The role of key persons in radical innovation: Comparing product champions and others

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ABSTRACT

The digitalized modern economy requires radical innovations and for this reason, many organizations have attempted to create and launch new products and/or services in the market. In such innovation processes, the roles to oversee these innovation changes in the organizations involve key persons termed "champions." This study sought to reveal the relationships between the innovation process and champions, the roles of product champion in the innovation process, and the kinds of components that are required to act as a champion. To clarify the roles of product champions, the existing research was reviewed and some key persons were identified for the sake of comparison. These key persons included the following: entrepreneurs, sponsors, gatekeepers, promoters, project leader/project managers, transformational leaders and serial innovators. Following the measurement of the roles of product champion against other key persons’ roles, several researchers observed that such roles are changing with the innovation process. Thus, the innovation process can be divided into an initial process and an implementation process. The results of this research consisted of 16 propositions and 4 significant viewpoints, the latter of which included the following: supporting each other, the reflection of innovation type, and the influence of the innovation process.

Key words: Radical innovation process, product champion, key person, serial innovator.

INTRODUCTION

According to the matured and global economic environment, the climate of required innovation for organizations is changing. For example, to supplement the lack of resources in an organization and accelerate the speed of innovation, open innovation is used (Morgan and Finnegan, 2010; Klerkx and Aarts, 2013; Bstieler et al., 2015). Otherwise, the importance of innovation activities is underscored in various industries. The chief actors of innovation were manufacturers and these actors continue to innovate many products or services (Ettlie and Rosenthal, 2012; Zhan et al., 2016) however, innovation activities have been spreading to other industries, such as construction (Nam and Tatum, 1997; Sergeeva, 2016), information technology (IT) (Morgan and Finnegar, 2010; Altuwaijri and Khorsheed, 2012), health (Shaw et al., 2012; Shea and Belden, 2016), service (Blindenbach-Driessen and Van, 2006; Yen et al., 2012), and environmental business (Anderson and Bateman, 2000). Furthermore, radical innovations such as involving business rule changes are highly needed. Thus, the evaluation/criteria of innovation are required with long-term orientation (Taylor et al., 2011; Egan, 2015; Bstieler et al., 2015). The complexity of open innovation, various industries’ innovation, or long-term innovation requires key persons to bury ambiguity and fill
in the innovation process. A typical human resource is the “champion.” These individuals are called innovation, project, product, or organizational champions or merely champions.

The researcher who initially proposed the concept of the champion was Schon (1963). He noted that product champions contribute to successful radical innovation with keywords such as considerable power and prestige, usage of informal relationships, special interests within the organization and push the products from beginning to end. Following discussions by Chakrabarti (1974), Rothwell et al. (1974), Maidique (1984), and Burgelman (1983), in the 1990s, research on the champion concept was quickly vitalized through Markham (1991,2000,2002,2010), Howell(1990,2004,2005), and Shane(1994,1995). These researchers published several articles on this theme as single authors and coauthors. Markham chiefly focused on the early stage of new product development or research and development (R and D) activities and considered the contribution by champions to conquer the barrier from idea to official project execution (Markham, 2000, 2002; Markham et al., 2010). His research team also found their existence in several functional departments (Markham et al., 1991). Howell’s research explored the answer to the mechanism of champion emergence (Howell and Higgins, 1990; Howell, 2005). To clarify that emergent process, her teams surveyed the relationship of the innovation process (Howel and Bois, 2004), champions’ behaviors (Howell et al., 2005), and champions’ personalities (Howell and Higgins, 1990). Shane revealed the relationship between champions’ role and organizational culture (Shane, 1994, 1995) and the kind of champion types proffered by the national culture using Hofstede’s scale (Shane et al., 1994).

After 2000, the issues of the champion concept have spread and diversified. In particular, the comparison or relationship of other key persons (Éttlie and Rosentha, 2012; Wisdom et al.,2014), multiple champions (Hauschildt and Kirchmann, 2001; Shaw et al., 2012; Klerkx and Aarts,2013), formulation (Yen et al., 2012; Egan, 2015; Shea and Belden, 2016), several champions(Rice et al., 2002; Williams and McGuire, 2010; Shaw et al., 2012) and emphasis on implementation phases (Beatty and Gordon, 1991; Nah et al., 2003; Altuwaijri and Khorsheed, 2012; Hameed et al., 2012; Yen et al., 2012; Wisdom et al., 2014; Bonawitz et al., 2020) were often discussed. In the comparison or relationship of other key persons, “heavy-weight project manager,”“sponsor,”“producer,”“marketer,” and “top management” are picked. Those studies chiefly discuss the collaboration, support, and/or sharing by those key persons and champions. When Schon (1963) developed the champion concept, key persons of successful radical innovation were few. However, various key persons from many aspects by different researchers were found after, and such comparisons or relationships have been increasing. The theme of multiple champions is examined, where more than one person plays the role of a champion compared to only one champion in previous studies. In comparison with Schon’s generation, the innovation activities in the present days are implemented in various industries, countries, and technological fields. The ambiguousness, uncertainty, and complexity in those innovations have been rising to the point that one champion cannot individually handle all obstacles.

