Why Pac-Pad Could Not Succeed: A Case Study To Find Out What Went Wrong?

Engr Umar Afzal, Dr. Sayed Fayaz Ahmed

Abstract: In this era of mythical innovations, technology is growing at the fastest pace which is providing new and mind opening products. The growing competition has opened the gates for new innovations like Laptops, notebooks, eBooks, iPad and tablets which are the examples of such revolutions. Companies strive to provide good products having greater value and at low cost and therefore employ best product development strategies. PAC-PAD is the Android Computer Tablets developed by one of the Aviation Organization in Pakistan. PAC-PAD could not succeed in the market like other Tablets available in the market at that time. The aim of the research work is to study different tools and techniques involved in the making of a new product and then analyze the development of a commercial use IT product made by Aviation Industrial Organization of Pakistan. First of all, detailed literature review has been carried out about New Product Development (NDP) techniques by different authors and subsequently the best tools implemented were sorted out. In this regard six New Product Developments Models (NDP) by famous authors were studied in detail and based on that an ideal model for new product development was made. In the next phase , steps followed by IT company which developed the IT product and steps to be followed according to ideal product development model were compared and delta was calculated where different steps were missed or not properly followed. After that the new product development techniques were applied on the IT Product and analyzed for their efficacy. The thesis also includes the different development phases of the IT product with its technical parameters, followed by comparison of the IT Product with other tablets in marketplace. A market survey was also carried out to know the view of people using this tablet. The thesis is finalized by conclusion and future research aspects.

Index Terms: PAC-PAD, IT Tablet, Product by Aviation Organization, First of its kind in Pakistan, New product development tools, Optimum model of NPD, Project success,

1 INTRODUCTION

The definition of product is an object sold to the customers by any manufacturing organization. The success of any product depends on how accurately the firm has identified the customer needs and subsequently launched its product quickly with best possible attributes in the least cost as possible. In today’s competitive global market, there are many other aspects which add value to the product such as its quality, development capability and continual innovative upgrade strategy of the manufacturing firm [1]. Pakistan is a developing country, and its economy is in the budding phase. Most of the organizations / companies in this country do not take risks to develop new products as it includes costly new product development process, capital shortage, fragmented markets, social and governmental constraints, and shorter growth period for successful products etc. Alternatively, majority of the companies pursue license acquisition programs in which they do not produce anything new but only get the rights for new products. For new products to be developed, a robust leadership, excellent management and good teams are very important. On the other hand, a good technology accompanied with a bad management can result in a disaster [2]. The process of development is to be looked after very minutely so that no mistake is made, and the product can be successful. In this declining environmental situation, one of the organizations of Pakistan has ventured into the field of tablets and developed a new product in IT sector by the name of PAC-PAD. It is indeed a brave, bold, and risky decision. It is pertinent to mention that a similar IT product has been developed and launched by one of our neighboring country in mere US $ 50 with demand of 1.4 million units in two weeks [3].

New product development plays various roles for the organizations. It assists to uplift the organizational growth and supports to protect the interest of its investors, suppliers as well as its employees. Successful new product creates the positive image of the organization to assist the organization in regular changing markets [4]. The results of newer products keep direct and significant impact on overall market competitiveness. A successful new product boosts the leadership standards in an organization along with well diversified market risks. Stockholders always value the success of new product because it increases the value of organization as well as its associated stockholders for future growth in the market. In business and technical research, there are strong arguments and well explained factors that cause the failure or success of a new product. There are strong evidence available in this regards that any organization can consult before launching the new product and can evaluate its profit, growth, and reputation before successful launch of product. In today’s most competitive era, organizations are investing much material, resources, human capital for the development of new products and move all the available efforts for making the new product as successful one in the market [5]. The main factors of effective consumer response start to estimate the excessive cost of any product development [16]. Such excessive costs includes all developmental and introductory costs associated with failed products, it also includes the costs of cancelled products which have withdrawn just before of launching stage, excessive manufacturing costs due to massive inventory etc. Analyst has led a study of electronics and unified items makers and merchants to learn both positive and negative effects on product achievement [1]. Respondents were solicited how much effect each from 11 unique hindrances or negative impacts had on the accomplishment of their association’s new product advancement processes. Results demonstrated that absence of key center, restricted comprehension of the market, needs not set or conveyed, absence of money related assets, and spotlight on transient gainfulness were evaluated as having the most noteworthy negative effect on the success of new product. Poor product quality, constrained

