

# ***Ba*, Japanese-Style Knowledge Creation Concept: A Building Brick of Innovation Process inside Organization**

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**Abstract:** Survival of a firm in industry will be primarily determined by how efficient it can harness competitive advantage from innovation process. Innovation process itself has strong correlation with knowledge creation, and to understand about innovation, people must understand about knowledge creation process. By successfully harnessing knowledge, people can use those resources to create some innovation product or service that in the end will provide competitive edge into the company. Unfortunately, not much research can be sought to provide more insight on the creation of knowledge inside a company. This paper explores about interesting concept of knowledge creation in Japanese term, which is called as “*ba*”. *Ba* concept can be used to describe how tacit knowledge and casual knowledge can be harnessed into a useful knowledge which in turn will be transformed into innovation process. This paper will briefly give some introduction about *ba* concept and how it is related to innovation process. A brief study of one multinational company will be used to describe how concept of *ba* is applied in understanding the success story of innovation from knowledge creation.

**Keywords:** Innovation, knowledge creation, concept of “*ba*”.

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## **Introduction**

One vital necessity for a company to survive in the market long term periods will be to enhance the company through a continuing effort in innovation. Lots of reports and case studies already shed a lot of proofs on how innovation became a central role in achieving survival in harsh market environments, no matter what industry the company is resided and no matter what customer segment the company tries to achieve (Loof and Hesmati [13]; Baijic *et al.* [1]; Mazzanti *et al.* [17]; Clercq *et al.*, [7]). In the end, companies that focus on innovation effort and doing so as their main strategy will survive, will the ones that fail to understand the importance of innovation will perish. Nevertheless, it is not easy to gain insight about plain innovation and tries to implement it into practical business model.

Examining further into innovation, one will notice that in order to understand more about how innovation can really leverage a firm competitive advantage one must delve further into the building block of innovation. Mascitelli [16] found out that when a breakthrough innovation was achieved, the most determining factor of innovation that play biggest role is knowledge, especially tacit knowledge.

By successfully harnessing knowledge, people can use those resources to create some innovation product or service that in the end will provide competitive edge into the company. Unfortunately, not much research can be sought to provide more insight on the creation of knowledge inside a company. It is quite hard to grasp the concept of knowledge creation and tacit knowledge because the abstract characteristic of knowledge, thus in ordinary concept of measurable model, the relationship between innovation and knowledge cannot be really understood.

Concept of knowledge creation that served as the cornerstone of innovation activity did not really get into mainstream of innovation research, especially in western side of the world. Interestingly, a knowledge creation concept of “*ba*” from Japan can be introduced to address this relationship. *Ba* concept can be used to describe how tacit knowledge and casual knowledge can be harnessed into a useful knowledge which in turn will be transformed into innovation process. This paper will briefly give some introduction about *ba* concept and how it is related to innovation process. A brief study of one multinational company will be used to describe how concept of *ba* is applied in understanding the success story of innovation from knowledge creation.

## **Innovation and Knowledge Creation**

Schumpeter [27] defined innovation as a dynamic element that underlying all economic categories. Schumpeterian innovation can be defined as

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“changes in the methods of supplying commodities, such as introducing new goods or new methods of production; opening new markets, conquering new sources of supply of raw materials or semi-manufactured goods; or carrying out a new organization of industry, such as creating a monopoly or breaking one up” (Brue [4]). In another word, innovation is recognized when a change happen in processing goods inside a manufacturing operation. Of course, the definition itself seemed to be narrowed especially in term of manufacturing operation, but by comprehending the true essence of innovation, which is change; people can derive the definition into service area as well. Therefore, researchers made some criteria to explain the innovation process in Schumpeterian definition (Bower and Christensen [3]; Chandy and Tellis, [5]). They concluded that innovation must: (1) be based on a substantially different core technology; (2) impose a threat of substitution to existing products, services or production processes; and (3) lead to the emergence of a new industry.

Knowledge defined as “justified true belief” that increases an organization's capacity for effective action (Nonaka [20]; Nonaka and Takeuchi [22]). Knowledge relevant to business organizations would include facts, opinions, ideas, theories, principles, models, experience, values, contextual information, expert insight, and intuition (Mitri [18]). Davenport and Prusak [9] describe knowledge as a fluid mix of framed experiences, values, context information, and expert insight that provides a framework for evaluating and incorporating new experiences and information.