Although Schon (1963) stated that a champion was an informal position and Howell (1990, 2004, 2005) tried to make the mechanism of champions’ emergence clear, the champion as a function began to be officially or systematically used with the spread of its concept. Champion functions are sometimes argued as a leadership style. As the importance of champions is generally known, various champion naming types have appeared: “subject naming” labels champions based on their role, such as executive champion, production champion, or user champion;“object naming” labels champions based on their work, such as innovation champion, project champion, or organizational champion; and “industrial naming” refers to the kind of field a champion works in such as IT champion, environmental champion, or water management champion. When Schon (1963) defined “champion,” he named “product champion” for the R and D field.

Thus, according to the change of business environment and generalization of the champion concept, research on champions as important key persons for successful radical innovation becomes messy and mixed. The change of business environment, such as open innovation and expansion of innovation actors, affects innovation processes. Simultaneously, the role of champions depends on the innovation process (Burgelman, 1983; Spender and Kessler, 1995; Glynn, 1996; Markham, 2002; Jain, 2010; Fujii et al., 2015; Eliëns et al., 2018). Nevertheless, the relationship between the innovation process and champions’ role has not been fully discussed. Such discussions are needed to select or foster the champion. Schon (1963) mentioned champion selection or fostering and Howell (2005) mentioned the importance of champion breeding. To clarify the method used to breed or foster champions, Howell explored many types of champion characteristics such as behaviors, activities, influences, personalities and roles (1990, 2004, 2005). In other key person’s fields, knowledge or know-how is systematically and comprehensively described. Those research themes of key persons are project managers (Kerzner, 2013), heavy-weight project managers (Clerk and Fujimoto, 1991) and serial innovators (Sim et al., 2007). Therefore, this research aims to reveal the relationships between the innovation process and champion’s role and the kinds of relevant components needed to play such roles. If the later components become clear, the top management can select or nurture champions and employees aspiring to be champions can set targets. To achieve that purpose, the authors reviewed the literature, provided propositions and clarified the new knowledge through the propositions.
LITERATURE REVIEW

With the change of business environments and generalization of the champion concept, articles on champions have increased. For example, the focus of the industry was on technological-oriented organizations, but articles are now published even in construction and service industries. Alongside the champions’ role, comparisons of other key persons are often discussed and in the beginning of the champion study, the early stage of innovation was chiefly surveyed until the importance of the implementation process later grew.

Innovation process

An innovation process is divided into certain aspects. Spender and Kessler (1995) expressed time modes from initiation to implementation. Glynn (1996) argued a two-stage model: initiation and implementation/adaption. Jain (2010) suggested initiation and implementation regarding Roger’s five-stage model. An innovation process can be largely divided into initiation and implementation processes. Williams and McGuire (2010) defined economic creativity and innovation implementation. Slater et al. (2014) picked two processes radical product innovation process and product launch strategy, as the components that affect radical innovation capability. Thus, in this study, the innovation process is largely divided into initiation and implementation processes. In initiation, innovation is created and launched to the market whereas in implementation, innovation’s efforts pay to diffuse and be extensively adopted by many users.

Initial innovation process

Some studies focus on each innovation process. In the initial process, Burgelman (1983) argued regarding internal corporate venturing and weighed on the importance of decision-making because of the difficulty of consensus building. As a result, the four processes set by him are emphasized in the initial processes: core processes (definition and impetus) and overlaying processes (strategic and structural contexts). Howell and Bois (2004) mentioned the champion’s activities in idea generation and promotion in the early period of innovation. Markham (2013) insisted the importance of the early stage with radical and technological innovation and divided it as before the formal new product development process and after the formal process. He surveyed the effect of front-end activities as a process before the formal new product development (NPD) to the whole innovation process. Slater et al. (2014) identified discovery, incubation, and acceleration in the early period of radical innovation. They defined discovery as exploring or developing good ideas, incubation as nurturing or refining such ideas, and acceleration as progressing on commercialization.

