A firm as a dialectical being: towards a dynamic theory of a firm

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Today, firms are facing many contradictions: efficiency versus creativity; exploitation versus exploration; speed versus time-consuming resource building. This paper argues that a firm’s capability to synthesize such contradictions is the key to understanding why a firm can be more efficient at producing knowledge than market. A firm can create new knowledge and capability that go beyond the balancing point in the existing frontier with its synthesizing capability, which is embedded in its knowledge vision, its ba, its creative routines, its incentive systems and its distributed leadership.

1. Introduction

What is a firm, and how does it function? These are questions that we keep coming back to when we try to understand business and economics. In the neoclassical economics theory a firm is viewed as a production function. The transaction cost theory treats a firm as a bundle of internalized transactions. The resource-based view of the firm treats a firm as a collection of resources. Traditionally, these theories focus mainly on the production of physical goods.

However, as society has turned into a ‘knowledge economy’, the importance of knowledge as the inputs and outputs of firms’ activities has increased, and the necessity for a new theory to understand a firm has been recognized (Spender and Grant, 1996). However, we cannot say that we understand the activities and boundaries of a knowledge-creating firm well enough. We need to further our theory of a firm from the viewpoint of a firm as a knowledge-creating entity.

There are several characteristics we have to take into account when we try to build a theory of the knowledge-creating firm. First, knowledge is often intangible. The inputs and outputs that existing theories deal with have often been assumed to be tangible. Secondly, knowledge creation is a dynamic process, and it is not enough to deal with a state of the firm in period $t$ (or $t+1$). Thirdly, knowledge creation is a dialectical process. Knowledge is dynamically created out of contradictions. We need a dynamic theory with a distinctive process model and methodology concerning knowledge creation and utilization (Ghemawat et al., 2000).

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2. A knowledge-based view of the firm

We can explain the activities of knowledge-creating firms by reinterpreting the existing theories of the firm. For example, one could characterize a firm as a production function, where both the inputs and outputs are knowledge. An organization creates and utilizes knowledge by converting between explicit knowledge and tacit knowledge (Nonaka, 1991, 1994; Nonaka and Takeuchi, 1995). Four modes of knowledge conversion form the evolving spiral of the knowledge-creating process, which is called the SECI process (see Figure 1). Through the SECI spiral of continuous knowledge creation and utilization, tacit and explicit knowledge expands in terms of quality and quantity, from the individual to the group, then to the organizational level.

A firm's boundary and size are determined by the cost of knowledge as inputs and the knowledge conversion rate, which is how much the output of tacit knowledge or explicit knowledge will increase against one unit increase in the input of tacit or explicit knowledge (Nonaka et al., 2000). There is a cost involved in acquiring and retaining knowledge. In some cases, knowledge can be bought from the outside. In other cases, however, knowledge should be accumulated through the firm's own knowledge-creating activities. Some knowledge simply cannot be transferred or correctly priced because measuring its objective value is difficult. Certain knowledge is cheaper to produce internally rather than acquiring it through a market. The transaction cost rises because of the opportunistic behavior of transacting parties whose purpose is the maximization of their own gain. Theoretically there is no transaction cost involved when goods are traded within a firm.

However, the production of knowledge does involve a certain cost even when knowledge is transferred within the firm or when there is no possibility of opportunistic behavior on either part of the transacting parties. Since knowledge is created through

![Figure 1](image_url) The SECI process (adapted from Nonaka and Takeuchi, 1995).
interaction, there is a cost involved in such interactions among those who are operating in different contexts. Such an interaction cost could be lower when knowledge as inputs is procured internally compared with the market transaction because certain common contexts are likely to be established within the organization. Another cost is the cost of justification. Since knowledge is 'a dynamic process of justifying personal belief toward the truth' (Nonaka and Takeuchi, 1995), knowledge creation inherently requires the process of justification. Knowledge needs to be justified to be utilized as inputs, regardless of whether it was created internally or acquired through the market. The justification process differs in different firms, since knowledge needs to be justified so that it fits with the existing contexts of the firm. Hence, the justification cost could be lower for internally created knowledge.

In the long run, a firm can continue to exist when the knowledge conversion rate of the firm is higher than that of the market; that is, when the firm can produce knowledge more efficiently than the market. What, then, are the factors that determine the knowledge conversion rate of the firm? We believe that the knowledge conversion rate is ultimately determined by the synthesizing capability of the firm, which we will explain later.