Nonaka and Takeuchi [22] view knowledge as composed of two dimensions: tacit and explicit. The tacit dimension is based on experience, thinking, and feelings in a specific context, and is comprised of both cognitive and technical components. The cognitive component refers to an individual's mental models, maps, beliefs, paradigms, and viewpoints. The technical component refers to concrete know-how and skills that apply to a specific context. The explicit dimension of knowledge is articulated, codified, and communicated using symbols (Nonaka and Takeuchi [22]).

Popadiuk and Choo [26] gave a clear description about the relation concept of innovation and knowledge. They argued that in creation of knowledge, firm will discover new capabilities that are harnessed from generation and application of knowledge. This kind of capabilities is vital point of firm's advantage sustainable from resource-based point of view (Barney [2]). Innovation then can acquired new firm capabilities and transform them into products and services that have economic value

in markets. Innovation plays mediator role in connection between firm knowledge creation with firm product or service that assist in transforming knowledge as a latent firm capabilities into a practical and ready to use product or service that give competitive edge in industry field. Thus, it can be concluded that it is very important to understand the concept of knowledge creation in order to understand innovation process.

### Japanese Concept of “*Ba*”

Understanding about Japanese style in innovation is not an easy task. The characteristics of Japanese innovation are foremost caused by hundred years of incremental cultural activity and history. Mitsufuji [19] posit that innovation is formed in the social system and Japanese perspective in Innovation is formed through the history of Japan cultural and embedded into the daily life of Japanese society. Therefore, to understand Japanese perspective of innovation is a long process to understand the heart of Japan culture.

MacDowall [14] discussed on the distinct characteristic of Japan innovation that highly reside in Japan society, he described it as a strong bond between industry, government and education that help Japan to foster it innovation to the higher extent. In his paper, MacDowall describe some of Japan characteristic in innovation based on: High quality culture in Japan industry in all level. Competitive attitude that reside inside organization that help to develop new knowledge and products. Attitude of employee that focus first on the welfare of their organization rather than own personal ambition. Therefore, higher attitude on social value of people like farmers and engineers, which become the root of innovation activity become one of the distinct characteristics of Japanese innovation character (Maruyama *et al.* [15]). Understanding the risk of innovation and not afraid to fail. Bottom line is, knowledge for Japanese was foremost to be shared among all parties, than from shared knowledge, each of party will try to transform into a practical knowledge which traced into a practical innovation. Sense of community sharing and going for greater good in the society forged knowledge concept of Japanese people into a unique nation characteristic and in the end the concept become an interesting source of creating more innovative products and sharing knowledge all around the world.

Concept of *ba* can be traced far into the philosophical concept of Japanese in Shimizu [28] works. Nonaka and Konno [21] translated the philosophical concept of *ba* into concept of knowledge sharing in Japanese

firms' society (Figure 1). *Ba* literally can be translated into English word as "place". *Ba* concept based on the cornerstone that in order for knowledge can be exist, created, and transferable, a context is ultimately necessary. Context in this term is 'ba', a 'place' in certain 'time' that can be utilized for individuals to gather, to meet, and to communicate each other. From meeting and communicating each other, individual will share their own knowledge which each other and gain new knowledge. This can be done continuously and the shared knowledge will enhance each other in term of spiraling knowledge and ultimately will be traced into new and innovative knowledge creation. Individuals are assumed as primarily holding each own knowledge that is cumulated from their own experience in life, education, and another knowledge sharing experiences. The context becomes a media for those individuals to meet and share each other knowledge with the same objective. By sharing their knowledge, individuals in *ba* gain new knowledge and can integrate knowledge that was gained from *ba* to mold it into a new knowledge or practical innovation.

Context of *ba* is dynamic and encompass physical term. *Ba* is dynamic because in *ba* individual can freely access the shared context at any time and no limited communication needed in *ba*, for anyone can freely come in and go to share their knowledge with everyone in *ba* as long as they have mutual and similar objective and context of knowledge. *Ba* encompass physical term because even though *ba* can be literally means 'place'; the real meaning of *ba* is not only about a physical place, but a place to gather, whether it is physical or virtual. That means, as long as a shared context can be provided, be it in the physical world such as meeting room, a class, a room or in virtual means such as tele-conference, forum in internet, e-mail; action of knowledge sharing can be happened.

