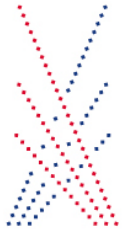

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TITLE

A Systematic Literature Review of Organizational Innovation – A Cluster-Based Perspective

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TITLE

A Systematic Literature Review of Organizational Innovation – A Cluster-Based Perspective

SUMMARY

This is a systematic review of organizational innovation to propose a potential new concept of what organizational innovation is using the cluster-based approach to analyze the data obtained. This paper's main research question, what is organizational innovation? The result of the review also gave light to a different perspective of organizational innovation's aspects and how the aspects are inter-related to one another in both clusters based and individual based. Some thoughts on potential future areas of study recommended as well as the identification of limitations of this research.

TRACK

Innovation and Entrepreneurship: Management Practices and Policy Challenges

INTRODUCTION

Organizational innovation has been studied for the past few decades, and, yet, the basic understanding of what organizational innovation is has eluded many scholars (Kasemsap 2014, Van Lancker, Mondelaers, et al. 2016, Wang, Shi 2013, Azar, Ciabuschi 2017, Glor 2015, Cozzarin 2017, Puranam 2017). The discussion on what organizational innovation continues to linger with no consensus. It is possible that the main rationale behind the lack of unanimity is possibly due to the nature of the research conducted itself, i.e. in the effort to continuously seek novelty in understanding organizational innovation, new description of what organizational innovation evolved. This may be very well so, however, this continuous debate on the understanding of organizational innovation should not stop. It should continue as the dimensions of business and the world today continue to change rapidly (Malmelin, Virta 2018, Gates, Hemingway 2000). But as the understanding of organizational innovation evolves, there still remains a grounded need to know what organizational innovation is. This can be done by bringing all the more accepted studies (those more cited) into one comprehensive study to look at, for example, its definition, determinants, and measurements in a more holistic perspective will ultimately answer to this basic question.

The method selected to answer what is organizational innovation is to conduct a systematic literature review. A systematic literature review is an approach due it its robust approach that is, as the name suggests, systematic. A systematic literature review is known for its rigorousness, as well as its depth and breadth. This paper will be adopting the approach suggested by (Cooper 2010).

INNOVATION

Many large organizations in the world today are facing challenges in keeping up, maintaining and or growing their market share. More so, for technology-based organizations, as these challenges are rapidly coming from new competitors that do not recognize borders, be it physically or economically. These competitors are coming from startups from all around the world that are either taking advantage of existing technology or creating new technology. Such startups are a real threat to the large incumbent organizations, especially, technology-based organizations (Deloitte, 2017).

These incumbent organizations will turn to innovation as a means to bring their organization forward and to remain competitively relevant to the global market. Innovation plays a very important role in the continued growth of all size and type organizations. Innovation opens up the mind to look into potential opportunities that lie ahead. These innovations come in many shapes and forms, such as new products, new services, new management approach, new processes, new policies and new technology (Paris, 2005).

Both for-profit and non-profit face similar if not, more complex issues to deal with today as compared to a mere five years ago. These complex issues can come in any shape and form, anything from human resource management (for example, embracing or dealing with the millennials), knowledge management (for example, adapting to the power of the social media and how knowledge can be obtained or shared), fin-tech (for example, such a bitcoin, but more specifically, the technology behind bitcoin, i.e. the ledger-less system), funding (for example, with the booming crowd-based funding) or the ever-growing vicious internet of things. Among the many different types of innovation, the OSLO Manual of Innovation (Paris, 2005) has essentially, broken it down into four different classifications, i.e. process innovation, product innovation, organizational innovation, and marketing innovation. The OSLO Manual continues

to distinguish that there are technological (which consists of products and process innovations) and non-technological innovation (this refers to marketing and organizational innovations).

There is no real manual nor instruction book on how to manage such vibrant and volatile change. It is, indeed, unpractical and unprofessional to expect any recipe to be developed to help the senior management team to deal with the rapid change. Nonetheless, researchers and consultants continue to argue, and propose possible models, such as innovation tool kits and innovation handbooks (Simonse, van Meeuwen, et al. , Board of Innovation); with due respect, there is no such thing as a "one show fit all" approach.

While more novel ideas and models are suggested by researchers, the more the understanding of innovation will fall into the abyss. This may increase the understanding of very specific areas of innovation but as in the analogy of “peeling the onion”, the more the onion is peeled to find its uniqueness, the more we fail to realize that the onion on its own may taste nice to some, but the onion works even better when it is match and mixed with other types of food. What this suggests is that, while the models and theories developed by researchers over the years are unique and interesting, both academically and in practical terms, but it has no real intrinsic value as it is only seen from its pure single lenses (Puranam 2017).

ORGANIZATIONAL INNOVATION

The OSLO Manual has mentioned that organizational innovation is one type of innovation. “In principle, organizational change counts as innovation only if there is a measurable change in output, such as increased productivity or sales” (Paris, 2005). A definition by the OSLO Manual describes organizational innovation as the following; “Organisational innovation in the firm includes:

- the introduction of significantly changed organizational structures;
- the implementation of advanced management techniques;
- the implementation of new or substantially changed corporate strategic orientations.

Similar to the understanding of innovation, it is also arguable that any definition of organizational innovation today can also be debated and challenged (De Vries, Bekkers, & Tummers, 2016). This is evident from the continuous lack of consensus to a single unified and acceptable definition (Armbuster et al., 2008). Perhaps to expect a unified acceptable definition is in itself is unreachable. The continued disagreement of the fundamental definition of organizational innovation is possibly due to the different perspectives of how organizational innovation is researched. There is fundamentally nothing wrong with this argument. However, it would be more useful if there is a unified definition that is generic and all-encompassing, yet straight forward that can be understood and used to be further refined according to the change of times, not according to the change of perspective, especially more so when the knowledge is being put under the microscope. This more macro level definition of organizational innovation could arguably be the anchor to sub-definitions of organizational innovation. Specific definitions based on the areas of research can be proposed based on the study done but perhaps there is a need to have an all-purpose starting point.

This review will also challenge many of the well-known proposition and conventions about organizational innovation that has long inspired past understanding of organizational innovation by taking on a more holistic or big picture perspective in analyzing the studies. A systematic literature review from a fresh perspective that could defy the more dominant views concerning organizational innovation. This systematic literature review could also offer a good **vantage point** of view to look back in the past and see the possible future; an innovation in its

own right (Deloitte, 2017). A vantage point that could prove to bring a more holistic approach to the understanding of organizational innovation.

