale production, and the following need for large scale marketing aimed at establishing the marketplace benefit of the technology. Many firms have difficulty in successfully integrating their marketing and engineering efforts. Buskirk suggests that a business competing with high-technology strategy succeeds by combining its technical expertise, its ability to quickly gain knowledge about its customers' problems and needs, and its ability to give the customer sufficient technological expertise to be able evaluate and choose a product. Figure 2 illustrates the shift from a predominance of engineering efforts in the early stage of a technology, and how during the Technology Life Cycle marketing efforts steadily must replace the engineering dominance.

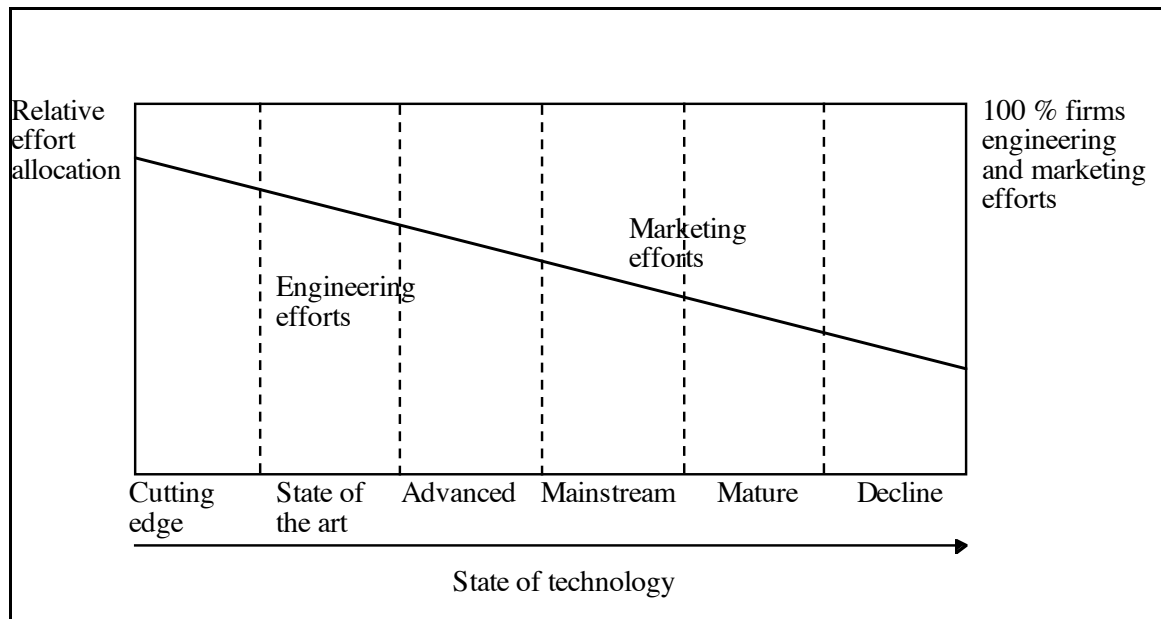


Figure 2 . The Balance of Engineering and Marketing efforts across the Technological Life Cycle. (Adapted from Buskirk, Bruce; "Industrial Market Behavior and the Technological life Cycle " *Industrial Management & Data Systems*, Nov. Dec. 19~6, p. 9.)

## METHODOLOGY

In Haverila's (1995) work, the definition what firms were or were not High-Technology" was avoided by the adoption of the Finnish Government's statistical department categories. While this position was convenient both pedagogically and logistically in Finland, it was more difficult to execute in the United States. The Finnish government's definition had to be broken down into the specific products produced in the included firms product lines, and then those product lines were cross linked to their corresponding United States SIC codes. These twelve codes were then used to obtain an appropriate mailing list. California high-technology firms were selected as a matter of the researchers interest, and to be able to better attribute any results found.

Three hundred seventy questionnaires were mailed to the presidents or CEO's of the companies found producing goods in the same categories as the Finnish study. Eighty one were returned as no longer at the address. While this return rate is quite high, it is indicative of the volatile nature of the sample population, as well as, perhaps, difficulty in getting the most current updated of lists. Twenty seven of the two hundred ninety responded, or 9.3%. However, it is felt that much of the non-response error was due to the percentage of firms in the sample not engaged in the international market place. Only two firms (these are in addition to the twenty seven usables) responded that they were not doing business outside the United States. It may well be that a significant portion of the sample was not doing business outside the United States, and as such decided not to respond.

The questionnaire was an abbreviated, and Americanized version of the Finnish questionnaire concentrating on those variables of most interest, based upon the results of the 1995 work.

Respondents were asked to profile the marketing methods used for the most successful product launch into an international market during the last three years on a five point scale.