*Ba* concept is especially useful in explaining about the characteristic of tacit knowledge (Nonaka *et al.* [23]). In term of tacit knowledge, other knowledge theorem cannot really explain about how tacit knowledge can be transferred while in *ba* concept the tacit knowledge, where knowledge is recognized as intangible, unbounded, and dynamic, was shown can be created and transferred from individual to individual. *Ba* concept focuses more to the people as individual that hold the knowledge rather than to the knowledge itself. By comprehending that knowledge is a stream of process, always continuing, *ba* concept offer an explanation that is unique and logical in describing the creation of knowledge without forcing knowledge process into physical quantity and measurable form.

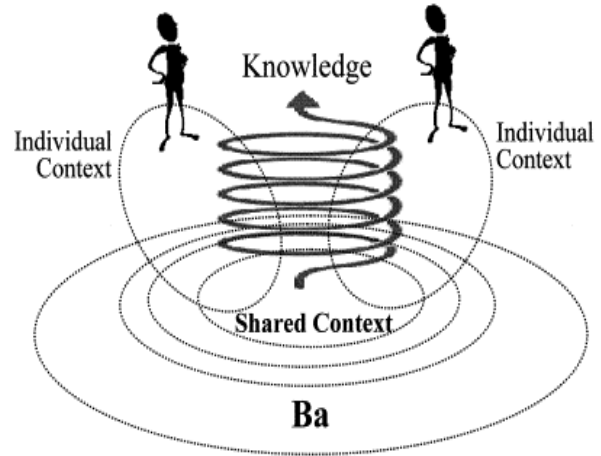


Figure 1. Concept of *Ba* (Nonaka and Konno [21])

Nonaka *et al.* [24] explain further about the *ba* concept by describing about how *ba* context can be practically be used in the firm context. Grounding on two main dimension: type of interaction; whether the interaction of individuals happen individually or collectively and media used in the interaction; whether the interaction is through face to face contact or virtual media (Figure 2). They argued that there are primarily four kinds of *ba* in practical world which is originating *ba*, dialoguing *ba*, systemizing *ba*, and exercising *ba*. The stream of *ba* creation is in some kind of staging, beginning from originating *ba* until exercising *ba* and spiraling up to create more and newer knowledge in the firms.

The first stage will be of originating *ba*, this concept is defined by individual and face to face interaction. Here *ba* provides medium for individuals to meet physically. Meeting in person have advantages of getting to know person better, able to sense directly the gesture, emotion and reaction of other individuals. By sympathizing or empathizing with others; care, love, trust, and commitment can be formed and served as basis for knowledge conversion. Next step will be dialoguing *ba*, where collectively, each person mental models and skills are shared and converted into common terms and concepts. In this step *ba* provided a place to group, concentrate parties with common objectives to exchange and share knowledge through dialogues and debates, especially in term of tacit knowledge.

Systemizing *ba* is defined by collective thought and interaction in virtual means. After dialogues and communication of collective thoughts can be reached in physical terms, to cope with constraint of physical means, which is cannot be used all the time, those dialogues and communication than transformed into virtual means. Here *ba* offers a context for the combination of existing explicit knowledge that can

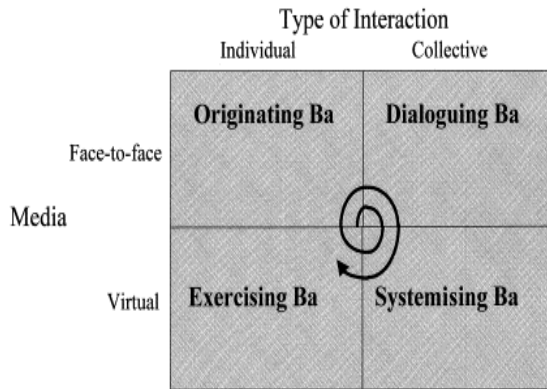


Figure 2. Type of *Ba* (Nonaka *et al.* [24])

be easily transmitted to a large number of people through numerous means. By advancement of information technology, the systemizing *ba* concept also gradually developed into higher means of communication such as online network, e-mail, documentations, virtual data, open source, etc. Here the knowledge that had been gathered and created from dialogues and communication collectively can be systematically recorded and kept. Here the *ba* context provides a place to mediate knowledge into storage tools and means. The final stage of *ba* will be exercising *ba*, which is defined by individual and interaction virtually. This final context include the dispersing of knowledge which is stored and kept into various means and spread them to all interested parties by virtual media, such as written manual, simulation programs, journals, etc.

