The International Conference on Creativity and Innovation 2018
From the Perspective of Interdisciplinary Research and Practice

September 10-12, 2018   Osaka, Japan

Category: Practice on Creativity Development
Title of paper: Mechanism of realize organizational creativity based on individual people's intrinsic motivation
Full Name and Job Title of the First Author: Kazuhiro Nakamura, Ph.D. student
Your Institution: Graduate School of System Design and Management, Keio University
Your Full Address: 6-1-11-1008, Akemi, Urayasu City, Chiba Prefecture, 279-0014
Tel: +81-90-3243-0910
Email: n-kazuhi@nifty.com

Full Name and Job title of other authors if any: Dr. Prof. Toshiyuki Yasui, Guest Professor
Institution: Graduate School of System Design and Management, Keio University
Full Address: 2400 M ST. NW APT.311 Washington, D.C., 20037, USA
Tel: +1-202-255-7805
Email: t.yasui@z2.keio.jp

Full Name and Job title of other authors if any: Mizuki Tajima
Institution: NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.
Full Address: JA Kyosai Bldg., 7-9, Hirakawacho 2-chome, Chiyoda-ku, Tokyo,102-0093
Tel: +81-3-5213-4140
Email: tajimam@keieiken.co.jp

Full Name and Job title of other authors if any: Misa Asakura
Institution: NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc.
Full Address: JA Kyosai Bldg., 7-9, Hirakawacho 2-chome, Chiyoda-ku, Tokyo, 102-0093
Tel: +81-3-5213-4140
Email: asakuram@keieiken.co.jp

Full Name and Job title of other authors if any: Hiroyuki Fujiwara
Institution: NTT DATA Corporation
Full Address: Toyosu Center Bldg., 3-3, Toyosu 3-chome, Koto-ku, Tokyo, 135-6033
Tel: +81-90-4067-1232
Email: fujiwarahry@nttdata.co.jp

Full Name and Job title of other authors if any: Dr. Prof. Takashi Maeno, Dean and Professor
Institution: Graduate School of System Design and Management, Keio University
Full Address: Collaboration Complex, Keio Hiyoshi Campus, 4-1-1 Hiyoshi, Kohokuku, Yokohama City, Kanagawa Prefecture, 223-8526
Tel: +81-45-563-1122 EXT.38024

Email: maeno@sdm.keio.ac.jp

1. Abstract :

In recent years, the importance of creativity in enterprises has increased in various fields such as marketing, product development and organization development. This research proposes the element and the creation model to realize organizational creativity based on individual people's intrinsic motivation rather than attributing to only one single innovator. As a result of interviewing intrapreneurs and the middle class supporting those intrapreneurs, persons in charge of new business and entrepreneurs, it has become clear that for the demonstration of individual creativity, following three elements are needed: an element in an environment such as a psychologically safe place to cause change of individual and interaction with others, an individual's internal element to create wills such as personality traits, ability and intrinsic motivation; and also, an interaction with the others through a place that creates a change of an individual with the group. In addition, in order to realize a business or a project based on the manifested creativity, the aspect of environment and interaction is necessary as well as demonstration of an individual creativity. Other than that, it has become clear that following three elements are important: to fine tune the details of the project itself, to match the context of an organization; and to involve fellows from the organization towards realizing the project.

2. Introduction:

With intensifying global competition and business model adaptation in line with emerging markets are being obligated, the importance of creativity is increasing in various fields such as marketing, product design, and utilization of AI as activities that will be the source of innovation. In particular with the advanced modern society, it is more important for an organization to commonly own and share knowledge and to intentionally bring intellectual inspiration (1), those bearers are being referred to as "creative class," and it is also being debated as the subject of social capital (2). In addition, as the importance of creativity in enterprises increases, the number of creativity studies has increased as well. Research on creativity as ability and personality traits, and the method of thinking and modeling of skills are also advancing (3).

While the importance of creativity and the spread of its fields are increasing as mentioned above, in large enterprises, individuals' creativity is difficult to be demonstrated as the number of employee increases, the loss of flexibility in company structure, and as the principle of self-sufficiency in trying to cover everything in its own company advances (4). As a result, a specific individual will take on that role and even in the preceding studies, there are many studies that focus on a single individual (an innovator or a designer) such as a serial innovator (5) or the relationship with the individual designers and the customers (6) resulting in few cases of studies realizing systematic/organizational creativity.

