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THE INFLUENCE OF INNOVATION PROCESS ON ORGANIZATION PERFORMANCE: ANTECENDENT AND PERFORMANCE EFFECT

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Abstract: *This paper reviews the role played by an innovation process in enhancing the organization performance, and support by the antecedents which are leadership style and organizational lever. The constructs of this study are based on a comprehensive review of recent literature on innovation process, organization performance and those antecedents. A detailed discussion revealed the importance of innovation process implementation in ensuring an organization's survivability and competitiveness. The increase of Municipal Solid Waste (MSW) generated over the last years forces the authorize body pursuing more effective system, technically viable, environmentally effective and economically sustainable. Hence, the demand to protect the continuity of critical business services in the MSW industry of an unforeseen disaster or disruption has become more critical than ever. Thus, the suitable framework needs to construct for MSW organization. In summary, innovation process might have positive relationship on organization performance and the existing of those antecedents as supporting factor towards independent variable (innovation process) may contributes to better performance by enhancing the process.*

Keywords: Innovation process, organization performance, leadership style, organizational lever.

Introduction

Most of the scientists today agree with the notion that humans are spoiling Earth's ecosystems (Cohen & Winn, 2007). Although, there has been extensive economic growth and increase in the quality of life over the last century, concern remains that the era of industrialization has had substantial negative effects on the natural environment and these effects have led to reduce the dynamism and sustainability of our economic systems (Dean & McMullen, 2007). According to Goh (2007) due to rapid urbanization development, solid waste is turning a major public health and environmental concern in many developed country and this has gained increased political awareness. Waste management lacks glamour, but is vitally significant to the survival of communities (Ogawa, 2007; Achankeng, 2004). Solid waste is in turn split into different sorts of waste, for instance, municipal waste, industrial waste, hazardous waste and clinical waste. Therefore, a considerable risk exists for sub-optimization if not an all-encompassing perspective that encompasses all varieties of dissipation is applied and management of municipal solid waste is one of the major challenges worldwide. Inadequate collection, recycling or treatment and uncontrolled disposal of waste in dumps, lead to life-threatening hazards, such as health risks and environmental contamination. Therefore, making changes is required to reduce the waste of resources and emission of pollutants. Moreover, Sales et. al., 2006 said the effective control of the generation, storage, recycling and reuse of waste is of dominant importance for proper health, environmental protection, natural resources management and sustainable development.

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Organizational Innovation

The organizational innovation study was done by Kessler (2004) shows that organizational innovation is an inadequate including the implementation of a device, strategy, product, service, system or policy that is contradictory to the organization. Innovation is concerning coalesce what is or what is known from the ended in order to produce fresh or singular ideas. Disruptive innovations also use what is known from the past, but generally present concepts that have been used in all different industries and result in a transformed in the away the company or the marketplace functions. Innovations, on the other hand, are discovering the developments, closely original and have never been done anywhere else before.

Productivity and quality are not the only drivers that accelerate organization's survival. This is due to the state of change in business surroundings, which has turn more competitive. In this context, innovation has been understood as another level of Excellency, played a larger role in enhancing and sustaining a high performance system in building competitiveness (Gopalakrishnan & Damanpour, 1997). Innovation refers to the carrying out of new or better-quality product (good or services), process, marketing technique or organizational technique in the organization (Jiménez & Sanz Valle, 2011). Moreover, innovation is one of the leading key force stimulates growth of new merchandise, creating new markets and transform industries to confront global competitiveness (Menguc, & Auh, 2010). According to a survey of investing innovation for the year 2010 indicated that forty to seventy percent of the organizations in many countries invested in innovation lead to higher sales and productiveness (OECD, 2010). In knowledge of this, it is important for organizations to innovate as a necessary essential in order to obtain exalted performance levels. This has given indication that industries need to harness innovation to achieve the sustained and steady effect on system performance (Damanpour, 2014).

Problem Statement

Rapid population growth, increasing in urbanization, fast growth of infrastructure, changing lifestyle and economic conditions contributed to increasing in waste production nowadays. Furthermore, Guerrero et. al., (2013) reported one to two thirds of the solid waste generated is not collected and poor waste handling can pose dangers to the surroundings and to public health. Lu et. al., (2013) agreed that the uncoordinated approach and poorly managed to waste management practices shows the uneffective management of solid waste. Moreover, other factors attribute to uneffective management of solid waste including unhealthy cultural attitudes and habits, urbanization patterns, population growth, non-mechanized waste disposal methods and poor financing of the sector.

The very early idea of innovation was introduced by a social scientist, Joseph Schumpeter in 1936 (Bowen et. al., 2010). Since then, there were numerous studies was conducted to study the relevant events related to innovation. Various issues discussed include: contributing factors or determinants, types of innovation, theoretical perspectives on innovation, definitions, its impact on performance, implementation and the drive of innovation in organizations. These were performed by namely; Smith, Busi, Ball, & Meer (2008), Ar & Baki (2011), and Sung, Cho, & Choi (2011). In order to address those remonstrance, understanding the possible benefits of innovation along the organizational performance is important to present a proper merit to the innovation process and attract attention and subsequently, obtaining full support from the management. An antecedent is also important to assist in understanding the complexity of the innovation process (Narvekar & Jain, 2006). Relatively, it is claimed that little is known about the antecedents and how it drives through innovativeness to influence performance (Peng, 2007). Long and Yuan (2010) have consistently explored the antecedents, processes and outcomes of strategic innovation, however it causes still to be proven.

The first antecedent is leadership style. At that place were many studies recognized the importance of leadership in implementing innovation such as (Barsh, Capozzi, & Davidson, 2008; Denning, 2010; Jansen, Vera, & Crossan, 2009; Ven, 1986). Yet the relationship between leadership as antecedent and innovation process is specifically limited. Elenkov, Judge, and Wright (2005) found that strategic leadership to deliver a strong positive relationship on both product-market and administrative innovations. Although a critique is conducted with regard to the influences of leaders in the innovation process, however the review only emphasized on the dissimilar types of innovation (Friedrich, Mumford, Vessey, Beeler, & Eubanks, 2010). This is also similar to Stamm (2009) who pointed that a leader needs to be clear about selecting different level of innovation such as incremental and radical and implementing it. The demand to examine the leadership style at one of the antecedent variables is also supported by Friedrich et al. (2010). According to the source, previous research with regards to intervention of leadership on innovation process is not consistent.