Implementation innovation process

In the implementation process, Nah et al. (2003) picked up some success factors of enterprise resource planning (ERP) implementation. Those are business, business processing reengineering, change management program, communication and ERP teamwork as simultaneous processes. King and Burgess (2006) also discussed ERP systems and showed the information system innovation process to be composed of context, project organization, supporters, and solutions. They set and examined the hypnosis of the affected relationship like context influences project organization and supporters or project organization develops solutions. Taylor et al. (2011) described initiation, endorsement, and implementation phases regarding the innovation of sustainable urban water management. Those phases expressed a long time range, such as 20 years. Altuwaijri and Khorsheed (2012) proposed the diffusion model of IT innovation and set four processes (visioning, matching vision, deployment, and evaluation and improvement). The last three processes are performed by the project management office. Hameed et al. (2012) discussed IT adoption and suggested the process model that divided initiation, adoption decision and implementation. They examined the relationships between the process and type of innovation, type of organization and size of an organization as independent variables. Yen et al. (2012) defined two new service processes to create service delivery processes and customer interfaces and to invent processes to enhance customer access. Thus, the implementation process is complex to revert to de-adoption or change the routine procedure (Wisdom et al., 2014).

Role of a champion: Comparison with other key persons

Research on other key persons who play important roles in the innovation process has been reported with comparisons to champions in previous articles. Those are entrepreneur, sponsor, gatekeeper, promoter, project leader/project manager, transformational leader and serial innovator.

Entrepreneur

Common roles of entrepreneurs and champions are transforming required networks to their own community (Walter et al., 2011), getting resources and selling ideas to organisational members (Elkin and Keller, 2003),
transforming an idea to a new commercial business (Day, 1994), combining resources to overcome obstacles (Shane, 1994), and pursuing customers to sell an idea (Walter et al., 2011). There are two views for the relationship between the entrepreneur and champion. The first is that one of the champion's roles is entrepreneurship. Shane (1994) introduced entrepreneurial theory and the definition of the entrepreneur as willing to accept deviant behaviors and preferences among the majority of the organizational members. He showed that an entrepreneur's roles are the same as those of champions. He insisted that if a person lived outside of an organization, he/she became an entrepreneur and if a person lived inside an organization, he/she became a champion. They always take the same behaviors in terms of deviant preferences to the majority. Likewise, Jenssen and Jorgensen (2004) insisted that in resource-based theory, entrepreneurial ways to obtained resources are similar to those of champions even if the sorts of resources differ. Howell and Higgins (1990) described entrepreneurship in the organization as one dimension of champion personality. Furthermore, Tushman and Nadler (1986) mentioned champions and internal entrepreneurs, in parallel, who take creative ideas and bring actual products to the market. Additionally, those persons were written as individuals with personalities such as aggressiveness, energetic, and risk-taking.

Reversely, Walter et al. (2011) surveyed academic entrepreneurs in university spinoffs and found that academic entrepreneurs took some champion roles such as pursuing customers to sell ideas or network building and evolved as formal leaders of ventures with champion roles. In this view, a product champion's role is wider and product champions work in the initial and implementation processes. The second view is that champions and entrepreneurs play each role in different stages by different persons. Burgelman (1983) surveyed internal corporate venturing and official managers called entrepreneurial venture managers. Such managers provide support as organizational champions from new venture division managers. Day (1994) also set the theme on internal corporate entrepreneurship. He examined which bottom-up champion by the low hierarchical members and top-down champion by top management is effective for corporate entrepreneurs. As a result, both bottom-up and top-down processes were shown. Maidique (1984) noticed the similarity of entrepreneurs and champions in referring to previous literature. Moreover, he identified the key person's role in the stage to develop the firm. He divided organizational development into three stages and showed the model of the relationships between the stages and key person's role. The roles of innovation are played by technologists, product champions and executive champions individually according to the innovation stage in a diversified firm. Technologists chiefly play entrepreneurs' role in the early stage. Product and executive champions play other roles in the later stage. The first two research propositions are as follows:

Proposition 1: One important role of a champion is to play an internal corporate entrepreneur in both the initial and implementation processes.

Proposition 2: Internal corporate entrepreneurs need to be supported by champions in the implementation process.