However, in Japanese enterprises, such as Sony (7) and Honda (8) are not demonstrating their creativity by the power of individual persons alone, but are demonstrating their creativity in their organizational relationship. In recent years, even for large enterprises such as Recruit (9) and Google (10), emergence from the organizational engagement are being created. What is common to both

companies is that the presence of individuals with thoughts and beliefs, and the existence of a place where employees engage with themselves. In SECI model which considers knowledge creation as a dynamic process, it points out the importance of a place and a dialogue to express knowledge as a tacit knowledge of each other (11). In other words, it shows that it is possible to create a place where creativity can be born even if the scale of the company grows by having both individuals with will and engagement among the employees.

By the way, it is considered that various elements influence the exhibition of creativity and its study approach is diverse. In the old days, the investigation of personality traits points out the spirit of inquiry, activeness and capacity to reason as high individual traits of creativity (12). As a cognitive approach, it points out that high spontaneous motivation has an important influence on the demonstration of creativity (13). In addition, environment plays a great role in influencing creativity and it is affected in various layers, such as work environment and the human relationship of the workplace (14). However, in the actual business fields, elements influencing creativity cannot be explained with only one approach. Therefore, Sternberg assumed that these multiple elements are involved in demonstrating creativity and revealed that the creativity enhances by dividing into the seven elements of creative thinking, knowledge, intellectual ability, style of thoughts, motivation, personality traits, and environment and investment in those seven elements (15). Although this composite approach is more valid than a single approach, the emphasis is placed on individual-related elements and the point of view of mutual interaction among the employees is also missing. It may be true if the employees are doing project under a closed experimental environment, however, in an actual field, the project is under way by the employees always interacting with each other. Therefore, it is necessary for the new model required moving forward is a model which includes three elements of an individual, an environment and a mutual interaction.

In this research, a primary element common to the demonstration of organizational creativity of major companies is clarified and proposes a model incorporating mutual interactions with other employees based on the individual employee's elements. In addition, this research extends the scope not only to the demonstration of individual creativity, but also the creation of organizational values and this research presents its overall model.

3. Research Method

3-1. Research Outline

The method of research is as follows. First, based on a previous research, mechanism plans for "process of demonstrating individual creativity" and "process by which creativity is converted into organizational values" are to be established. "Process of demonstrating individual creativity" is a mechanism to foster one's own thoughts and beliefs that occur inside individuals, as a preliminary step of the process until the creativity of individual is demonstrated. Furthermore, creativity is not only expressed and changed to the values of an organization. "Process by which creativity is converted to organizational values" is a mechanism of how expressed creativity converts into the values of an organization. Subsequently, companies and individuals deemed to have created remarkable organizational outcome are selected, and semi-structured interviews were conducted based on this model with those individuals who demonstrated creativity and the supporters who supported those individuals, respectively. A model proposal was considered complete by reviewing the model based on the interview result and confirming the content with the interviewees (Currently, an organization change

program is being developed based on this model and demonstration experiments are carried out with multiple companies).

3-2.　Experiment Background

This survey was led by NTT DATA and NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, and was conducted in collaborations with JAPAN USERS ASSOCIATION OF INFORMATION SYSTEMS and Graduate School of System Design and Management, Keio University. While organizational adaptation of creating innovation and diversification of a workplace are becoming social issues, many organizations are trying to raise their productivity while at the same time seeking to improve the way of working for the employees and repeated discussions are held within NTT DATA and within JAPAN USERS ASSOCIATION OF INFORMATION SYSYTEMS. As one of the answer to those problem consciousness, a survey and a research were conducted from December, 2016 to March 2018, with the theme of "Demonstrating organizational creativity."

In this survey, it was assumed that the origin of creating innovation is the demonstration of creativity of each individual employees and in which mutual support among the employees is important to embody its creativity as an organizational value. This research was conducted with the aim of realizing the value creation of organization by each individual employees to feel rewarding for work while actively creating ideas themselves and having mutually deep relationship among the employees.