The second antecedent of the study is an organizational lever. Organizational levers are important in the organization to maximizing business operation and precision (Chad, 2010). For instance, organizational levers enable organizations to control the current styles to enhance their innovation (Ginzburg, 2006). Organizational levers are found to have high impact on three areas include value proposition, value network and target customers (Pletcher & Mann, 2013). According to David (1996), there are numerous of levers that have been utilized in the organization and it is complex and often overlaps. Chad (2010) has included leadership factor as one of the organizational levers to build a strong society. Thus, this work concentrates on organizational levers as suggested by Crossan and Apaydin (2010): strategy, construction, resource allocation, organizational learning and knowledge management and cultivation.

Blumentritt and Danis (2006) noted that strategy is important to overcome the organizational challenge and it also functions as a basis for innovation. Application of the strategy in the innovation management of municipal solid waste management was found to be crucial to differentiate the types of innovation and also the innovation performance (Pullen, Weerd-Nederhof, Groen, Song, & Fischer, 2009). Moreover, findings also indicated that the utilization of strategy would also raise the innovation process (Liang-Hung & Chun-Hsien, 2008). Similar to strategy, structure is also an important organizational lever. It has proven that structure's role is important for innovative organizational and has set a standard foundation for innovation process. This is in line with previous research, which conceptually portrayed that organizational structure influence the ability to manage innovation (Smith et al., 2008). However, there were also, studies have indicated the role of structure with the types of innovation instead of the innovation process itself, such as Menguc and Auh (2010) and Wei, Yi and Yuan (2011). It is noted that organizational levers are interrelated and supported each other (Smith et al., 2008). For illustration, the strategy is enforced through the structure (Crittenden & Crittenden, 2008) and culture had impacted other levers and also changed those levers (Smith et al., 2008). In fact, the role of knowledge management and also organizational learning are also connected to each other. Based on the previous findings the relationship between organizational levers and innovation was established, however, did not specifically focus on innovation process. Furthermore, each lever inters related to each other and the relationship is also existed independently. The application of organizational levers as suggested by Crossan and Apaydin (2010) would also in occupation with the theoretical perspective as innovation process interlink with the resource view and a capability view (Muller, Valikangas, & Merlyn, 2005).

Particularly, the main gaps in the present literature observed in this study lies in the lacking studies, which have considered and established the relationships between innovation process and organizations performance. Henceforward, the real objective of this study is to extend the inadequate literature on the relationship that occurs between innovation process and organizations performance. As for the organizational performance dimensions, this study will consider non-financial indicator as performance measurement. Antecedents are seen as a driver of innovation process, this research will also explore the influence of those antecedents on the relationship toward innovation process.

Literature Review

Innovation Theory

Mol & Birkinshaw (2009), in his reappraisal of the innovation literature, notes that innovations can be a process, product, service, or business concepts; incremental or radical; sustaining or discontinuous; and can denote to an innovative process of an organization or end product. According to Huang et. al., (2010), an innovation does not need to be new and a relative improvement over the adopter's current processes is considered an innovation and innovation can refer to activity at the individual and organizational level, and, therefore, innovations can be adopted at both levels. Management innovations, to a greater extent than any other case of innovation, have propelled organizations to new performance thresholds (Evangelista & Vezzani, 2010). On the other hand, even if organizations did not achieve better economic performance, firms were ranked as more highly admired and more advanced when they were associated with a management innovation (Hollen et. al., 2013). Therefore, in today's world of increasing competition, the ability to leverage innovation capabilities and manage the innovation process is vital. Moreover, according to Polder et. al., (2010), Schumpeter in 1936 was formerly described the meaning of innovation in the context of economic development as new combinations of productive resources.

Type of innovation

The dissimilar type of innovation has been indicated by earlier exploration study. According to Li et, al,. (2010), there are three categories of innovation; product and process, radical and incremental and administrative and technical. Those categories have benefited either the most attention or most constantly employed. Moreover, Li et. al., (2010) said in their study the an exploratory innovation and exploitative innovation with the aimed to explore the organization innovation activities on public presentation. Exploratory innovation refers to radical innovation such new design, new market segments and new distribution channel while exploitative innovation is incremental innovation aimed to improve current situation such as improve established design, enhance product line and increase efficiency (Li et al., 2010). Belso Martínez et. al., (2013) has named two cases of innovation to evaluate the effects of marketing and organizational innovation strategies on technological performance: technological and non-technical innovation.

Damanpour & Aravind (2012) shown a wide-ranging literature review between year 1960 to 2007 on types of innovation has produced innovation type mapping tool and discovered four type of innovation: service and hybrid which is it mix between service and the product creation; product innovation which refer to product, process innovation which bring up to management and business system administrative, production, organizational and last but not least is technical; position innovation which refer to marketing or commersial innovation and to some extent business system innovation and paradigm innovation which is related to position innovation. Table 1.0 shows innovation studies by several researchers.

Table 1.0: Previous studies on innovation.

Scholar	Finding
Nasrudin et. al., (2004)	The study showed organizational structure has an impact on organizational innovation. Organizational innovation is categorized into three forms: administrative innovation and product innovation, technological and process innovation. The formalization and centralization structures have positive effects on administrative innovation, but did not have any impact on technology and process innovation and also product innovation. It has been suggested to use more formalized worker process and centralized decision making to foster administrative innovation.
Govindaraju et. al., (2005)	The study analyzed assessment on innovation systems in Malaysia through three main indicators: input, output and innovation indicator. It is found that Malaysia was lacking in setting suitable mechanism to accelerate the process of innovation in the country.
Ibrahim et. al., (2008)	The study analyzed widely about organizational asset such strategic business planning, internal communication and utilization of professional staff, favorable organization structure, floor employees sources of innovative ideas, education and training, marketing activities and teamwork.