REVIEW STRATEGIES

This systematic literature review will take on three overarching strategies. Firstly, the selection of works of literature to review is going to be based on the approach used by (Cooper 2010). A more in-depth explanation of the literature selection and its sub-strategies will be further elaborated in the following sub-sections. The second strategy is concerning how the data collated will be analyzed. To allow a more holistic view of the data extracted, a cluster-based analysis was adopted (Maskell, Kebir 2006, Pan, Zhao 2016, Camisn, Fors, et al. 2017). Scholars have argued that a cluster-based approach in analyzing data will be able to provide new ways to gain new knowledge by looking at how aspects possibly interact with another (Maskell, Kebir 2006, Lorenzen, Maskell 2005). The clusters will be analyzed from the definition, antecedents, measurements, outcomes, and theories. The third and final strategy is to look at how the identified clusters relate to one another by putting it all together.

Literature Search

First, an electronic search was undertaken using Scopus. Scopus was used due to its largest database on abstract and citation of peer-reviewed pieces of literature. The operative word here is peer-reviewed literature. Furthermore, SCOPUS has an international reach that will allow the researchers to cast a wider net to obtain as much data as possible before narrowing it down further. Initial search used both the term organization* AND innovate* to ensure that all derivatives of spelling and derivatives would also be taken in. The result of this search string resulted in more than 91,000 studies with the more recent study conducted in January 2018 and as far as December 1932.

To narrow the results to obtain a more focused field to look into, an inclusion strategy was developed and executed. The inclusion strategy undertaken was by narrowing the subject matter further down to only look into areas of business management, economics, decision science and multi-disciplinary. Additionally, a specific type of article was also taken as an inclusion strategy. The type of articles selected was based on conference papers, reviewed papers, book chapters, books and most importantly, published articles. In executing the above specific inclusion strategies, the overall results were further narrowed down to just over 24,000.

To further narrow down the results, another selection criterion that was adopted was to select papers that were published in journals that have three stars and above ranking according to the ABS that focused specifically on the subject of innovation. This resulted in 892 publications with the oldest publication in October 1971 and the most recent was in September 2017. Finally, upon going through all 892 journals, the final exclusion strategy was to take out any possible duplication and areas about national innovation systems as it is outside the scope of this review. This ended up with 250 articles that would be used to this systematic literature review.

Nonetheless, as the four strategies mentioned above, there must be an acknowledgment that several potential limitations already arose from using the initial search strings and limiting it to only the subject of innovation even though possible publications on organizational innovation could appear in a non-organizational innovation type field in the ABS. Additionally, some terminologies such as corporate innovation or even management innovation were left out as it could result in a relatively small output of relevance or a misconception of if management

innovation is or can be interchangeably used with organizational innovation. Hence the decision to limit the search string to organizational innovation or related derivatives thereof.

Eligibility Criteria

In coming up with the report for this systematic literature review, only studies that followed the following criterions were selected, i.e.:

- Field
  The studies taken must deal with organizational innovation in general. The main reason for these criteria is to ensure the literature review covers a broad perspective of organizational innovation.
- Topic
  All studies must have the words innovate and or organization in its title (in all its potential spelling and derivatives), abstract and keywords.
- Study Design
  The only type of studies that were taken had to be empirically done and all research designs were allowed, for example, case studies, interviews, questionnaires, experiments, model testing, action based). Systematic literature reviews were also omitted to prevent any possible duplication and possible pre-set judgments (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004).
- Year of Publication
  Studies taken for review covered the entire spectrum of the results, i.e. from October 1971 to September 2017.
- Publication Status
  The only peer-reviewed documents from well-established publishers as recommended by ABS in the field of innovation were included.

Study Selection

In total, more than 91,000 papers were screen. Based on the criteria mentioned above, the number of papers dwindled to 892 studies. The selection process is depicted in figure 1.

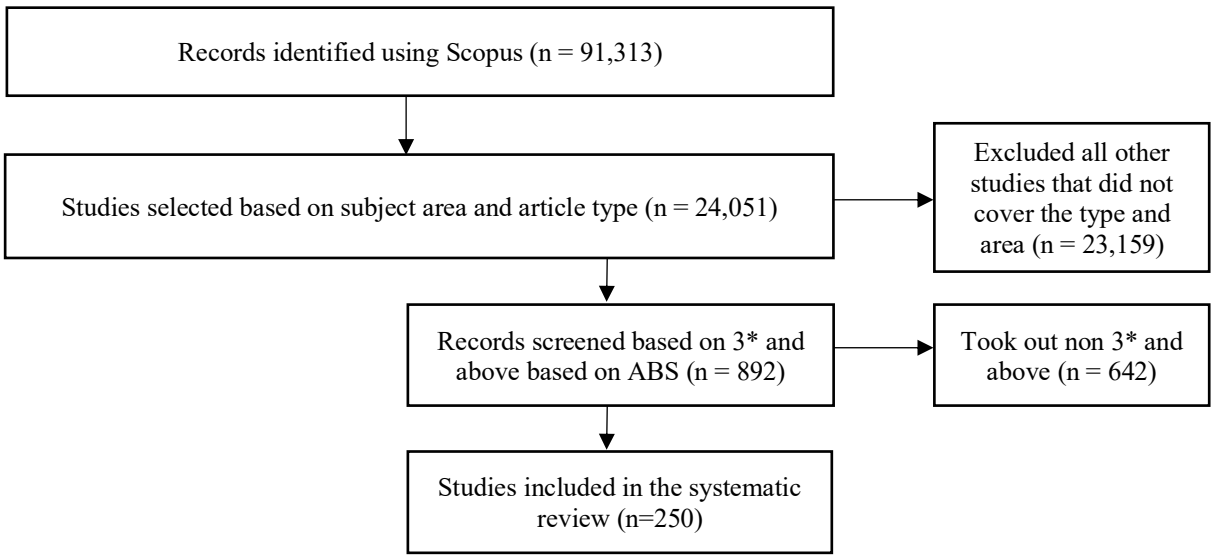

Figure 1: *PRISMA flow diagram adopted from* (Moher, Liberati, et al. 2009)

For all the articles finalized, data was extracted into a table format to summarize the author(s), publication year, title, journal, methods used, perspective, definitions, antecedents, determinants, and findings.

RESULTS OF THE SYSTEMATIC REVIEW

The Conceptualization of Organizational Innovation

The first ever definition came from Schumpeter in late 1920 (Hanson & Wakonen, 1997) that emphasize keywords uniqueness or novelty. Based on the findings by Schumpeter, he gave more weight to the word "*new"* by having it up front and center via means of repetition within the definition proposed, i.e. *new* product, *new* process, *a new* method, *new* mindset. In essence, Schumpeter believes that organizational innovation is about doing things differently as denoted by the word *new* within the definition he gave. Schumpeter also added that the definition suggested was in the context of an organization, be it in the form of policy, product or business model.