3-3.　Project Details

Ministry of Economy, Trade and Industry has formulated and proposed a framework of innovation management for enhancing international corporation creativity and for enhancing international competitiveness in 2015 (Figure 1). Many models involving creativity are based on the existence of individuals and organizations that demonstrates creativity. However, in the first place, there is not much mention on how demonstration of creativity as its origin is tried. Even in this framework, ⑦ "Fostering Innovation Culture" is not systematically organized and there are only few concrete methods for implementing the measures. A research for this project incorporates this framework as the entire scope in order to increase the reliability of the planning of this project itself and to make it easy for the experts of inside and outside the company to be involved by defining "Fostering Innovation Culture" as the target, which is one of the black box, and dividing "Process Towards Demonstration of Individual Creativity" and "Process of Converting Creativity into Organizational Values" as the lower layer.
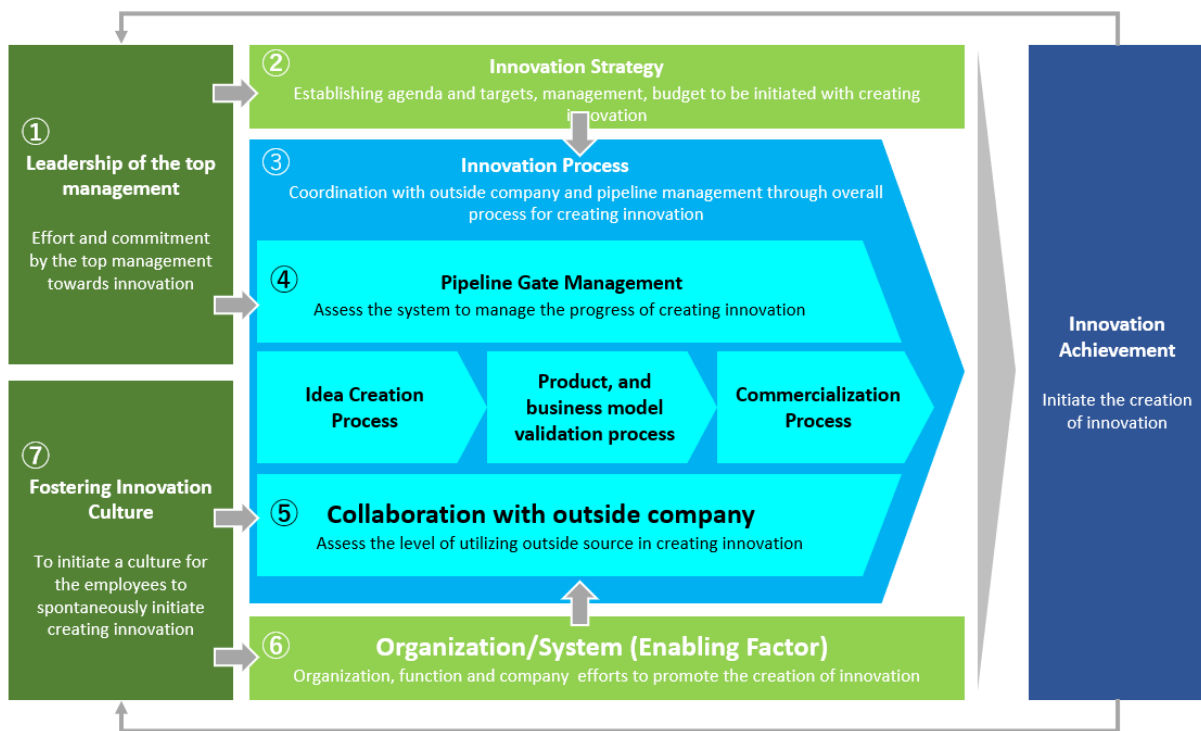
Figure 1: Comprehensive Research in 2015, "Research Study regarding Assessment of Environment Creating Innovations at Corporations and Social System Level" (Ministry of Economy, Trade and Industry, METI)

3-4. Previous Researches in Model Construction

Following literatures were investigated and used as references in constructing models.

Survey Item	Referenced Contents	Referents
Creativity	・Flow theory ・Creative mindset	・"*Good Business: Leadership, Flow, and the Making of Meaning*" by Csikszentmihalyi, Mihaly (2003). ・ "*Creative Confidence: Unleashing the Creative Potential Within Us All*" by Tom Kelley and David Kelley (2013)
Intrinsic Motivation	Three desires that promotes intrinsic motivation ・Method to increase the feeling of happiness ・Four elements of happiness ・ Relationship of improving organizational creativity and intrinsic motivation	・ "*Self-Determination Theory*" by Richard M. Ryan, Edward L. Deci (2017) ・ "*Flourish: A Visionary New Understanding of Happiness and Well-being*" by Martin E. P. Seligman (2011) ・ "*Shiawase no Mechanism (Mechanism of Happiness)*" by Takashi Maeno (2013) ・ "*How to Kill Creativity*" by Teresa M. Amabile (September – October issue Harvard Business Review)
Decision-	・Bucket and Ladle Theory	・"*How Full Is Your Bucket?*" by Donald O.