Organization Performance

Organizational performance often is the primary focal point in the organizational management studies (March & Sutton, 2003). Objective to improve and increase in performance is manifested in most subject areas because it inquires about understanding competitive survival of an organization and reaction of its environmental adaptation (March & Sutton, 2003). Emphasis on organization performance, or in this context of written report, organization performance indicates that it is an important indicator and the concept is really usual in academic literature (Gavrea et. al., 2011). Scholars have focused on explaining organizational performance from several positions. For example, the definition of performance evolved according to

organizational context and its focus on work, people, organizational structure, organizational ability to exploit resources and the ability of systems to carry out its goals (Gavrea et al., 2011).

Organization Performance and Innovation

In tracing the connection between innovation and organizations performance Gopalakrishnan (2000), claimed that different dimensions are related to different standards of functioning. In this context, performance has included, the efficiency related measures and effectiveness related measures. The writer has also conceptualized the financial and non financial measures which according to Gopalakrishnan (2000), financial measures used are a return on investment, return on asset and net income growth whereas the non financial measures are the employee's rating on overall effectiveness. This has signified a range of ways innovation could be linked to organizational execution. As an act to attempt or enhanced performance, the organization introduced alterations in their structure and processes. According to Damanpour & Evan (1984) an empirical survey of organizational innovation and performance point toward that high performance organization has a greater implication between the pace of innovations in their technical and social system. This implies that the rate of relationship among people in the organization who interact to achieve innovation goals with those masses in the technological system that directly pertained to the elemental activity in an establishment. This work has demonstrated the involvement of together, expert and organizational innovation in the system performance. Damanpour & Evan (1984) discovered that administrative innovations have potential to change an organizational climate, personnel policies, interdepartmental relations, and the communication. Also, it might have better impact in the long period on the operation all together as compared to technical innovations. Damanpour & Evan (1984) also found degree of innovativeness and performance could be determine through the ability of governing bodies to maintain a correspondence between their social and technical systems. In this context, performance is the ability of an establishment to deal with all four processes, namely inputs, outputs, transformation and feedback effects.

The relationship between innovation process, innovation types and organization performance has been empirically studied by Gunday, et al (2011). In this subject field, organization performance refers as a modern performance, production execution, market execution and financial performance (Gunday et al., 2011). The innovation is categorized as organizational innovation, marketing innovation, and product innovation and last but not least is process innovation. An increase in financial performance occurred as the effect of increased market and production operations. Gunday et al., (2011) findings supported the innovation strategy as the main driver of organizational functioning and should be performed as an intact portion of business strategy in boosting operational performance. A significant of organization’s market performance is possibly reached bthrough prioritization of organization innovation and cope the innovation based on strategic view. Based on Li et al., (2010) the exploratory and exploitative innovations have a positive effect on an organization's performance. The exploratory innovation is the extremist type of innovation, which pursues the new market segment for emerging customer while exploitative refers to incremental innovation meant for improvement. So, fit between the two is needed in terms of two complement each other and to establish balance effect on operation. Li et al., (2010) also said an organization requires to make known to exploratory innovation in dynamic environment in order to see the growth and hold out of premium market segment, but retain their current business system with the low cost and risk exploitative innovation in less competitive environments to improve system performance. Henceforth, the internal fight between exploratory and exploitative innovation, whether fit as moderating or matching has no substantial effect on organizational functioning. Furthermore, Li

et. al., (2010) believed the governance strategy has an important effect on organization performance. The above discussion shows the relationship between innovation and organizations performance. Whether conceptual or empirical, both have observed a positive influence of innovation on organization. It is found that organisation performance has been delineated in different ways and different perspectives depending on the context of innovation surveys. Table 2.0 demonstrated the measurement of organization performance used in the previous innovation studies.

Table 2.0: Sample Of Previous Studies on Organization Performance Measurement

Author/s (Year)	Organization Performance Measurement
Damanpour and Evan (1984)	Eleven performance indicators which are categorized under five types of measures: efficiency measure, service bar, input measure, output measure, subjective measure
Han et. al., (1998)	Line of work performance measures was assessed for growth and profitability
Kempt et. al., (2003)	Turnover growth and Employment growth
Baer and Frese (2003)	Use subjective performance: Firm goal a achievement and return on asset.
Hult et. al., (2004)	The accomplishment of organizational goals related to profitability and growth in sales and market share, as considerably as the achievement of general organization strategic goals.
Prajogo (2006)	Business Performance: sales growth, market and profitability.
Akgün et. al., (2009)	Performance compared to the main competitors (5 point scales): Sales, Market shares Profitability, Gross Margin, Market Value and Return on Investment
Seokin et. al., (2009)	Productivity (individual)
Li et. al., (2010)	Performance compared to the main competitors by using 5 scales with regards to market share, turnover, profitability, asset development, turnover rate and staff morale.
Camison and Lopez (2010)	Economic performance and satisfaction performance
Phromket et. al., (2010)	Invest (money) in executing business
Gunday et. al., (2011)	Market Performance and Financial Performance

According to table 2.0, there were many types of indicators used to assess organization performance in the context of innovation study. Broadly, the summary table showed that organization performance were evaluated according to the objective measures, subjective criteria, fiscal bars and non-financial measures.

Innovation Process

According to Ortt & Duin, (2008) the innovation process is described as the execution of activities at respectively all stage of the innovation development and a structured innovation process that is grounded in an organization will focus more on generating and expecting the customers forthcoming needs rather than the organization which operate without a more defined innovation process (Harper & Becker, 2004). This is because Desouza et al., (2009) also agreed that in that location will be a procedure in evaluating and screening of ideas, established procedures and have a structure for management of ideas from their commencement to commercialize.

The innovation process is known as a stage of the process which started from strategic planning, innovation planning, generating idea, screening, project selection, task development, market test, production, market entry and innovation controlling (Gerybadze, et al. 2010). Gerybadze et al., (2010) saw the definition indicates that the innovation process is complex and in need of on each other and also it has punctuated the importance to observe the innovation from different

perspections such as process or performance related, product or project related, strategy related, market related, and culture related.