A firm can be viewed as a collection of knowledge assets. Recent developments in the resource-based view of a firm treat knowledge as one of the most important resources that gives a firm sustainable competitive advantage (Teece, 1980, 1982; Prahalad and Hamel, 1990; Nelson, 1991; Kogut and Zander, 1992; Leonard-Barton, 1992; Grant, 1996). Knowledge can be said to be 'the only meaningful resource' (Drucker, 1993) today.

An important characteristic of knowledge assets is that it is often difficult or costly to transact them through the market because they have a strong tacit dimension, are embedded in local organizational skills and routines, and are specialized to firm-specific needs (Teece, 1982; Dierickx and Cool, 1989; Henderson and Cockburn, 1994). Knowledge assets must be built and used internally in order for their full value to be realized, because they cannot be readily bought and sold (Teece, 1980, 2001). This means that the cost of knowledge as input can differ greatly by firm, and some knowledge may not be available at all to some firms.

Although knowledge is considered to be one of the most important assets for a firm to create a sustainable competitive advantage today, we do not yet have an effective system and tools for evaluating and managing knowledge assets. Although a variety of measures have been proposed (Edvinsson and Malone 1997; Stewart 1997), existing accounting systems are inadequate to capture the value of knowledge assets. Such difficulty comes from the fact that knowledge is often tacit, and may belong with individuals rather than the organization. Another difficulty in measuring knowledge assets is that they are interdependent and dynamic. A firm is not just a collection of knowledge assets. They have to be built and utilized in a coherent way (Teece et al., 1994). Since knowledge assets are both inputs and outputs of the organization's knowledge-creating activities, they are constantly evolving. Taking a snapshot of the
knowledge assets that the organization owns at one point in time is never enough to evaluate and manage the knowledge assets properly. The most important knowledge assets are the capability to continuously create new knowledge out of existing firm-specific capabilities, rather than the stock of knowledge, such as particular technology, that a firm possesses at one point in time (Wilkins, 1989; Teece et al., 1990; Barney, 1991; Nelson, 1991; Lei et al., 1996).

3. A firm as a dialectical being

A firm as a knowledge production function or as a collection of knowledge assets exists because of imperfections in the market for knowledge. However, the questions of how a firm produces knowledge and why it is more efficient than a market in some cases still remain unanswered. We believe that the capability to synthesize contradictions is the key to understanding the latter question.

Today, firms are facing many contradictions. In the era of globalization, a firm has to achieve global integration and local adaptation at the same time. It faces various contexts in terms of its employees, customers, suppliers, related firms, and so on. Yet it has to share context within and across the firm to function efficiently. A firm has to achieve creativity and efficiency in its operation at the same time. It has to effectively create (explore) and utilize (exploit) knowledge. For that, it has to let the organizational members have autonomy while exercising some control over them.

These contradictions affect the determination of a firm's boundary. On the one hand, large firms become larger and larger through merger and acquisition. It is often stressed that the reason behind such merger and acquisition is the necessity for a firm to pursue the economies of scale to survive the intense competition and rapid technological changes. On the other hand, the recent trend of 'virtual corporation' or 'network economy' tends to stress 'the end of the large corporation', and claims that the changes in social and economic conditions make the advantages of large companies diminish or disappear. Hagel and Singer (1999) argue that companies should be 'unbundled' since they cannot pursue the economies of scale, scope, and speed at the same time. Smaller companies that specialize in one activity can source and sell through networks of alliances, and can move more quickly than a large company.

In the era of rapid technological and social changes, the economy of speed is important. If a firm cannot utilize necessary knowledge, it cannot survive the intense global competition. However, a firm needs to build its own knowledge assets to attain sustainable competitive advantage, and that takes time. High-quality tacit knowledge is the source of sustainable competitive advantage since it takes time to be accumulated and is not easily replicated. At the same time, a firm needs to convert such tacit knowledge into explicit knowledge and utilize it efficiently and quickly to compete in the increasingly competitive market. How, then, can a firm solve the contradiction between the economy of speed and the economy of patience?

We believe that a firm's capability to synthesize is the key to dealing with such
contradictions. In the market, the balance among contradictions is achieved through price mechanism and natural selection. Firms adjust their behavior through the price mechanism and those who cannot adjust quickly enough are selected out. However, a firm can create new knowledge and capability that go beyond the balancing point in the existing frontier. It can synthesize, not optimize, the existing capabilities and conditions (see Figure 2). In short, firms that can manage contradictory forces, such as competition and cooperation, integration and disintegration, and creativity and efficiency, are the ones that will survive and prosper.

