

**Successful product launches  
in high-technology industries:  
A Cross-cultural Marketing Methods Study**

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**ABSTRACT**

While much research has been directed at the variables critical to successful R&D of new and high-technology products, much less work has been directed at identifying those factors inherent in the firms that are related to the success of these products when the firm first attempts to enter the international marketplace. This study surveys Finnish and Californian high-technology firms and marketing methods used in successful launches into the international markets. The generalizability of these Finnish and Californian findings of this research to other economies is discussed.

**INTRODUCTION**

The development and introduction of new products to the marketplace are vital to corporate profitability and growth. The companies most successful in carrying out these activities use approaches and techniques that, although only slightly different from those employed by their less successful competitors, result in significant performance advantage.

Booz, Allen & Hamilton Inc. 1982

This study is a partial 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 international markets. It is the aim of the researchers to find differences and similarities between Finnish and Californian firms in the successful launches of high-technology products. It is important to note here, that only successful launches were compared.

## Technology-marketing and Global Marketing

Putting financial and human resources in R&D is not enough. The best innovation in the world is meaningless without purchasing customers. Marketing is the area most cited by technology intensive companies as being neglected (Autio, 1989). Many problems new technology companies face, are marketing related. These problems include f.ex. minor identity of the company, lack of marketing competence, getting of customers and creating customer relationships, difficulty to get to the distribution channels and acquisition of international contacts. The Finnish high-technology companies face another hurdle as well. The internationalization hurdle is shown in the following figure (Autio, 1989).

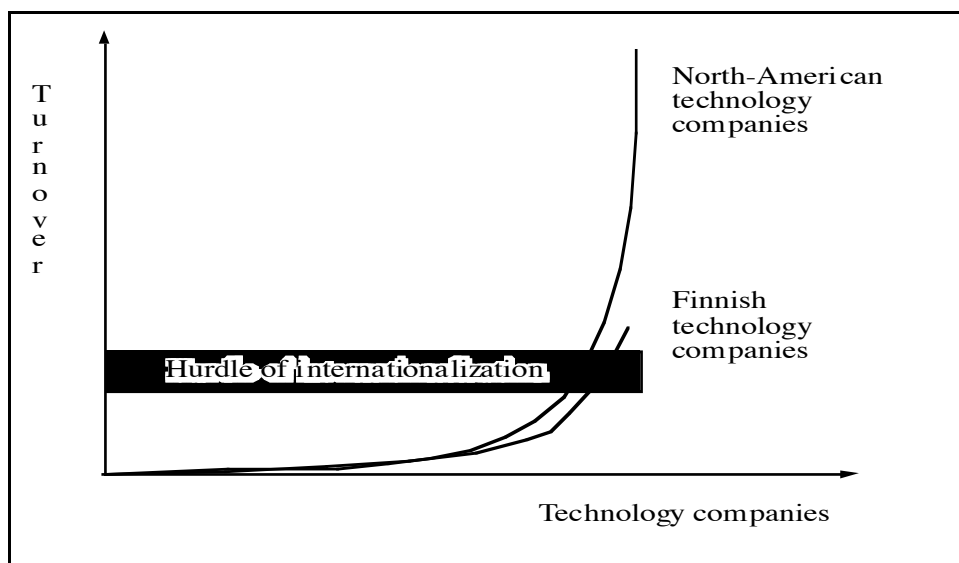


Figure 1. Comparison of Finnish and North American technology companies established within technical research institutes and universities.

Market and marketing related factors contribute greatly towards the hurdle of internationalization effectively prohibiting the internationalization efforts of many high-technology companies. The roots for this hurdle is the aim of this research.

Understanding the needs of customers should be the starting point of R&D even in high technology companies. This approach has been found to significantly contribute to the success of new products (Dougherty, 1990).

An aspect of the strategy/success relationship between marketing and the integration of technology can be found in Cooper and Kleinschmidt's study. As shown in Figure 2, 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 (Cooper, 1985).