Innovation process could help organizations to examine innovation pattern. In a case study, it is found that the innovation activities in the facility management are an incremental of routine action and therefore innovation process is defined as management process of multiple actions, calling for multiple actors from one or various organizations during combinations of means or ends which are new creations, adoption, development, transferred and implemented (Lendel, 2014). In this instance, the innovation process is considered within an organisational environment that is from decision to innovate, input, throughput to output and finally affect organizational performance. The concept of input-output style of innovation process similar to other subjects such as (Hervas Olivier, et al., 2012) and (Polder et. al., 2010). It is noted that the input, output style is conceived a process approach because it differentiates between input, throughput and output stage (Huang & Rice 2012). Founded on these definitions, innovation process involves a serial publication of activities internally where various inputs, factors and also variables are used when an establishment guarantees innovation. It is mentioned that this phase involves almost all means included employees, resources, strategy and civilization. It is noted that the numerous definitions given by previous scholars indicate one thing in common which is an innovation process involved a series of steps, phases or stages and it is found that the advantages of the stage type ensured better quality in the innovation process (Bergfors & Larsson, 2009). Thus, the above definitions have provided guidelines for researcher to define innovation process for this work.

Antecedents

Leadership and Innovation process

Leadership is viewed as an internal competitive force to further innovation. In a research of 600 global executives and professionals, it is reported that leadership is the best predictor of innovation performance (Barsh et al., 2008). This flask be understood through its part in affecting the center value of the organization, influence on the social psychology of its members, involved in the processes of decision flows and become formal and informal rule sets of individual and groups (McMillan, 2010). As innovation is an evolving activity, the complexity of its process demand more than a simple structured traditional task of leadership (Denning, 2010). In the innovative nature, it is noted that the new management is more revolutionary in terms of achieving goals towards continuous innovation, value, working in self-organizing teams, forward motion is measured through customer delivering value and improvement process is more interactive (Denning, 2010). Therefore, as to fulfil with these demands, the approach of leadership must complement with the whole process of invention. In coping with innovation, there were many studies emphasized on leadership importance, such as leadership style, role, skill and abilities such as (McMillan, 2010), (Bel, 2010), (Krause, 2004), (Jansen et al., 2009), (Friedrich et al., 2010) and (Gumusluoğlu & Ilsev, 2009).

Effective approach of leadership is demanded to encourage innovation inside the system. This due to competitive forces such as core values and the social psychology of its members that will pretend the decision making process (McMillan, 2010). Therefore, to be effective a leader must have the capacity to take heed, to incite, to learn, must have skills and competencies in order to achieve high organizational innovation (McMillan, 2010). In collaborating with the skill and abilities of being a serious leader, in that respect are many modes of leadership portrayed by previous studies to confront with innovation such as transformational and transactional (Bossink,

2004a). According to Bossink (2004a), the degree of managers facilitates their subordinates to be modern is measured through transformational-transactional leadership. In that respect are three factors describing transformational leadership as charismatic, individualized consideration, intellectual stimulus and two elements describe the transactional leadership: contingent reward and management by exception. Both transformational and transactional leadership behaviors contribute to management innovation (Vaccaro, Jansen, Bosch, & Volberda, 2010). Smaller and less complex organizations benefited more from transactional leadership in realizing management innovation. On the other hand, larger organizations need to pull in on transformational leaders to compensate for their complexity and allow management innovation to flourish (Vaccaro et al., 2010).

Notably, innovation in the constitution would also depend on innovative behaviour of employees. Transformational leadership relates to followers' innovation implementation behaviour (Michaelis, Stegmaier, & Sonntag, 2010). According to Michaelis, et al. (2010) companies should invest in transformational leadership training and select supervisors with this form of leadership style before initiating innovation. In a case study of innovative construction projects, the application of innovative leadership is proven (Bossink, 2004a). Innovative leadership style covers four factors: charismatic, instrumental, strategic and interactive. It is found that in instrumental leadership style, leader started to control the innovation process and the structured the process. Strategic leadership implied where leader started to commit project members to innovation and then enable project members to be ground breaking. Interactive leadership started cooperating with innovative project members and the developed additional leadership in the establishment. While charismatic leadership exists when leader energized project members, communicated with a vision and then sped up the innovation process (Bossink, 2004b). Notwithstanding, when information, knowledge and competence of personnel were injected into the project, it has assisted in stimulating project innovativeness as compared to plan without those injections (Bossink, 2004b).

Strategic leadership contributes to increase innovative efforts and innovation positive result. According to Carneiro (2008), the need to acquire, improve execution and quality always demands for variety. Therefore, a strategic leader has to understand how to link leadership approaches to the needs of higher functioning points. For example, in that respect are three aspects contributing to strategic leadership, namely knowledge, innovation, challenge and the needs to change (Carneiro, 2008). Besides these aspects, various considerations are required to perk up the innovative effort such as quantifiable goals, innovation culture and program, knowledge and training education and value of teamwork (Carneiro, 2008). Similarly, the strategic leadership is found to bear an influence and moderating effect of top management team tenure heterogeneity and social refinement. This is as well confirmed by other surveys, which found strategic leadership to sustain a strong positive relationship with executive influence on both product-market and administrative innovations (Elenkov et al., 2005). Transformational leadership behaviors contribute significantly in pursuing exploratory innovation while transactional leadership is linked up with exploitative innovation (Jansen et al., 2009). In the dynamic environment where the pace of change (technologies, client preference and fluctuation in product demand or provision) is unpredictable, transactional leadership is not suited for the learning process that challenges the institutional learning. Therefore, transactional leadership had a negative effect on exploratory innovation (Jansen et al., 2009). Friedrich, et al., (2010) claimed that previous research on the intervention of leader at multiple point and across stages of the invention process is not logical. Leaders accept the exclusive chance to influence innovation at every stage and across levels of introduction. In this context, Friedrich, et al., (2010) suggested

the influence of leadership characteristics in terms of expertise and creative problem skills towards the product, process complex, and simple innovation. Expertise is an acquired skill and knowledge gathered from experience and practice while creative problem skill refers to the ability of a leader to push creative effort, which facilitate innovation (Friedrich et al., 2010). Agreeing to this author, technical expertise and generative problem skills are more beneficial for product introduction. Spell for the process innovation, it is suggested that organizational expertise and evaluative skills are more beneficial. Nevertheless, for complex and simple innovation, both expert and organizational expertise is required. On the other hand, evaluative skills are advised to focus along the long-term outcome in the complex innovation where this type of science focused on the contribution of thoughts.