Making Process	・Theory U ・OODA Loop	Clifton (2004) ・"*Theory U*" by Otto Scharmer (2007) ・ "*Beigun Shiki – Hito wo Ugokasu Management (Management that moves people – US Armed Forces Method*" by Yasuhiro Tanaka (2016)
Organization Development	・System level targeting to organizational development ・Method and types of organization development ・Functions of each department of Japanese corporations and its gaps ・Workplace where there is work but not a "place" ・KI growth curve (team/individual) ・Frames of corporations growing with changes	・ "*Soshiki kaihatsu no tokucho to sono hitsuyousei (Characteristics of Organization Development and its Necessity)*" by Kazuhiko Nakamura (2007) ・JMA "*Knowledge Intensive Staff Innovation Plan*" ・ "*The Key: How Corporations Succeed by Solving the World's Toughest Problems*" by Lynda Gratton (2014) ・ "*The Fifth Discipline: The Art of Practice of the Learning Organization*" by Peter M. Senge (2006)
Knowledge Creation	・SECI (Socialization, Externalization, Combination, Internalization) model, knowledge creation management ・Six abilities of practical leadership	・ "*Chishiki Souzou no Keiei (Management of Knowledge Creation*" by Ikujiro Nonaka (1990) ・ "*Nagare wo Keiei suru (Managing the flow)*" by Ikuijiro Nonaka (2010)
Self-esteem	・"Shallow Self-Approval" and "Deep Self-Approval" ・Various phases of self-esteems	・ "*Communication Koui ni yoru Jiko Kouteikan Koujou nikansuru Kenkyuu (Research regarding Improving Self-Esteem by Communication Behavior)*" by Sumiyasu Sakuta and Yoshikazu Nakayama (2012)
Dialogue	・Dialogue ・OST (Open Space Technology) ・Whole System Approach ・Open dialogue	・ "*Dialogue: The Art of Thinking Together*" by William Isaacs (1999) ・ "*Open Space Technology: A User's Guide*" by Harrison Owen (1993) ・ "*Whole System Approach*" by Kazuaki Katori and Ko Ohkawa (2011) ・ "*The Open Dialogue Approach to Acute Psychosis: Its Poetics and Micropolitics*" Jaakko Seikkula; Mary E Olson (2003)

3-5. List of Interviewees

Individuals who demonstrated their creativity and those who realized new value demonstration within a corporation, and individuals who contributed to the improvements of organizational values were

interviewed. In addition, interviews were carried out to those who managed individuals displaying those values and those who are involved in development of human resources and organizations. Interview categories and major interview topics are as follows.

Categories	Interviewees	Major Interview Topics
Intrapreneurs and Entrepreneurs	A (Mitsubishi Heavy Industries) B (Asahi Shimbun) C (Investment Bank) D (ex-Sony) E (ex-NEC) F (ex-Recruit Holdings)	・Series of experiences on how new business/project ideas were created ・What is the most important requirement in demonstrating creativity of "individuals?" ・What motivates to continue business? ・What kind of conditions do you consider high creativity? ・Devise that you do when you want to pass what you want to do in your organization ・What are the styles and points when you launched with your own business?
Middle-class that supports intrapreneurs	G (Misumi Group Inc) H (Boehriner Ingelheim)	・What is the most important requirement in expressing creativity of "individuals?" ・What are the tips to continue measures of activation of the whole organization? ・When implementing new measures in your organizations, what do you cherish and what do you care about? ・What are the efforts to connect ideas to the values of business and the organization? ・What are the points to devise with the relationship with your superiors? ・What are the points you care about when involving people across divisions?
Head of New Business Development Division Head of Human Resources Development Department and Organizational Development Division	【Head of New Business Development Division】 I (Recruit Management Solutions) 【Head of Human Resources Development Department and Organizational Development Division】 J (ex-JAL) K (ex-Google)	・What is the most important requirement in expressing creativity of "individuals?" ・What kind of process do you think is easy to demonstrate creativity (both individual and management)? ・As a position to cultivate people, is there any advice on making subordinates' realization of what they want to do? ・What kind of things should be done in order to create an organizational culture that is easy to demonstrate creativity? ・What is the requirement of a good team?