**Sponsor**

A sponsor is defined as a person or group who provides support to project teams for reaching resources and protecting emerging productions (Tushman and Nadler, 1986; Gupta and Singhal, 1993; Day, 1994; Elkin and Keller, 2003; Ettlie and Rosenthal, 2012). The role or activities together comprise sponsorship (Day, 1994; Andersson and Bateman, 2000; Ettlie and Rosenthal, 2012). In the relationship of champions, two controversial issues are present. One is that sponsors support champions. For example, Markham (2002) explained that sponsors who provide resources to a project support the champion and are crucial. Likewise, Markham et al. (2010) clearly defined the role of key persons in the initial process and found that such key persons worked together. Their definition is that champions identify and make awareness of an idea and sponsors ensure availability of the resources and informally sell the value of the idea. They insisted that champions and sponsors support and supplement each other. Furthermore, Kelley and Lee (2010) discussed a combination of empowerment to champions and sponsors. They identified that a sponsor ensures resources, cooperates in the project and expresses managerial participation that is, they distinguished a champion from a sponsor, and the degree of participation by a sponsor is the degree of empowerment to a champion. They concluded that sponsoring and supervising are quite different and a positive sponsor role depends on project characteristics. Another is that sponsors become champions. In this case, sponsors are often called executive champions (Maidique, 1984; Nam and Tatum, 1997; Markham, 2000; Taylor et al., 2011; Sergeeva, 2016; Pinto and Patanakul, 2015).

Altuwaijri and Khorsheed (2012) positioned the sponsor as a crucial existence to the success of projects and found that a project champion was also a project sponsor. Pinto and Patanakul (2015) also insisted that a product champion behavior is sponsorship. Additionally, Day (1994) identified that the sponsor function was to grant resources and legitimacy without involving key functions of specific tasks. Furthermore, dual-role champions who play both a champion and sponsor were effective. Maidique (1984) defined sponsorship as ensuring the resource to admit the necessity of innovative projects, and sponsorship is performed by an executive champion, product champion, and technological entrepreneur. He explained that
sponsorship had to continue the key projects in the earlier stage of innovation. Ettlie and Rosentha (2012) examined the relationship between champions and sponsors in service innovation by manufacturers. They identified champions as individuals who support carrying an idea forward for approval by executives and sponsors as individuals or groups who provided appropriate resources to formal projects. They found that chief executive sponsorship was the most important because the process for existing products was not applicable for new services innovation, which means that some sponsor roles and champion ones overlap. However, sponsors should decide to cancel the project when the project can break the resistance despite supporting the project to reach the resources. The next two research propositions are as follows:

**Proposition 3:** Champions and sponsors show the partnership relation in the initial innovation process.

**Proposition 4:** The existence of a key person who serves both champion and sponsor roles are crucial for innovation success in the initial and implementation processes.

**Gatekeeper**

Špacek and Vacík (2016) argued over the gatekeeper in the stage gate control process. The gatekeeper comprises a cross-functional team of managers and experts. Without the gatekeeper’s approval, a project team cannot reach the next innovation stage. Gatekeepers ensure reduced technological risks and the acceptance of customers in the market with several department aspects. Kim et al. (1999) showed that an important role for gatekeepers is linking project members to the outside community by monitoring, relaying and facilitating important information. R and D leaders should play five different roles, including that of the gatekeeper and champion. Wilhelm and Dolsma (2018) surveyed gatekeepers in the car industry. They found that managers as gatekeepers managed knowledge boundaries in open innovation. They insisted that gatekeepers serve chiefly and only to gather, translate and disseminate external technological information whereas the role of product champions to bring outside knowledge to the inside of an organization is much wider and does not confine solely technological aspects.

For the definition of gatekeeper, two different but similar types are in the innovation field. One is the person who contributes to decision-making in the innovation step of stage gate systems and is usually a team that is composed of technologists, marketers, or other experts (Gupta and Singhal, 1993; Špacek and Vacík, 2016; Fujii et al., 2015; Eliëns et al., 2018). The other one is the person who provides external knowledge to the internal organization for the innovation process (Tushman and Nadler, 1986; Kim et al., 1999; Elkin and Keller, 2003; Gemünden et al., 2007; Wilhelm and Dolsma, 2018). Aagaard and Gertsen (2011) revealed that pharmaceutical companies need champions to create a radical innovation in the front side of the innovation process. Pharmaceutical companies usually adopt a stage gate system to decide the effectiveness of the innovation. However, formal rigid innovation processes such as stage gate eliminate hopeful seeds. Product champions bring some kind of looseness or flexibility to such restrictive processes by combining suitable resources and knowledge in informal ways. Therefore, product champions supplement the disadvantage of the formal stage gate system from which the gatekeeper and top management decide the fate of technological ideas. Markham et al. (2010) clearly defined the role of key persons in the initial process and found that such key persons worked together. Their definition is that gatekeepers set the criteria to decide and provide access to proper resources. Markham et al. clarified gatekeepers associated champions and sponsors with parts of their significant jobs.