Prior work has indicated conceptually the importance of transformational leadership at different phases of the innovation process (Waldman & Bass, 1991). Nurturing and persistence are two distinct functions that are conceived to be identified in an innovation process. Granting to the author, nurturing role is oriented toward the growth and support new ideas while persistence is about the determination of a leader to keep the vitality and enthusiasm related to idea generation through realization and diffusion of innovation in the form of products and processes (Waldman & Bass, 1991). In summation, the two characters are affected by four transformational leadership factors: individual consideration, intellectual stimulation, charisma and inspirational leaders. This has demonstrated that leadership behavior can play significant role in innovation where the nurturing and persistence are necessary to establish a combination of individuals at each form of the invention process (Waldman & Bass, 1991).

Leadership would contribute to innovation success if we could examine the role and responsibilities in terms of level and phases of the innovation process. In this setting, it would be more specific and diagnostic to reflect on innovation efforts that break because of leadership issues (Storti, 2006). According to Storti (2006), these leadership roles are considered strategic and applied to a single leader or to a leadership team along the five phases of the innovation process: preparation, invention, validation, development and cultivation and implementation. According to Stamm (2009) pointed that a leader need to search for innovation opportunities, be clear about selecting different level of invention such as incremental and radical and implementing it.

The introduction process is also viewed in two key steps: idea generation (the front end) and conceptualization (the back end) (Bel, 2010). The first step involved uncertain condition and requires creativity and vision while the second step requires discipline and efficiency. Therefore, in this context, two dissimilar forms of leadership are needed. Since the inaugural stage of innovation process involved idea generation, employees' behavior towards innovation process depended on leader influence to conduct and stimulate idea generation and application in organizations (Jong & Hartog, 2007). In a study on how leader influence on employees' behavior, thirteen leadership behaviors were found to be relevant. These behaviors are an innovative role model, intellectual stimulating knowledge diffusion, providing vision, consulting, delegating, support for innovation, organizing feedback, reward and acknowledgment, providing resources, monitoring and task assignment (Jong & Hartog, 2007). With these behaviors, there is potential for idea generation and opportunity exploration to be enhanced by directly stimulating and probing employees. According to Bel (2010), successful innovation leader is qualified by: a) mix of emotion and realism, b) acceptance of uncertainty, risk and failures, c) high degree of passion, d) the willingness to proactively search for external technologies and ideas, e) the courage to finish the project but not merely to begin them and f) talent for attracting innovators, building and steering winning teams.

The above attributes also shared common traits such as will and humility, skill and abilities, specialist and generalist (Bel, 2010). So, from these explanations, innovation, leadership involves diverse roles, powers and strategic orientation across organizational level and its innovation life cycle (Bel, 2010). Granting to the author, innovative leadership role is about inspiration of generating estimates, a imagination and strategy together in building organizational structure and flexible culture with the objective to enable the process of invention. Likewise, innovation leadership is also important at the soul and also group level. Thence, the attributes, traits, skill and abilities would influence the organization success rates in implementing change and driving organization (Bel, 2010; Crossan & Apaydin, 2010).

Grounded along the above discourses, it is mentioned that the leadership influence is important as antecedent to innovation context. It is noted that virtually all elements in transformational and transactional leadership style contribute to modern leadership. For this work, researchers will study the leadership dimensions, which are founded on its attributes that encourage innovation. Hence, leadership refers to the innovative leadership comprise of abilities, skills and competencies that appropriate to lead creatively, strategically and effectively to enable innovation process at the governance layer.

Organizational Lever and Innovation Process

Organizational levers are basic formation of any organization that must be connected in order to maximize the business performance and precision (Chad, 2010). According to Ginzburg (2006), levers enable organizations to master the current styles to enhance their innovation. With the current economic state of affairs, most clubs are struggling within seven types of organizational levers namely: strategy, structure, leadership, information and decision procedures, people, culture, reward and incentives (Chad, 2010). In one of the best study on enlightening new mindset for business innovation, organizational levers operate as a technique that facilitate organizations to higher points of innovation as well as its sustainability and from the perspective of innovation, organizational levers are set up to have high impact on three areas include value proposition, value network and target customers (Pletcher & Mann, 2013).

The importance of organizational levers, which involved structural and skill were proven in building a capable organization (Crittenden & Crittenden, 2008). Consequently, an establishment needs to have a clear discernment of each lever role so that it could really bring impact on the organization's ability to succeed (Crittenden & Crittenden, 2008). According to David (1996), there are numerous of levers that have been used for organizational change, which is complex, and often overlap. Thus, this work concentrates on organizational levers as suggested by Crossan and Apaydin (2010).

In a taxonomic critique of organizational innovation, Crossan and Apaydin (2010) have proposed organizational levers, which include meta-construct consolidating organization level variables that hold up innovation. Since this survey is concentrating on innovation implementation at the establishment level, it is practical for organizational levers to be used every bit single of the antecedent variables. As for this study, the researcher utilizes five types organizational levers namely: strategy, construction, resource allocation, organizational learning and knowledge management tool and culture (Crossan & Apaydin, 2010). The following discussions describe each of the organizational levers applied in this field.

Strategy is the first organizational levers. Strategy is perceived as a continuous management activity (Drejer, 2006; Li et al., 2010). Aside from being the most necessary form of bodily process in the organization, strategy also acts as a base for innovation. In parliamentary law to

overcome organizational challenges that might come about from potential troubles with existing resource endowments, capabilities and organizational procedures, strategy are highly needed (Blumentritt & Danis, 2006). Granting to the informant, the analysis strategy promotes incremental innovation by improving efficiency through product enhancement while the prospector strategy promotes radical innovation focused on marketplace opportunities and emerging trend.

Innovation implementation varies among organizations with a different strategic orientation of between defender, analyzer and prospector (Blumentritt & Danis, 2006). It is set up that the prospector was dedicated to innovation (aggressive type of idea generated from manager level) as compared to the defender and analyzer. The defender uses other ways to maintain innovation efforts such as price and cost cutting, and exceptional relationships with their customer while analyzer operates innovation via combination of those used by prospectors and defenders. This signifies that the strategic orientation played an important part in how innovation process is managed among organizations. The above findings were important because strategy concerned with the survival of entire systems and involved large portion of resources. (Drejer, 2006).

