Dheeraj Nimawat, Mahaveer Meghvanshi / International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622 www.ijera.com
Vol. 2, Issue 1, Jan-Feb.2012, pp.331-333

Relation Between Rapid Prototyping & Minimizing Time Delay In New Product Market Launch

Dheeraj Nimawat, Mahaveer Meghvanshi,
Assistant Professor Government Engineering College Jhalawar

1. ABSTRACT:-

The aim of this paper is to spread the use of rapid prototyping technology into eliminating the time delay in new product launch with reference to their model making & analyzing them for further progress in work with the help of rapid prototyping,redesign,rework can be easily done in very short time and final model is prepared for further process,by this we minimizing the time delay in new product launch because many of company suffers from it currently.it is only a step by which some problem can be highlighted and work is done on it.

Rapid prototyping technology greatly inflmincing the companies which are working on a number of different projects at a time.the article first illustrates requirement of thinking about cost of delay.And then latest industrial project performance on empirical analysis with respect to time delay.

2. INTRODUCTION:-

New products are important elements in the success of most industrial enterprises.But they are risky & costly if they are delayed for launching.

A review of literature tell us for the timing of market entry is a strategic qualitative decision & quantative decision.The tactical decision of entry time is a problem of balancing the risks of late entry.A richer data would allow us to investigate the relative importance of the key factors affecting the entry-time decision and interactions between those factors.

Latest research should going on the rapid prototyping, which is used for the model making with the very easiest way & in very short time with aomparision to other traditional machining methods. We easily understand the required product and if some correction is required, we do it easily &in less time. We must able to relate time saving to profit, just as we relate the technologies cost to profit. The next section shows requirement of this "cost of delay".

3. Requirement of thinking about cost of delay:-

Some objectives for project development projects:-
Schedule Objectives:-
Compete the project within a given time .
Cost Objective:-satisfy a target unit manufacturing cost for the resulting product.
Expense Objective:-do this within a certain development budget for the project.
Performance Objective:-Develop a project with a certain set of features & with certain performance levels, as listed in a project specification.

Here we are just focusing on cost of delay. The cost of delay usually varies greatly between projects, even within the same industry, but for major projects in a large industry, this value can exceed US $1,000,000 in lost profit per day. Although the expense of a rapid prototype may seem quit high in absolute terms, in comparison with the cost of delay, it can be very Smart purchase indeed.

If values of the cost of delay are this large, and if they vary greatly from project to project. The choice of market entry time is one of the major reasons for new product success or failure. A late entry may allow for more investments for designing a better product, providing appropriate engineering support, and developing an effective marketing program, which will reduce the risk of failure. Therefore the decision to enter the market should be timed to balance the risks of premature entry and the problems of missed opportunities (entry too late).

4. Latest industrial product performance on empirical analysis:-

For (successful) original new products, first-year market share increases with delay of launch time up to a certain point and decreases thereafter. For reformulated new products, however, we found that initial market share performance decreases with delay of new product launch time. This contract between the original and the reformulated new products may reflect differences in product market situations in particular the market is relatively better developed for reformulated new products then for original new products; The longer an incremental innovation takes to get to market, the greater its risks of failure due to changing market conditions competitive response or further technological advances.

5. How we manage time for launching the product on time :-

Many drawbacks are present in launching the product on time.

Unfortunately many industries or companies are slow to market simply because of management which tries to work on too many development projects at once, which dilutes the resources of all types on every project every project and stretches all project out proportionately.

Advance technologies to compress time are likely to offer little benefit here. For instance, you might be able to make a prototype part in one day instead of twelve, but if the manufacturing engineer, who is supposed to take this part to a supplier, is tied up on another project for the next twelve days, the rapid prototype will provide no advantage.

These analyses of your projects provide an understanding of where the major opportunities are to same time in your schedule. But the rapid technologies give us time saving with accurate & precise model of product. Another place to look for time savings is in redesign &rework is easiest & time saving with the help of which rapid prototyping technologies.

6. Rapid prototyping is used in latest product models :-

Rapid prototyping refers to those layered manufacturing process that enables realization of physical parts directly from digital definitions.

Due to high laser scanning speeds stereo lithography (STL) process fabricates even complex parts with geometrical complexity in much less time as compared to traditional manufacturing techniques. Stereo lithography might be approximately ten times as fast as CNC machining, thus cutting that much time out of a prototyping cycle.

Focus on time savings in redesign & rework .Such rework can occur because the marker lacked certain needed skills, because the worker had been given inadequate information, or because of the normal learning process that occurs in innovation. Although learning will always be a part of innovations, we can eliminate much rework that does not have to be learned each time. Suppose any automobile company analyzed their product, and found a part assume governor for example, didn't have to be a learning experience on every project.

Although a governor is complex, it can be designed completely analytically by specifying a few dozen values that determine its design no creativity required. Redesign & other types of rework waste time and money, often late in project, where they are most destructive .Any technologies that tools that reduce redesign or shift it earlier in the cycle will help here. For example, mechanical CAD systems with 3d capability can detect interferences, thus allowing these design mistakes to be corrected while they are much easier and less disruptive to resolve Rapid prototyping and rapid tooling could play similar roles if you look for where & how rework occurs.

As just suggested, these high – tech rapid prototyping tools often need a strong dose of old fashioned management fundamentals to yields their potentials benefits. The most effective companies faith on neither technology tools nor management approaches alone, but look for ways to use one to leverage the other , all to fit their own unique way of doing business.

Two opposite philosophies are arising for viewing many of the technology tools, such as CAE , CAD , finite element analysis ,are called analyze first tools because they allow you to do most of the work by analyzing the design in the compute before any parts are made . This approach saves both time and money.

The alternative is making first, whereby physical artifacts are produced early, and then the design goes back to the computer for further refinement, depending on what is learned from the artifacts.

Rapid prototyping technologies fit with this approach.

7. CONCLUSION:-

AS the rapid prototyping technology is very less time consuming &prototype get with high accurately.

In this paper we discuss about the use of rapid prototyping technology into eliminating the time delay in new product launch with reference to their model making & analyzing them for further progress in work with the help of rapid prototyping, redesign, rework can be easily done in very short time and final model is prepared for further process, by this we minimizing the time delay in new product launch because many of company suffers from it currently.

From time compression stand point, the question arises is which approach gets you to final design faster?

To some extent, the answer depends on the nature of the product.

.

8. References:-

Jean-Marie Choffray, Gary L. Lilien, and Eunsang Yoon, New Industrial Product Performance: Models & Empirical Analysis, Advances in Business Marketing, Vol. 3,ISBN: 0-89232-914-9

Gary L. Lilien, Eunsang Yoon, The timing of competitive market entry: An exploratory study of new industrial products, Management Science Vol. 36 , No. 5 , May 1990 printed in USA

Yi – Chia – Chiu, Benson Chen, Joseph Z. Shyu, Gwo – Hshiung Tzeng, An evaluation model of new product launch strategy, Technovation 26 (2006) 1244 - 1252

Peters, T. and Austin, N. (1985), A Passion for Excellence, Random House, New York, NY, p. 130.

Smith, P. G. and Reinertsen, D.G. (1998), Developing Products in Half the Time: Ne Rules, New Tools, John Wiley & Sons, New York, NY.