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Submitted: 27 December 2021, Revised: 17 January 2022, Accepted: 10 February 2022

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A Problem Waits:

Is it True that Resource-Based Theory (RBT) is an Empty Tautology?

Abstract

Resource-based theory (RBT) has gained its maturity as a theory, and it has heavily shaped the path of research in the organization and management field. However, RBT has been criticized due to its quality and deemed to be a theory that is tautological. This study explores the evolution of resource-based theory (RBT) using the Thomas Kuhn cycle. Employing a critical literature review approach, this study identifies all articles related to RBT in the organization and management field from 1959 to 2021 and finds 141 articles. The findings have demonstrated that RBT has evolved, and it has become a better 'puzzle solver' as it provides a more comprehensive theoretical lens to analyze broader phenomenon of organization, particularly concerning its competitive advantage. Nonetheless, the study also sheds some light on the potential weaknesses of RBT. Inclusiveness of RBT is suggested to be a sign of tautology as the theory has a very broad definition of resources hence can embrace all phenomena in the field of organization's strategic management. In addition to that, scholars find difficulty to define or operationalize several key concepts in RBT leading to obstruction in its ability to be tested empirically. And the vagueness of concepts creates a tautology problem in RBT that the theory cannot be verified or falsified. Thomas Kuhn suggests that theories can be developed, thus, despite its current weakness, RBT can still be improved by increasing accuracy of its key concepts. From the analysis, this study develops a theoretical recommendation regarding the use of RBT theory particularly in public administration research.

Keywords:

resource-based theory; Thomas Kuhn cycle; tautology; theory improvement

Introduction

Resource based theory (RBT) can be said to be one of the most eminent and powerful theories for understanding

organization, organizational relationships, and its strategic behavior (Zhang et al., 2021). Like many theories, RBT has undergone the evolution that

mirrors its maturity as a theory. RBT has its ability to be an obtrusive spin-off of other perspectives, such as, natural-resource-based view of the firm (Hart 1995), knowledge-based view (Grant, 1996), dynamic capabilities (Teece, Pisano et al. 1997), and absorptive capacity (Cohen and Levinthal 1990, Zahra and George 2002). RBT also has been paired or unified with other viewpoints, namely, institutional theory (Oliver 1997), and organizational economics (Combs and Ketchen 1999). RBT also has assessed retrospectively using various systematic literature review approaches, such as meta-analysis and bibliometric analysis (Crook, Ketchen et al. 2008; Zhang et al., 2021). Several scholars also executed critical evaluation of methodologies that have been used in RBT (Armstrong and Shimizu 2007). Lastly, RBT has obtained critiques that question its quality as a theory (Bhandari et al., 2020; Braganza et al., 2017; Kraaijenbrink, Spender et al., 2010; Priem and Butler, 2001). These have explained that RBT has arrived at a point where it is already developed and mature as a theory. This study aims to analyze RBT evolution using the Kuhn cycle. Kuhn cycle offers an insightful tool of analysis for examining the theory as the model discerns the indirect or nonlinear nature of the development of scientific knowledge (Shapere, 1964). Kuhn argues that scientific knowledge is shaped by the explosion of new ideas or knowledge and such “revolution” is determined by the paradigm shift (Kuhn, 1962, 2012). I argue this model that embodies historical developmental perspective is fitting for analyzing the RBT theory as the occurrence of new paradigms underpin its development. This study contributes to organization literature by clearly identifying the development of RBT, and how it determines the path of discussion in the organization field. Therefore, the discussion about RBT based on the Kuhn cycle platform theory is worth doing.

Literature Review

Resource-based theory

Earlier work written by Penrose (1959) constructed the basis of resource-based theory (RBT) development. Wernerfelt (1984) argued that Penrose was the first person to draw the idea that firm’s resources are the drivers for firm growth; and the firm ability to balance both the exploitation of existing resources and creation of new resources is the tool to build sustained firm’s competitive advantage. Penrose’s work was aimed to analyze the antecedents or the ex-ante of the firm growth, and she believed that a firm’s bundle of resources and firm capabilities to utilize the resources serve as such antecedents. Thus, in that sense, the growth of a firm will be constrained if the firm has insufficient or inadequate resources capabilities, and vice versa. However, there has been a debate about to what extent the contribution of Penrose to the RBT beginning or creation. One group of scholars (Barney 2000, Rugman and Verbeke 2002) argued that Penrose only contributed minor to RBT, in a way that she only proposed the basic premise in firm growth explanation -that a bundles of distinct resources and capabilities lead to firm growth- which provides inadequate explanation to describe the phenomenon nor decent guidance to develop scientific research in organizational and strategic management field. This stem of the group even argued that minor contribution of Penrose to RBT can be seen from the way Penrose had different viewpoints about profits, rather than exert the profit to the resource investment to increase firm growth, as RBT theory suggests, Penrose treats profits as merely high dividends to shareholders. On the other side, some scholars (Cockburn, Henderson et al. 2000, Kor and Mahoney 2004) have different perspective, disputing that Penrose not only had developed clear path to the RBT development, but also mentioned about Penrose’s direct influence through providing several