3-6. Creation Model of Creativity

There are mainly two processes to realize organizational creativity. The first process is a phase where inspirations and ideas are developed based on personal thoughts and beliefs. Through a dialogue in a safe and secure place, experiences which are the source of one's thoughts and behaviors can be found and it is expressed as thoughts through its own dialogue and interaction with others. The second process is a phase in which that thought is combined with the value of the organization and is embodied into planning and business while involving fellows from the company. Inspirations and ideas that tied to the thoughts that arose from their heart is refined as planning content through mutual interaction with the others. In that process, integration with own thoughts are taken by the consistency with the aspects such as invisible organizational needs. In addition, among those involvement, others become cooperative by sympathizing with those thoughts and beliefs and that will be propagates to the organization. Through the overall mutual interaction with individual and the organizations ones' thoughts will be fulfilled in a form of planning and projects. And through this process, individuals' thoughts and beliefs will spread more widely inside and outside the organization beyond the individuals' workplace and projects, and it will encourage realization of the actual planning and projects. As a result, while constraints and actions for the realization of projects appear one after another, it leads to the creation of an organizational cooperation system to produce results.
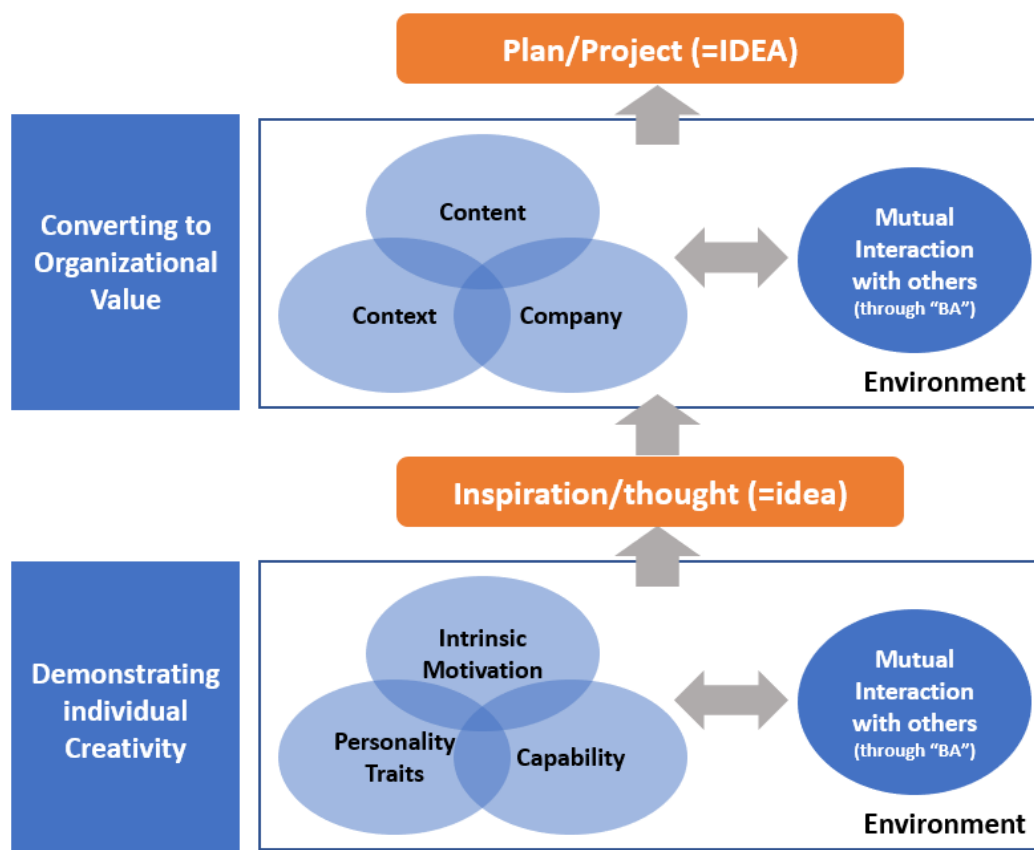

Figure 2: Process by which creativity is converted to organizational values

First of all, where is the origin of the individual thoughts are born? It is considered to be born from past experiences and past reflection. People form their own values and way of thinking, attitudes and self-

images while going through various experiences. However, that is just a personal experience and it cannot be the energy to change reality. In order to proceed, it requires thoughts and beliefs and in order to generate those thoughts and beliefs, inquiries and dialogues are essential to access your own sources. In order to explore your own sources, it is beneficial to look back on personality traits. Attitudes, intentions and values have tendency to direct interpretation and behavior. By knowing how that trend is born, and how it grew, you can touch original experience that is sleeping deep inside you. By touching the source of what becomes your thoughts and behavior to understand, it gives significance at that present time. That is the starting point of thoughts and beliefs that serves as energy to move reality.

However, just looking at it may end with misinterpretation of the past. Here, a path to turn it toward future creativity is required. The keys for that are "question" and "dialogue." For example, among the questions that seems effective for creativity are; "what do you really want to do now?" "what are you trying to realize/solve in this world? (what is your vision, the impact you want to give?)" "Why do you exist (what is your mission?)?" In fact, there are opportunities and places for Recruit and Google employees to be questioned directly and indirectly, and to keep questioning on a daily basis. They respect each other and talk whatever they have in their mind. As those true dialogues are repeated, ambiguous or partial minds for ourselves are translated to language, integrated, and are spun as words in the form of thoughts and beliefs. In fact, this process happens everyday at Recruit, and when Recruit employees are questioned about what scenes seems to be most Recruit-like, many employees will answer that they are always questioned "what do you want to do?" In addition, at Google, a company-wide meeting called "TGIF" is held every week and 60,000 employees from all over the world participate in that meeting including the top management. As they witness the vision of top management and the impact this company has given to the world; they are stimulated, they are questioned, and the dialogue with you is deepened.

