

PRODUCT INNOVATION APPROACH IN SUCCESSFUL MANUFACTURING ORGANISATIONS

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Abstract:

Fast product innovation and creativity is driving the development strategies of the most nations enjoying high economic growth. The development of fast innovative new products needs to be based on a close alignment between technology, products and markets, with a focus on achieving increased aggregate value. This paper is dealing with important technological and organizational integration variables of new organizational products and with the motivation of workers to innovate.

1. Introduction

The diverse range of technological possibilities creates unprecedented change bringing both product and market uncertainty and as a consequence new challenges for organizations. To meet such challenges organizations need to engender both a responsive and adaptable approach to market demands. For many product innovation and creativity is a strategy of fundamental importance, in sustaining development in turbulent and volatile environments.

Competitive advantage is viewed by organizations as being directly related to various integral elements of a product which includes: product superiority, uniqueness, and competitive pricing. Issues of common importance to organizations, which affect the processes of new product development and subsequent performance outcomes, include:

- organizational management style;
- attention to detail in the processes of new product development;
- support for product innovation by top management;
- organizational strategic thinking, and manufacturing facilities to support new product development.

A common theme of all the issues identified as important to organizations in the development of new products is the relevance of both technological and organizational integration.

Organizations are increasingly concentrating on responsiveness and flexibility through product innovation. The rapid delivery of new products clearly requires effective communications between design, engineering, marketing and manufacture enabling organizations to be adaptable and responsive to market conditions.

From other point of view, motivation to innovate is an outcome of the existence of certain antecedents that are responsive to the dynamics of motivation in organizational environment, this work develops a conceptual model synthesizing motivations “what” and “how” that will bring human creativity in organizations which thrive on innovation.

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Since productive knowledge in organizations is ultimately a product of the human mind, it cannot be manipulated like sophisticated machines, fancy systems, or efficient controls. Organizations that desire to use knowledge in their products, processes, and services, have to know how to engage the human mind in their operations.

Therefore, understanding the theory and application of motivation is very important in managing human resource in making these new organizations succeed.

The question surrounding how to motivate employees has intrigued behaviorists for over a century. This interest started when the large corporation became the economy's most dominant player.

2. Technological and organizational integration variables of new organizational products

Manufacturing involvement along with marketing and research & development (R&D), from the beginning creates a solid commitment throughout the new product development processes. When manufacturing enters later, integration with R&D and marketing may only be partly achieved in the following new product development processes and as a consequence creates a lack of harmony and trust between functional groups (Figure1). Even though early involvement by manufacturing is accepted as being important for the success of product innovation, many organisations continue to use a sequential approach to the processes of new product development.

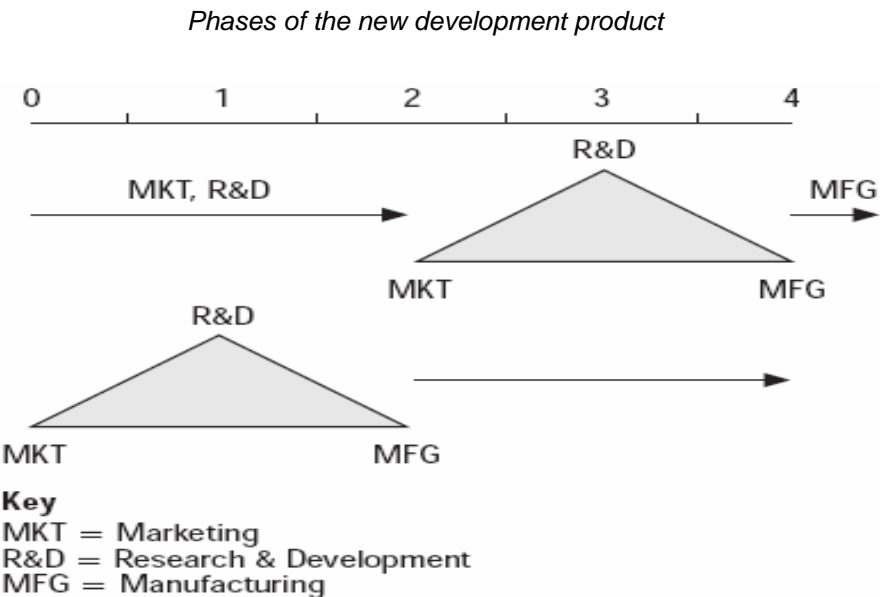


Figure 1 – Changes in the new development process

Plant equipment such as automatic assembly, can help to attain seamless integration of technology in organizations (Figure2). Long term investment enables organizations to achieve performance gains such as speed of new product development but must be done

with consistent long term objectives and a view to maintaining compatibility within operations. The shift towards international standards which has occurred over the past five to ten years, has helped to improve overall integration and speed of new product development.

