

DESIGN PROCESS IN NEW KNOWLEDGE ECONOMY

PROCES DIYAJNIRANJA U NOVOJ EKONOMIJI ZNANJA

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Abstract: *The turbulent development of science and technology has lead to major changes in all spheres of man's existence, As such, it has resulted in the necessity of applying multidisciplinary approach to solving problems encountered by both individuals and corporations. Industry convergence, technological complexity, solution selling, and the globalization of consumers are increasing the importance and dispersion of relevant new knowledge. Winning in the global knowledge economy is not about choosing between innovation and operating efficiency, or between exploitation and entrepreneurship. It is about winning a global tournament by identification and access new technologies and market trends ahead of the competition, by transformation of knowledge into innovative products and services, and by exploiting these innovations in markets around the world. The issue of design, i.e. defining and styling products and services, as well and their construction and general formation, has, for a long time, been the exclusive task of technologists and engineers. The changes in the living and business conditions have increasingly been introducing the product design issue into the area of marketing. The only way for companies to achieve their goals of survival and market growth is to design such products and services which meet the strict preferences and demands of consumers in new knowledge economy, which also contributes to the improved quality of life.*

Key Words: *New Knowledge Economy, Consumers, Competition, Advantage, Preferences, Needs.*

Abstrakt: *Turbulentni razvoj nauke i tehnologije posledirao je značajnim promenama u svim područjima čovekove egzistencije, te je kao takav, za rezultat doneo neophodnost primene multidisciplinarnog pristupa rešenju problema sa kojima se susreću kako pojedinci, tako i kompanije. Konvergencija industrije, tehnološka kompleksnost, prodaja 'rešenja problema' i globalizacija tržišta potrošača, doveli su do povećanja značaja i disperzije relevantnog novog znanja. Uspeh kompanije u uslovima globalne ekonomije znanja, ne znači više izbor između inovativnosti i operativne efikasnosti, ili između eksploatacije i preduzetništva. Suština je biti najuspešniji na globalnom tržištu na bazi identifikovanja i pristupa novim tehnologijama i tržišnim trendovima, brže od konkurenata, i na bazi transformisanja znanja u inovativne proizvode i usluge, kao i na bazi eksploatacije tih inovacija na tržištima širom sveta. Pitanje dizajna, definisanja i oblikovanja proizvoda i usluga, kao i njihove konstrukcije i sastava, je dugo vremena bio isključivo zadatak tehnologa i inženjera. Promene uslova življenja i poslovanja uslovile su da pitanje dizajna uđe u sferu marketinga. Jedini put kompanijama da ostvare svoje postavljene ciljeve opstanka i rasta na tržištu, jeste u dizajniranju takvih proizvoda i usluga koji ispunjavaju preferencije i želje potrošača u novoj ekonomiji znanja, koji podižu kvalitet življenja.*

Ključne reči: *nova ekonomija znanja, potrošači, konkurencija, prednost, preferencije, potrebe.*

1. Introduction

The knowledge economy is a vague term that refers either to an economy of knowledge focused on the production and management of knowledge, or a knowledge-based economy. In the second meaning, more frequently used, it refers to the use of knowledge to produce economic benefits. The phrase was popularized if not invented by Peter Drucker as the title in his book *The Age of Discontinuity*. Various observers describe today's global economy as one in transition to a "knowledge economy", as an extension of "information society". The transition requires that the rules and practices that determined success in the industrial economy need rewriting in an interconnected, globalised economy where knowledge resources such as know-how, expertise, and intellectual property are more critical than other economic resources such as land, natural resources, or even manpower. According to analysts of the "knowledge economy," these rules need to be rewritten at the levels of firms and industries in terms of knowledge management and at the level of public policy as knowledge policy or knowledge-related policy. In new knowledge economy contemporary design, as an activity, profession and materialized outcomes, appears to deal with issues of pressing importance. New questions are being asked of design as societies and cultures confront a globalised political, corporate and environmental agenda, encompassing global warming, pollution, scarcity of water and energy resources, poverty, social malaise and health scares

2. The new knowledge economy – challenges and opportunities

Today the challenge is to innovate by learning from the world. Tomorrow's winners will be companies that create value by searching out and mobilizing untapped pockets of technology and market intelligence that are scattered across the globe.