A very important factor in this process is a psychologically safe environment. Often, a new born thought seems to be just a thought and it seems like a child's dream. A sound dialogue with others through a safe place is important for the process to sublimate the thought to a firm will. When that falls out, it does not take away the thought of real intention from the anxiety of being ridiculed. As a result, the answer becomes something that appears good and popular in the organization, but the real passion is not shown. Google surveyed through Aristotle Project about what is common among the teams with outstanding achievements. It turned out that the only difference was the existence of this psychological safety. Because there are excellent talent gatherings, it is highly effective not only from the view point of creativity, but also from the view point of retention and that there is a place to say anything for those members who cannot speak their real intention. In other words, it is necessary to have psychological safety which is easy to produce mutual interaction and physical environment/opportunity to engage in a dialogue.

When thoughts and beliefs are expressed in places along with inspirations and thoughts as a plan, then what happens next is the mutual interaction with the surrounding members. It is a place to confirm the thoughts and beliefs toward the creation of organizational values, it is a place to exchange opinions from different perspectives, and it is a place to collide with different objectives. Through this mutual interaction, then your thoughts and beliefs are more embodied and developed. A meeting style called "Wai-gaya," frequently heard in Honda is exactly a typical example of this process. This way, each individuals' thoughts are brought up and materialized as a certain thing in yourself while adapting to the context of the organization. Then the thoughts of individuals become an intention including the thoughts

of others which leads to formulating new ideas and plans. It gradually crosses the team, crosses departments, gets communicated to people, gets connected and creates coordination and cooperation within the organization.

Refinement of this project content, adaptation to the organizational context, and the involvement of the fellows from the company all occur simultaneously and are inseparable. For example, when consulting the content of a project to someone is just an act of improving the contents of the project but also to know organizational context from the view point of others. Furthermore, the others giving advices will sympathize by listening to the counter person's feeling and improves the consciousness of the parties concerned and becomes fellows towards the same goal.

These processes never go in one direction, it embodies while going back and forth. Sometimes, the project itself may be postponed because of the No-Go decision made by the upper management before the project is about to realize by just one step. However, there are many cases seen when the project started with your thoughts as the starting point and has thoughts from the team members, then you may accept the No-Go decision at that time, but you will vigilantly watch for the next opportunity and to challenge again when the upper management changes or the market environment changes. In other words, it is important for a realization of a project on how far you actually continue to promote. And, not only do you keep your project alone, but a better project can be kept in a sustainable way by keeping the project as an organization while fine tuning the project. Only then, there is a value of demonstrating organizational creativity.

Following are the quotes from the interviewees' words in each item. (interviewees)

<Environment> Primary factors
・To create an environment that accepts failures (H, I)
・Psychological safety is indispensable to a good team (K)
・Letting out stress is necessary, and to create such environment (A, F)
・To make a place to notice what you can do and make a place to enhance mutual understanding that you can meet someone who seem to be able to do something interesting if you team up (J)
・To make a place where you can connect with various persons (H)
・Emphasis is placed on creating a condition that employees can enjoy (I)

<Personality traits> Primary factors
・internal resources= enthusiasm, attitude, sense of values, self-image, problem awareness
  Experience on receiving educational background discrimination has become own problem (A)
・awareness formative experience (A)
・Sense of values are created from the failures from exams and studies (B)
・I thought that if my colleagues passes away suddenly due to sickness, what will I use my life for (C)
・To strongly picture my own "can-do image" (E)

<Intrinsic Motivation> Primary factors
・Passion is necessary to demonstrate creativity (E)
・Nothing will continue if you don't give your heart to the fullest (A)
・What is important for me is important (B, G)

・I enjoy doing something others will not do (F)
・I want to give impact to the society (B)
・It is mortifying when I cannot influence others (H)

<Ability> Primary factors
・Enhance your self-esteem so that you can make use of your strength (J)
・To let them understand their strength and let them think about how they want to demonstrate and how they can contribute (H)
・"Know-how" is necessary, but most important is to continuing to think (A)
・Communication skills such as smile and being considerate to others are needed as a base skill (E)
・It is extremely important to know the variation of combination (I)
・We asked our employees to master the skills to express ideas (H)