explanations that serve as direction for the RBT development in the next decades. The latter argument is worth explaining, Darroch (2005) argued that Penrose explained that firm growth is a result of a combination of resources and activities to utilize the resources, a description of a phenomenon that was highly elaborated in the 1990s. In addition to that, Darroch (2005) also argued Penrose had realized that the recognition of what resources should be used is indeed the prior stage before the utilization of resources itself -this idea is basically became one of the main foundations in dynamic capabilities which in 1990s upheld the position of RBT as a relevant organizational theory to be used nowadays, and marked the development of RBT (Cohen and Levinthal 1989, Cohen and Levinthal 1990). Kor and Mahoney (2004) even discussed Penrose's thought about the role of managers as "boundary spanner" and "gatekeeper" of knowledge and knowledge transfer in a firm -the discussion that vigorously refined in 2000s and open the broader discussion in RBT theory. Aside from the heated conflicting perspective in seeing the degree of Penrose's contribution to RBT, there is similar agreement that Penrose had made a leap in RBT discussion, in a way that Penrose, as opposed to mainstream economists in her era, put the attentions to the internal environment of the firm, rather than external environment, like external market prices, in seeking the drivers of firm growth (Nelson 1991, Sautet 2000).

Methods

This study employs a qualitative approach using library search and literature review on the subject of resource-based theory (RBT) and its use in different organization and management literature. The library search consists of offline and online materials including journal articles, books, or book chapters. This study evaluates previous literature review from 1959 to 2021 as the oldest article of RBT theory was published in

1959. For the search terms, this study used "RBT," "resource-based theory," "resource-based view," and "resources". This study used different search engines to find online materials, such as, Web of Science, Scopus, and Google Scholar to ensure that all influential and relevant articles in this study have been captured. For search boundaries, articles from multidisciplinary fields are included with the aim to include articles from other fields of social sciences to enrich and expand the diversity of perspectives. The selected articles are in these research areas: a) business; b) management; c) public administration, d) accounting, and e) economics, as RBT is a theory that can be used in interdisciplinary subjects.

The inclusion criteria encompass all journal articles published in Q1 journal that use RBT in any organization and management research, specifically, in organizational behavior and strategic management research. Empirical and conceptual articles are included as this study aims to consolidate existing conceptual and empirical knowledge, and I argue this aggregate of study may offer better insights concerning the power of RBT theory in defining resources and capabilities of organization and how they can be used by organization to choose and carry out strategies. In addition to that, to get a comprehensive understanding of the broad range of use of RBT, previous systematic literature review, critical literature review, and meta-analysis are examined to create a solid analytical discussion. The articles were screened and selected according to the eligibility criteria. First, the articles screened for their topic, study design, and method. Articles that are not related to the use of RBT theory in the organization and management field are excluded. Literature from fields outside of social science are also excluded. In the final phase, this study selected 141 articles, which formed the analytical database. Therefore, limitation from this study is due to constraint number of the database because of the presence of inclusion and exclusion criteria.

Results

The development of resource-based theory (RBT) from Thomas Kuhn cycle perspective

Normal Science

Normal science took place when several scholars robustly developed the resource-based theory (RBT) in the 1980s; as at that time RBT was able to provide the field's paradigm as a tool for the scientific community in studying firm growth and competitive advantage empirically and solving the problem in its field. At that time competitive advantage that became a primary goal in RBT had been defined, and several features of resources (valuable and rare resources) that contribute to competitive advantage also had been explained. The main research questions that occurred in this era were about finding profound explanations on why there is different performance amongst firms, or on why a firm performs better than their competitors.

In 1980, Porter (1980) emphasized on the capability of management to create strategy on resource allocation that determines its firm performance. There are three successful generic strategies to create firm performance; a) overall cost leadership that underlines low cost relative to its competitors; b) differentiation strategy that differentiate one firm to other firms, in terms of the capability to create something new either for product or service that is recognized rare or special in market so it will give leverage for firm to apply higher than average price; c) focus strategy in which the firm focuses on certain market, customer, geographic market, or product segment. These strategies can place a firm to achieve its competitive advantage and can outperform its competitors.

In 1982, Teece (1982) argued that diversification of activities in a firm can drive the firm growth. Particularly, in his paper, Teece described that human capital in a firm is not utterly specialized, because it can be repositioned and redeployed to give the flexibility for a firm

to diversify its new products and services. Teece also described how the excess resources of a firm can be utilized for diversification purposes, which this description is in alignment with Penrose's argument.