Critics of *ba* concept might be questioning the practical integration of *ba* concept into real world. As the core concept can be comprehended, *ba* context felt as a philosophical model and it will be quite hard to translate into ordinary business model. Orihata and Watanabe [25] pointed out that it was not necessarily the case. They argued that concept of *ba* can be clearly explain of why technology push-type of innovation can exist even though there was no real market opportunities. Market pull-type of innovation can be easily explained because of strong correlation between market needs, company profit, and trace of innovation. When strong need in the market growth for certain kind of product or characteristic, strong tendency of firm in the industry to satisfy the need by making some product or service that suitable with market needs. In term of technology push-type, a certain lack of ‘motivation’ is apparent. Even though there was no market need, but certain firms still able to pull out some great product and in the end those product will create new markets. Orihata and Watanabe [25] argued that product concept can drive the creation of innovation, especially in Japanese firms. Here, the philosophy of product concept is similar to *ba* context.

Kodama [11] in his paper give very important example of the innovation process inside Japanese organizations. The essence of Japan innovation process is about technology transfer. Kodama build a concept of strategic community (SC), which is a theory for practical method of accelerating innovation in a corporation. In theory, SC was created to obtain diverse knowledge of value that resides inside an organization. It is important to have a process in which managers from various strata of management both inside and outside the corporation can dynamically form SC with internal and external actors without being restricted to existing formal organization. SC can be defined into four concept: SC possess the element of ‘*ba*’/place as a constantly changing shared context in motion that allows corporations to respond to dynamic changes in market and technology environments; SC is a community of practice rooted in the resonance of value among the actors that form the SC; SC provides pragmatic boundaries allowing actors with different contexts to transform existing knowledge; the actors of SC dynamically bridge multiple different SC and form networks among SC.

Here from Figure 3 important concept of SC can be applied into practical worlds. In Matsushita, SC encompass production floor and going until customer relation unit of organization. The knowledge transfer and communication of internal organization really leveraged the capability of organization unit into new knowledge and valuable feedback. The important point here is, by utilizing the knowledge and communication through SC, Matsushita able to produce innovative product and process to the higher degree (Kodama [12]).

It is clear that concept of *ba* originally came from Japan and most of the cases and example of *ba* utilization also directly explained from various companies of Japan origin. The next interesting question is: will this concept able to explain the innovation and knowledge creation from other company in the world? Next section of this paper will give a brief explanation about how concept of *ba* can help to explain the knowledge creation in one of multinational company, 3M.

### Innovation Process in 3M

On first view, it seems some of 3M policies and strategies can easily be found in other firms. But on the second glance, interesting strategies and policies that only emerge in 3M can be examine, such as 3M rule of time freedom to the employee, informality, and corporate governance. Based on the strategies and culture of 3M, this paper concluded that the real sustainable advantages that 3M owns but others

