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## UTILIZATION OF TECHNICAL INNOVATION ON A NEW PRODUCT

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**Abstract:** *This paper aims to show the role of innovation capitalizing on a new technical product, which can lead to modernization and economic development. We analyzed the essential characteristics of the new product, given its origin and manifestation of a technical and economic context. Also this paper aims to shed light on the degree of implementation for each phase of said sequence which will depend on the specific product and the state of its complexity. Last was ultimately leads to awareness by companies, customer feedback from bringing useful suggestions on this basis were identified opportunities*

**Keywords:** *technical product, production process, product development flow.*

### 1. INTRODUCTION

It capitalized on the technical product concept again, which is materialized as a prototype.

Verifying a technical product is used in consumer testing. Determined the essential characteristics of the new product, prepare samples produced in small quantities to consumers targeted testing to obtain feedback from them.

Constructive and technical refinement phase, the development of product and production process, is developed the new product execution documentation: technical specifications, drawings, formulas, patterns and instructions. The new product is experienced pilot or test stations, depending on the nature of the product.[1]

Sales market are experimental tests performed to determine product acceptance by customers.

Thus the new product is launched into production on a calendar scheduling appropriate marketing.

### 2. ANALYSES

One of the essential foundations for creating a successful new product over the long term is to identify technological trends from an early stage and to exploit the opportunities that new technologies offer for product innovations.

However, factors such as the hugely dynamic nature of technological progress make it increasingly difficult for the new product to comprehensively identify technology-related opportunities and to harness them in a goal-oriented manner.

A key prerequisite for successful technology development therefore lies in the ability of an organization to rapidly and efficiently align the requirements of the market with the potential offered by new technologies and to integrate the results in its own products and processes.

A fundamental contribution to the development and design of technical products were teachers and Wolfgang Gerhard Pahl Beitz, whose book serves worldwide as basic manual for students and researchers. In their

systematic conception, definition of technical objects is decomposed into four successive phases:[2]

- definition phase function: allows to specify the functionality you need to ensure their subject and achieve functional modeling needs;
- conceptual definition phase: specify what physical principles will be used to ensure functional requirements;
- physico-morphological definition phase one takes the natural and organic elements necessary to achieve physical principles retained;
- detailed definition phase: describes the interactions between component parts of the product and how to produce the parts.

In an ideal situation, each stage may be carried out as independent as possible of the next stage, in order to ensure the freedom of action in each level.

In a newer edition of their book [3], Pahl and Beitz, propose a more advanced procedure, under which the development and design of technical systems and technical products consists of 5 phases:

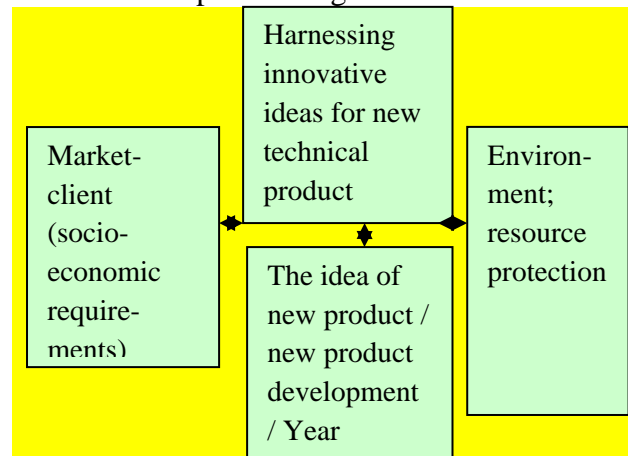
- clarifying and defining theme (design) is proposing the product is - clear theme, elaborate list of requirements, the result of this phase is a list of requirements (design specifications);
- development principle solution: determining the structure functions, identifying working principles and working structures, combining the choice of concepts. The result of this step is a solution in principle (a concept);
- building structure development: Preliminary form design, material selection and calculation, choosing preliminary configurations, refining and improving configuration. The result of this phase is a configuration or conformation (layout) preliminary;
- finalizing the structure construction: eliminating weaknesses, errors control for the influence of disturbances and minimal costs, preparing preliminary list of parts and production and assembly documents. Result phase: configuration (conformation) final;
- preparing documents for production and exploitation: they develop detailed

drawings, parts lists, instructions for manufacturing, assembly, transport and operation, check all documents. The result of steps: production of the product documentation.