Cultural integration variables of key importance for improving speed of new product development were R&D and marketing openness, and the need to create deep understanding between marketing and manufacturing. The findings would appear to suggest the need for both a market orientation and design for manufacture to be followed simultaneously.

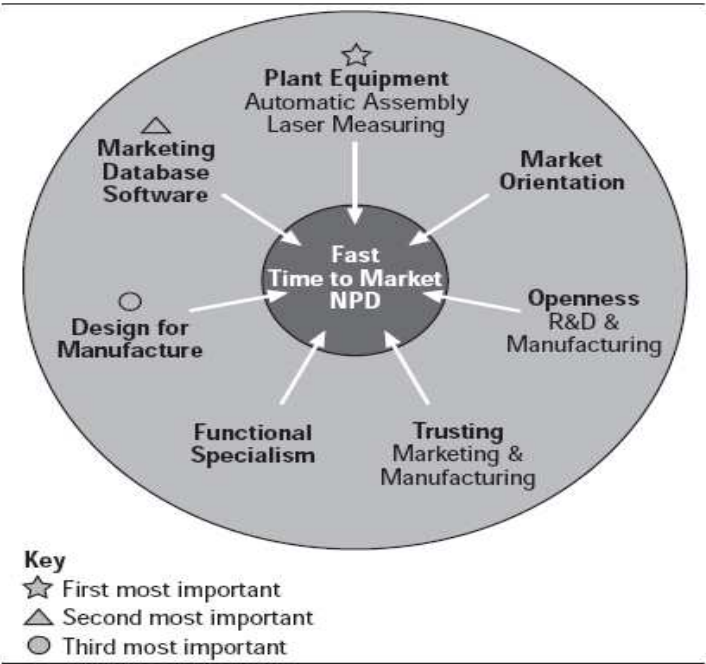


Figure 2 – Technological and organizational integration variables of new organizational products (NPD)

3. Drivers of motivating behaviour for innovation

There are a number of succinct factors present in the contemporary organizational environment that have opened up and are forcing a review of the motivation theory and its practice, which, until now, had been considered as formulated, empirically tested and established. These factors affect both content and process of motivation. That is why these are the drivers of motivation in the knowledge work environment. It becomes important for managers to decide how to motivate their employees only after considering these factors as they apply to their organizational environment and, preferably, after making some adaptations specific to each department, section, and employee.

Typically, motivating behaviour drivers to innovation of knowledge workers is the work itself – the assignments or projects they get:

- In their perception, how important is the work that they would be doing?

- Is it exciting?
- Is it challenging?
- Would they succeed at it?
- This assignment will result in working with whom? For example, would it result in being surrounded by the best of the best? Would the assignment be in an organization where there is respect, trust, fairness, and good management?
- What would the experience bring as outcomes, such as rewards, recognition, career advancement, learning, and satisfaction?

Answer to the above questions helps managers understand the drivers of motivating behaviour of knowledge workers. The whole spectrum of these drivers is classified into the following five groups:

(1) *The sociological driver.* Sociology has always been important in the understanding of any aspect of human behaviour, such as work motivation. Motivation theory and practice considers this; however, human sociology that had largely remained constant for a long time started to experience revolutionary changes in the later parts of the second half of the twentieth century.

(2) *The psychological driver.* Work motivation theory applicable to traditional work is based on human behaviour that has its roots in positive reinforcement – primarily, in money. Its practices carry a premise that given proper incentives, all workers would give their best to their employers. This forms the basis for learning, training, and behaviour modification in traditional organizations. In innovation instead of money, self has become the prime positive reinforcer. For example, some managers who have strategically used self-esteem in assigning jobs to their employees have succeeded in motivating them to innovate and give higher productivity.

(3) *The generational driver.* Employers report that younger employees are too keen to take on responsibility, quickly move up the hierarchy and become successful. However, they cannot deduce if it means that they are too interested and motivated to work or simply too impatient to get rich. These younger employees are employees of the newer generations. Many knowledge workers are likely to fall in this category. The last decade saw their introduction to the workplace. The future of knowledge organizations really belongs to them. It is for these reasons that developing a new understanding on human motivation at work without giving meaningful consideration to young generations not result in a durable theory of knowledge worker motivation.