However, studies that addressed changes or bringing in new ways of running a large organization does not necessarily mean that change is beneficial (Xie 2012, O'Relley 2006, Chen, Yuyu, Igami et al. 2016, Bouch, Volden 2011). To further complicate the matter of defining organizational innovation, Hanson & Wakonen, (1997) argued that "*it is practically impossible to do things identically*" which can be interpreted that anything different, any change is novel and can be deemed as innovation. Based on this finding, it could be argued that any slight or minute change that takes place in how a large organization operates is deemed as organizational innovation.

As novel ideas on organizational innovation took place over the years, many new variants of how organizational innovation can be defined started to take shape in the form of necessity (Pittaway, Robertson, Munir, Denyer, & Neely, 2004), intention (Lansisalmi, Kivimki, Aalto, & Ruoranen, 2006), benefit (Camisn-Zornoza, Lapiedra-Alcam, Segarra-Ciprs, & Boronat-Navarro, 2004), execution (Hobday, 2005) or diffusion (Holland, 1997). These are just to name a few. It can be argued that it is inconceivable to come up with an agreed overarching description or definition of organizational innovation. But if it is inconceivable to come up with a more holistic description or definition of organizational innovation, how then can the novelty of organizational innovation can be explored and investigated without an anchor? This contradiction creates confusion as all studies on organizational innovation agree that organizational innovation is critical to the growing success of organizations (Chen, Quan, Wang, et al. 2019, Damanpour 1991). With the established importance of organizational innovation for the growth of an organization, it is equally important to ensure that the definition to be proposed is generic enough to allow it to be used for more circumstances but unique enough to allow it to be used in different situations.

Therefore, one could argue today, with all these different definitions and with all the perceived confusion due to the different interests of study, it is imperative to find out **what exactly is organizational innovation?** This is further validated by Ganter & Hecker (2014), where the authors indicated clearly that the definition and answering this rather simplistic question has not been given its due attention. Meroo-Cerdn & Lpez-Nicols, (2017) supported this argument by suggesting that there is almost none that analyzes the different types of organizational innovation in depth.

Over the years, it can also be argued that some definitions are similar and the ones that are somewhat different is the researcher's way to ensure validity and relevance to the study that they conducted[1]. There is nothing wrong with that, other than contributing further to the

[1] Refer to Table 1 in appendix

creation of more confusion when the focus should be on how the definition can further contribute to the development of the organizational innovation knowledge and perhaps not just one perspective to justify the need. More so, it is also critical to include how a simple definition of organizational innovation can also support the development of practical recommendations to the industry.

The definition given by the European Commission found in the OSLO Innovation Handbook (Paris, 2005), addressed the institution of significant **change** in how an organization is structured. It also touched on how **different management styles and approach** is required to ensure continued growth. The definition is given also focussed on how it is crucial to **execute different** or **new** or considerably strategic orientation. This would refer to the who are the intended stakeholders (both internally and externally) and how to maximize profits to ensure the return of investment to its stakeholders. Additionally, the OSLO Innovation Handbook stated that in principle, to be able to label change or privatization as organizational innovation, there is a need to **ensure that the changes in the output and outcome** of **the change can be measured in terms, such as, increased sales revenue, increase in team productivity or the increase in new products or services**.

Therefore, the proposed integrated and more holistic definition of organizational innovation is *"organizational innovation brings together people for a common cause (organizational and societal) through a cyclical iterative process perpetually evolving and involves strategizing, planning, rapid-prototyping, problem solving and improvisation in adapting and adopting new ideas that will ultimately bring positive change in the form of tangible and intangible return on investment to the organization ensuring continuous growth*"

This definition engulfs several aspects of organizational innovation. It includes:

- The idea that organizational innovation is not static and linear
- The idea that organizational innovation involves new ideas that include both incremental, radical / disruption (for example, new features of a product, a new product, a refinement of the process and an introduction of a new policy)
- The idea that for organizational innovation to be effective, individuals within the organization, at all levels, must be tuned into the ever-growing changes in the market and internal conditions
- The idea that organizational innovation is a tool to ensure the growth of the organization
- The idea that organizational innovation is not similar to other types of innovation that have been quoted, such as management innovation, product, and technology innovation. Table 1 illustrates the differences in definition. It can be concluded that management innovation, product innovation, technology innovation and alike are merely subsets of organizational innovation.
- The idea that organizational innovation is about constantly monitoring and reacting to internal (within the organization) and external (market and community) forces
- The idea that tangible refers to measurable contributions to the organization, for example, sales, new products or services, and international presence.
- The idea that intangible refers to, for example, team-work, collaboration, knowledge management or communication.
- The idea that organizational innovation, in this proposed definition also addresses change and constant change and that change is the only constant element.

Therefore, to ensure a clearer and better understanding of organizational innovation, the foundation of its definition needs to also be clear and not convoluted with other possible types of innovation, such as management innovation. While the OSLO Innovation Handbook clearly states this distinction, many others tend to find a way to connect other definitions to fit their study. As mentioned, there is essentially no harm in doing so other than serving the purpose of further "peeling the onion". In order to learn and explore organizational innovation in the future, there is a need to pair research with practicality where it can be argued that via this approach and mindset, more exciting future research can be done (Y. Cheng & Van de Ven, Andrew H, 1996; Puranam, 2017; Sinek, 2009a; Van de Ven, Andrew H, 2016).

Cluster-based Perspective to Organizational Innovation

In the study of organizational innovation, specific aspects are of interest to researchers, such as the determinants of organizational innovation and organizational innovation process. This systematic review took a look at the determinants of organizational innovation, the theories governing the study of organizational innovation and the outcome of organizational innovation. The primary observation taken away from the review is that all three aspects of organizational innovation, when analyzed from a cluster perspective, is that, (i) the characteristics of each aspects can be clustered thereby giving a fresh new perspective to organizational innovation and (ii) be it in specific aspects, i.e. it characteristics or between aspects, it was found that there exists some form of flow or relationship between aspects and or among characteristics of the aspects.

Determinants of Organizational Innovation

Table 2 in the appendix outlines the study already conducted on the determinants of organizational innovation. It can be argued that every determinant identified does not work in isolation. The determinants inherently connect in one form or another. For example, market forces (such as competitor's (existing or new) introduction of a new product or services) ignites new ideas coming from individuals from the marketing team that reached out to their customers to obtain feedback. Upon which is brought to the development team to design a new product or service. All the while, keeping the management in the loop. All the while, the employees are not waiting for any specific instruction from the senior management.