In the same year, Lippman and Rumelt (1982) created the concept of causal ambiguity that relates to the decision of a firm in allocating the resources to attain competitive advantage. They explained that the process of allocating the resources is not a simple decision, rather complex, and related to human decision. The allocation of resources is related to the capability of seeing or recognizing the value of resources in the future. The capability of allocating the resources on investment that has a certain level of uncertainty may result either to failure or success is called causal ambiguity. The increased uncertainty also derives from the incapability of a firm –for not to say impossible- to list all the factors that may not work or not work out for the success of such a firm. Thus, factors of production cannot be recognized, mobile or utilized, unless they are identified. Further, discussing the term uniqueness is not only carried out in a narrow perspective, in a way that unique resources can be conducted into two levels. The first level, the uniqueness refers to the distinctive resources that a firm has compared to other firms' resources. The second level, uniqueness, refers to the power of a firm to secure its resources by exerting a variety of powers, such as the exclusive use for a firm with enforceable rights, such as patent on an invention or innovation or the ownership of specific tangible resources.

In 1984, Rumelt (1984) stated the importance of a firm to renew and redeploy its resources as a basis for competitive advantage. Rumelt claimed that a firm's competitive advantage is driven by the bundle of unique or rare resources, and the ability of management to renew the resources as the value of resources will be changed, altered, eroded within periods,

because the dynamics of competition constantly happens. Therefore, Rumelt succeeded in giving the life-cycle perspective in RBT.

Model Drift

Model drift in RBT happened when the previous literature in RBT could not handle the phenomenon that occurred in the organizational and strategic management field. A series of significant papers offer different insights to perceive resources and firm competitive advantage building in a firm, by providing a different approach to explore RBT phenomenon, which in turn enhances RBT as a firm theory, such as organizational culture. Literature in these years also began to discuss other features of resources, besides valuable and rare resources—that contribute to competitive advantage, such as, non-substitutable or non-tradable resources, and inimitable resources.

Barney (1986) expands the ability of RBT to explain the phenomenon of firm growth by grasping the cultural context into organizational discussion. Barney concurred that organizational culture can be considered as a resource as it can improve the ability of firms to recognize and utilize the resources in a way that competing firms cannot. Culture can be valuable if it enables firms to conduct business that can lead to high firm financial value performance. Culture also needs to be rare, meaning that culture must have attributes and characteristics that are distinct to other firms. Culture also needs to be inimitable to prevent other firms from imitating or copying their culture because it poses some disadvantages, such as, putting their reputation at stake and exerting high cost for the investment as they have lack of experience to copy that culture. Not only does organizational culture define who are relevant employees, suppliers, customers, competitors, and other stakeholders for a firm; but it also defines how a firm interacts and collaborates with these focal stakeholders. This emerging discussion

integrated the field of study of organizational culture to the firm's structure and strategy.

Dierickx and Cool (1989) developed the argument that resources principally can be useful if effective substitutes are not available or present. The ability of a firm to imply a bundle of resources to create a product, which succeeds occupying a privileged market position, is not the guarantee that a firm achieves its competitive advantage, as the resources can be freely tradeable. Thus, in the discussion of factor inputs production, a firm needs to give attention to resources that are not traded in the open markets, for example firm reputation, and customer loyalty.

Model Crisis

In the 1990s, the RBT had developed again as the previous development was less able to answer the phenomenon about firm growth in a more dynamic way, in a sense that there is a broader literature that began to perceive a firm as a complex phenomenon and represents diverse cognitive processes that are conducted by its members. The diverse cognitive process of organization members will deeply influence the decision of firms on resources allocation and investment, which in turn affect firm competitive advantage. In 1980, RBT had expanded its context by grasping culture values into its context, however, organization culture that had been discussed in the middle 1980's could not answer on how a firm handles the cognitive process in resource investment and resource management in organization. Prior literatures merely concentrated on the cultural or belief aspect as behavioral manifestations in organization, and ignored the critical factor that links beliefs and behaviors. That critical factor indeed should have been the core of how a firm manages its cognitive process to sustain its competitive advantage. Prior literatures also did not give adequate attention to cognitive process in human decision on resources investment and

resource management, because cognitive process that affects individual decision in resources was discussed solely at the individual level; whereas in the organization the decision related to resources oftentimes becomes the decision at the team level that puts collective cognitive process as the main factor. The literature of RBT that occurred in the 1990s reflected the attempts of scholars to explore the role of collective capabilities, collective cognitive process or collectively held resources that provide the basis for dynamic capabilities or knowledge management perspectives in RBT. The RBT literature in 1990 also attempted to strengthen the position of RBT as a theory of the firm by differentiating it to other firm theories.