The word 'synthesize' is defined as 'the dialectic combination of thesis and antithesis into a higher stage of truth' (Webster's Dictionary). It is not 'either/or' but 'both/and', and it is not just finding an optimal balance. It is an action to transcend the existing self, which in essence is the interdependence, interpenetration and unity of opposites (Rowan, 2001). Dialectic has a long history in Western philosophy, from Plato to Hegel to Bhaskar (1993). It is also a major part of Eastern philosophy.

It can be said that the process of knowledge creation itself is a process of synthesizing. While information is a part of reality that is cut based on predetermined framework, knowledge is a reality that is viewed from a certain angle. This means that knowledge cannot exist without the context (the background and angle to see the reality). Knowledge is not about an absolute truth. As Alfred North Whitehead stated, 'there are no whole truths; all truths are half-truths' (Price, 1954: 16). Hence, opposites can be found within a reality depending on the viewpoints, and knowledge creation is a process of synthesizing such opposites by transforming and unifying them to transcend the existing self. Contradiction is a necessity, not an obstacle, for creation. By trying to synthesize the contradictions, one can transcend the existing optimal balance and

![Figure 2: Synthesize, not just optimize.](image-url)
create new reality. In that sense, the theory of the knowledge-creating firm differs from
the existing economic theory, which deals with the process of a firm reaching the
optimal point (i.e. equilibrium).

In this paper, we define synthesizing capability as the capability to synthesize various
theses and antitheses to generate a continuous self-transcending process of knowledge
creation. Without the capability to synthesize contradictions, one just falls into chaos
and innovation does not occur. How firms synthesize their vast amount of knowledge
assets and the interactions with other organizations to transcend their existing optimal
point is the key to understanding how such companies survive in the twenty-first
century.

4. Synthesizing capability

4.1 Knowledge vision

The synthesizing capability of a firm is embedded in its knowledge vision, its ha, its
creative routines, its incentive systems and its distributed leadership. First, knowledge
vision determines the mission and domain of the firm. It synchronizes the entire
organization with the respect to what kind of knowledge it has to create; and it fosters
spontaneous commitments of the individuals and groups that are involved in knowl-
edge creation. In short, the firm's knowledge vision determines how an organization,
its knowledge base, knowledge frame and knowledge dynamics evolve over the long
term. The firm's knowledge vision also defines the value system that evaluates, justifies
and determines the quality of knowledge the company creates. In a sense, it gives a firm
an aesthetic view of knowledge. Together with organizational norms, routines and
skills, the value system determines what kinds of knowledge are to be needed, created
and retained (Nonaka, 1985). The firm's knowledge vision gives the direction to the
knowledge conversion spiral, which cannot be found in the market. Considering that
the pricing of knowledge, especially tacit knowledge, is difficult, the market mechanism
does not necessarily function efficiently and effectively in giving direction to knowledge
conversion. Since knowledge is boundaryless, any form of new knowledge can be
created based on a vision or concept regardless of the existing business structure of the
company. Therefore, it is important for a firm to have a knowledge vision that tran-
scends the boundaries of existing products, divisions, organizations and markets, yet
shapes its knowledge accumulation strategy.

Knowledge vision needs to synthesize both the absolute and relative value systems of
the firm. On the one hand, a firm needs to have an absolute value system that is not
affected by outside conditions to achieve consistency and uniqueness in its knowledge-
creating activities. For example, Honda emphasizes the importance of such an absolute
value in justifying its knowledge. In deciding the strategy and its operation, Honda
workers often go back to the fundamental question of 'Why do we do this?' and 'Why
does Honda exist?' An answer such as 'because competitors are doing it' is never
accepted at Honda.
On the other hand, a firm cannot ignore the environment with which it interacts. A firm needs to adjust its operation according to the changes in the environment, including competitors, customers, suppliers, related firms, local communities, the government and so on. In that sense, a firm needs a relative value as well. The synthesizing process is a process a firm uses to adjust itself through relentless self-transcendence toward its absolute goal. Excellent companies preserve their ‘core ideology’, which consists of core values and a core purpose, while their business strategies and operating practice endlessly adapt to the changing environment (Collins, 2001). Its knowledge vision has to provide a firm with an absolute value system that it can rely on, while being flexible enough to let the firm adjust to the environment.