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inventiveness or vision, and absence of help for chance taking were likewise appraised as high effect by the greater part of the respondents [14]. Studies have additionally asked to state in their own words for what good reason some new items are not effective. Answers were coded into eight fundamental classes [6]. The main four reasons recorded by manufacturers were inadequate item showcasing, duplication or absence of innovation, absence of managerial support during rollout, and absence of a convincing buyer advantage. The best four reasons recorded by wholesalers included: absence of a purchaser advantage, duplication, or absence of regular development in product, deficient product showcasing, and insufficient statistical surveying before launching the product [7]. Heaps of product inventory get the chance to showcase, acquire early dispersion, and neglect to continue it. Sooner rather than later, dissemination is melting away, and the item is being "traded out" for another new thing [15]. For what reason did these and various different items fall flat?

1.1 Aim and Reaserach Questions

Q1: What were the factors that caused PAC-PAD failure?
Q2: What are the necessary factors having impact on the Technology Innovation/developments

1.2 PAC-PAD (IT Product)
The IT product that was launched by one of the IT companies of Pakistan named PAC-PAD. It could not succeed in the market and this thesis revolves around the case study to find out why it could not succeed. It is shown in figure 1 below.

![Figure 1: PAC-PAD (The IT Product) [17]](image)

The Technical Specifications of the IT Product are as follows:-

(a) Cylindrical and light weight: With Its cylindrical and thin design and a weight of about 385 grams, it takes up less space in bag pack and luggage. Its height is 192 mm, width 128 mm and depth 13 mm [18].

(b) 1 GHz Processor: It is professional grade tablet which is powered by an ARM11 processor clocked at 1 GHz, alongside the 256MB RAM. With 1GHz processor it can handle all kinds of applications, from office word to gaming, web browsing to movies [17].

(c) Operating system: It runs on Android 2.3 Gingerbread. Android is a Linux-based operating system especially developed for mobile devices such as smartphones and tablet computers[17].

(d) 7 inch display and multi touch input: It comes with a 7 inch LCD display, making it more portable to carry along in comparison with others. It has high screen resolution as well as multi touch input support[17].

(e) Camera: On the front side, it has an in-built camera. 3 Buttons for navigation. Home, back button, menu. On the right side it has a power button to switch the device on and off. And also, a volume control button[17].

(f) TF card and HDMI ports: At the bottom side, there are ports for headphone, TF card (removable flash memory port), HDMI port. USB port, and a port for charger. Pacpad1 has an internal flash memory of 2 to 16 GB. It also supports memory cards. Means memory of the device can be extended by using external memory cards from 4GB to 32 GB. The HDMI port is high definition multimedia interface that allows user to transfer good quality sound and video. It provides connectivity with laptops and multimedia devices, projector etc[17].

(g) Earphone jack and USB port: It also supports 3.5 mm earphone jack and standard USB 2 port. The battery is capable of providing 10 hours of Music, 5 hours of Video playback and 4 hours of HDMI Output [17].

(h) Wi-Fi: 802.11 b/g : It is loaded with standard Wi-Fi (Wi-Fi: 802.11 b/g) [17].

(i) Browser support: It also support variety of browsers including Opera, UCWeb, Skyfire, Dolphin. It also supports many Software's & Games e.g., Word, Excel, Powerpoint. 3D games can be supported by internal 3D acceleration.

(j) G-sensors: It also has G-sensors and internal 3D acceleration. G-sensor stands for gravity sensor. It has an accelerometer which detects how you're holding your tablet. Judging by where the weight is, the tablet can tell if you turn it left or right, up, or down.

(k) Supported Languages: English, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish, Chinese Simple, and Chinese traditional [18].