Additionally, the importance of the roles of such champions, gatekeepers, and sponsors was changing in the innovation process. They surveyed and revealed that the champion is the most important in the initial process, but gradually, that importance decreased in the later processes. Although the importance of sponsors maximized in the middle process, the importance of gatekeepers is the most useful in the later process. Thus, gatekeepers connect innovation project members to the external information society and line up with champions. Despite efforts by Markham et al. (2010), there is a scarcity of literature concerning direct relationships between champions and gatekeepers in terms of changing their roles according to the innovation process. Therefore, the following propositions were made:

**Proposition 5:** The product champion in rigid innovation systems such as a stage gate covers gatekeepers’ role in the initial process.

**Proposition 6:** The importance of the champion and gatekeeper roles increases as the boundary spanner between external and internal knowledge as the innovation process progresses.

**Promoter**

German researchers pointed out promoters in innovative activities. Hauschildt and Kirchmann (2001) built the model of three types of promoters who contribute to the innovative product idea and surveyed the troika model. The promoters are the following: a technology promoter who positively affects technological knowledge, a power promoter who overcomes psychological organizational opposition or obstacles by hierarchical power, and a
process promoter who influences through organizational know-how and coordinates technology and power promoters. They revealed that this troika promoter structure was effective, especially the level of innovation success rose by increasing the dissimilarity of their individual works through corporation. Gemünden et al. (2007) took up further advanced research. They defined promoters as innovators who overcome barriers, influence organizations and create a distinctive value. Moreover, four types of promoters were introduced. They are the power promoter, who has hierarchical power to progress and provide resources to projects; expert promoter, who has technically deep and wide knowledge; process promoter, who coordinates politically inside organizations and relationship promoter, who has personal connections inside/outside of organizations. They insisted that such promoter corporation to the project leaders was not adequate to every type of project. Nevertheless, to increase new alliances outside of an organization like open innovation, professionalism of promoters should become important. Mansfield et al. (2010) discussed champions and promoters and examined specific personal characteristics for different innovator roles. They added champions to Gemünden et al. (2007) promoters, trying to extend the concept that such innovators work together.

They revealed distinctive characteristics of five innovators and mentioned the contributions to organizational and human resource developments. Some roles of promoters partially overlap with those of champions. For example, power promoters are similar to executive champions, expert promoters to technical champion, process promoters to organizational champions and process promoters to project champions. In addition to German researchers' study, Klerkx and Aarts (2013) explored the interaction of multiple champions in the Dutch agriculture–food industry. They discussed orchestrating an innovation network and multiple champions working together for innovation success. Similarly, Laere and Aggestam (2016) took a qualitative study of champions' behavior concerning Swedish healthcare. They observed complex championing behaviors by different types of champions at different levels. Shaw et al. (2012) also examined the innovations in American healthcare. They found that project champions and organizational change champions supplement each other for success. Furthermore, Ettlie and Rosenthal (2012) reported multiple operational champions in service innovation by manufacturers. In many studies, champions have been hailed as heroes/heroines for successful innovation. The reasons that such discussion like multiple promoters is rising are the increasing complexity of innovation and national or industrial culture. Therefore, the following propositions were made:

Proposition 7: The high complexity of innovation needs multiple champions like various promoters.

Proposition 8: Distinctive organizational culture needs multiple champions like various promoters.

Proposition 9: Multiple champions, like various promoters, play different roles according to the initial and implementation processes.

Project manager/leader

There are two different discussions regarding the relationship between a project manager/leader and champion. One is a perspective that project managers/leaders and champions have different roles and different players take each role. Howell (2005) distinguished a project manager who is formally assigned and has to take responsibility overall the project jobs from champions who voluntarily commit to projects. Likewise, Lee et al. (2000) surveyed the impacts of the top management, project manager, and product champion on NPD performance. They considered the different roles and revealed that the top management supports a project manager’s skill, motivates a project manager’s ability, and gives authority to a project manager. They also mentioned that a product champion’s influence is important for NPD success regardless of cultural aspects. Alternatively, it is also clarified that different cultures affect the relationship between NPD project performance and some roles like authority concentration, project manager’s participative style and the existence of a product champion. Markham (2002) showed differences between the skills of champions and project leaders. Champions have special skills to seek project approval in comparison to project leaders. He insisted that champions also have abilities such as influencing tactics, relation building, business case writing, project management and overcoming opposition. According to this discussion, the clear difference between a project manager and product champion is formal presence, which is authorized by top management and informal appearance. As argued in the division of the innovation process, Markham (2013) and Howel and Bios (2004) stated that a formal NPD process starts after the top management's decision. Project managers are designated after that decision and manage only the implementation process. Product champion's activities start before that decision, implying a wider role for product champions.

