Design thinking as necessary constituent of creative industry

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Abstract. Creative management is implemented at the pre-design and design stages of the innovation cycle and considers the innovative product as a complex structural. Accordingly, the management associated with the creation of a new system of knowledge, skills and abilities must be in a certain way divided into a number of constituent elements. It should also be noted that creative management should be aimed at the full disclosure of creative abilities of people. The design thinking activates the development of knowledge, skills and abilities, because through the use of a qualitatively different methodical device raises the creative potential to a higher level.

Keywords: creativity, design thinking, innovative product, creative management, knowledge

1. Introduction

Creative management has now announced itself as a real-life knowledge area. Moreover, it becomes universally accepted. Creative management is closely linked to the innovative management that operates with the intellectual product.

It is of considerable interest to study the experience of the world in monitoring innovation indicators, as this process is very dynamic under the influence of new trends of development: globalization, formation of knowledge economy, open innovation. To continue with, it was proposed to compare the activities with a set of different value indexes (Global Innovation Index, for Ukraine 64 ranking position from 30 world countries; Patent activity, 27 position). The high position of Ukraine in the ranking in terms of Global Creativity Index, 45th ranking position from 20 countries.

Creative industries represent the sector of the global economy with the most dynamic development. Creative industries represent for 3.4% of global GDP. It is important to note that some young people employed in the creative economy account for 25% of the world's population. At the same time, the economic impact of creative industries on the overall economic development of the country is small. The potential of the creative sector is not used effectively.

Experience shows that the use of creative-heuristic techniques in scientific and technical creativity can increase the efficiency of the work of scientific and engineering teams several times. However, this rich experience is hardly ever used to improve managerial decision-making in the economic and organizational spheres.

Thus, we can say, that innovative management, on the one hand, creative - on the other, have the same object of consideration, but study it in one case (innovative) from the outside, as ready, in another (creative management) - from the internal, as the process of creation.

Creative management is closely linked with the development of such areas of management as personnel management, strategic management, innovation management, “self-management”, organizational culture of the enterprise, marketing. Design thinking is not a new concept, but one that in recent years has entered a growing range of industries in the world. For an innovator, design thinking is an approach that minimizes uncertainty and the risk of innovation. Focusing on rapid iteration of the idea and active involvement of the client in an open dialogue throughout the process, the company is better positioned to understand the root cause that really needs a solution, as well as the product or service functions that they need to provide to meet this need. The activity of future managers is related to work with people, it is aimed at strengthening and better utilizing the creativity of the collective (creative management), as well as the fact that the staff has activated its own intellectual abilities. There
is a certain contradiction between the constant growth of knowledge and the low creative level of students.

Ukrainian industries that could be successful on the European market would be IT products, food, light industries and agricultural products. First of all, enterprises need to get information. According to international experience, the implementation of the concept of a creative economy opens up new horizons of socio-economic progress. The creative industries, which make up its material foundation, are becoming a dynamic and highly profitable sector of the global economy. They depend on the realization of creative capital.

Most of the resources used in the process of creating innovations and their commercialization are classified as specific and interspecific. The key interspecific resource is the human capital of workers engaged in innovation. The team principle of organization of work is often characteristic of innovation activity.

The intellectual property market is one of the most dynamic markets in the information economy. Assessment of intellectual property can be designated as the process of establishing (in monetary terms) the utility of the results of intellectual activity, the individualization of products, work or services performed. The training of organizations and the ways in which it occurs are discussed in the light of the different types of knowledge that are used by human resources. Communication and dissemination of information are identified as critical elements of this process. Creating a learning environment becomes a central task for an enterprise that wants to manage its own knowledge base.

The concept of “absorbing capacity” establishes a link between information and knowledge outside the company and trained, organizational structures within the enterprise. This approach connects the enterprise's ability to recognize the significance of new, external information and its ability to assimilate new information with existing similar knowledge (embodied in human capital), and finally apply joint knowledge for commercial purposes.

Accordingly, national policy should invigorate educational institutions notably in the realm of technical skills, vocational qualification and entrepreneurial talent.

The purpose of the article is to study the impact of the ability to apply forms of a design thinking, creative approach to management activities of business processes, present design thinking as a strategy for product innovation and business innovation.

2. Materials and methods

We now present our review of the literature of this area, starting with a description of the nature of design thinking, its characteristics, and processes.

A number of researchers state that the development of intellectual - creative potential of youth is on the lower boundary of the average norm. At the same time, it was determined that high indicators of creative potential of a person and personal qualities of future managers influence the efficiency of management activity and their self-realization.

A shot definition of creativity. ….The process by which something new comes into existence and a longer one: “a process of being sensitive to problems, deficiencies, gaps in knowledge and missing elements, disharmonies and so on; identifying the difficulty, searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting them, and finally communicating the results” [Jalan and Kieiner, 1995].