4.2 Ba

Knowledge needs a physical context to be created. As stated previously, knowledge is context specific, as it depends on a particular time and space (Hayek, 1945). Knowledge does not just exist in one’s cognition. Rather, it is created in situated action (Suchman, 1987). Therefore, the knowledge-creating process is necessarily context specific in terms of time, space and relationships with others.

‘Ba’ (which roughly means ‘place’) offers a context. Defined as a shared context in motion, in which knowledge is shared, created and utilized, ba is a place where information is given meaning through interpretation to become knowledge, and new knowledge is created out of existing knowledge through the change of the meanings and the contexts (Nonaka et al., 2001). Ba provides the energy, quality and places to perform the individual knowledge conversions and to move along the knowledge spiral. In other words, it is a time and space from which knowledge as ‘a stream of meaning’ emerges (Bohm, 1996).

Although it is easier to consider ba as a physical space, such as a meeting room, it should be understood as interactions that occur at a specific time and space. Ba can emerge in individuals, working groups, project teams, informal circles, temporary meetings, virtual space, such as email groups, and at the front-line contact with the customer. Ba is an existential place where participants share their contexts and create new meanings through interactions. Ba is a way of organizing that is based on the meaning it creates, rather than a form of organization such as a bureaucracy or network. A firm can be viewed as an organic configuration of various ba, where people interacts with each other based on the knowledge they have and the meaning they create. When we see a firm as an organic configuration of ba instead of an organizational structure we can see what kind of knowledge should and can be created, who are the ‘right people’ with embedded knowledge, and what kind of interactions are needed among them.

By definition, ba involves various contradictions. Ba requires multiple contexts, and yet a shared context is necessary for ba to exist. Ba sets a boundary for interactions among individuals, and yet the boundary is open. Because there are endless possibilities to one’s own contexts, a certain boundary is required for a meaningful shared context to
emerge. It should be protected from the contexts outside so that it can grow its own context. Yet ba is still an open place where participants with their own contexts can come and go so that ba as shared context can continuously evolve.

Ba lets participants share time and space, and yet it transcends time and space. In knowledge creation, especially in socialization and externalization, it is important for participants to share time and space through direct experience. A close physical interaction is important in sharing the context and forming a common language among participants. In other words, ba has a 'here and now' quality as it can be instantly created and can quickly disappear. However, because ba can exist in a mental or virtual place as well as a physical place, it does not have to be bound to a certain space and time. While tacit knowledge has 'here and now' quality, when it is externalized into explicit knowledge through interaction at ba, it can be transferred beyond particular time and space. In that sense, ba synthesizes the past, present and future.

Ba also lets participants have the viewpoints of both insider and outsider at the same time. By providing a shared context in motion, ba sets binding conditions for the participants by limiting the way in which the participants view the world as an insider of the world. And yet it provides participants with higher viewpoints than their own to look at things from outside.

A good ba can be expressed with a metaphor of a sphere. As a sphere has the maximum surface area for a given volume, it synthesizes the maximum external interface and requisite variety. Every participant in ba is at the same distance from the center, as there should be no difference among the participants in terms of the access to the center. However, the 'center' here is not a fixed point. In ba, anyone has a potential to be a center, and as ba is a shared context in motion, the center can change as the context evolves. Rather than being a stable entity, ba as a sphere is constantly moving.

Hence, the capability to synthesize such a contradicting nature of ba is important. For a ba to be such a place, leaders need to build and maintain ba as a self-organizing place with its own intention, direction or mission. Leaders need to select the participants of ba with multi-viewpoints so that they can bring in various contexts, and foster a shared context among them. Leaders also need to keep the boundary of ba permeable, so that it can protect the ba from outside influence and let necessary contexts in at the same time.

One way to achieve synthesis in ba is to have dialectical dialogues among participants who bring in various viewpoints based on various backgrounds. Dialectical dialogue is content-based. It does not separate the content from the form as logic does. Questions such as 'What is the essence of this thing/event?' or 'Why do we do this?' let participants of ba see things and themselves from the viewpoints that are rooted deep in their own beliefs and values, and from others' viewpoints at the same time. As Buber (1923) says, dialogue is a way of being. At ba, participants reflect upon their own views and share them to achieve trans-subjectivity. To do so, the roles of the first person, the second person and the third person are important. This does not mean that only three persons are in the team; it means that there are three different roles to be played. The
first person plays the role of an innovator. He is the one who senses the new reality first. The second person plays the role of a coach. He attains inter-subjectivity by interacting with the first person and introduces her own viewpoint. The third person plays the role of activist by seeing the first and the second person from a higher viewpoint. He attains trans-subjectivity and makes the new reality understandable and touchable for other people. Another important role of the third person is cocooning to protect the team from outside influence so that the first and the second person can keep their own viewpoints.