This seems to suggest that the deliberation and discussion on the topic of organizational innovation determinants have been focusing too much on digging deeper in individual or specific determinant, but not looking at how the determinants are like ingredients. When put together can create a sumptuous Michelin ranked meal (following the “peeling the onion” analogy). With this, it can be proposed that the determinants of organizational innovation can be re-looked as follows:

1. Individual/group determinants
2. Organizational structure determinants
3. Environmental determinants
4. Psychological determinants

Thus, suggesting that the four core determinants can also redefine how organizational innovation can be studied or perceived. Figure 2 illustrates this. As already mentioned, these clusters do not work in isolation. This essentially means that the clusters depend on one another, be it as a trigger point or a reaction point. As the clusters depend on each other, putting the clusters in a concentric circle would depict this argument more aptly. An occurrence in the environment (be it internally or externally) would trigger a reaction or trigger for the

organization to be more innovative. This reaction is normally triggered by fear of losing market share or even a proactive reaction where new ideas are derived to take advantage of the situation created by the internal or external environment. This then drives the individual(s), in normal circumstances, the Board of Directors and or the top management (C-Suites) to react or provide new ideas. These new ideas would then be cascaded down the working level where new ideas to make the organization stronger would require new approaches, policies, processes and or structure.

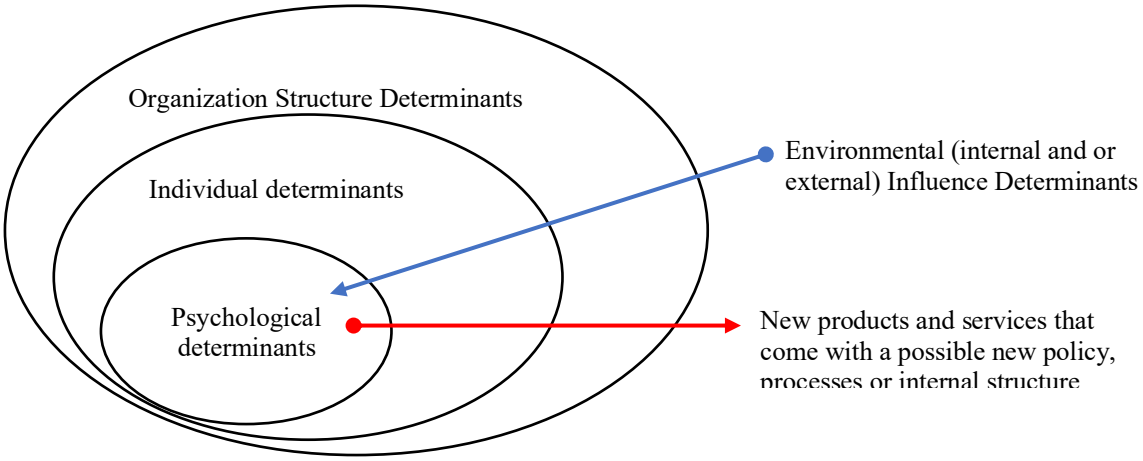

Figure 2: *The 4 Cluster-Based Organizational Innovation Determinants*
Source: *author*

Ironically, this proposed cluster-based organizational innovation determinants looks very similar to the "The Golden Circle" model proposed by Sinek (2009b). The Golden Circle as proposed by Sinek (2009), discusses, from the perspective of transformational leadership (Gumusluŏlu, Ilsev 2009, Chen, Y., Tang et al. 2014, Gumusluoglu, Ilsev 2009a, Reuvers, Van Engen et al. 2008, Gumusluoglu, Ilsev 2009b, Garca-Morales, Matas-Reche et al. 2008), which is not necessarily referring to the top / senior management team, how great leadership inspires action. Simon proposed that it is not the "**what**" that sets one company's innovative product apart from the other, but it is the "**why**" that gives real meaning to the new products and services. And **the "why" comes from within**, i.e. the individuals or a collection of individuals i.e. a group. This is, as he argues, the driving force for organizational innovation. Figure 3 illustrates the Golden Circle.

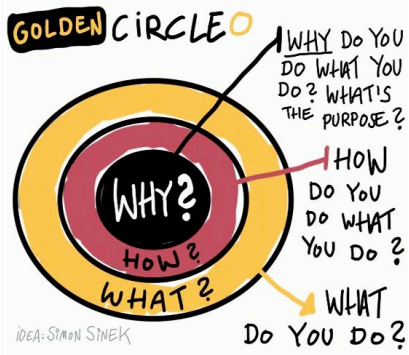

Figure 3: *The Golden Circle*
Source: (Sinek, 2009)

Organizational Innovation Measurements

Taking the data extracted from the review, table 3, located in the appendix, can be further clustered and mapped into an organizational innovation value chain (Roper, Du et al. 2008, Hansen, Birkinshaw 2007, Eling, Lehmann 2018, Jacobides, Knudsen et al. 2006) that will clearly show the area of interest researchers had over the past few decades. figure 4 illustrates this mapping.