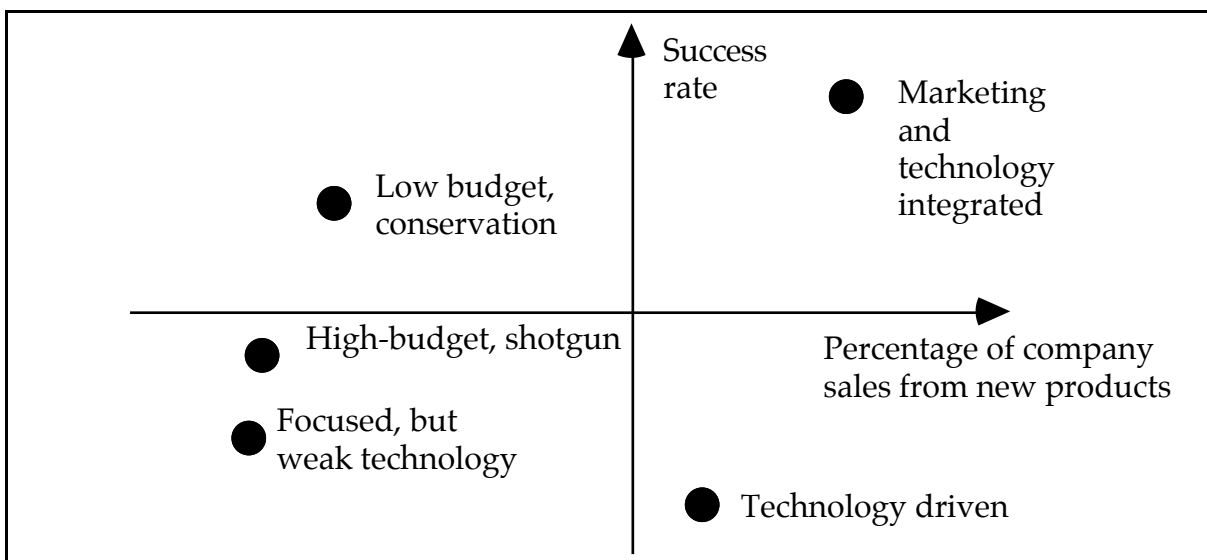


Figure 2. Comparison of new-product strategies on the percent sales and on the percent of projects that were successful.

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 concluded by Kohli and Jaworski (1995) concerning market orientation that, "The greater the technological turbulence, the weaker the relationship between the 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 selected 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 3 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.

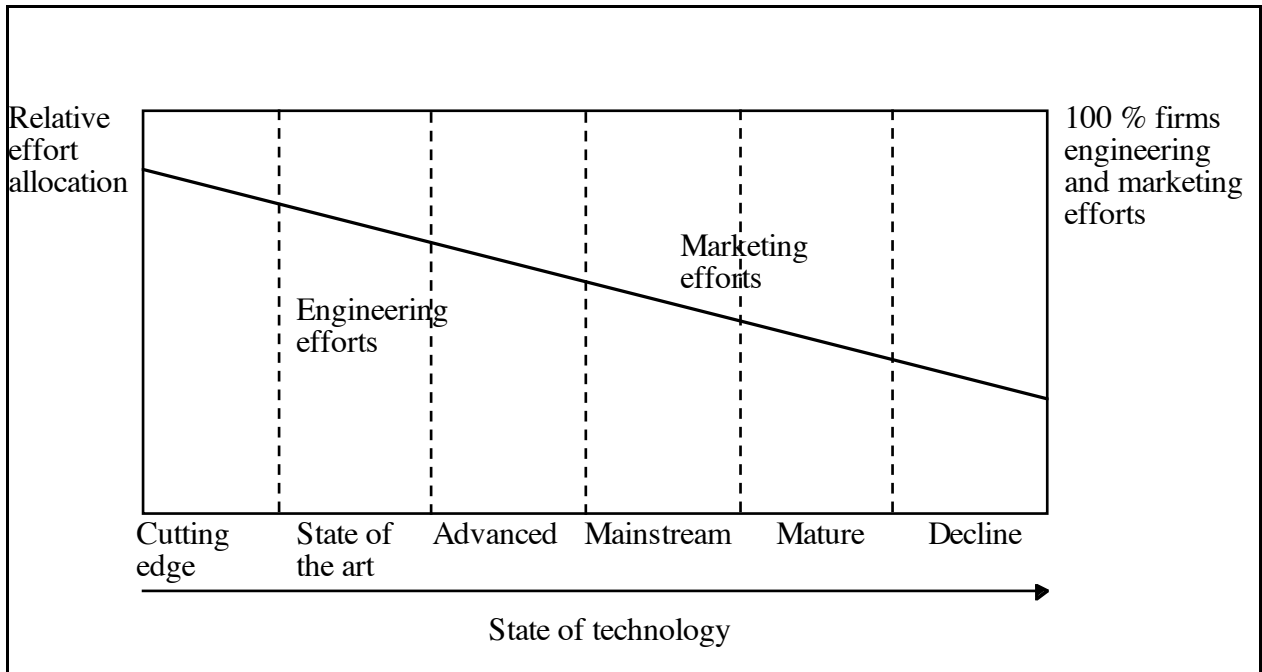


Figure 3. The Balance of Engineering and Marketing efforts across the Technological Life Cycle.