Such dialogues are not limited within a boundary of one ba. Ba is connected to each other to form a greater ba to form a firm as an organic configuration of ba eventually. Hence, the dialectical interactions occur among various ba as well.

4.3 Creative routines

Corporate culture and organizational routines that are specific to the firm can either promote or hinder the organizational knowledge creation. A firm’s comparative efficiency arises through the formation of ‘firm-specific language and routines’ that both enhance the performance of an activity itself and aid in ensuring its efficient governance (Nelson and Winter, 1982; Poppo and Zenger, 1998). How organization members approach knowledge and the knowledge-creating process and how they interact with each other greatly affect the knowledge conversion rate. For example, love, care, trust and commitment among organizational members are important as it forms the foundation of knowledge creation (von Krogh et al., 2000). However, at the same time, an organization is subject to inertia and it is difficult for an organization to diverge from the course set by its previous experiences (Hannan and Freeman, 1984). Therefore, current capabilities may both impel and constrain future learning and actions taken by a firm (Peteraf, 1993). Core capabilities can turn into ‘core rigidities’ (Leonard-Barton, 1992), or ‘competence trap’ (Levitt and March, 1988), which hinder knowledge creation rather than promote it. When underlying technological change is rapid, internal routines, language and embedded forms of knowledge may easily become rigidities that hamper performance (Poppo and Zenger, 1998). Hence, a firm has to have ‘creative’ routines to synthesize the efficiency of routines and the creativity.

Knowledge vision, ba and the knowledge-creating process that takes place at ba together form a firm’s creative routines. Through leadership in knowledge vision, knowledge building and managing ba, a firm can make knowledge creation as a continuous dialectical process second nature to the firm. It becomes a Kata (roughly, form), which functions as an archetype. Kata is not just a routine. It is a continuous self-renewal process that consists of the steps of Shu (learn), Ha (break) and Ri (create). Instead of being a rigidly preset form, Kata has a dynamic feedback function that helps the organization to notify and modify the differences between predicted outcomes and the reality. Thus, Kata gives a firm a sustainable capability to evolve continuously. A firm can build a supporting system to build and maintain Kata (Nonaka and Reinmoeller, 2002).
As stated previously, knowledge vision gives the firm an ideal state of being. In knowledge-creating firms, such an ideal is shared not only by the top management, who define the vision and strategy, but by the entire organization, so that it is constantly referred in their daily activities as a guide and goal in the relentless pursuit of the ideal that could never be achieved. In other words, it becomes a creative routine to give the organizational members the guide to synthesize the contradictions. At Toyota, employees have a common sense of what the ideal production system would be, which motivates them to make improvements beyond those that would be necessary merely to meet the current customer needs (Spear and Bowen, 1999). At Honda, two contradicting principles are equally respected and referred in daily practice. On the one hand, Honda emphasizes the importance of the reality with the principle of 'go to the actual place, know the actual situation, be realistic'. On the other hand, Honda emphasizes the importance of the ideal with the principle of 'respect sound theory'. The two contradicting principles are operationalized into three levels of questions, A, A0 and A00. A-level questions are about specification, such as 'What should be the horsepower of this engine?' A0-level questions are about concept, such as 'What is the concept of this engine?' And A00+ level questions are the most essential ones, such as 'What is this engine for?' or 'Why should we build this car?' When a problem cannot be solved, people at Honda always take their questioning up a level. So when engineers cannot agree on the engine specification, they go back to the question of 'What is the concept of this engine?' or 'Why are we making this engine in the first place?' Such fundamental questioning helps the people at Honda to see the essence of the problems and to transcend the contradictions they face by embracing and cultivating such contradictions.

4.4 Incentive systems

Incentive systems can greatly affect the cost and outcome of knowledge creation. As tacit knowledge can be a source of sustainable competitive advantage for the firm due to the market failure for such knowledge, it can raise the value of the individual who owns such tacit knowledge. However, to generate the tacit knowledge to be utilized by the firm, it needs to be shared by others in the form of tacit knowledge through socialization, or to be articulated so that it can be shared as explicit knowledge through externalization. Since sharing of tacit knowledge could lessen the value of the original owner of the knowledge, it is possible that such an individual does not cooperate in externalizing his/her tacit knowledge. In such a case, it is important to develop various incentive systems that motivate individuals to share their knowledge. However, such incentives can raise the cost of knowledge conversion.