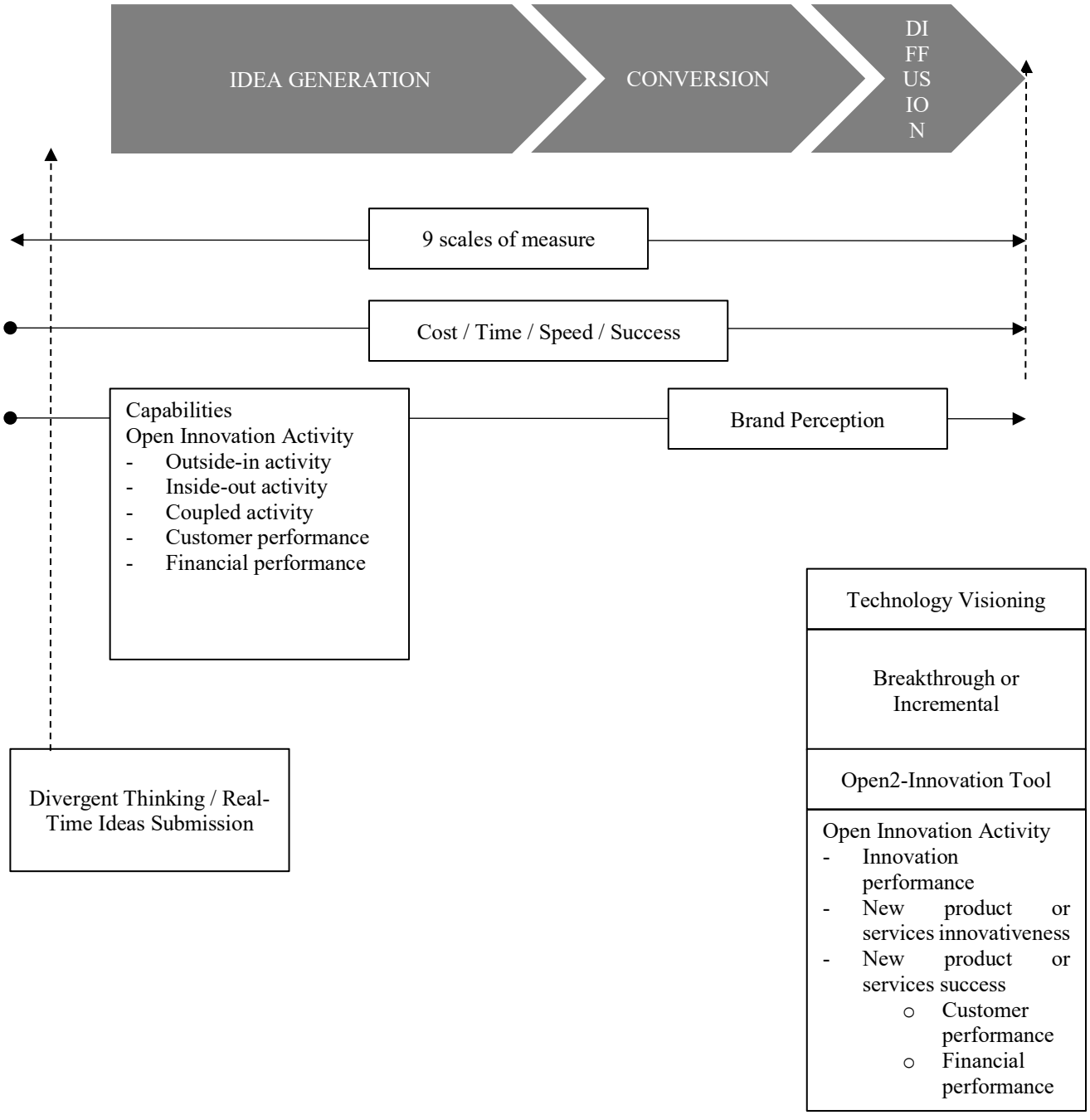

Figure 4: *Mapping of Organizational innovation measurements and the Organizational innovation value chain*
Source: *Compiled by Author*

There were several means of measurement not found in this group of papers. Other means of measuring organizational innovation such as profitability, sales turnover, level of innovation

radicalness, number of new process, number of new policies, number of new products & services, number of new ideas or the number of ideas that transition into reality and how was the discarded ideas used at a later stage; was not looked into. This could suggest that the missing means of measurements is simply because those are not organizational innovation measurements, but more organizational performance.

This could also suggest that either there was no interest to look into these areas as it could be assumed that such measurements are more economically inclined and is expected as a given, or it could be assumed that such measurements are a natural progression once organizational innovation is an effective means for the growth of an organization. Or past studies did not want to relate the connection between organizational innovation performance and organizational performance. Additionally, this lack of measurement areas could also suggest that the means of measuring organizational innovation is equally as isolated as the definition and determinations of organizational innovation. This suggests that there is a high possibility that the means to measure organizational innovation can also be conglomerated to show an end-to-end success of the failure of organizational innovation.

Organizational Innovation Outcomes

Figure 4 illustrates the culmination of table 4 in the appendix. Whereby taking the perspective of a bigger picture, it is clear to see that some of the studies can be clustered into specific categories.

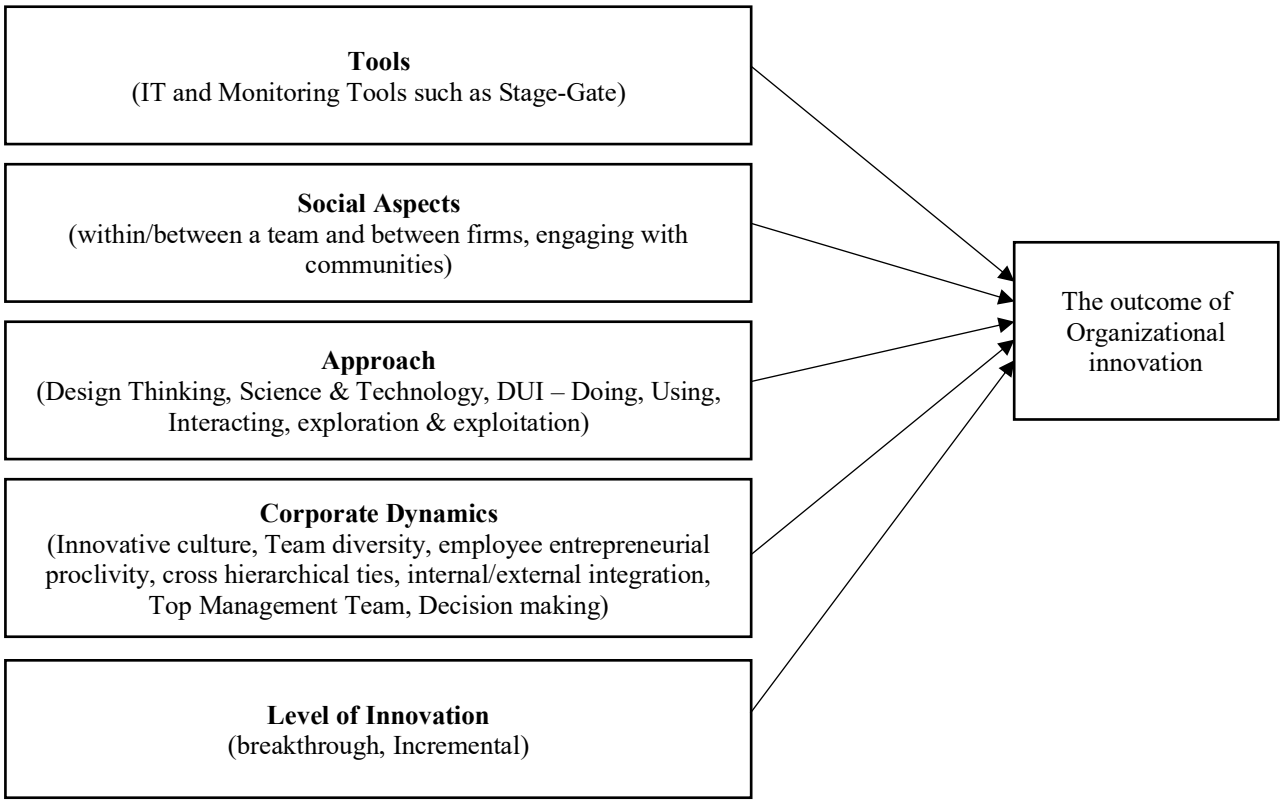

Figure 4: *Clustered View of Studies on Outcome of Organizational innovation*
Source: *Author*