Innovation took place when there is a new competition arises. This implies that the new business concept is expressed in the sense of value creation. According to Drejer (2006), value creation processes are the basis on how the wares or services are designed, developed, produced, distributed and marketed. In prospect of this, the strategy needs to represent innovative thinking about new activity, translating business ideas into market, resources and social system and finally working within boundaries available.

As noted in earlier discussions, the strategy adopted towards innovation implementation was varied across organizations. An establishment needs to seek an optimal balance when formulating innovation strategy. Established on their work, the contribution from outsourcing strategy was found to cause a smaller impact on invention as compared to internal R&D strategy. This entails that the strategy adopted must take into account factors such as price and the duration involved in the invention process. In this context, the integrated innovator refers to companies that implemented innovation in highly uncertain environments such as high rate of technological change and competitive marketplace.

Apart from being specific in using the business scheme, corporate strategy or specific innovation strategy, there is also a combination of other type of strategy, which would promote the innovation activity. A case study research of Chinese firms done earlier by Xu, Liu and Chen (2002), has argued the role of knowledge strategy to be integrated with technical innovation. Referable to the quick changing environment, it is important for organization to articulate with the knowledge strategy so that it would stimulate innovative activities to insure that their companies are efficient and efficient (Xu et al., 2002). According to Liang-Hung and Chun-Hsien (2008), the roles of corporate strategy such as specialization and cost leadership have enhanced innovation process. In this setting, the differentiation strategy focused on making new market via new products while the cost leadership strategy focused on low price and efficient production (Liang-Hung & Chun-Hsien, 2008).

The following discussion focuses on structure, the second case of organizational lever used in this field. The construction of an arrangement refers to the way employees are grouped and work. Thus, establishments should provide sufficient freedom during the innovation implementation for creativity as well as able to manage innovation efficiently (Adams et al., 2006). Granting to the organizational theory, the structure is about distribution of tasks, responsibilities and power to determine organizations, standardization, complexity and the extent

of the centralization role (Shen, Xu, & Shu, 2010). Structure can be tailored to impact innovation activity of the system and it also helps to determine a balance between idea generation and implementation (Prakash & Gupta, 2008). A survey of the manufacturing sector in India unveiled a significant positive relationship between horizontal structure and perceived innovation and also between formalization structure and perceived innovation. In this context, the formal structure helps innovation to become efficient through the various regulations and processes and this contributes to employee's commitment. This is contradicting to centralization context as it would not allow flexibility in decision making and employee empowerment. Hence, finding has showed a negative significant relationship between centralization and perceived innovation (Prakash & Gupta, 2008).

According to Keely, Pikkel, Quinn, and Walters (2013), structures are focused on organizing company asset, namely: hard, human and intangible in unique ways to create value. Therefore structure communicates the substance of various divisions of organizations are configured with an organization's power to manage innovation (Smith et al., 2008). Social organization can differentiate between modern and non-modern organizations (Adams et al., 2006). A case study in Thailand has proven that structure's role is important for modern organizations. In this context, structure has transformed the participating organization to motivating employees' creativity, boosting innovative culture and defines a standard base on the invention process (Wichitchanya et al., 2012). This is in line with previous research, which conceptually portrayed that organizational structure influence the ability to manage innovation through its direct relationship with employees (Smith et al., 2008).

A research conducted by Chang et al. (2011) has discovered that the internal organisational structure which is based on centralized decision making and interdepartmental connectedness stimulated the innovation at organization level. (Chang et al., 2011). Notwithstanding the extent of how structure influence depended on type of innovation. For instance, as portrayed in the study relationship between the functions of organizational structure towards product innovation capabilities, the impression of radical product innovation capability on new product performance is insignificant under a conventional structure, while the result under the informal structures is positive (Menguc & Auh, 2010). Equally for the incremental product innovation it has a positive outcome in the formal social organization and negative effect in informal structures (Menguc & Auh, 2010).

At that place was also empirical evidence of the work of Terziovski (2010) indicated that a formal structure combined with innovative strategy. Various items used to measure the formal structure stressed on the allocation of resource within the cross functional teams, monitoring system by the employees, facilitation of formal communication by managers, procedures and flat structures (Terziovski, 2010). The inquiry is in fact backed by one study that demonstrated the evidence of organizational formalization increase the positive result of bottom-up learning on the incremental innovation due to the understanding that employees focus more on the dynamic modification of the job (Wei, Yi, & Yuan, 2011). It is noted that structure blend together with other elements such as strategy, system, the type of innovation and the employees.

The organizational structure also requires balancing the demands for efficiency and flexibility in the high technology firms. This is required in parliamentary procedure to facilitate innovation and adapt the dynamic modification of environment (Sholes, Barnett, & Utley, 2011). In a stable environment in terms of demand, competitors, low level product change, it is best suited by centralized decision making, formal job description and, emphasis on chain of command and well process control (Sholes et al., 2011). This position happens when the organization organized

in centralized structural forms, which encourage efficiency. On the other hand, decentralize structure is fitted for the dynamic, complex technologies and competitive instable environment (Sholes et al., 2011).

Furthermore, the situation also differs according to innovation types. Technological innovation, which is a more complex cognitive operation, is touched on by the R&D level, organisational power and investment. Hence this type of innovation needs for a social system that has patterns and regulation (Shi & Xian, 2006). For illustration, the rule and regulation outline some basic operations, which are important for employees to implement R&D, technology management and engineering invention. The aim is to promote creativity, self-directed study and erudition, a few layers of hierarchical to enable quick response, high level of horizontal integration to increase knowledge transfer, decentralized decision making and high level of vertical and horizontal communication to ensure action (Shi & Xian, 2006). Although few layers hierarchical are better, organizations also need to have flat organizations so that it could form close contact among employees, department and top management (Wichitchanya et al., 2012).

Later, the third organizational lever is resource allocation. The following review describes the importance of resource allocation as one dimension of organizational levers which beneficial in innovation management. In general, resources that will support innovation success depended on twofold: allocation based on the character and quantity of resources and decision to put aside before resources are needed (Bacon, 2011). According to Lau, Yam and Tang (2010), resource allocation is referred to an organization's ability to mobilize and spread out its technological, human and financial resources in the innovation process. In their survey, results indicated that resource allocation has improved the performance rate of a novel product, which contributes to the technological innovation capabilities of an organization (Lau et al., 2010).