The success stories of the future will be those firms that excel in sensing specialist knowledge about new technologies and emerging market needs that are scattered anywhere around the globe. They will mobilize this dispersed knowledge to create new products, services, processes, and business models. They will harvest value from those innovations in markets all over the world.

This new opportunity is being fueled by the emergence of a global knowledge economy, an environment in which (1. p.2):

- Competitive advantage is primarily based on knowledge,
- Not all the knowledge a global company needs to prosper is to be found in one place-instead, it is increasingly scattered around the world,
- The cost of distance is falling rapidly for commodities that are mobile-capital, goods, and information-so that they are readily accessible by all.

The rise of this global knowledge economy means that the opportunities and challenges of exploiting knowledge scattered around the world will become a key concern of senior managers across the spectrum of industries from mining to manufacturing and professional services.

The long-term challenge affects today's market leaders as well as their newly emerging competitors. Success in the future will increasingly depend on their ability to access knowledge from outside their existing subsidiaries and connect it with the skills that are scattered across their global operations network. This capability will allow them to create and design the innovative products, services and processes they need in order to win in markets around the world. New knowledge economy winners will not blanket the world with a standard offering, projected from home base. Instead, they will succeed by learning from unique pockets of knowledge dotted all over the world and then using this knowledge to fuel a cycle of continuous innovation.

3. Consumers as a base for design process

Consumer research plays the important role in creating a solid foundation for marketing understanding and marketing strategy. A basic marketing concept states that firms exist to satisfy consumers needs (2. p. 7). These needs can only be satisfied to the extent that companies understand the people or organizations that will use the products and services they offer, and that they do so better than their competitors.

The marketing concept of business operations involves the identification and satisfaction of consumer expectations, needs and desires, in a way that facilitates the growth in sales, profit and market share over the longest time period possible. For the marketing concept to be implemented, it is necessary for the company to understand consumers, i.e. how and why they behave, and create accordingly the range of its product and services that consumers will buy and use. A company's business performance

depends on the extent to which consumers are satisfied with the offer.

The successful implementation of marketing implies continuous marketing research offering high-quality information on various forms of consumer behaviour in various situations. This information is the basis for formulating marketing strategy. Consumer response may often be the ultimate test of whether or not a marketing strategy will succeed. Thus, knowledge about consumers is incorporated into virtually every facet of a successful marketing plan. Data about consumers help companies to define the market, and to gain advantage against their competitors. This advantage reflects company's ability to identify market threats and opportunities in their own and countries around the globe, that will affect how consumers receive the product.

In today global economy, companies of all kinds acknowledge that their customers are extremely important, that customers are the company's most valuable asset, that the company survives only when it has customers and grows only when it can retain them and recruit new ones, and that the company therefore should be structured and managed around the customer. Customer focus was identified in many academic researches as the single most important differentiator between the best and the worst companies in an industry.

Product design is a differentiating element in relation to competitors' products, so that it becomes a significant source of achieving and maintaining a company's competitive advantage on the market. Choosing a combination of functional, structural and aesthetic features of a product is the essence of product design projects.

The most commonly quoted definition is that given by the International Council of Societies of Industrial Design: Industrial design is a creative activity whose aim is to determine the formal qualities of objects produced by industry. Formal qualities are not only the external features but principally structural and functional relationships which convert a system to a coherent unity from the point of view of user. Industrial design extends to embrace all the aspects of human environment which are conditioned by industrial production (3, p. 190)

Design is therefore integrated into almost every aspect of business, i.e. a company as a whole: The boundary triangle enveloping the product design comprises: (4, p. 72)

- the final purpose and use of products;
- materials from which the product was made;

- technology, equipment and processes used in its production.