This converged view clearly shows that the discussion that took place in the studies undertaken was not to look at the outcome of the organizational innovation, but more so, on **what can**

contribute to the outcome of the organizational innovation. In answering the question of what can contribute to the outcome of the organizational innovation, the outcome of the organizational innovation needs to be initially determined, for example, within the corporate vision and mission statement as well as specific economic (financially related such as profitability or market share). Additionally, to attain the desired outcome, different factors must come together to interplay and collectively contribute to the intended outcome. For example, if the intent or more specifically, the vision of a large established organization is to grow their market by exploring and capturing the international market, the top management team (or senior management team), including the board of directors that represents the shareholders will have to take an active role in coming up with an agreed strategy with a very specific economic outcome. This outcome is ultimately the market share and returns on investment (ROI) required by the organization to reach the intended vision (the ROI, can be in the form of profitability). There can be sub-outcomes that contribute towards the main outcome. For example, the desired outcome of human capital development can be in the form of teamwork or collaboration. Bringing all these pieces of the puzzle together is critical to meet the desired outcome of organizational innovation.

Organizational Innovation Theories

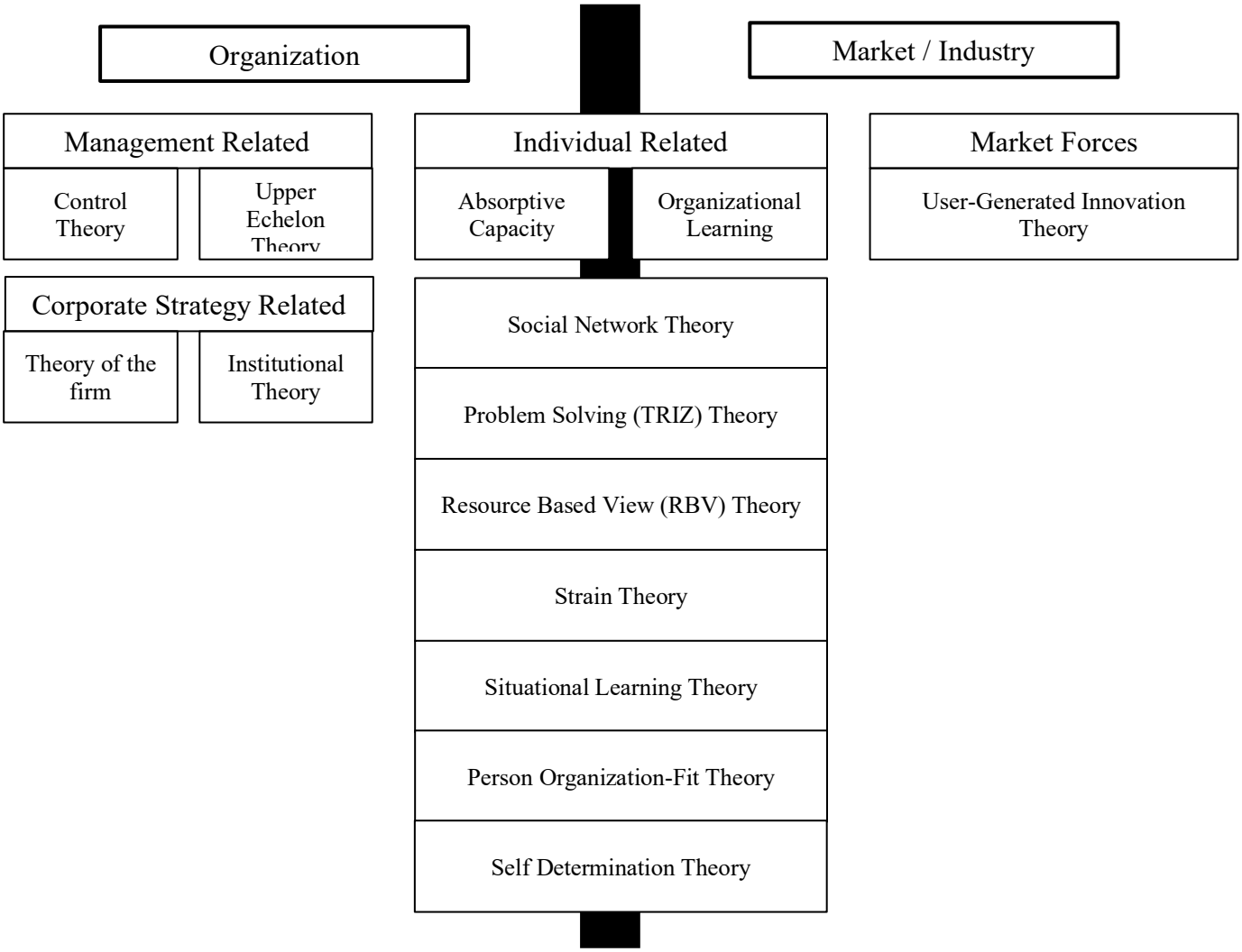

Figure 5: *A Holistic View of Where Theories lies*
Source: *compiled by Author*

Based on the data extracted from table 5 (in appendix), the above cluster-based view was derived. Three main clusters can be seen, i.e. the organization cluster that covers theories mainly addressing the management and or the organization itself. The second cluster brings together the individual or group of individuals what could be within the organization itself or in the market or industry. The final cluster brings together theories regarding the market forces.

Similarly, to the other sections above, while the study of every theory, based on its ever-growing enhancements, additions or foundation, it appears all theories, while unique, possibly independent and of tremendous value on its own, seems to suggest that combined, gives a bigger and more potential opportunity to understand. From figure 5 above, it can also be argued that each theory may have a profound impact on organizational innovation, but collectively, it would possibly give organizational innovation a more substantial impact.

Once again, it can also be argued, from the cluster based perspective, that the three main clusters that cover the theories of organizational innovation are inter-related as the organization reacts to the market forces and the market forces comprise of individuals and or group of individuals.