Cognitive process portrays how people transform the assets or resources in firm to action outcomes. Fiol (1991) dug deeper into the study of cultural aspects by reframing culture concepts to underline the relationships between behaviors and their social meanings in organization. Fiol focused on how organizational members distinctly create a sense of their behaviors and actions. This sense-making is the first step to develop an underlying system of norms and rules. Fiol argued that organizational identities on the basis of an intermediate set of beliefs become the foundation for organizational members to create sense of their actions. Identities emulate how organizational individuals define their actions and how those align with their knowledge about the organization. Therefore, in this context identities bring the cultural aspect and translate it to a specific context. Fiol concurred that to manage competitive advantage, a firm needs to manage its cognitive dimension of competency, particularly, managing the linkage between cultural values or social norms ingrained in the organization and their behavioral expressions (or actions) of those values. The study of Fiol in seeing a firm as a living organism that sets brings the discussion about resources and competitive advantage to another level, that is more focused on low-

level analysis of organization, by investigating the importance of the articulation of rules and how the rules play as the source of all meaning in organization. However, articulation of rules depends upon context or context influences how rules are interpreted.

In 1991, Conner (1991) juxtaposed the RBT with other industrial-organization economics theories aiming to show that RBT had developed as a new theory to analyze the firm. Conner built explanations on why RBT is distinct to IO economics theories (five schools of thoughts), such as, neoclassical, Bain-type IO, Schumpeter, Chicago, and Coase/Williamson transaction cost. To some extent, RBT has similarities with those five schools of thoughts, namely, a) RBT and Neoclassical: they perceive firm as input-combiner, they focus on the production of goods or services, but solely underline the physical production in producing such goods and services; b) RBT and Bain-type IO: they emphasize that firm's environment (including government intervention) can constrain firm decision and action on creating strategy. They also believe that persistent above-normal returns are possible; c) RBT and Schumpeter: they conceive that astounding above-normal returns are possible and it is resulted from new competition strategy, however potential imitators will always continuously exist, and entrepreneurial vision and mindset are significant factors in sustaining competitive advantage; d) RBT and Chicago: they argue that firm always finds a way to produce and distribute efficiently. Size and the scope of the firm mark the efficiency of a firm in production and distribution; e) RBT and Coase/Williamson Transaction Cost: they believe two of critical factors that constrain a firm to create strategic options related to its resources are the specificity of assets and its small numbers. As it has been noted before, on the other side, RBT also has major differences as to those five schools of thoughts; a) RBT vs Bain-Type IO: RBT, as opposed

to Bain-type IO does not only focus on gaining monopoly power and perceives it as the mere resource for competitive advantage. RBT believes that firm, not the industry, is appropriate level of analysis in understanding firm competitive advantage, thus internal organization should be positioned as a focal point in the analysis; b) RBT vs Neoclassical: RBT refuses the proposition of neoclassical theory that believes on the existence of perfect information, resource mobility, and divisibility. RBT accepts that critical resources may be immobile and inimitable because those resources may present in the forms of intangible format; c) RBT vs Schumpeter: RBT considers the new ways of competing does not always rely on monopolistic practices; meanwhile, imitators may find difficulty to copy resources, as those can be costly-to-copy resources; d) RBT vs Chicago: RBT has different point compared to Chicago that emphasizes on the long term, whilst RBT highlights the analysis on strategic problem of the firm that tackles the problem in the short of and focuses on intermediate greater interest to the firm; e) RBT vs Coase/Williamson transaction cost: RBT takes the deployment and integration of resources as focal points in creating competitive advantage, not in the prevention of opportunism. By presenting these differences, Conner (1991) argued that RBT had reached its legitimation as a theory of the firm that secured its position by creating its distinction over other firm theories.

Just one year after the seminal publication of Fiol (1991), Barney (1991), Kogut and Zander (1992) emphasized knowledge from which consists of information (who knows what) and know how (how to organize research team) as the important resource, an area of study that had been overlooked by previous scholars. Kogut and Zander argued knowledge has wide implications on understanding the various performances of a firm over others. Competitive advantage is a result of combination of capabilities and a bundle of resources that valuable (V), rare (R), inimitable

(I), and non-substitutable (N), owned by a firm; in this case, one the resources that is related to those VRIN features is knowledge. Imitators find difficulty to copy and diffuse knowledge from its rivals; further, the acquisition of new knowledge of imitators does not ensure that they will have ability to successfully assimilate the knowledge to its organization members; therefore, knowledge can become a critical resource that helps a firm secure its competitive advantage. Later, the most interesting thing is, the efficacy of knowledge to become a significant determinant portrays its complex phenomenon. Knowledge is possessed in individuals, but also expressed by individuals routinely in their social community, such as, organization, network, or group. Kogut and Zander argued that RBT as a theory of the firm overlooked the motivation of individuals to share and transfer knowledge in its social community, and on how organizations can exert activities and strategies to encourage such knowledge sharing and transfer. It means RBT needs to put attention to analyzing how organizations design their social relations and incentives to induce their individual behaviors to be aligning with the organization's goals.