Another discussion is that championship is one of the project manager’s/leader’s roles. Elkin and Keller (2003) considered that project leaders are responsible for managing the process and R and D group members. Therefore, project leaders should learn and play the leadership role. Furthermore, project leaders get into technical expertise and the ability of boundary spanner both inside and outside an organization (functional department). Such roles are common to champions. Additionally, Shim and Lee (2001) recognized that
championship is one role of project leaders. They discussed that influence tactics of project leaders as champions are significant to project performance. Likewise, Cooper and Kleinschmidt (1995) expressed that strong project leaders are champions who led projects to success. Those perspectives differ from the directions possibly created by certain factors. Kim et al. (1999) surveyed that being a champion is one of the R and D project leader's five roles in Korea. Such roles of champions are crucial success factors for technical innovation that includes internal activities and external agency to conquer resistances to radical innovation. However, they could not understand the importance of the champion's role as an R and D project leader and guessed that the low individualism within the Korean culture triggered differences with western studies. Blindenbach-Driessen and Van (2006) discussed the differences of success factors between project-based firms and functional-based firms. They compared some issues, including the heavy-weight project leader and product champion. Heavy-weight project leaders in project-based firms are less effective than those in functional-based firms. In such case, a product champion’s role is more significant. They clarified the cultural aspect of each firm related to the relationship between a project leader and product champion. In some cultural environments, project leaders cannot serve for innovation and product champions support him/her. Thus, many researchers’ groups pointed out the cultural aspects and process issues. Therefore, the following propositions were made:

Proposition 10: Product champions serve wider roles than project leaders in the initial and later processes.

Proposition 11: Project leaders play some champion roles in the implementation process.

Proposition 12: Project leaders need support from product champions according to organizational culture.

**Transformational leader**

The roles of transformational leaders overlap with those of champions. Beatty and Gordon (1991) identified the same roles and skills between champions and effective leaders/managers. Their issues are persuasion, selling, motivation, and political sensitivities. In comparison, Elkin and Keller (2003) and Howell et al. (2005) discussed a champion’s aspects as a transformational leader who has some qualities like intellectual stimulation, individualized consideration, inspirational motivation, charisma, matching abilities for types of organization and actions in earlier stage of the innovation process. Successful leaders in R and D serve internal team building and boundary spanning like project champions (Elkin and Keller, 2003). Howell and Higgins (1990) researched champion behaviors in technological innovation to compare with non-champion projects. They analyzed that the transformational leadership theory should adopt formally appointed leaders and informal product champions. Then, they tried extending the transformational leadership theory and revealed that champions are informal transformational leaders and that transformational leadership training was needed for showing the performance of championing behavior. Furthermore, Shane (1995) set the following four roles of champions: network facilitator, organizational maverick, transformational leader and organizational buffer. He stated that the role of transformational leaders is to persuade other members in order to support the project team, especially in the initial stage. He concluded uncertainty-acceptance society prefer the champion roles that include such transformational leader’s behavior.

Taylor et al. (2011) called the appearance of champions in the innovation process champion-driven leadership and a champion phenomenon. They described transformational leadership as differing dimensions of the champion process. In the three phases of the innovation process (initiation, endorsement, and implementation phases), project champions showed specific transformational leadership behaviors, especially in initiation. Their research quoted transformational leadership with two reasons. One is that champions of personality characteristics and behaviors are similar to those of transformational leadership. The other is that champions who commit to the environment issue often use transformational leadership. Kentrus (2017) illustrated the concept model regarding the innovation diffusion process and innovation champion attributes as one of the product champion types. Kentrus defined the boundary of the initial and implementation processes by before and after decision-making stage and discussed the different needed attributes of innovation champions. Networking and relationship development, persistence, knowledge, politics and enthusiastic support from transformational leadership theory are needed in the initial process. In the implementation process, networking and relationship development and political savvy are important. Alongside Kentrus (2017), Sergeeva (2016) emphasized the significant role of innovation champions in promoting innovation in the initial process inside of organizations as transformational leadership (p.81). They confirmed that innovation champions were seen in senior positions and processual aspects of their role were found (p.78). That role is similar to networking and relationship development, persistence, knowledge, politics and enthusiastic support in Kentrus’s (2017) definition. Therefore, the following propositions were made:

Proposition 13: A champion often expresses the attributes of an informational leader in the whole innovation stage.