(4) *The knowledge work driver.* During the later part of the twentieth century, we saw a change in work dimensions and demands due to the induction of the technology, not only in the workplace but in every sphere of human life. In some form, science and technology have been incorporated into almost all jobs in almost all organizations, a process expected to continue into the future. The rise of technology has also resulted in a new large breed of organizations whose primary input, output, or both, are dependent on scientific or technological knowledge typically possessed by individuals rather than owned by an organization. Organizational success that previously depended on job-relevant skills in the long term and experienced employees of the firm shifted to explicit and tacit knowledge – the scientific and technical knowledge that employees mostly acquired through university education and training which might have nothing to do with age, experience, or years on the job, and innate knowledge – making younger, newer

employees with appropriate work knowledge more important to organizations. Every new job is being designed to incorporate the use of human knowledge to innovate what is done and how it is done. The change in work and workplace brought in by the technology has been so revolutionary and sudden that it caught many managers and motivation the researchers off-guard. These resultant dramatic changes in the basic character of work are not incorporated in the established theory and practice of motivation.

(5) *The cultural driver.* Another important change that organizations have experienced during the last couple of decades is the spread of globalization throughout the world. During this period, the European Community further perforated its boundaries to include the free labour movement all over its member states. The USA experienced a surge of immigrants like it never had in the past. A large number of these new immigrants are knowledge workers, not blue-collar, skilled labour. Furthermore, what makes this pattern of American immigration more interesting from the motivation perspective is the variety of regions of the world from where these workers have immigrated to the USA. The lands from where these new immigrants have come have cultures that are quite different from the cultures of the American immigrant workers of the first half of the twentieth century who came predominantly from Europe. Their value systems and religious and spiritual beliefs are not Euro-centered – the systems known to America based on which the past motivation theory and practice were formulated. Work culture, not only in America but also in many other parts of both developed and developing worlds, has been seriously impacted by the revolution in the integration of advancements and efficiencies in computing and telecommunication technologies into work processes. This made it possible for the workers physically away from work, in many cases, far, far away – like in a different country – to impact, through their work etiquettes, the culture of their organization as do those physically present there. These cultural changes put a special emphasis on revising our understanding of how to enhance the motivation of workers since none of the traditional motivation theories is formulated considering the dynamics of these variables.

Explaining what motivates knowledge employees that innovate and how the process works in such organizations is quite different from the description that comes from the content and process theories of motivation established during the last century. We recognize that when it comes to understanding the wants and needs of workers a lot has changed due to the shifts in worker demography, culture, work patterns and demands, human sociology, and psychology. These changes are so pronounced that they raise doubts on the validity of the established motivation theories.

To successfully motivate their knowledge workers, organizations should do the following:

- *put in assertive, deliberate effort in dynamically studying the drivers of their employees' motivating behaviour;*
- *respond to the resultant changes in these drivers by devising responsive motivation antecedents;*
- *load these antecedents into major sources from where motivation can emanate.*

4. Conclusion

Becoming the most economical competitive society in the world in 2010 is one of the targets of the European Union. This target is based on the optimistic planning ideology that within ten years knowledge and expertise can be organized in such a way that added value can be created at the macro and micro level of the Union, states and companies. Producing intelligent products, and producing them in an intelligent way as a reaction to mass production has focused very much on the use of information technology to become creative and smart. Knowledge creation is therefore perceived as one of the major assets of innovative organizations, and innovative organizations are defined by knowledge creation. It seems that innovation and knowledge creation are defined by themselves.

Based on the observations regarding what works and what does not in motivating knowledge employees to innovate and how to make it work, it is recognized that there are three sources in most organizations from where work motivation could emerge.

The first and the most important source of work motivation is the job that the employee is doing.

The second source of motivation is the outcomes from the job. The outcomes include all kinds of known and unknown extrinsic and intrinsic rewards and punishments – whatever employees consider having positive and negative effects on their work behaviour.

The last source of motivation is the organizational system, which includes the usual constituents of the management system, such as organizational policies, practices, culture etc. and the establishment items, including the firm's product line, image, position in its industry and market, financial soundness, and all the other related items that can excite employees about their organization as an entity.

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