In 1996, Grant (1996) criticized previous scholars that only emphasized on how knowledge transferred to its organizational members, but they ignored the knowledge creation process as the later stage after the knowledge is assimilated. Grant argued that coordination becomes necessary in knowledge transformation and knowledge creation process, and the primary task by management is ensuring that they establish effective coordination to make the knowledge is integrated and exploited effectively in a firm. One aspect that Grant underlined was the different kind of coordination need to be designed and established as different knowledge has its own characteristics and difficulty to be absorbed, transformed, and created by organizational members; and such designs will impact the

structure of the firm, the hierarchy, the autonomy or the extent to which its decision-making authority given to its members.

In 1997, Oliver (1997) analyzed the context and process of resource selection, which he argued became a critical factor to guarantee a firm's sustained competitive advantage. However, despite its importance, Oliver concluded that previous literature did not study "social context within which resource selection decisions are embedded (e.g. firm traditions, network ties, regulatory pressures) and how this context might affect sustainable firm differences" (Oliver, 1997, p. 697-698). Oliver disputed that the ability of a firm to manage its institutional context regarding resource decisions determines firm performance. Institutional context was treated in a broader way by Oliver, as he included internal culture as well as influences from external environment or entities, such as, state, society, and inter-firm relations. Oliver believed that institutional context would give the clear line or define socially acceptable economic behavior. Institutions also can impact resource choices and economic rents of a firm. Oliver attempted to integrate RBT with institutional theory by proposing the argument that economic choices are not solely constrained by the technological, informational, and income limits, which neoclassical models hold on to, but also rely on social context. It means that motives behind every human behavior oftentimes go beyond economic optimization to social obligation and social justification. Having followed the argument, thus, organizational members and its organization "are assumed to be approval seeking, susceptible to social influence, and relatively intractable creatures of habit and tradition" (Oliver, 1997, p. 699). Conformity to social expectations also becomes the factor that determines firm success and survival. According to institutional perspective, a) firm will create strategy that inappropriate due to the constrained environment in which they reside in; b) cultural

support in resource investment may play as critical driver for firm success; c) firm may decide not to copy or imitate the resources, not because they cannot do that, but simply because they do not want to do that particularly due to lack of legitimacy and social approval; d) social influence to firm may reduce the potential of firm in building heterogeneity. In his study, Oliver conducted the analysis at the individual, firm, and inter-firm level of analysis.

In the same year, Teece, Pisano et al. (1997), developed the RBT by inserting the dynamic capabilities perspectives. Teece, Pisano, and Shuen argued that being actively to recognize new opportunities, acquire resources effectively, are more important and fundamental rather than being actively in strategizing –strategizing means that one engages in business conduct that attempts keeping its competitors or rivals off balance, and excluding new entrants. They stated that if firm competitive advantage is determined by firm assets positions (firm's portfolio on knowledge and know-how and complementary assets), distinctive capabilities in coordinating and combining resources, and the evolution path of knowledge creation, then, the firm competitive advantage will be sourced from aggressive technological change or innovation which highly depends on internal technological capabilities, and internal organizational and managerial process. They exerted dynamic capabilities as critical factors in firm competitive advantage building, by describing dynamic capabilities as firm's ability to acquire, assimilate, transform, build, re-configure internal and external competences to cope with uncertainties. Dynamic capabilities determine a firm's ability to innovate that helps the firm to sustain its competitive advantage.

Model Revolution

In 2000s, RBT became more mature by the presence of significant literatures that developed RBT even farther as its field's model of

understanding underwent revolutionary change; marked by: a) the increased inter-linkage between RBT and other firm theories; b) increased of more appropriate micro-foundation analysis; even the new approach in micro-foundation analysis triggers the exploration of new discussions in entrepreneurship and creativity aspect –of which were under-explored in prior RBT literatures; c) increased of the discussion and analysis in an open innovation system context that has been becoming a recent circumstance for firms nowadays.

In 2001, Wright, Dunford et al. (2001) explained the consequence of the development of RBT theory in the aspect of knowledge, learning, and dynamic capabilities to human resource management practices in a firm. In previous RBT literature, a firm that wants to sustain its competitive advantage is situated to be having plenty of resources and capital so they have ability and flexibility to adjust the expenditures training, staffing, reward, employee involvement systems easily; however, in reality, there are many firms that are financially constrained or in sudden face financial difficulties, but they are forced to continuously able to create sustained competitive advantage by reassuring the employees either as an individual or a group to show behaviors that benefit the firm. By interlinking the RBT and strategic human resource theory, Wright, Dunford, and Snell attempted to explore the use of RBT in strategic human resource management context, and drawing the explanation about the importance of the design of high performance work system that can develop skilled employees that are able to engage in functional behavioral for the firm aiming to shape a firm competitive advantage.