(Adapted from Buskirk, Bruce: "Industrial Market Behavior and the Technological Life Cycle" *Industrial*

*Management & Data Systems*, Nov./Dec. 1986, 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 findings in the research carried out by Statistics Finland (1993). While this position was convenient both pedagogically and logistically in the Finish study, it was more difficult to execute in the United States due to the differences in the SIC classification. The Statistics Finland categorization had to be broken down into the specific, and then those industries were cross linked to their corresponding United States SIC codes. These 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 I reflects these results:

*Table 1. The results of Two Means Test on the Marketing Variables.*

	California Mean	Finland Mean	Diffe- rence	Signifi- cance
<b>Marketing method</b>				
MARKETING CONCEPT				
1. Marketing concept	3.32	3.95	-0.63	0.02
MARKETING MIX VARIABLES				

1. Personal selling	4.22	4.13	0.09	*
2. Product/service specialization	2.60	3.70	-1.10	0.0002
3. Pricing	3.07	3.49	-0.42	*
4. Sales promotion	4.00	3.26	0.74	*
5. Distribution	3.23	3.10	0.13	*
6. Publicity	4.00	2.48	1.52	0.0001
7. Advertising	3.50	2.33	1.17	0.0005
MARKETING ORGANIZATION AND PLANNING				
1. New product development strategy	3.48	4.08	-0.60	0.0586
2. Differentiation	4.85	3.74	1.11	0.0000
3. Market segmentation	3.09	3.38	-0.29	*
4. Marketing organization	3.70	2.90	0.80	0.0001
5. Positioning	3.37	2.92	0.45	*
6. Marketing planning	2.91	2.84	0.07	*
7. Market share	2.13	2.51	-0.38	*
8. Market research	3.05	2.26	0.79	0.0385
9. MIS	3.17	2.07	1.10	0.0032
10. Marketing consultants	1.84	1.74	0.10	*

The results of the study are quite intriguing. First of all the usage of the “**Marketing Concept**” was significantly different. Marketing concept was defined as the orientation of all parts of the organization towards the satisfaction of the customer needs. It can be defined as an internal characteristic of the organization. Finnish companies relied much more heavily on the usage of marketing concept.

Also the usage of “**Product**” was significantly different. Product was defined as follows: Your firm frequently sought feedback from international customers to determine the new product features and its related services, and converted this feedback into the product offerings to satisfy the needs and wants of a specific export market. This is external variable, but only limited to the relationship between the

company and its customer. Finnish companies relied much more heavily on the usage of this variable. A somewhat related variable was the **“New Product Development Strategy”**. The aim here was to test Cooper’s “marketing and technology balanced”-strategy. This was according to his findings the most successful approach. Finnish companies used this approach more, but the difference was not statistically significant.

Another variable related to the beforementioned discussion is the use of “Product Differentiation”. For California companies this was by far the most important variable. Finnish companies used it to much lesser extent and the difference was statistically significant. This variable is external, and it takes into account the competitive environment. One could say here, that all what matters for California companies is, that as long as the product is different from competition, everything is OK.

Logically it is no surprise that the usage of “Market research” and “Marketing Information Systems” between Finnish and Californian companies is vastly different. These two marketing methods are much more important for the California companies than they are for the Finnish companies. One could say that that in order to be able to differentiate, one needs to its own marketplace.

Again, logically, one could argue that if the before mentioned is true, one needs tools to tell to the customers that “we are different”. These tools are “Marketing Organization”, “Advertising” and “Publicity”. California based high-technology companies use these variables to much greater extent than their Finnish counterparts. Especially striking is the difference in the usage of publicity. In the

Finnish study, advertising was classified as “Very unimportant” as marketing method, and publicity as “Rather unimportant. Using the classification scheme, publicity can be classified as “Very important”, and advertising as “Rather important” marketing method. The scale here used is a 5-point scale (very, rather, and moderately important, and rather and very unimportant).

Finally, table 2 shows the differences in the ranking order of the marketing methods both in California and Finland.

Table 1. *The ranking order of Marketing Variables.*

	California Mean	Finland Mean	Difference
<b>Marketing method</b>			
MARKETING CONCEPT			
1. Marketing concept	9	3	-6*
MARKETING MIX VARIABLES			
1. Personal selling	2	1	-1
2. Product/service specialization	16	5	-11*
3. Pricing	13	6	-7
4. Sales promotion	3	8	5
5. Distribution	10	9	-1

6. Publicity	3	14	11*
7. Advertising	6	15	9*
MARKETING ORGANIZATION AND PLANNING			
1. New product development strategy	7	2	-5
2. Differentiation	1	4	3*
3. Market segmentation	12	7	5
4. Marketing organization	5	11	6*
5. Positioning	8	10	2
6. Marketing planning	15	12	3
7. Market share	17	13	-4
8. Market research	14	16	2*
9. MIS	11	17	6*
10. Marketing consultants	18	18	0

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