Organization performance increases when innovation expenditure is separated into resource allocation size and project resourcing. For example, when an establishment produces a selective choice for innovation project, a broad resource allocation strategy is needed where resource needs are lower at an early stage than the later phase. Besides, resource allocation is also named as one of the important levers due to its interdependence with business models and knowledge creation (Grand, Krogh, Leonard, & Swap, 2004).

The fourth organizational lever of the written report is knowledge management and organizational learning. Knowledge management is distinguished as an important element of organization competitiveness (Darroch & McNaughton, 2002; Rasmussen & Nielsen, 2011). Three main components comprise of creating, transforming and using various kinds of knowledge were contained by employee relations, routine and practices (Rasmussen & Nielsen, 2011). In this setting, the knowledge management is nearly linked to organizational learning initiatives (Mundra, Gulati, & Vashisth, 2011). However, learning is embedded in a social, collaborative process, which is more loose. This is because an organization depended on their own portion of the learning process and the challenges faced by its existing knowledge base (Weerd-Nederhof, Pacitti, Gomes, & Pearson, 2002). According to Garcı´a-Morales, et al., (2006), both organizational learning and innovation are making together in influencing organizational performance. It is found that with the organizational learning carried out in the constitution, the imitation would be unmanageable and this would contribute to higher functioning. The situation also almost similar to the non-manufacturing environment such as study in conducted in a cultural constitution; it has revealed that learning orientation influences innovativeness and performance (Garrido & Camarero, 2010).

Matters with respect to broad perspective of innovation have been stressed in the early part of this chapter. In prospect of this, the learning has enabled the implementation of a new idea, product and process, new management styles in communication and marketing, organizational structure and relations with clients (Garrido & Camarero, 2010). The shock of learning orientation is also examined through three dimensions: commitment to learning, an open mind and a shared vision (Phromket & Ussahawanitchakit, 2009). In their work, the organizational learning is found to possess a positive effect on innovation outcome and export operation. In this setting, organizational learning comprises of four dimensions: unique knowledge establishment, useful knowledge integration, holistic knowledge expansion and effective knowledge utilization (Phromket & Ussahawanitchakit, 2009). Since the organizational learning role on the innovation outcome is clearly emphasized, an establishment needs to fully interpret the market conditions and evaluate their organizational learning plan.

According to Weerd-Nederhof et al. (2002), there was four processes integrally linked organizational learning: information acquisition, information distribution, data interpretation and organizational memory used as a instrument for betterment. It is observed that both knowledge management and organizational are interrelated in terms of their constituents to facilitate innovation implementation. It requires the plain and implied knowledge to move the innovation activity. Hence one of the past study by Plessis (2007), define the value proposition of knowledge management in the innovation process. The definitions include assisting in creating tools, platform and processes for tacit knowledge creation and sharing, converting tacit knowledge to explicit knowledge, facilitating collaboration in the innovation process, ensuring the accessibility of both tacit and plain knowledge in innovation process, flow of knowledge, integration of organisation's knowledge base, identifying gaps in the knowledge, building competencies, providing organisational context, gathering explicit and tacit knowledge and providing knowledge-driven culture.

Innovation process involves a dynamic form of activities. In the innovation process activity, Adams, et al., (2006) mentioned that there are three areas within the knowledge management that is important for innovation management: idea generation, knowledge repository (including implicit and explicit knowledge), and information flows (information gathering and networking. Therefore, the discussions so far have proved that knowledge management such as knowledge creation and knowledge sharing is much needed in the innovation process phase of the firm (Chen, Huang, & Hsiao, 2010). Empirical evidence revealed that knowledge management is positively related to firm innovativeness; however, it is moderated by organizational structure. In their study, employees are inclined in managing knowledge and translating new knowledge when the structure is less formalized, less centralized and more integrated (Chen et al., 2010). The dimensions used in their study only focuses on knowledge acquisition, knowledge sharing and knowledge application (Huang & Li, 2009).

Consequently, the final organizational lever is culture. Organisational culture refers to share a vision where clearer vision would act as an effective facilitator to innovate (Adams et al., 2006). Adaptation of culture in the respective organization brings values and beliefs, attitudes and experiences, which is shared by personnel in the organization (Kanchan & Gupta, 2009; Martins & Terblanche, 2003). Creativity is of great influence in the innovation process and culture is the key to influence creativity. In view of this, the culture is also influenced by several determinants such as strategy, structure, support mechanisms, behavior, and open communication (Martins & Terblanche, 2003). Culture also reflects a degree to which values, norms and artifacts support the organisation's innovativeness and hence, it is noted that organizational culture will push organizational members towards creating an innovation mentality (Stock & Zacharias, 2011).

According to Ahmed (1998), culture has multiple elements, which could enhance the tendency to innovate. It was pointed that culture should not be isolated and need to match with organizational context. Thus, balance and understanding of context is important because the culture will determine a strong drive towards innovation. For instance, the Malaysian Innovation Climate Report has found that culture has determined the direction to innovate, ideas to innovate and the degree of willingness to take risks. Nevertheless the report produced low score in terms of direction to innovate and ideas to innovate. Implementing innovation in the organization might encounter the risk of failure and uncertainty. Therefore, Kanchan and Gupta (2009) have suggested to change the corporate culture. According to their study, the culture must have a set of understanding for the people of the organization to share in common. Thus, several criteria have been highlighted to change corporate culture which includes: committed to becoming an innovative organization through informed decision and investment, consistent communication, physical and organizational support, stimulating environment, encouragement for innovation and compensation (Kanchan & Gupta, 2009). Beside those criteria, Madan (2000), has stressed a culture that empowers people to take part in the innovation activity. This would allow people to share newer innovative solutions and provide insight of a larger picture to entire organizations.