All of the above points to the necessity of co-operation between industry designers with not only engineers but also marketing experts.

Numerous conditions must be met for the product design to be assessed as good and high-quality. The most important among those numerous conditions to be met are viewed through the following dimensions:

- product utility;
- ergonomic adaptability;
- technical and economic reliability;
- aesthetic sensitivity;
- consistency of image.

Design history is a record of the forms of life and dominates the history of cultural development (including technical, economic, aesthetic, social, psychological and environmental aspects).

It is also clear is that modernist, organic, post – modern, or any other doctrine with a recognisable semiotics, is easily subverted in the service of industry and to the glory of consumerism and economic.

Design facilitates mass production and rapid turnaround of new styles, ensuring shorter product (market) life cycles and encouraging consumption for fashion's sake rather than real need. Design encourages greater resource flows and increases the production of factory and post – consumer waste. In the Industrial Economy flows are typically raw materials and energy; in the Consumer Economy energy, finished materials and products are the dominant flows; and in the Knowledge Economy flows are dematerialized as electronic information yet they require large amounts of energy, raw and finished materials and products to support the rapidly expanding knowledge infrastructure (satellites, internet and telephony networks).

Design gives the Industrial, Consumer and Knowledge economies material form, semiotic content and so generates socio – cultural relevance. It is therefore not surprising that the role of design in encouraging more sustainable production and consumption has received considerable attention.

Global competition, rapid changes in technology, and market fragmentation have resulted in a more demanding role of design process in companies.

If we accept Philip Kotler's definition that product is all that can be offered to the market to meet a certain desire or need (5, p. 430), the con-

sumer is undoubtedly the personification of the market, and his/her expectations, preferences and desires are the basic inputs in the new product design and styling process.

While facing intensive global competition, rapid technological change, and the changing patterns of consumer behaviour on world markets, a company is expected to maintain a competitive advantage. Therefore, a consumer oriented product design process as well as shortening the duration of the product design chain is a necessity.

Customer feedback plays a major role in successful product development. Customers have many ideas in mind when considering new products or services in regard to the PDC. Hence, designers and manufacturers must listen to their customers' suggestions and keep closer ties with them. If products fit the customers' expectations, then this implies a higher likelihood of completing projects successfully.

Challenges to strategic success in faster new product development include the uncertainty of increasingly turbulent business environments and market friction from potential buyers and stakeholders, such as labour market demands, the need to be competitive, the demand of customers for just-in-time products etc. Shortening the length of time it takes to complete the product design chain is a necessity in maintaining a competitive advantage.

In new product design, product development should start by analyzing the customer's needs and planning products with the required functions, plus the manufacturing action plan. In upgraded product design, because the manufacturer already has experience in manufacturing technology and has a product on hand, product development can start with repositioning and focus on improving the factors found necessary to maintain a competitive edge. In customization, consumers explicitly define the required functions and specification of the product. The primary focus is on how to fulfil the requirements.

4. Conclusion

There are numerous factors that have impact on consumer behaviour as well as on their purchase decisions. Product design is one of the main elements that consumers consider in their consumption. On the other hand, designers have successfully converted financial, natural, human, and social capital into a new anthropocentric focus of consumerism. In doing so they have been directly responsible for a catalogue of adverse environmental and social impacts and have assisted in encouraging new consumer habits.

As the global knowledge economy becomes a reality, the sources of profit of traditional multinationals are under threat. The ability to move money, commodities, products, and information efficiently around the world is becoming a table stake in the global game.

The winners in this global knowledge economy will be companies that master the art of creating new sources of differentiation, companies that understand that you can't just shuffle a well-worn formula between existing markets. This means outinnovating the competition in products design, services, and processes as well.

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