(l) Online games and videos: Support online games and online video

2 LITERATURE REVIEW
The most difficult challenge in marketing planning is to generate ideas for the development of the new products and after that launch them successfully in the market. The products already in the market which are not successful or in the declining phase, their replacement has to be introduced as soon as possible as customer demand new products which are up to date, and supplier have a huge competition to supply the products which can satisfy customers. According to a recent survey of 700 companies reported that they expect 31% of their profits in the next five year from new products [17]. Introducing new products in the market is not easy at all. It is pertinent to mention that out of every four products being developed in the world, one come into the market in the United States. 46% companies in the world which develop or
introduce a new product in the market fail to obtain reasonable profits or returns. In the first phase, an understanding has been created for development of a new product. A detailed literature review on the process of product development and its commercialization by different authors was conducted and on the basis of the literature review the best tools and techniques which were considered most appropriate were filtered out. The different New Product Development (NDP) which were studied to carry out this thesis are as follows:

(a) The Stage-Gate Process Model [11]
(b) Funnel Product Development Process [10]
(c) New Product Development by Crawford and Beneditto [9]
(d) New Product Development by Booz, Allen, and Hamilton [8]
(e) New Product Development model by Ulrich and Eppinger [12]
(f) Distributed New Product Development (DNPD) model by Stephen Heck and T.J.Grewal [13]

After carrying out detailed analysis of these 06 ideal New Product Development Models, an ideal model was developed which best suited for comparison with our IT product developed by one of the IT companies in Pakistan. Optimum tools that were analyzed and ideal model was created which is shown in figure : 2.

### NEW PRODUCT DEVELOPMENT TOOLS IDENTIFICATION

<table>
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<th>PHASES</th>
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<td>IDEA GENERATION</td>
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<td>MORPHOLOGICAL ANALYSIS</td>
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<td>PRODUCT IDEA RATING DEVICE</td>
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<td>CONCEPT DEVELOPMENT</td>
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<td>CONCEPT POSITIONING</td>
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<td>CONCEPT TESTING</td>
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<td>MARKETING STRATEGY</td>
<td>PHASE I: THE SIZE STRUCTURE AND BEHAVIOR OF THE TARGET MARKET</td>
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<td>PHASE II: THE PRODUCTS PLANNED PRICE, DISTRIBUTION, STRATEGY AND MARKETING BUDGET</td>
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<td>PHASE III: THE PLANNED LONG RUN SALES, PROFIT GOALS AND MARKETING MIX STRATEGY</td>
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<td>ESTIMATING SALES</td>
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<td>ESTIMATING COSTS AND PROFITS</td>
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<td>TARGET – MARKET PROSPECTS</td>
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<td>INTRODUCTION STRATEGY</td>
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<td>CONSUMER ADOPTION PROCESS</td>
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**Figure : 2 Ideal New Product Development Model**

### 3 RESEARCH METHODOLOGY

This phase of the research is focused on a case study which is the pivotal point of the thesis. The Research Methodology which was developed to carry out this case study was divided into three phases which are as follows:

#### 3.1 Phase 1: Understanding Context

The first phase is related to understanding of New Product Development. An extensive literature review on the issue of product development process by different authors was conducted and on the basis of the literature review the best tools and techniques which were considered most appropriate were filtered out.

#### 3.2 Phase 2: Validation of proposed System

This phase of the research is focused on a case study which is the pivotal point of the thesis. The case study is an IT product being developed by a one of the organizations of Pakistan which is a completely new product for the firm. Process of making of the product has been discussed from a scratch till the end product. This phase also includes the application of proposed new product tools of phase I in the making of the said IT product through structured interviews followed by analysis, recommendations and conclusion.

#### 3.3 Phase 3: Future work

The third phase comprises of a future model being presented for the development of an IT product by one of the organizations of Pakistan. During the proposal of the said model the best tools were filtered out and adopted. The details of three phases to be adopted in research are summarized in figure : 3.