The nature of design thinking in many areas, knowledge is generated and accumulated through action (i. e. something done and evaluate the results). That is, knowledge is used to produce work, and work is evaluated to obtain knowledge. Creative people tend to work in two different ways: either as finders or as makers [Owen, 2007]. Finders demonstrate their creativity through discovery. They are driven to understand and to find explanations for phenomena not well understood. Makers are equally creative, but they are forced to synthesize what they know in new designs, arrangements, patterns, compositions and concepts. Given the fundamental technological differences between how quest and manufacturers think and work, other factors can equally identify differences in the professional fields and, therefore, help determine the nature of design thinking. One such factor is the content with which a field of works. A conceptual map can be drawn to represent the four stages of creative process (Figure 1).
Figure 1. Stages of creative process

Ideation. Make sense of everything that heard, generate tons of ideas, identify opportunities for design, and test and refine your solutions.

Incubation. Design is an iterative activity that only has broad guidelines but no fixed process. What’s more important is that critical insights, sensitivity to consumer needs and beautiful solutions come from the creative chaos encouraged by an open design process. A common focus on communication, creativity, analytical thinking, reliability and repeatable processes.

Implementation. To bring solution to life. Will figure out how to get idea to market and how to maximize its impact in the world protection of property rights); costs of production; costs of promotion; losses from administrative barriers.

The main feature of design thinking, as opposed to analytical thinking, is not a critical analysis, but a creative process in which sometimes the most unexpected ideas lead to a better solution of the problem. Problem definition is first and most important stage of design thinking, because if you incorrectly determine what the problem is, then the solution that you come to in the process will not be the solution to the problem that needs to be solved. After you have identified the problem, you also need to determine who your end user is (whose problem do you solve?) And what result do you want to achieve (what is the successful result of the project?).

Design thinking involves an analytical component that includes such areas as science, for example. It is more analytical when using the process, and their content is more symbolic than the real in this subject, as a rule, is abstracted in its analyzes. The second component is symbolic, which includes a wide cover of symbolic content and synthetic processes.

Design thinking from this perspective is about borrowing designers ways of thinking and working in order to promote innovation in businesses, as well as balance the analyticalbusiness mindset with the intuitive and creative design mindset.

Iterative and repetitive often from different points of view, the creative process is not linear and should never be seen as one. And it is very social, with some of the best ideas arising from empathy, interaction and exchange. This should occur because workplaces play an integral role in ensuring the creative process and providing employees with the support, inspiration and adaptive conditions necessary for interaction and innovation.

The reseach focused on the difference in creative management from its traditional forms. Non-standard creative approach; develop theories of cooperation, harmonization; team work; flexibility is closely related to creative performance; creative performance has its original not in innate cognitive abilities but in the motivation of the creative person. Characteristics of traditional management: management of the rules, develop theories of struggle, individual and group work, strict order of performance.

Next, we present literature regarding expertise, expert versus design thinkers, and expertise in design. Many articles in the design thinking literature were identified and described design thinking, design cognition, design behavior, design studying, design reasoning. Many authors have studied the nature of essence and the various processes that underlie the process of design thinking [Owen, 2007; Stempfle & Badke-Schaube, 2002].

Then we present our design model of thinking. The first step is to meet customers. This phase is devoted to exploring on the fly, opening yourself to creativity and confidence that, as long as you
remain grounded in the desires of the people you engage, your ideas will evolve into the right solutions. It is very important to use the provided situation. Opportunity is a situation in which changes in technology or economic, political, social and demographic conditions create the potential for creating something new.

Researchers who are interested in measuring and supporting design thinking have great opportunities to conduct a wide range of experimental studies that can lead to important findings. For instance, researchers may examine the effects of the design thinking process on various learning outcomes. They can also investigate the effects of different tasks and their complexity relative to enhancing design thinking skills, which in turn are assumed to increase students’ learning outcomes. It would also be interesting to know if design thinking skills mediate the learning process. In other words, design thinking skill may serve as a mediator that clarifies the nature of the relationship between an independent variable (e.g., problemsolving skill) and a dependent variable (e.g., math test scores) [Shute and Torres, 2012].

The design thinking is that designers and designers’ work processes can help systematically extract, teach, learn and apply these human-centered techniques in solving problems in a creative and innovative way in our designs, in our businesses, in our lives and in our countries. The invention is a technological solution that becomes an innovation only when it enters into social practices.

Innovation is closely linked to the social context and that it must be rooted in the understanding of the needs of specific groups of people.

The design thinking activates to development of knowledge, skills and abilities, because through the use of a qualitatively different methodical device raises the creative potential to a higher level.

Tim Brown also emphasizes that Design Thinking techniques and strategies of design belong at every level of a business [Tim Brown, 1986].

“Design thinking begins with skills designers have learned over many decades in their quest to match human needs with available technical resources within the practical constraints of business. By integrating what is desirable from a human point of view with what is technologically feasible and economically viable, designers have been able to create the products we enjoy today. Design thinking takes the next step, which is to put these tools into the hands of people who may have never thought of themselves as designers and apply them to a vastly greater range of problems” [Tim Brown, 1986].