Proposition 14: A champion as an informational leader shows different roles between the initial and implementation stages.
**Serial innovator**

Hebda et al. (2007) introduced the importance of serial innovators, originally calling them technical visionaries. In latter research, Griffin et al. (2007) defined them as serial innovators because these key persons repeatedly create appropriate market and technological visions, implementing them with commercial success. They have stacked much theory and knowledge through interview research and have released the whole perspective, including how to grow in a mature organization or how to become such key persons. These studies often focused on the relationship between the innovation process and role of serial innovators. Yoon (2020) emphasized important roles in the market launch phase. He discussed essential serial innovators’ role for the speedy development and timely launching of new products through science-technical engineering and business-marketing expertise. By contrast, Griffin et al. (2014) focused on the difficulties of the fuzzy front end (FFE) as the early stage of R and D. Griffin et al. (2014) also revealed that serial innovators have the knowledge and ability to conquer such barriers. They also surveyed the specific activities in the later stage that manage the formal organized development process and create market acceptance. Essentially, they asserted that serial innovators ensure the launch of hopeful innovative technological seeds. Furthermore, Sim et al. (2007) clarified the differences in NPD processes between serial innovators and other key persons, including product champions. In the former period of the NPD process, inventors play a role through individual activities to overcome technological obstacles.

Amid the middle of the NPD process, product champions work in the business and people’s field to break through conflicts among the departments and organization. Lastly, at the execution process, project implementers/managers achieve project goals such as adoption of the production process, transportation, or marketing strategy to launch the new products. Alternatively, serial innovators involve the whole NPD process. Serial innovator has technical expertise, market expertise and political guiding as core skills for involving. These researchers clarified such comparisons and the relationship between the following four types of key persons in NPD as the innovation process: inventor, product champion, implementer and serial innovator. They described that champions prefer depicting a big picture, solving people’s problems and coordinating with the organization to reach the goal. In this article, political aspects of product champions are emphasized when various key persons are simultaneously working. Serial innovators play the other key roles alone and seriously. Additionally, Sim et al. (2007) addressed two important issues: the existence of serial inventors, champions and implementers and the existence of different compositions according to innovation type. However, Sim et al. (2007) concluded that serial innovators work from the beginning to the end of the innovation process. Therefore, the following propositions were made:

Proposition 15: Serial innovators play wider roles than champions in the whole stages.

Proposition 16: Serial innovators work several roles of other key persons in the whole stages.

**DISCUSSION**

From the literature review, 16 propositions were gained. Table 1 shows the definition and roles of each key person as the summary of the article review. By setting 16 propositions, we found four issues. Firstly, key persons support each other. That is the essential reason many researchers underscored the importance of each key person. In particular, product champions stand in informal positions whereas project leaders are in formal positions. In such cases, their roles differ however, some key persons’ roles overlap. For example product champions play the roles of entrepreneurs or transformational leaders. Sponsors support product champions and project leaders when they need to obtain resources. Likewise, serial innovators support inventors in the former process, product champions in the middle, and project leaders in the latter. Secondly, key persons are changing roles according to the innovation process. Radical innovation always brings about difficulties such as technological and commercial barriers for organizations. The innovation process is not linear at times going back and forth and repeating to progress appropriately.

As a result, key persons’ roles should be flexible in the whole process as they play their roles according to each situation. When sponsors and product champions exist as different organizational members, sponsors provide the knowledge and resource to project leaders and product champions deliver the needed coordination with several departments for project leaders in each innovation process. Thirdly, roles are sometimes duplicated and change according to the innovation process. Then, the process of incremental innovation or improved products or services is already known and experienced. Some procedures are documented and become formatted. Formal key persons, such as project leaders, should obey these formal procedures, that is, their activities should be restricted. Alternatively, radical innovation processes usually require flexible reactions over such formal procedures because of unknown cases. Therefore, other key persons’ supports are needed. However, a product champion’s position is informal and unstable. A few cases reported that serial innovators or product champions served as gatekeepers in other projects and the two appear as an informal presence in some projects while serving as formal gatekeepers in others (Fujii et al., 2015).
Table 1: Comparison of the definitions and roles of key persons.