**Figure : 3 Three Phases of Research Methodology**
4 Results

4.1 Specification Results
In the first step, detailed analysis carried out of the IT Products’ Hardware and Software specifications. These specifications were then compared to other IT products available in the market at that time. It was analyzed that the specifications of the product were low as compared to other products. On the other hand, its price was towards the higher end. This ultimately gave one the reasons why product could not succeed in the market. The details of product comparison are shown below in figure: 4:-

![Comparison of PAC-PAD with other IT Tablets](image)

Figure 4: Comparison of PAC-PAD with other IT Tablets

4.2 Assessment of Firms Process with Optimum Tool of NDP
In the next step, the ideal model which was extracted from 6 models from famous scientists was compared with the steps involved in the development of IT product and it was revealed that almost every step was either not followed or improperly followed. The details of the comparison are in Table: 1.

<table>
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<tr>
<th>S No</th>
<th>Literature Review</th>
<th>Practically adopted by the Firm</th>
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<tr>
<td>5</td>
<td>Business analysis</td>
<td>Initially a batch of 300 items were produced followed by 1000 items. There was no concept of making of a prototype followed by its Functional check and Consumer test. After manufacture the items were just “POWERED ON” and packed and distributed amongst consumers.</td>
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<tr>
<td>6</td>
<td>Product development</td>
<td>In the case of IT Product the market was not properly tested and majority of the product was purchased by the individuals who were linked with the Firm. Consumer good market testing was to be conducted but none of the techniques were used for market testing.</td>
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<tr>
<td>7</td>
<td>Market testing</td>
<td>The Firm initially went for a batch of 300 line items followed by 1000. There was no Product Ramp up as it was difficult to even sale out such a small quantity of items.</td>
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<tr>
<td>8</td>
<td>Commercialization</td>
<td>Earning profit is not the prime objective of the Firm as the assignment of making of IT Product is like peanuts in front of the huge projects the Firm undertakes; therefore no proper business analysis was carried out.</td>
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</table>

Table: 1 Assessment of Firm’s Process with Optimum Model

4.3 Customer Survey Feedback
Detailed customer survey was also carried out based on questionnaire. Interviews were conducted from a batch of 84 users of this tablets. The customer feedback analysis is as below.

4.3.1 Type of Tablet used by People
In the survey shown above in figure : 5, mostly people answered that they did not own a tablet. However, Samsung tablet was mostly used by the people.

4.3.2 Quality of PAC-PAD

Most of the users agreed that the quality of PAC-PAD is better.

4.3.3 Recommendation of PAC-PAD to others

Mostly people used PAC-PAD for Games and Internet Browsing.

4.3.5 How much Satisfied with PAC-PAD

Most of the users were of the view that they will recommend this PAC-PAD to other as well.
4.3.6 Problematic Area of PAC-PAD

What are the key operational areas that you find problematic in PAC-PAD?

This is one of the main surveys in which user highlighted that the performance of PAC-PAD was not up to the mark. Areas highlighted were Internet Browsing, Slow video games processing and slow Graphics.

The overall analysis from Customer’s survey is summarized below in figure : 11

5 CONCLUSION

From the analysis of the IT product, it seems that the venture of a IT organization in producing a commercial project has not borne positive results, whereby the objectives of the Firm were not fully achieved. There are many lessons to be learnt from the idea of launching of said IT product. The biggest shortcoming found in the course of the thesis was lack of implementation of certain important steps required for Product development. The idea was launched by one individual and the complete Firm started to follow it according to the much-required predispositions and grooming of the individuals of the organizations. The launch also lacked proper forecasting and home working in the fields of marketing strategy and subsequently its commercialization; whereby the second batch tablets could not be sold out easily and had to be flogged out at the Firms’ manufacturing rates. The government May also play its part by encouraging indigenous developments and imparting restrictions on illegal imports. Although, it results in availability of cheaper alternatives, but adversely affects the governments’ economy and discourages local manufacturers. It is expected that the future plan of the Firm to launch a GSM based tablet would prove to be successful. In future the survival rate of companies would be enhanced by applying the structured product development approach, bringing innovative products in line with futuristic desires into the market, and by improving customer satisfaction [17]. Both the Research Questions were successfully answered after carrying out all the analysis.

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