In the 2007 edition, the process is completed with a final phase: marketing. With the introduction of market life cycle begins (commercial) product.[4]

The application rate for each phase of said sequence will depend on the specific product, the state of its complexity and the degree of departure from its predecessors.

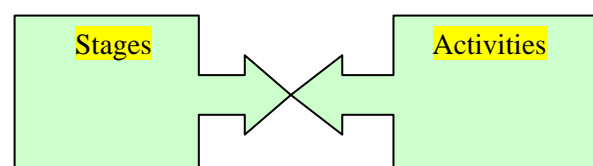
The methods and organizational solutions developed in the technology and technical innovation unit to improve and synchronize research, innovation and technology development processes have been shown success in the technical fields: products whose technology development capabilities have been properly organized achieve higher growth, increased profitability and an enhanced competitive edge.



**Figure 1.** Criteria for growth of innovative development of a new product

Identification and evaluation of significant risks should be done with consideration of internal factors and external factors.

The innovation must be widely adopted in order to self-sustain. When a technology goes through a major transformation phase and yields a successful innovation then it becomes a great learning experience, not only for the parent industry but for other industries as well. Big innovations are generally the outcome of intra- and interdisciplinary networking among technological sectors along with combination of implicit and explicit knowledge.





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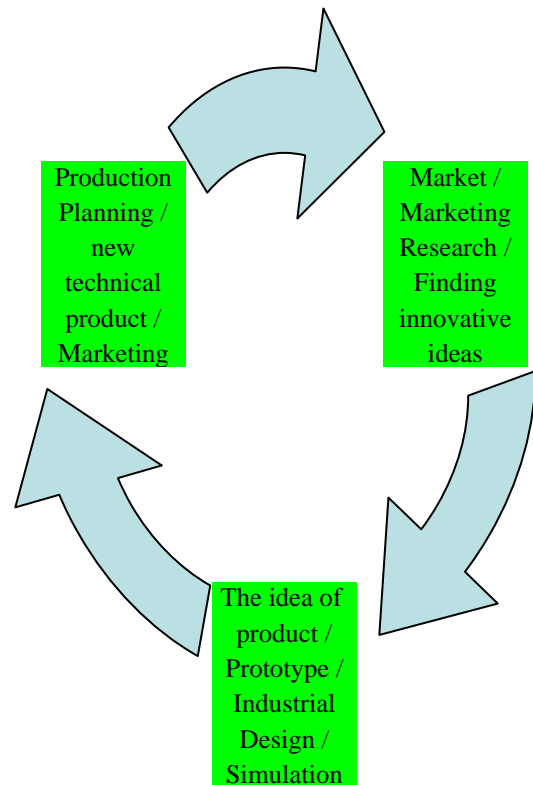
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THE TEXT OF THE PAPER	
- Fundamental Research	- The idea and theme for a new product. Clarifying and elucidating the basis.
- Industrial research (applied)	- Development concepts, studies, methods, procedures, technical and economic analyzes, plans, diagrams, documents on products and technologies.
- Experimental Development / Technology	- Design, implementation, testing prototype / prototype plant pilot. Validation / pilot plant.
- Technology Transfer	- Advice and technical assistance. Development documentation for technical and economic analysis. Dissemination of information.
- Recovery results	- Design number zero. Preparation Manufacturing. Implementation, testing and certificate number zero. Start manufacturing.

**Figure 2.** Steps and key activities capitalize innovative new technical products.

The company acknowledges a problem, feedback from customer brings it useful suggestions on this basis are identified opportunities. Further, creative teams intervene to support businesses in the process of identifying the idea.



**Figure 3.** - The flow of new technical development new product

### 3. CONCLUSIONS & ACKNOWLEDGMENT

The result of this stage is the idea of the product, which is subject to the assessment process in order to develop new useful products.

The suggestions and information received from market leading on the initiative of finding a new idea. The processes used in this study are more exploratory and less customer driven than the typical, technical innovation.

Utilization of technical innovation on a new product will always be a high risk undertaking, but much can be learned about effective new product management from a review of the

experiences in past new product projects and in other companies.

The impetus for all the projects in this study comes from the convergence of developing technologies, various contextual or environmental factors and a new product champion or visionary.

The economic efficiency of investments allocated technology international transfer is dependent, first, the essential features of any investment (profit, time, risk), plus specific elements of the cross-border nature of international investment.

It is necessary to use efficiency indicators to highlight all possible correlations. Construction of indicators system requires careful work to identify and quantify all resources allocated or consumed and the types of effects generated.

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