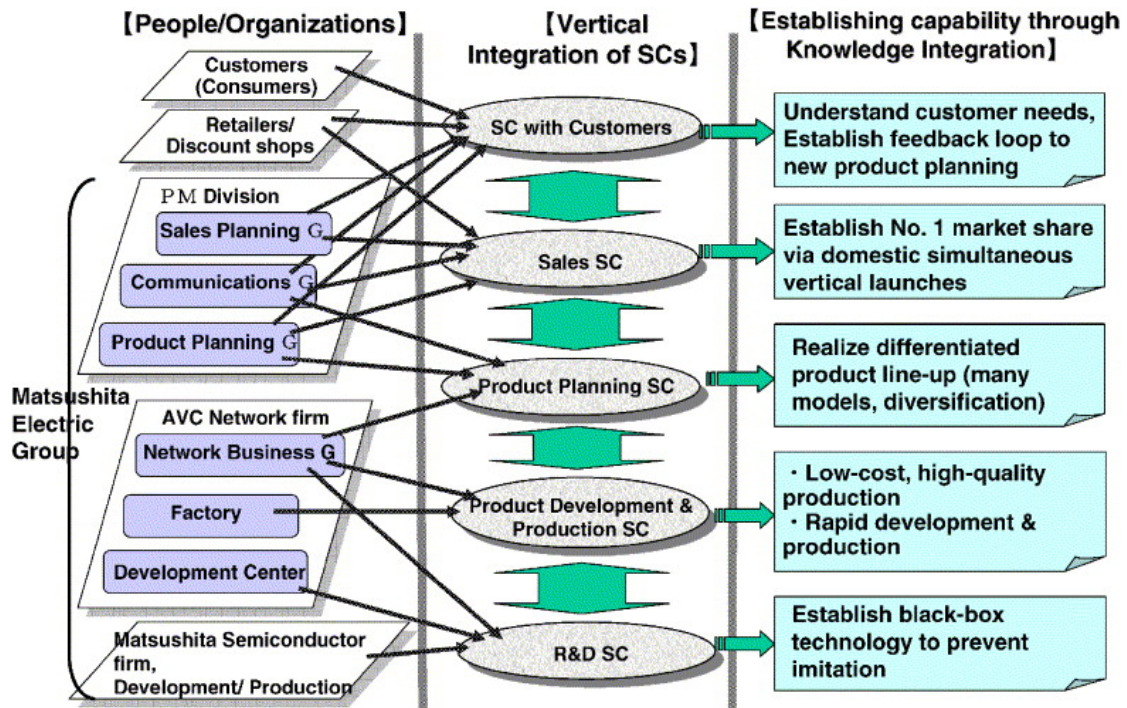


Figure 3. Innovation process in Matsushita (Kodama [12])

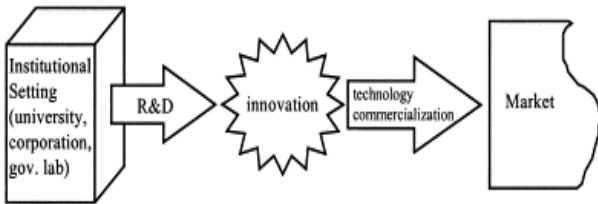
don't is located in 3M innovation process. In standard firm, especially the big firms, culture of innovation and strategy to innovate usually already implemented inside their organizations. So what really made 3M different? In big organizations, especially firms that focus their strategy in diversification, it is not unusual to see how each of product/service that diversify are giving different kind of treatment, build their own organizations, spin-off from the main organization, and get different kind of technology. The main idea of this separation is about productivity. It has been a norm for big organizations to separate different kind of product process in order to focus and maintain productivity. This action is considered normal and logic for companies who want to maintain their productivity, thus maintain their market in industry.

Without doubt, it is quite difficult to say exactly what drives innovation in 3M. Fortunately, because of the successful of post-it product from 3M, numerous researchers begin to take notice about 3M's uniqueness and try to find the real factor of 3M innovation driver. Previous researches in these fields came across a number of logical explanations on how 3M build itself into an innovative company (Conceicao *et al.* [8]). Their research concluded the uniqueness of 3M could be traced throughout the company policy, strategy, and culture. Company strategies that focus to give innovation spirit into every action of company can be traced into their famous strategies such as: Maintaining new

products (30%/4 Rule); Giving the employee freedom of time and entrepreneurship role to pursue an idea, even if the idea itself did not have direct connection to the company (15% rule); responsibilities of the products are given to the division departments, not centralized into the top level; Technology are shared throughout the company; Combination of the technology. Because of the nature in 3M, which is a diversify company, numerous technology in different kinds and level are available inside the company. By utilizing the various technology inside the company and interconnect them, 3M succeeded to gain advantageous technology which can only available partially in other firms.

Culture and environment of 3M also played important role in shaping 3M into innovative company. 3M introduced various kind of ethic and norms for inside company culture that support in nurturing innovation activity, such as: Not afraid of making failures, informality, entrepreneurship and intrapreneurship, diversified technological base, technology exchange within the company, customer driven innovation

Hence, by looking into context of *ba*, 3M policies of giving some freedom for its employees to pursue their own personal objectives (which, of course, still in boundaries of work related concept activities) is the right recipe of encouraging employees to explore self strength and gaining personal knowledge, even though it was not directly related to the person's job or activities inside company.