## **FINDINGS**

Profiles of the responding firms in terms of sales, Research and Development expenditures as a percentage of Sales, Marketing expenditures as a percentage of sales, percentage of sales from non-domestic markets, the educational /business background of the respondent, and products produced did not differ significantly between the firms responding in California versus Finland. For the sake of illustration, a two mean test of differences was performed on the data. All significant results were also significant using Chi square, and Mann-Whitney, at the same levels. Table 1 reflects these results:

Table 1: Results of Two Means test on Salient Variables

Variable	California Mean	Finland Mean	Difference	Significance
Marketing Orientation of Company	<b>3.04</b>	<b>3.95</b>	<b>-0.91</b>	<b>0.05</b>
Use of Competitive Value Pricing	<b>3.04</b>	<b>3.49</b>	<b>-0.45</b>	
Competitive Distribution System	<b>3.19</b>	<b>3.10</b>	<b>0.09</b>	
Emphasis on Personal Selling	<b>4.07</b>	<b>4.13</b>	<b>-0.06</b>	
Paid Advertising	<b>3.44</b>	<b>2.33</b>	<b>1.11</b>	<b>0.01</b>
Publicity	<b>3.87</b>	<b>2.47</b>	<b>1.39</b>	<b>0.01</b>
Marketing Organization	<b>3.46</b>	<b>2.90</b>	<b>0.56</b>	
Use of Marketing Consultants	<b>1.90</b>	<b>1.74</b>	<b>0.17</b>	
Market Share as a Goal	<b>2.32</b>	<b>2.51</b>	<b>-0.19</b>	
New Product Program	<b>3.37</b>	<b>4.08</b>	<b>-0.71</b>	
Use of Market Segmentation	<b>3.17</b>	<b>3.38</b>	<b>-0.21</b>	
Use of Product Positioning	<b>3.41</b>	<b>2.92</b>	<b>0.49</b>	
Use of Product Differentiation	<b>4.63</b>	<b>3.74</b>	<b>0.89</b>	<b>0.05</b>
Formal Marketing Plan	<b>3.22</b>	<b>2.84</b>	<b>0.38</b>	
Use of MIS	<b>3.15</b>	<b>2.07</b>	<b>1.08</b>	<b>0.01</b>
Use of Marketing Research	<b>2.55</b>	<b>2.26</b>	<b>0.29</b>	

California high-technology firms relied more heavily upon product differentiation in their efforts to gain entry into foreign markets than did their Finnish counterparts. However, the Finnish firms relied upon the use of the marketing concept in guiding their actions. California firms made more extensive use of advertising, publicity, and Marketing Information Systems. Table 2 shows how the differences in which marketing variables and techniques ranked between California and Finnish markets.

Table 2: Rank ordering of Variable usage

<b>Variable</b>	<b>California Rank</b>	<b>Finland Rank</b>	<b>Difference</b>
Use of Product Differentiation	<b>1</b>	<b>4</b>	<b>-3</b>
Emphasis on Personal Selling	<b>2</b>	<b>1</b>	<b>1</b>
Publicity	<b>3</b>	<b>12</b>	<b>-9</b>
Marketing Organization	<b>4</b>	<b>9</b>	<b>-5</b>
Paid Advertising	<b>5</b>	<b>13</b>	<b>-8</b>
Use of Product Positioning	<b>6</b>	<b>8</b>	<b>-2</b>
New Product Program	<b>7</b>	<b>2</b>	<b>5</b>
Market Share as a Goal	<b>8</b>	<b>11</b>	<b>-3</b>
Formal Marketing Plan	<b>9</b>	<b>10</b>	<b>-1</b>
Competitive Distribution System	<b>10</b>	<b>7</b>	<b>3</b>
Use of Market Segmentation	<b>11</b>	<b>6</b>	<b>5</b>
Use of MIS	<b>12</b>	<b>15</b>	<b>-3</b>
Use of Competitive Value Pricing	<b>13</b>	<b>5</b>	<b>8</b>
Marketing Orientation of Company	<b>14</b>	<b>3</b>	<b>11</b>
Use of Marketing Research	<b>15</b>	<b>14</b>	<b>1</b>
Use of Marketing Consultants	<b>16</b>	<b>16</b>	<b>0</b>

It is interesting to note, that in both cases, firms made heavy reliance upon personal selling to gain international distribution. Further, there would seem to be universal reluctance to use marketing consultants.

## INTERPRETATION

California firms would seem to have a stronger "product orientation" than their Finnish counterparts, given their reliance on "Product Differentiation" to gain market success as opposed to the Finnish preference to following the "Marketing Concept". This may well be indicative of a deeper difference between the two markets. This survey fails to detect if firms are in the "cutting edge" stage of high-technology, or the later "state of the art" stage of high- technology. "Cutting edge" firms naturally are dominated by engineering efforts, and tend to compete based upon research achievement to gain a advantage through product differentiation. "State of the art" firms tend to buy existing technologies from cutting edge firms, and gain a market niche by their ability to transform those product attributes into customer benefits. As such, the "State of the art" firm must be well wedded to the marketing concept.

The California firms heavier reliance upon advertising and publicity is most likely one of market availability and effectiveness. Simply, the Finnish firm does not have the advertising and publicity opportunities that the California firm has. Five million people can read Finnish, English is read worldwide. Media availability for publicity is greater in the United States. This in turn makes advertising more effective.

The California firms heavier reliance on Marketing Information System can be explained in much the same way. Due to the size of the United States market place, extensive databases are more readily available. Further, United States would have greater economies of scale in their domestic market in gaining experience in the use of Marketing Information System.

## CONCLUSION

California high-technology firms would seem to have an advantage in their abilities to use advertising, publicity, and Marketing Information Systems. These advantages are on top of the advantages gained by being in a larger domestic market. High-technology firms concentrating in limited geographic areas may tend to have a higher percentage "cutting edge" firms. High-technology firms not located in high-technology areas face an additional barrier in gaining entry into international markets.

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