In 2005, Gavetti (2005) improved RBT by analyzing the micro-foundation of dynamic capabilities that serve as critical factors in RBT, and highlighting the roles of cognition and hierarchy. Gavetti argued that previous literatures in RBT were solely focused on the quasi-automatic, and

routines-based aspect of capability development, but overlooked the importance of cognition and organizational hierarchy. Previous literatures before 2005 only mentioned the role of managers as boundary spanner (the person who assimilates new resources to organization), gatekeepers (the person who decides what kind of resources that need to be absorbed by a firm), or resources manager (the person who decides what kind of resources investment should be done or what kind of resources strategy needs to be made) in terms of knowledge and resources acquisition and integration in a firm, highly relies on their position in organization hierarchy. Thus, the matter of the resources strategy making process in a firm is not simply designated and carried out by managers, as they also face the power constraint due to the complex organizational hierarchy. Gavetti attempted to explore the micro-foundation analysis of RBT by studying the cognitive process of managers, but also brought it to a higher level by exploring this issue in the context of organizational hierarchy, hierarchical arrangements, and asymmetrical power in a firm.

In 2007, Teece (2007) expanded RBT by specifying the nature and micro-foundations of capabilities needed to sustain firm competitive advantage in a recent economic context, in an open economy and rapid innovation that marked with globally dispersed sources of knowledge, information, innovation, invention, as well as globally manufacturing capability, free trade and investment. In this changing environment, modern management that is compelled to create sustained competitive advantage cannot lock itself to traditional scale of economies in production and traditional-closeted practices that emphasize technical fitness that portrays with quality improvement, inventories efficiency, adoption and use of best practices, for achieving competitive advantage. In an open economy and regimes, the modern management needs to advance and flourish its corporate entrepreneurship to foresee

and shape the future and stay ahead in future competition by identifying new opportunities, recognizing the value of resources, and finding the new way to combine resources or change work processes. In addition to that, firm management needs to boost its knowledge assets, protect the knowledge by applying intellectual property rights, build new value enhancing assets or resources combination, organizational transformation, and regulatory and institutional adjustment.

Kraaijenbrink, Spender et al. (2010) developed RBT by further assessing the values that can be obtained by a firm in open innovation system context, particularly if the rights of obtaining the resources owned by many entities. In traditional RBT literatures, a firm is situated as an entity owns resources with single ownership and complete unconstrained, e.g property rights entitles a firm to consume and utilize knowledge wholly. Prior RBT could not differentiate types of rights owned by a firm over particular resources, and recognize strategically significant differences amongst resources; although, in an open innovation system, which marks the globally dispersed sources of knowledge and innovation, a firm does not have complete power over resources, because oftentimes resources or knowledge by other entities. In this case, prior RBT literatures failed to recognize the changing nature that firms oftentimes no longer own a particular resource completely, thus cannot exert complete power over it, as a firm can acquire only part of the rights of resources, and need to share those resources with other entities or firms. In this case, a firm needs to deal with “bundles of partitions of property rights” or an “integrated bundle of interacting property rights.” Thus, RBT literatures need to broaden its perspective, particularly in property rights field, not only does RBT focus on resources per se, but also emphasizes on the specific rights associated to those resources; considering that amount of property rights that distributed across several firms that determine

the capacity of firm to develop its competitive advantage. By drawing the broader perspective related to distinction between resources and property rights of particular resources in RBT, Kraaijenbrink, Spender, and Groen have developed a deeper understanding on how firms generate their competitive advantage in the practical world with constraints from legal and institutional aspects.

In 2011, Foss (2011) and Lindenberg and Foss (2011) criticized the incomplete micro-foundation analysis in RBT literatures that only focused on individuals in the context of maximization of rational choice, but did not grasp the general concern with interaction with many other behavioral models. Prior studies did not investigate the role of motivation of organizational members to join in collaborative activities with the aim to achieve competitive advantage. By analyzing the motivation of organizational members to show collaborative efforts, RBT theory has been expanded and interlinked to anthropology, social psychology, and experimental economics to analyze motivational and cognitive mechanisms that control sustainable value creation generated by human resources in an organization. The focal construct that had been discussed by Foss, and Lindenberg and Foss in newly developed RBT theory was joint production motivation. Joint production motivation is a form of collaborative task or productive activity that connects diverse but complementary resources, task and outcome interdependencies, and especially where organizational members notice the joint-value endeavor, and perceive themselves as a person that should contribute to that value creation. By recognizing this role, organizational members cognitively coordinate cooperation, select behaviors in terms of what kind of behavior that is beneficial to achieve common goals, provide intelligence, and be adaptive in ambiguous situations. Joint production motivation is claimed to be key factor that can

understand the contribution of micro-foundation to macro-level (firm performance) by analyzing the role of individual in devoting to organizational collaborative task performance; how much they want to contribute, to what extent they want to be engaged in task, how much efforts they want to put, and how they coordinate with other organizational members. Joint-production motivation consists of three motivations; a) normative goal-frame motivation. This motivation is solely established from the willingness to increase firm performance; b) gain-goal frame motivation. The motivation derives from the own personal resources improvement (e.g status and money); c) hedonic-goal frame motivation. The motivation is based on hedonic manners, particularly on how to improve their particular situation (e.g improving self-esteem, looking for excitement). The ability of firms to increase the level of normative goal-frame motivation through various HR practices will boost the sustainability of firm competitive advantage. This paper revolutionized RBT theory by making the RBT broadened, so it could grasp wider organizational phenomena.