<Mutual Interaction> Primary factor
・There is a community that questions what you will die for, so I was thinking about that (A)
・It is inspiring to talk in a community where there are many people who are strongly willing to contribute. I can continue because of my fellows from that community (A)
・From the doubts about the value of business that I have been involved in so far, I wanted to do something that I can contribute to the customers in a truly manner (F)
・I like me →　I like You → I will be OK → We will be OK (J)

<Fellow> Primary factor
・I involve people that sympathize with me (D, G, F)
・I involve people with same problem consciousness (G)
・It is important to create a system that makes it possible to keep competition-awareness of colleagues of the same period to encourage each other (J)
・Since there is a limit to an idea by one person, I will go ask another person (F)
・It is impossible to force employees to have problem awareness, so I continue saying what is important (G)
・People are not touched if you don't tell from your heart (B)

<Content> Primary factors
・It is important to materialize to make others understand what you are thinking (F)
・It is important to be able to answer "why we are doing this project now" (A)
・Tell facts about why you need to do so, clarify the concept and talk yourself (G)
・Connect with various people and utilize meeting place (B)
・I tell people to not to stick to your sense of values "Beyond border" (I)
・Community is a place to share individuals' special skills by team. Foster an environment in which everything can be discussed while the place is deepening (D)

<Context> Primary factors
・I presented an idea by researching why our company was found and took the idea to realize the principles at that time (A)

・Understand the organization's objectives and when an idea comes up, tie it with the company's objective (E)
・Watch upper management's interests (G)
・Know what your supervisors are struggling with. Know how to pass through the company (B)
・I waited till the right time (in terms of profit and investment margin) comes so that my new project ideas will pass easier (A)
・Try to mix my problem awareness and management's problem awareness in a good way (G)
・My company is trying to improve in-house satisfaction level by showing the attitude of "make the best out of individuals and organizations" as a corporate motto (I)

4. Result/Observation

A model was presented to six out of the eleven interviewees and the model was completed after confirming that there is no discrepancy in the content or lacks any information and after amendment was made. Currently, a program based on this model and a guideline for the managers are developed and demonstration experiments are carried out with multiple organizations. As the method of evaluation at the time of demonstration experiment, following three points are measured before and after the experiment: 1) employee engagement, 2) diversity adaptability; and 3) employee happiness. Through these three points, it is planned to confirm that each employee is working in a vivid manner, enhances productivity, and demonstrates creativity.

5. Citations/Reference Literatures

(1)Hiroyuki Shiraishi, 2007, "Sharing Knowledge – Examples of Applied Geology (Chishikino kyouyuu to kyouyou – ouyoutishitsu no jirei)"– Kanazawa University Economics Major Essay Collections, Vol. 27, Second Edition, PP129-148.
(2)Richard Florida, 2014, translated by Norio Iguchi, "New Creative Capital (Shin Creative Shihon-ron)", Diamond Press
(3)Yuan Sun ,Toshiya Inoue, 2003, "Tendency of Psychology Research regarding Creativity (Souzousei ni Kansuru Shinriteki Kenkyu no Doukou)" , NII Journal, No.5, PP65-73
(4)Murayama, H., 2006, "Issues on creativity of information-creative enterprises (Jyoho-sozo-gata Kigyo No Sozosei Ni Kansuru Shomondai)" Pacific-rim Management Study (Kan-Taiheiyou Keiei Kenkyu) Vol. 7, pp.21-53 (in Japanese).
(5)Griffin, A., Price, R.L., Vojak, B., 2012, Serial Innovators: How Individuals Create and Deliver Breakthrough Innovations in Mature Firms, California: Stanford University Press.
(6)Verganti, R. ,2009, Design-Driven Innovation: Changing the rules of competition by radically innovating what things mean, Boston, MI: Harvard Business Press.
(7)Sanderson, S. ,Uzumeri, M. ,1995, "Managing product families: the case of the SONY Walkman", Research Policy, Vol.24 Issue 5, pp.761-782.
(8)Rothfeder, J. ,2014, Driving Honda: Inside the world's most innovative car company, New York: Penguin.
(9)Sugita, H. ,2017, Recruit's amazing power to envision (Rikuruto-no Sugoi Koso-Ryoku), Tokyo: Nihonkeizai-shimbun Shuppansha (in Japanese).
(10)Steiber, A. ,Alange, S. ,2013, "A corporate system for continuous innovation: the case of Google Inc.", European Journal of Innovation Management. Vol.16 Issue 2, pp.243-264.

(11)Nonaka, I., Toyama, R., Hirata, T., 2010, Managing Flow, Tokyo: Toyokeizai-shinpousha (in Japanese).

(12)Daabrowski, K. ,1938, "Types of Increased Psychic Excitability," Biuletyn Instytut Higieny Psychicnej, pp.9-21.