Culture is an operating mechanism to support innovation. For instance, a strong human oriented management style is formed to enhance employees' abilities (Qingrui, Ling, & Zhangshu, 2003). In this approach, an organization needs to cultivate an employee's individual innovative ability via a 'cultural field' so that their organization will form the core competencies in all elements of innovation (Qingrui et al., 2003). In this context, the culture field supported the innovative environment in all elements such as management innovation, institution innovation, market innovation and strategy innovation. It is noted most authors have stressed on the importance of innovation culture. This is due to the innovation activities surrounded by competitive differentiation and ways of customer value creation. For that matter, there are various types of constructs that represented innovation culture used in the past studies. For example, there were several constructs introduced by Dobni (2008) based on seven factors, namely: innovation intention, organizational constituency, creativity, empowerment, market orientation, value orientation and implementation context. Culture also played as determinant to the innovation strategy. According to Valencia, Valle, and Jimenez (2010), their study has focused on the relationship between organizational culture and product innovation. Their finding indicated that the types of culture engaged in the organization have affected product innovation. The results showed that companies should cultivate cultures with external and flexibility orientation. (Valencia et al., 2010). In this context, the hocratic cultures (emphasize flexibility and change) enhanced the development of new products or service while hierarchical cultures inhibited product innovation (Valencia et al., 2010). It is noted that in order for innovation process to flourish into the organization, past scholars has really emphasized the concept of flexibility in the culture element. Consequently, the culture that engaged in learning and knowledge sharing has also provided impact on organizations that implemented both radical and incremental innovation (Lin & McDonough, 2011). With the right types of norms that is widely shared, this would activate creativity (Ahmed, 1998). Among the norms that stimulate innovation activity include challenge and belief in action, freedom and risk taking, dynamism and future orientation, external orientation, trust and openness, cross functional interaction, leadership, commitment, rewards, innovation time and training, corporate identification and unity and organizational structure (Ahmed, 1998).

The above literatures have reviewed the organizational levers as one of the important antecedents in determining the success of innovation implementation. Five organizational levers: strategy,

structure, resource allocation, knowledge management and organizational learning and culture have their own strength in assisting innovation implementation. It is adequate to conclude that those five are interrelated and supported each other (Smith et al., 2008). For example, structure is a lever that is constructed for the organization to operate effectively and it is noted that the strategy is implemented through the structure (Crittenden & Crittenden, 2008). In addition, culture has acted as the key factor of innovation management because it impacts other levers and also the changes of those levers (Smith et al., 2008). In fact, the role of knowledge management and also organizational learning are also related to each other. Through learning and sharing of knowledge, it is noted that firm is able to bring their abilities and innovative thinking of individuals to create competitive advantage (White, 2011). Thus, in this study, the researcher would be interested to assess the role and relationship of those levers in driving the innovation process of organization. Furthermore, the use of organizational levers would be in line with the theoretical perspective as innovation process interlink with the resource view and a capability view (Muller et al., 2005).

Conceptual Framework and Hypotheses

Based on the above discussions, this study attempts to fill the gaps by delivering empirical evidence on the relationships that exist among innovation process and organizational performance. Additionally, this research will also investigate the relationship of leadership style and organizational lever as an antercedents toward innovation process. Figure 1.0 below depicts the conceptual framework, which represents the main variables of this study.

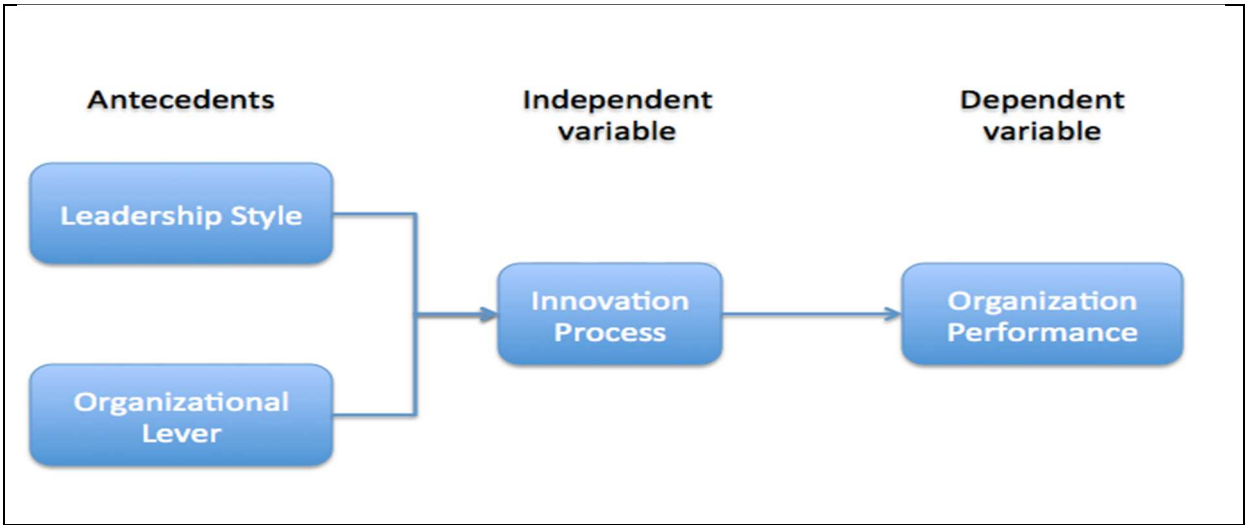

Figure 1.0: Conceptual Framework

Internal resources influence the relationship between innovation process and organization performance is based on the Resource Based View (RBV) theory that proposes the performance of an organization. An organization achieves better performance than its competitors by effectively utilizes its internal resources.

The high-level hypotheses statements are as follows:

H1a: The innovation process significantly related to the organization performance.

H1b: The higher the ability of organization to perform innovation process, the better their organization performance.

H2a: The leadership style significantly related to the innovation process.

H2b: The higher the ability of organization to perform leadership, the better their innovation process.

H3a: The organizational lever significantly related to the innovation process.

H3b: The higher the ability of organization to perform organizational lever, the better their innovation process.

Conclusion

Performance in an organizational system, either moderately or highly complex, could be measured at the work process level and work implementation by performers. Most research on the performance of solid waste management organization practice focused on MSW collection, recycling and technology application, but this paper looks specifically at the organizational itself and the research outcomes will provide some valuable information. Furthermore, the study will provide the empirical evidence on the relationship between the innovation process and organizations performance in MSW sectors in various countries with the influence effect of antecendents towards innovation process. The framework presented in this paper could guide future analysis and discussion related to cost efficiency towards antecedents implication.

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