Discussion

According to Kuhn (2012), science is a puzzle-solving tool that derives from the framework of a set of dogmatically held theories. Theory constructs and specifies the puzzles to be solved; at the same time, theory also provides methodology to solve those puzzles. An old theory that cannot solve the puzzles will be replaced by a new theory as it is demonstrated to be a better puzzles-solver. From the findings above, it has shown how the RBT theory has evolved. In the first cycle of Kuhn's, the seminal paper of Penrose in which introduced and coined the term RBT has been largely cited and discussed in the organization and management research. In the 1980s, the scholars began to answer the call for a more micro or operational level of

this seemingly all catch theory by identifying different forms of resources in the organization. The scholars also examined what factors may shape the ability of the organization to produce, utilize, and allocate the resources. A cognitive aspect and life cycle perspective started to play a role in helping the scholars to have a better understanding of the underlying logic of resources allocation in the organization. In the second cycle (model drift), a new model occurred in the late 1980s which highlights non-substitutable, non-tradeable, or inimitable resources as another feature of resources in the organization. This new model explains how resources do not solely appear in the tangible form, that intangible sources are more likely to create organizational competitive advantage as they are socially complex, unique, and context-based hence increasing the difficulty to imitate such resources. In this cycle, the integration of intangible resources such as organization culture, brand or reputation, and customer loyalty began to arise in the RBT discussion. In the 1990s, the third cycle (model crisis) emerged. A set of new models challenged the established view of the RBT that overlooked the role of collective cognitive process, the dynamics of the external environment including its social and political situations that shape nation's institutions, as well as knowledge creation process and dynamic capabilities in influencing organization performance. In this cycle, RBT was heavily criticized and even farther juxtaposed with other organizations' theories. The integration of new approaches and perspectives during this cycle expanded the ability of RBT to capture all strategic resources and helped scholars to further operationalize the theory. In this cycle, the increased attention on external environments and characteristics of institutions where the organization resides highlights the scholars' understanding on how economic and political forces and underlying set of values underpinning these may cause direct and indirect

impact to the organization. The fourth cycle (model revolution) took place in the early 2000s, the RBT theory underwent revolutionary change when the theory took macro level perspective while at the same time establishing more solid micro level foundations of understanding about organizational resources to unravel interactions between them. As a consequence, the RBT theory has been interlinked to other organization theories thereby making it have more ability to fully examine organizational behavior. As a result, RBT can propose wider and stronger assumptions about organizational competitive advantage. The RBT also elevates its use by offering an effective analytical tool in studying the “bundle of resources” in an open innovation system context where many entities may share ownership of resources.

Aside from the development of RBT and its reputation to provide the guide for the researchers to study the phenomenon in strategic management in organization, RBT contains serious problems due to its inclusiveness. Barney (2001) stated that the inclusiveness of RBT is one of strengths it has as it can embrace all phenomena in the field of strategic management that discuss the value of resources for firm growth. However, such inclusiveness may backfire on RBT, because it creates the theory to be tautology, and tautological statements cannot be verified empirically. Priem and Butler (2001) argued that tautological allegation that is targeted to RBT is caused by the wide definition of resource, and resource itself becomes a focal concept in RBT. In RBT, every attributes that can provide value is considered to be resource ranging from culture, trust, leadership, normative motivation, economies of scale, human capital diversity, firm network diversity, to learning curve economies; thus, if we accept all these inclusive definitions, then a firm can find every reasoning to create sustain competitive advantage, up to the point that sustained competitive advantage itself can be

perceived as resource as well (Priem and Butler 2001; Quaye & Mensah, 2019). In this case, the theory will not be false, because everything that contributes to firm competitive advantage can be perceived as a resource, thus RBT is not falsifiable or the theory is utterly true, so it does not need to be investigated. Popper concurred that the term scientific only refers to the statement that is falsifiable, meaning that empirical hypothesis, proposition, and theory can be perceived scientific if it accepts the possibility of a contrary case or reality.

Conner (1991) addressed this tautological issue by concurring that there are hierarchies of resources in a firm, thus the resource concept cannot be tautological. Resource can be found at the individual level, group level, and firm level; for example, individual capability can contribute to team level task performance, individual capability also can contribute to the creation of value in more aggregate level such as organizational culture, and organizational culture can impact higher level such as organizational reputation; thus hierarchy of resources does exist in firm, and researcher can test the contribution of each resource to each level, and to see the differences of particular resource in certain hierarchy can provide vary of performances in a firm. Recognizing such levels will prevent RBT to be tautological.