Tim Brown, CEO and president of IDEO, is also a proponent of using design thinking in business but he defines design thinking as the “human-centered approach that designers use in the development process”. He believes that “drawing from the designer’s toolkit allows businesses to better integrate the needs of people, the possibilities of technology, and the requirements for business success”.

Bill Moggridge, co-founder of IDEO, has shown “The ‘Design Thinking’ label is not a myth. It is a process”. He believes that “drawing from the designer’s toolkit allows businesses to better integrate the needs of people, the possibilities of technology, and the requirements for business success”.

Finally, we discuss the findings from the literature, showing the importance of design thinking and providing suggestions for future research.

The research by [Johansson-Sköldberg, Woodilla, Cetinkaya, 2013] has given more information with regard to the outline a distinction between ‘designerly thinking’ and ‘design thinking.’ The authors suggest that ‘designerly thinking’ refers to the practical skills and innate competencies of a designer and is “rooted in the academic field of design.” On the other hand, ‘design thinking’ refers to the use of design practices and competencies by disciplines outside of design.

Creative thinking techniques: Brainstorming (heuristic abilities), than people coming together with the sole purpose of generating ideas; logical generating activities.

Thus, Design Thinking is an iterative process in which knowledge is constantly being questioned and acquired so it can help us redefine a problem in an attempt to identify alternative strategies and solutions that might not be instantly apparent with our initial level of understanding. Design Thinking is often referred to as ‘outside the box thinking’, as designers are attempting to develop new ways of thinking that do not abide by the dominant or more common problem-solving methods – just like artists do. At the heart of Design Thinking is the intention to improve products by analyzing how users interact with them and investigating the conditions in which they operate. Design Thinking offers us a means of digging that bit deeper to uncover ways of improving user experiences.

Design mastery is found in the practical skills and innate competencies of a designer. Designers are trained to frame problems and reason through abductive thinking [Dorst, 2011].
In general, thinking constrictions may be presented:
- a way of looking at the world,
- worrying of what other people may say,
- that’s a daft idea’ and ‘people will laugh at it’,
- there is only way of doing this…..,
- seeing things the way they have always been,
- the process of killing ideas before allowing them to form,
- information as a liability.

The rules of creativity entreprener:Ragnar Siil, business-manager partner of Creativity Lab (Estonia) and coordinator of expert group for development cultural and creative industries of European Commission said: «Cultural creative – key to successes of business on creative industries».

Main goals of creative management [Pererva, P., Savchenko, O.,2013]:
- assessment of the creative potential of a person – a specialist who wants to be involved in solving of creative problems,
- creating a creative atmosphere in a team that has worked for a long time and has its own traditions, informal leaders, the distribution of role functions that has justified itself,
- acquisition of skills and skills in the formation of creative thinking,
- studying methods of solving non-standard tasks,
- ability to apply forms of a creative approach to management activities,
- creative management, promotes the development of skills of non-trivial creative decisions in business.

Creative activity is the key to an innovative economy; and in the present conditions, without any communication and atmosphere of creativity, no innovations are possible. In the practice of spatial development, these are the same key concepts as demography and economics. It is worth noting that, in our opinion, the development of creative industries and creative economy in Ukraine should not be entirely the responsibility of the state; her task is to create a comfortable environment for creativity (the number of enterprises in the creative sector is growing, but they lack the conditions for work) and, if possible, not to interfere at all in the activity of the creators (who, in need of freedom in their activities, and only under its conditions can produce creative goods and services).

3. Results

Thus, the program of formation of thinking of future marketers, engineers, economists should include the following areas: - the acquisition of skills and abilities in the formation of creative thinking; - the study of methods for solving non-standard problems; designers are not effective in conveying that design skills, a more serious problem may be that adopting design thinking and misusing tools and methods threaten the future of design and reliability of designers. There is a need to better convey the value of design excellence through methods in design thinking, but additional methods must also be developed that can combine empathy, analytical and intuitive, deductive, inductive and inductive approaches that effectively manage the innovation process. The analysis that has been carried out allows concluding that the design thinking to help design better products, services, processes, strategies, spaces, architecture, and experiences. Design thinking helps develop practical and innovative solutions for decision making. It is a human-focused, prototype-driven, innovative design process.

Creative management, promotes the development of skills of non-trivial creative decisions in business. In creative management, you can distinguish the following main goals: assessment of the creative potential of a person, a specialist who wants to be involved in solving creative problems, creating a creative atmosphere in a team that has worked for a long time and has its own traditions, informal leaders, the distribution of role functions that has justified itself.

It is necessary to increase the turnover of the country, namely, creative products.

Design thinking is not only for designers but also for creative employees, freelancers, business leaders, students of all specialties. It’s for anyone who seeks to infuse an approach to innovation that is powerful, effective and broadly accessible, one that can be integrated into every level of an organization, product, or service so as to drive new alternatives for businesses and society.
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