Poppp and Zenger (1998) argue that markets also have clear advantages in generating incentives that motivate knowledge formation. Groups of individuals governed by markets are more likely to directly benefit from the formation of new knowledge. However, monetary compensation is not the only incentive for an individual. The self-satisfaction of being able to create something can be a great incentive. Peer recognition
and a sense of belonging are also important incentives for an individual to contribute to the organization that s/he belongs. Osterloh and Frey (1997) argue that intrinsic motivation is very important in the transfer of tacit knowledge within a firm, and firms have an advantage over the market in managing motivation. Firms have to build an incentive system that synthesizes extrinsic and intrinsic motivations. While a lifetime employment system can foster the sense of security and commitment that are necessary to accumulate the tacit knowledge base, it can fail to reward those who contributed most, and hence fail to motivate them.

4.5 Distributed leadership

Creating a knowledge vision, building, connecting and managing *ba*, maintaining creative routines and constructing an effective incentive system are roles of leadership in a knowledge-creating company. Especially crucial is the role of knowledge activists—that is, middle managers who are at the intersection of the vertical and horizontal flows of information in the company and interact with others to create knowledge by participating in and leading *ba*. In knowledge creation, 'distributed leadership' as seen in 'middle up and down' management (Nonaka and Takeuchi, 1995) is the key.

For that, leaders need to improvise by changing the context to transcend contradictions they face and constantly improve. Improvisation is an important factor in dynamic knowledge creation, especially when dealing with tacit knowledge (Weick, 1993). Such improvisation should be made at the frontline of the firm’s operation to adapt to changes in the environment quickly and effectively. This is why the leadership role should be distributed. Improvisation by change leaders at the project level makes it possible to reinvent the organization constantly, without the risk of suddenly turning the entire organization upside-down (Kanter, 2001). Leaders at the frontline can improvise at each of their own *ba*, and successful changes will be disseminated when *ba* interact or are connected each other.

Improvisation is not just about adapting to the changes in the situation; it is an action that can change the situation. As a situation unfolds through action, contradictions will be solved while new contradictions are generated. This is the process of dialectical action.

5. Conclusion

In this paper, we have tried to shed light on the firm as a knowledge-creating entity. A firm can be viewed as a knowledge-creating function, a collection of knowledge assets and a dialectic being that synthesizes various contradictions with its vision, *ba*, creative routines, incentive systems and distributed leadership. We can begin to answer the old question of 'Why does a firm exist and how does it function?' with such a new view of the firm.

Since knowledge creation is a human process, we cannot really answer the question of how to create high-quality knowledge without understanding human factors. It is such human factors that make knowledge a unique and difficult to understand
resource. Hence, the theory of the knowledge-creating firm needs to deal with human factors, and that makes the theory building difficult.

We also need to reconsider what exactly is a boundary of a firm. \( Ba \) is not limited to the frame of a single organization but can be created across the organizational boundary. \( Ba \) can be built as a joint venture with a supplier, an alliance with a competitor or an interactive relationship with customers, universities, local communities or the government (see Figure 3). Organizational members transcend the boundary by participating in \( ba \), and further transcend the boundary of \( ba \), as \( ba \) become connected to other \( ba \). In such a case, the legal boundary of a firm is not as important as how it synthesizes various \( ba \), both inside and outside the organization. Some \( ba \) need to be built within the company because they will produce the knowledge that will give the firm a competitive advantage. Especially important for a company is a \( ba \) that gives the company the capability to synthesize. Knowledge creation is a dynamic human process, and managers and workers grow in such a process. Managers become leaders and grow their capability to synthesize various \( ba \) through their experience of participating in \( ba \).

Unlike the market, a firm can create new reality by going beyond the optimal balance between existing constraints. It is such a synthesizing capability that gives a firm a reason to exist. We still need to explore the theory of a firm as a synthesizing being.

Viewing a firm as a dialectical being means that we need to look into the process of its knowledge-creating activities, not just the outcomes. Dialectics is a method of thinking and acting. It is a way/process to approach a reality to find a truth in it. The absolute truth may never be found. It may never exist. However, dialectic tries to approach the elusive 'absolute truth' through the process of examining and denying the series of 'relative truth'. It is this process that is important, rather than whether one can reach the absolute truth or not.

Figure 3 Organization as an organic configuration of \( ba \).
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References