BRINGING IT ALL TOGETHER

There appear to be a consistent trend that appears when all aspects of organizational innovation are looked upon from a bigger perspective, i.e.

i) All the specific area of study, while unique, are arguably stronger and more beneficial to both academic and practitioners when looked at it as a whole.
   Once the benefits can be obtained as a whole, more value-added research can be obtained with more novel approaches and ideas (Puranam, 2017).

ii) There also seems to be a recurring trend of a dominant emphasis on individuals or groups of individuals, externally or internally or combined. The individuals come in the form of:
   a. Board of Directors
   b. Top Management Team / Senior Management
   c. Middle Management
   d. Employees
   e. Partners / vendors
   f. Society / community / users
   g. Politicians

Does this mean that individuals or groups of individuals are the main drivers of organizational innovation and or general innovation within an organization? And if so, how does these individuals or group of individuals affect the outcome of organizational innovation? Can internationalization be a possible outcome of organizational innovation? Several future potential areas of research that could be looked into.

As a recap, below are the combined summary done thus far:

Proposed Definition	Organizational innovation brings together a cyclical iterative process that involves strategizing, planning, rapid-prototyping, problem solving and improvisation in adapting and adopting new and novel ideas that will ultimately bring positive change in the form of tangible and intangible return on investment to the organization ensuring continuous growth.

Determinant Clusters	Psychological	Individual	Organization	Environmental
Measurement (based on organizational innovation value chain)	Idea	Conversion	Diffusion	
	- Capabilities - Open innovation - Divergent Thinking		- Technological Visioning - Breakthrough / Incremental - Tool - Activities	
Outcomes	Tools	Social Aspect	Approach	Corporate Dynamics / Level of Innovation
Theory Clusters	Corporate	Corporate / Market	Market	
	- Strategy - Individual	- Individual	- Individual - Economy	

Figure 6: Summary of proposed cluster-based perspective on the key areas of organizational innovation
Source: *Author*

As mentioned earlier, the predominant element that can be seen is essentially the individual. The individual within the organization as well as external to the organization. The individual that has the desire to make the change; the desire to be innovative or to be more entrepreneurial within the organization. The external individual that would want to contribute towards the development of new products and services for an organization. The individual that is willing to learn, support, share and develop new products via new and novel ideas. The individual that takes a leadership role and the leaders that would ensure continuous support. These individuals are more so pronounced in the book **Reinventing the Organization** (Laloux, 2014). The author began his book by highlighting that **organization's today are "broken"**. Broken in the sense of how the organizations are being managed and run today. His findings were that employees were disengaged from their work. The author also found that Leaders (not leadership), i.e. the senior management team or top management team seems to be exhausted and stressed over the daily corporate grind in the ever struggle to win the corporate rat race. These leaders are tired of making other people happy, to motivate and to achieve results. It can be argued that they, the leaders, are lost in what they want in life. Finally, more and more customers are losing faith in the products and services of these large corporates.

Laloux's findings and arguments that the three main aspects that lead to suggest that organizations are broken are people / individual related, i.e. employees, leadership and customers.

CONCLUSION

A newly proposed concept of organizational innovation was derived from the systematic literature review by adopting a cluster-based perspective in analyzing the data from the papers obtained for this research. The proposed concept of organizational innovation is positioned to serve a macro level understanding of organizational innovation. The main objective of suggesting a macro level is to allow an anchor for future studies of organizational innovation to base on. The key take-away from the concept identified is that it addresses current key elements that studies on organizational innovation has thus far. These elements include agility, adaptability, adoption, risk, reiteration and improvisation. All these elements, when combined, could mean a more successful organizational innovation in large organization, especially in the organization's return on investment and overall performance, including the non-financial/non-tangible returns such as team work and collaboration.

Additionally, through the cluster-based approach, additional insights were obtained on the four elements of organizational innovation, i.e. the determinants, measurements, outcomes, and theories surrounding organizational innovation. Through this cluster-based analysis, a potential relationship between specific characteristics of individual aspects of organizational innovation, as well as the characteristics of each elements and different theories could be identified and was found to be inter-related. It could also be argued that all aspects and characteristics are dependent on each other and do not work in isolation. Therefore, as each of the elements are inter-connected, a concentric circle tying up all four elements of organizational innovation was proposed. A concentric circle essentially connects one element to another. And in this concentric circle, the environment triggers the unseen push for an individual to act or react. For example, a new entrant in the market that directly competes would trigger individuals to react.

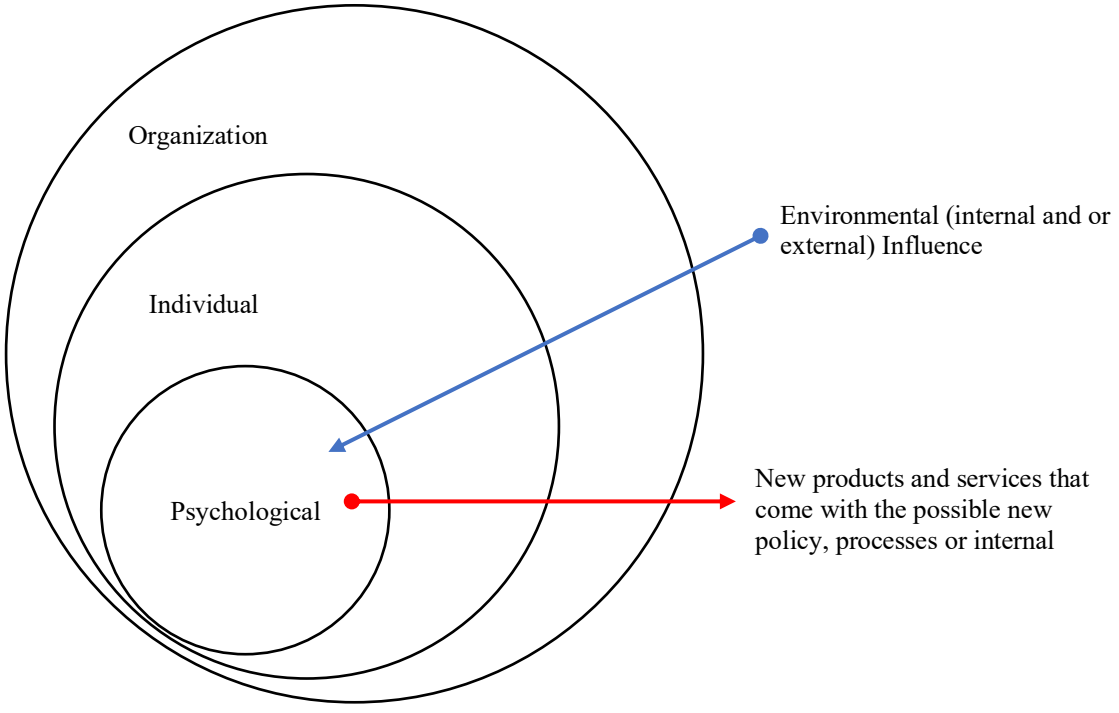

Figure 7: Proposed Cluster-Based Organizational Innovation Framework

Finally, the systematic review also gave a more cluster-based aspects to organizational innovation. The four aspects are changes in structure (organizational and or ownership), changes in leadership, changes in work-culture and changes in process & policies. This is depicted in Figure 8 below.