In addition to that, Barney (2001) stated that if a tautological problem derives from such an argument, then naturally every strategic management theory can be found tautological too, e.g Porter. Porter’s arguments about the relationship between industry attractiveness and firm performance can be decreased to tautology, as a firm that resides in attractive industries will surpass a firm that resides in unattractive industries. Barney (2001) stated “the ability to restate a theory in ways that make it tautological provides no insights about the empirical testability of the theory whatsoever” (p. 42). Further, Barney argued that a tautological

theory still can provide insightful and beneficial value in empirical research. Thus, it is not only about the tautological per se, but to what extent the theory can provide the proposition that can be operationalized or parameterized in a way that it can make the empirical testing to be possible.

However, discussing the operationalization and parameterization of concepts in RBT is also problematic. The problem of tautology in RBT also roots from its incapability to define or parameterize several key concepts; unless the key concepts are adequately parameterized then those can be tested empirically. Priem and Butler (2001) mentioned about the incapability of RBT to parameterize the concepts about rarity and inimitability. The vagueness of concept creates a problem because even where predictions or propositions are made within the framework provided by RBT, those predictions or propositions are difficult to be verified or falsified correctly. Barney (2001) argued that tautological problems can be disentangled, by specifying the concept of rarity and inimitability, and operationalizing or parameterizing such concepts will make RBT can be tested empirically. For example, rarity can refer to a lesser number of firms that possess valuable resources than the number of firms needed to produce perfect competition dynamics in an industry, thus this condition can create competitive advantage. If only one competing firm possesses that particular valuable resource, it also still can be tested, to see to what extent that firm can utilize the resource to improve its efficiency and effectiveness to achieve competitive advantage. Both these assertions can be tested empirically, thus eliminating tautological problems (Barney 2001). Inimitability also can be parameterized by stating that inimitability can refer to the difficulty of resources to be imitated because it is costly to copy, or it is complex to copy because it contains historical story, stock of knowledge and experience, and social integration. By specifying the definition of inimitability, a researcher can test

whether the resource, such as technological know-how or organizational routines that represent organizational culture can be imitated easily by a firm. These explanations, according to Barney (2001) can restrain the RBT to be tautological.

Conclusion

From 1959 to 2021, RBT has been evolving, and proves itself to be a better puzzle-solver because it can add to the scope and precision with which the paradigm can be applied, and it also provides methodology to analyze the broader phenomenon in competitive advantage and firm growth issues.

What lesson can be learned from analyzing the evolution of RBT by Using Kuhn Cycle? Global phenomenon that is particularly related to RBT is so large, complex, novel, and urgent, thus the solution is needed to solve the problem and to give the meaning of this global organizational phenomenon. Thus, in this view, scientific RBT theory is created so we can interpret the facts carefully and rationally; as it offers valid explanation of organizational phenomenon, and serves as problem-solving strategy that can be applied to a wide range of organizational circumstances. But why do human beings do that? In general, human beings constantly explore scientific knowledge to get closer to the truth, to find the meaning of life, or simply for making a practical use of theory; because by employing the theory to the practical world in order to solve the problems, then the knowledge gains its worth. Previously, there was a little understanding that the environment in which a phenomenon takes place cannot be tamed and controlled, that the environment is dynamic and human stands in the way of progress. Therefore, Kuhn thought that a scientific theory is not the end result of the scientific method; theories can be improved, revised, or improved as more information is collected so that our understanding of the phenomenon is developed, hence the accuracy

of the assumption/prediction becomes stronger over time. In other words, theory has better explanatory power in explaining the phenomenon.

In the Kuhn cycle, Kuhn thought theories might only be replaced when the old theory does not have the ability to explain prevailing phenomena and a newly developed theory replaces them; that is how normal science evolves to model revolution, as previous theory was less able to answer the phenomenon.

Based on the findings and analysis, this study offers the following recommendations. In terms of research direction, RBT can be a useful theory to analyze current public administration phenomena, such as, open government data (Zhao & Fan, 2018), and big data analysis (Shan et al., 2019). It is interesting to investigate the relationship between organizational resources either tangible and intangible resources, and how the combination of those various resources are crucial for the government to deal with a changing environment. Such studies can produce valuable results for both theoretical public administration research and practical activities in bureaucracy or other state organizations. To compensate for the tautology of RBT, researchers can pair RBT with another theory or concept such as dynamic capabilities, knowledge-based theory, stakeholder theory, institutional theory, or absorptive capacity to develop a more thorough understanding of organizational resources and strategies as well as organization's value creation. In other words, there is a need to use multiple approaches to measure different resources in an organization (Barney, Ketchen Jr, Wright, 2011). Bhandari et al. (2020) also criticize RBT to be an inadequate theoretical lens to explain necessary conditions needed by organizations to have sustainable performance. It even further emphasizes the need to integrate RBT with other theories or concepts as it cannot stand alone in explaining dynamics of organization particularly its competitive advantage.

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