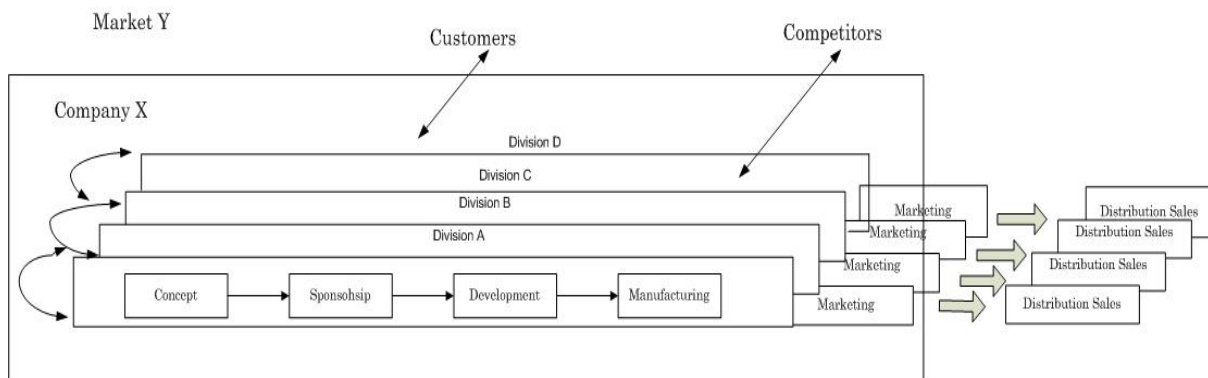
**Figure 4.** Flow of innovation process in standard organization. (Figueroa and Conceicao [10])

The real problem of conventional innovation activity is, by separating each product/service process into their own domain, communication between personal and division become harder. Each division/domain will do their best into maintaining their position in the market by enhancing the product in incremental way (Christensen [6]). Christensen argued that big organization find harder for them to compete with smaller organization in term of disruptive innovation because of their size and their reluctant to plunge into unknown situation. Also by separating each process and focusing more in incremental innovation, organization will found that it will getting harder for it to find breakthrough innovation because of greater bureaucratic system that reside in big complex organization hierarchy. This barrier and constraint will be the source of problems for big organization to launch new radical ideas or new innovative product.

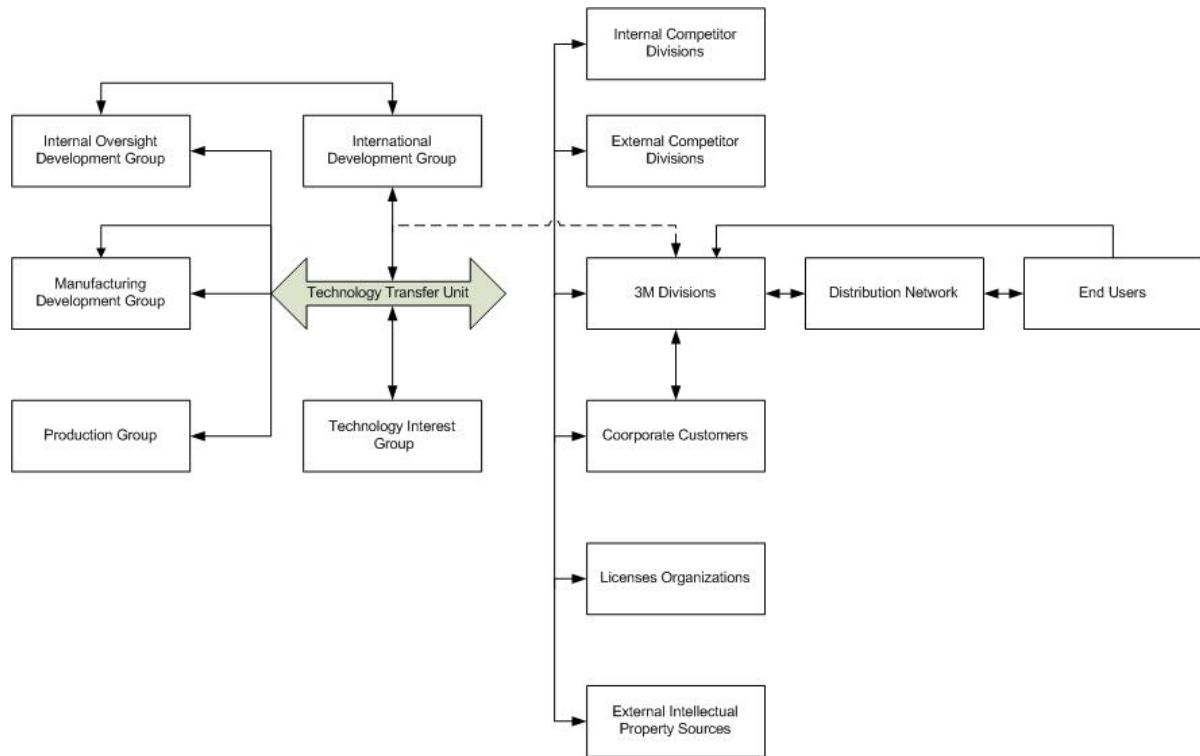
Slightly different from standard big organizations, the culture and strategy of 3M gives way to radical ideas and disruptive innovation to flourish. Figueroa and Conceicao [10] discussed about how innovation process in 3M also give good opportunity for disruptive kind of innovation to flourish inside the organization. They argued that the key for success is resided in how 3M managed it technology transfers inside the organization. As I already discussed before, a standard big organizations tend to become rigid and hard to follow a volatile and dynamic market and environmental change. Figure 4 clearly