(13)Shin, S., Zhou, J., 2003, "Transformational Leadership, Conservation, and Creativity: Evidence from Korea", Academy of Manegement Journal, Vol.46, pp.703-714.

(14)Amabile, T. M., Sensabaugh, S. J., 1992, "High Creativity Versus Low Creativity: What Makes the Difference?" in Gryskiewicz, S. S. & Hills, D. A., 1992, Readings in Innovation, CCL, pp.19-28

(15)Sternberg, R. J., O'Hara, L. A., Lubart, T. I., 1997, "Creativity as Investment", California Management Review, Vol.40, No.1, pp.8-21

6. Author's profile

Kazuhiro Nakamura was born in Yokohama, Japan, on March 2, 1978. He received his B.S. in science and engineering from Sophia University, Tokyo, Japan, in 2002. He received M.P.D. degrees in project design at The Graduate School of Project Design, Tokyo, Japan, in 2014. He is currently a student in Graduate School of System Design and Management, Keio University, Japan. He experienced various key posts as a professional in service development and business development at MISUMI, Inc. and Recruit, Inc. in Tokyo. His research field includes dialogue, corporate innovation, social innovation, creativity, business design, organization development, business development, community design, communication skills, well-being of mind.

Toshiyuki Yasui is Guest Professor of Graduate School of System Design and Management, Keio University, Japan. Upon earned B.A. in International Relations from University of Tokyo in 1985, and he joined in the Japanese Government. During his distinguished services for more than thirty years he experienced various key posts in the Ministry of Finance and the Financial Services Agency. In 2011 he earned Ph.D. in Arts and Science from International Christian University, Tokyo. He actively works as Project Management Professional, a certified title of the US Project Management Institute.

   Dr. Yasui wrote many articles both for the academic journals and for newspapers on systems design and engineering, policy design, social innovation and international finance architecture. He mono-authored or co-authored eight books in Japanese including books on the Taiwan Straits and US-PRC relations (2005), on Japan's insurance regulations (2006, 2011), as well as on the value co-creation theory and social systems (2012). He was awarded the Best Paper Award of the academic society for four times; from the Japan Society of Competitive Intelligence (2010 and 2011), and the Japan Creative Society (2013 and 2014).

Mizuki Tajima was born in Tokyo, Japan, on September 5, 1986. She received her B.A. in general policy studies from Keio University, Japan, in 2009. Since 2009, She worked for NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc., Japan. She engaged in research and consulting on new business creation utilizing service design method and organization development method for domestic major companies, creation of new services, and organizational reforms accompanying it. She co-authored "Offensive IT Strategy" and   "Design Thinking Understanding by Feeling for IT Engineers".

Misa Asakura was born in Okinawa, Japan, on May 12, 1989.She received her B.A. in business

administration from Tokyo Science University, Japan, in 2012. M.A. in business administration from Yokohama City University graduate school in 2015. Since 2015, she worked for NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc., Japan. Mid-to-long term business plan formulation for domestic medium-sized enterprises, support for formulation of corporate vision, etc. In addition, new businesses that make full use of service design methods and organization development methods for domestic major companies. She also engage in research and consulting on creation of new services and organizational reform. She co-authored "Design Thinking Understanding and Felt for IT Engineers".

Hiroyuki Fujiwara was born in Tokushima, Japan, on October 28, 1980. He received his B.A. in literature from Waseda University, Japan, in 2005. He worked NTT DATA Corporation Inc., Japan, since 2005. After engaging in the planning, development and operation of a large-scale public system at the system development department, he is engaged in internal control audit and information security audit. Currently engaged in the planning and development of CIO human resource development program, research on ecosystem within organization of creation.

Takashi Maeno was born in Yamaguchi, Japan, on January 19, 1962. He received his B. S. and M. S. degrees in mechanical engineering from the Tokyo Institute of Technology, Tokyo, Japan, in 1984 and 1986, respectively. From 1986 to 1995, he worked for Canon, Inc., in Tokyo, Japan. He was a Visiting Industrial Fellow at the University of California, Berkeley, from 1990 to 1992. He received his Ph. D. degree in mechanical engineering from the Tokyo Institute of Technology, Tokyo, Japan, in 1993. From 1995 to 2008, he was with the Department of Mechanical Engineering at Keio University, Yokohama, Japan. He was a visiting professor at Harvard University in 2001. Since 2008, he has been with the graduate school of System Design and Management, Keio University as a Professor. Since 2011, he has been a dean of the graduate school of System Design and Management. He has also been a dean of the Well-Being Research Center, Keio University since 2017.
His research interests are on design of technological, social and human systems including robot systems, human-machine interface systems, philosophy of mind, ethics, community systems and well-being of mind.