Do the best new product development practices of US companies matter in Hong Kong?

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Abstract

Past research offers numerous “best practice” studies in New Product Development (NPD). One important characteristic of the earlier “best practice” studies is that they are primarily based on Western samples. Because management practices, cultures, and norms differ around the world it has been argued that the findings of the earlier studies will likely be less applicable to firms managing NPD outside the West. This study fills this gap by surveying Hong Kong companies and comparing the NPD activities in Hong Kong with those in the US. The results revealed interesting similarities and differences between US and Hong Kong firms with regard to their NPD activities.

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Past literature offers numerous “best practice” studies in New Product Development (NPD) (Cooper, Edget, & Kleinschmidt, 2004a, Cooper, Edget, & Kleinschmidt, 2004b; Cooper, Edget, & Kleinschmidt, 2004c; Griffin, 1997; Page, 1993). One important characteristic of the earlier “best practice” studies is that they are primarily based on Western samples. Indeed, Griffin (1997) has noted that because management practices, cultures, and norms differ around the world the findings of the Western studies will likely to be less applicable to firms managing NPD outside the West. She further argued that studying NPD practices around the world would be a fascinating piece of future research. Earlier studies have also suggested that cultural differences can impact NPD (Nakata & Sivakumar, 1996; Sivakumar & Nakata, 2003).

In response to this call for future research, this paper presents a “best practice” study in Hong Kong to understand the NPD activities of Hong Kong firms and to compare them with the benchmarks established in a survey study among the members of the Product Development Management Association (PDMA) in the US (Griffin, 1997) (hereafter, the PDMA study). Hong Kong is an important gateway to Mainland China, which is the world’s most populous nation with large market potentials for new products. Furthermore, innovation has been an important part of the economic policies of the Hong Kong Government. As a result, this study, being the first of its kind, offers useful implications not only to local firms but also to global firms that plan to develop new products in this part of the world as well as to the local governmental authorities that want to promote and support product innovation in Hong Kong.

The paper is organized as follows: it first outlines the research methodology and the survey instruments. Then, it presents the survey results with regard to the NPD processes, strategies, steps, organizational structures, team leaderships, selection of the team leaders, NPD team reward schemes, the use of multi-functional teams and the NPD outcomes. After that, it highlights key similarities and differences between US and Hong Kong firms with respect to their NPD activities. The paper ends with various managerial and research implications.

1. Research methodology

1.1. Survey instruments

In order to be consistent with the earlier studies and to be able to compare the NPD activities of Hong Kong and US firms, the survey instruments were adopted from the PDMA study. All of the measures come from the PDMA study and cover such
various aspects of NPD as the NPD outcomes, the NPD process, organizing for NPD and demographics (Griffin, 1997).

1.1.1. NPD outcome variables

The questionnaire covered three types of NPD outcome variables, including new product success, mortality rate and cycle time. Consistent with the PDMA study, new product success was measured based on three criteria as explained below:

The first success measure was about the overall (industry) success. It was assessed based on a single item measuring the “position in your industry” and had the following options: (a) bottom 1/3; (b) middle 1/3; (c) top 1/3; and (d) most successful.

The second success measure was about the firms’ relative success compared to their stated objectives. It consisted of two items including “company’s NPD program met the program objectives” and “company’s NPD program is a success relative to its program objectives.” Two nine-point scale measures ranging from “completely disagree” (1) to “neutral” (5) and to “completely agree” (9) were used to assess the degree to which the respondents agreed with the statements. These items had a correlation of 0.78 ($p<0.001$), and the scale developed based on the average of the items had a reliability of $\alpha=0.88$. These numbers are consistent with the correlation [0.76 ($p<0.01$)] and the reliability ($\alpha=0.86$) scores reported in the PDMA study.

The third success measure was about the market and financial success. It consisted of four items including “percentage of products categorized as successes in the last five years;” “percentage of total sales that are attributable to new products commercialized in the last five years;” “percentage of total profits that are attributable to new products commercialized in the last five years;” and “percentage of products categorized as financial successes in the last five years.” All of these items were measured as percentages ranging from 0% to 100%. The scale based on the average of these four items had a reliability of $\alpha=0.83$, which is consistent with that of the PDMA study that reported a reliability of $\alpha=0.79$.

In order to compare the NPD activities of successful and unsuccessful firms, the sample was split based on these three success factors. Successful firms are those who stated that they were in the top third in their industry for overall (industry) NPD success, and who agreed that they were relatively successful, and who scored higher than the average of the entire sample with respect to the market and financial success. Twenty-six firms or 21.31% of the sample were categorized as “successful” while ninety-six firms or 78.69% of the sample were categorized as “unsuccessful” for further analyses.

Finally, the two other outcome variables including the mortality rate and the cycle time were assessed by asking them to report the percentage of new product ideas (projects) they eliminated at different stages of the NPD process and the amount of time they spent at each step of the NPD process, respectively.

1.1.2. New product process and organization variables

In order to be consistent with the PDMA study and to be able to compare the results with those of that study, the questions pertaining to the NPD processes, strategies, steps, organizational structures, team leaderships, selection of the team leaders, NPD team reward schemes, and the use of multi-functional teams were all adopted from the PDMA study. The respondents were asked to indicate whether they used the NPD processes, strategies, steps, structures, and multi-functional teams and how long they used them. They were also asked to indicate the type of team leadership that they used in the NPD process, the way the team leaders were selected, and the way the team members were rewarded.

1.1.3. Demographics

The questionnaire also included numerous demographics such as the industry type (manufacturing, sales and trade, and service industries), technological base (high, low, and mixed), product type (goods, services, and mixed) and market type (domestic and global).

1.2. Survey

The questionnaires were mailed to the respondents along with self-stamped and self-addressed return envelopes as well as a cover letter. The cover letter summarized the purposes of the study and stated that product managers or people who are responsible for new products/services should fill-in the survey. If the receiver of the questionnaire was not a product manager or was not responsible for new products/services, he/she was kindly asked to pass it to a relevant person. The letter finally assured the respondents that the collected information would be summarized with respect to industries and would no way reveal the name of the firms and that the collected information would be kept strictly confidential. The respondents were notified that they could receive a copy of the results if they send a business card along with a filled questionnaire.

Table 1

<table>
<thead>
<tr>
<th>No. of company</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology base$^a$</td>
<td>High-tech</td>
</tr>
<tr>
<td></td>
<td>Low-tech</td>
</tr>
<tr>
<td></td>
<td>Mixed</td>
</tr>
<tr>
<td>Market type$^b$</td>
<td>Consumer</td>
</tr>
<tr>
<td></td>
<td>Business</td>
</tr>
<tr>
<td></td>
<td>Mixed</td>
</tr>
<tr>
<td>Product type$^c$</td>
<td>Goods</td>
</tr>
<tr>
<td></td>
<td>Services</td>
</tr>
<tr>
<td></td>
<td>Mixed</td>
</tr>
<tr>
<td>Sample total</td>
<td>122</td>
</tr>
</tbody>
</table>

| Success | Industry$^d$ | 2.56 |
| | Relative$^e$ | 6.12 |
| | Market-Financial$^f$ | 31.2% |

$^a\chi^2=4.049, df=2, ns.$
$^b\chi^2=2.279, df=2, ns.$
$^c\chi^2=0.311, df=2, ns.$
$^d4$ = most successful in industry, $3$ = top third, $2$ = middle third, $1$ = bottom third.
$^e9$ = completely agree, $1$ = completely disagree with “company NPD program met the NPD program objectives” and “company’s NPD program is a success relative to its program objectives.”
$^f$ Higher percentages are better.
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