showed the conventional process of innovation in regular firms. It can easily notice that the process is linear and there is no chance for R&D department to communicate with marketing in the initial stage of innovation. This is primarily caused by the difficulties of communication and complex bureau-cratc hierarchy that followed the growth of organization. When barrier of communication is high, dialogue inter division and discussion encompass domain will be harder to achieve. These will result in lack of understanding between employees on what other colleagues in the same organization do beside their own division.

3M realized that to give way into disruptive innovation to flourish, beside giving specific strategies and culture for the company to maintain innovation, it also need to change it organization structure to fit it purpose. Thus, the first change happened inside 3M when it primarily tries to introduce technology transfer group. The idea is to create a place for transferring technology that encompasses the boundary of division and domain, as in Figure 5 where projects in 3M can share each other resources. This unit was primarily created to be an interest group, a place where people with similar interest in certain technology can gather and discuss, no matter from which division they came from (Figure 6). By creating this unique unit, 3M tried to provide a space of communication, where transfer of technology can be connected. And with the advent of technology transfer that encompasses division and domain, probability of disruptive innovation to occur can be utilized. The legendary post-it stick note also derived from the realization of different division on the usage of what seemed to be useless invention from another division of 3M. Bundling this unit with 3M policies and strategies, such as allowing free time to focus to other things beside works, 3M tries to ignite the innovation culture inside its organization. Technology transfer unit, in other word is the 'ba' of 3M.



**Figure 5.** Innovation model in specific 3M project (Figueroa and Conceicao [10])



**Figure 6.** Innovation process in 3M (Figueroa and Conceicao [10])

It is the place for 3M employees to exchange their knowledge and discussing each other ideas with common sense of purpose, for the growth of 3M. Trace of four kind of *ba* can be easily found here, which include all activities in *ba* context, from interpersonal communication and dialogues, which was supported by 3M internal policy (such as informality, break down responsibility to the core unit, free time of personal interest); an evident of systematic and structural place for sharing the knowledge in 3M organizational unit, plus a tale of 3M's post it note success that created from different department show strong encouragement of dialoguing *ba* activities. Track record of shared and created knowledge was clearly being recorded, with evident of highly dynamic technology transfer inside the company as a result of open policy and sharing technology between each departments. Therefore, it is evident that unconsciously 3M had integrated concept of *ba* inside their internal organization, by creating a flexible and dynamic organization that encompass all department, with strong motivation of innovation from its employees that encouraged by company's own policy.

### Conclusion

Innovation creates competitive advantages for the company who can harness it. To obtain innovation, one must focus mostly on creating knowledge, for knowledge, especially tacit knowledge, can create

firm's capability and through firm's capability one can create practical innovation ideas. *Ba* concept offer a good explanation of how Japanese firms view the creation of knowledge inside their organization by providing a common place for people from inside the organization to gather, bring their own knowledge, and dialoging with other person in order to deepen own knowledge and creating new knowledge. By understanding concept of *ba*, process of knowledge creation can be explained into more detail manner. Management practical of *ba* concept can be used in various industries. It will be very interesting to utilize concept of *ba* to various kind of firms, especially in another country. Next step will be of examining some other firms and find out how the stream of knowledge and innovation are being created. From there, some changes in organizational culture and operational can be utilized by deriving from *ba* concept. It can be expected that some better result, especially in term of firm tacit knowledge creation process and practical innovation will be increasing.

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