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<tr>
<th>Key person</th>
<th>Definition</th>
<th>Chief description of roles</th>
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<tr>
<td>Product champion</td>
<td>Contributes to successful radical innovations through the use of keywords (Schon, 1963).</td>
<td>Take risks in identifying, refining, and supporting innovations introduced by individuals, groups, and units within an organization (Sergeeva, 2016).</td>
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| Entrepreneur     | 1. Transforms ideas or inventions into new commercial businesses that play key roles in economic growth (Day, 1994).  
                    2. Willing to take deviant behaviors and preferences to the majority of organizational members (Shane, 1994). | 1. Exercise control of ventures and assume the risk of the business (Maidique, 1984).  
                    2. Obtain resources and sell ideas to those outside of the project group (Elkin and Keller, 2003). |
| Sponsor          | Person or group who provides support for project teams to acquire resources and protect new emerging productions (Tushman and Nadler, 1986; Gupta and Singhal, 1993; Day, 1994; Elkin and Keller, 2003; Ettrick and Rosenthal, 2012). | Support the development of promising ideas by providing resources to demonstrate the project’s viability (Markham et al., 2010). |
| Gatekeeper       | 1. Person or group who approves or disapproves the next step of NPD (Gupta and Singhal, 1993; Špacek and Vacík, 2016; Eliëns et al., 2018).  
                    2. Person who provides external knowledge to the internal organization for an innovation process (Tushman and Nadler, 1986; Kim et al., 1999; Elkin and Keller, 2003; Gemünden et al., 2007; Wilhelm and Dolfsm, 2018). | 1. Result in more complex dynamics than can be observed in our individual level gate decision experiment (Eliëns et al., 2018).  
                    2. Establish an information and communication exchange network, filter the information needed, assemble information from internal and external sources, and provide it to the organization and its workgroups (Gemünden et al., 2007). |
| Promoter         | Innovator who overcomes barriers, influences the organization, and creates distinctive value (Hauschildt and Kirchmann, 2001; Gemünden et al, 2007). | Technology promoter contributes specific technological knowledge.  
                    Power promoter uses hierarchical power to shield innovation from opposition and establishes it in the face of resistance.  
                    Process promoter derives influence from organizational know-how (Hauschildt and Kirchmann, 2001). |
| Project leader/manager | Is formally assigned and is responsible of the entire project jobs (Howell, 2005; Markham, 2002). | Interpret the market, understand the multilanguages of different departments, deal with engineering issues, communicate effectively inside and outside the team while guarding the concept, and resolve conflicts (Blindenhach-Driessen and Van Den Ende, 2006). |
| Transformational leader | Gets the support from other organizational members by the influence with high-level autonomy (Kentrus, 2017; Sergeeva, 2016). | Spans across the boundaries of the group and R&D organization to other constituencies inside and outside firms (Elkin and Keller, 2003). |
| Serial innovator | Creates and commercializes new products repeatedly (Griffin et al, 2014). | Responsible for integrating the creative market and technical insight, driving necessary invention, and moving a concept through the product development process and into commercialization (Hebda et al, 2007). |

Lastly, an innovation process is crucial for key person roles because of the requirements of flexibility by radical innovation. The degree of radicalization depends on the strangeness of the existing formal procedure of an organization. The beginning of an innovation process has many technological issues and some reiterated actions are taken amid the experimental trials. Therefore, such knowledge or know-how with technical aspects is needed for the roles of key persons. Although the implementation process has commercial issues to be settled, organizational recognitions are basically authorized and unknown concrete problems occur such as cost reduction, distribution system’s building, or purchasing the needed amount of materials. Different skills or talents from technology are required for key roles. Relatively, gatekeepers as a boundary of external and internal
organizations or technological promoters are needed in the initial process while project leaders and process promoters are very active in the implementation process. These four issues should also be surveyed in an actual innovative ground.

CONCLUSIONS

The present research aimed to comprehend the issues and relationship between key persons in the initial and implementation innovation processes by reviewing previous literature. For that, this research focused on product champions, because many researchers have noted their importance and discussed such champions extensively while considering their relevance with other key persons in the innovation process. This research started with discussing the division of the innovation process. In previous studies, some researchers divided into four, five or eight parts the seeds in the R and D department to the selling products/services in the market. The innovation process can be divided into two parts: the initial innovation process and implementation process. The initial innovation process includes the front side of development with so-called FFE and incubation of new business ideas as seeds of radical innovation. The implementation innovation process is executed by groups or teams with projects and solves concrete problems such as production, procurement, distribution, promotion, adjustment to market demand and after-service. Such a border of two innovation processes is recognized as the official commitment by executives. The former process of the official commitment by executives is the initial innovation process and the later process is the implementation innovation process.

This article identified seven key persons for comparison to product champions. The differences in roles were reviewed in relevant literature and 16 propositions were acquired. The innovation process types are crucial to the key persons’ role and those types are influenced by the characteristics of the products and services. Therefore, comparisons between industries were addressed and two more propositions were acquired. The final step summarized this research. We clarified the definition and roles of each key person by suggesting the table and four significant viewpoints. Those suggestions are based on the comparison between product champion and other key persons in the two innovation processes. Product champion and other key persons are supporting each other, changing roles, replacing their roles, reflecting the innovation type and influencing the innovation process.

REFERENCES