Figure 8: Aspects of Organizational Innovation

While the aspects mentioned above may seem to be specific in nature, there is one common denominator that binds all aspects. What binds all four aspects of organizational innovation is the human factor. For example, Changes in ownership refers to the people that owns the organization. Even if the ownership is owned by another organization, the changes in ownership will be reflected in the representation in the board. Another example, the changes in process and policies is to facilitate and allow a more fluent and agile adoption, adaption, improvisation and accountability to take place by employees.

LIMITATIONS and Implications for Research and Practice

Implications for Research

What the concentric circle and aspects of organizational innovation brings is that both are connected and inter-connected to each other. The concentric circle and the aspect of organizational innovation can be further aligned to become one model. And this model could open up a new dimension in the future research of organizational innovation where a more multi-disciplinary approach to organizational innovation can take place.

It is very important to understand each and every pieces of puzzle. But it is equally important to see how each puzzle connect to each other to ensure an impact to both academia and industry.

Implications for Practice

For the industry, one of the key challenges faced by the senior management is the notion of how to translate theories into practice. The added challenge comes in the form of research are one dimensional. Bringing a more multi-dimensional perspective and by connecting one aspect and or elements to each other, transforms isolated studies into a practical, more how an organization operates. To put in simpler terms, a change in work-culture will have an impact in the change in process and policies.

Limitations

Three areas could be improved upon. Firstly, in running the search criteria's, SCOPUS was the only online tool that was used to generate a list of potential papers to review. The majority if not all of the papers came out were very product development based and not inclusive of management or took into consideration types of innovation. Secondly, the papers obtained using SCOPUS did not look into the different types of organizational innovation, i.e. incremental, radical or disruptive. The papers obtained only looked at research and development of products based on organizational innovation. Finally, the analysis brought in a significant amount of industry-based views that could have brought some degree of biases in terms of how data analyzed was perceived. Perhaps a more focused scientific perspective needs to be done in order to derive a more scientific based result as oppose to a fusion of academia and professional/industry.

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APPENDIX

Table 1: Compiled definitions of organizational innovation

Year	Authors	Definition
1965	Thompson	The generation, acceptance, and implementation of new ideas, processes, products, and services
1975	Williamson	Pertains to the changes in organizational forms and refinements in organizational procedures
1984	Fariborz Damanpour and William M. Evan	An organizational innovation was defined as the implementation of an internally generated or a borrowed idea - whether about a product, device, system, process, policy, program, or service- that was new to the organization at the time of adoption.
1996	Fariborz Damanpour	The adoption of an idea or behavior (a process that includes the generation, development, and implementation of new ideas or behaviors) new to the adopting organization. It is a means of changing an organization, either as a response to changes in the external environment or as a pre-emptive action to influence the environment. It encompasses a range of types, including new products or services, new process technologies, new organizational structures or administrative systems, or new plans or programs about organizational members.
2001	Enquist et. Al.	New ways to organize business activities such as production or R&D, and innovations that have to do with the organization of human resources.
2005	European Commission / The OSLO Innovation Handbook	Organizational innovation in the firm includes: – the introduction of significantly changed organizational structures; – the implementation of advanced management techniques; – the implementation of new or substantially changed corporate strategic orientations. In principle, organizational change counts as innovation only if there is a measurable change in output, such as increased productivity or sales.
2005	Sanidas	Innovations that refer to disembodied technology such as unpatented know-how, property rights, and management and organization. They are new, novel organizational entities, which can be an industry structure, a firm structure, a production form or process, or an institution in general.

2006	Víctor J. García-Morales, Francisco J. Llorens-Montes, Antonio J. Verdú-Jover,	The process of proposing/adopting/developing/implementing a new idea (related to a product/process/policy/practice/behaviour/program/service) generated internally or taken from outside Organizational innovation is a key dimension of an entrepreneurial orientation (Drucker, 1985; Ireland et al., 2001; Miller and Friesen, 1982). In some papers on *entrepreneurship, it would be quite possible to replace the word "entrepreneurship" with "innovation" without challenging the interest of the work.* Innovation is how the entrepreneur creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth (Drucker, 1985).
2007	Lale Gumusluoglu, Arzu Ilsev	Organizational innovation is the creation of valuable and useful new products/services within an organizational context Accordingly, organizational innovation is the tendency of the organization to develop new or improved products/services and its success in bringing those products/services to the market.
2008	Víctor J. García-Morales, Fernando Matías-Reche, Nuria Hurtado-Torres,	A new idea, method, or device. The act of creating a new product or process. The act includes invention as well as the work required to bring an idea or conceptthe into final form.
2009	Fariborz Damanpour, Richard M. Walker and Claudia N. Avellaneda	The development and/or use of new idebehaviorsviours. A new idea can pertain to a new product, service, market, operational and administrative structures, processes and systems.
2011	Felice Williams and Roseanne J Foti	The intentional introduction and application within a job, work team or organization of ideas, processes, products or procedures which are new to that job, work team or organization and which are designed to benefit the job, the work team or the organization. Organizational innovations may range from being relatively minor to being of great significance and might be implemented in the space of an hour or over several years.

		The idea of a creativity economy represents a paradigmatic change for organizations where the focus of competition will be mainly on creativity, imagination, and innovation.
2011	Gurhan Gunday, Gunduz Ulusoy, Kemal Kilic and Lutfihak Alpkan	The process of equipping in new, improved capabilities or increased util Organizationaltional innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations.
2011	Fariborz Damanpour and Deepa Aravind	The generation (development) or adoption(use) of new idebehaviorsviours.
2012	Sonny Ariss and Vafa Saboori	Organizational innovation is associatedthe with improvement which is crucial to creating and maintaining a firm's competitive advantage
2012	Fernando Sousa, Ileana Mo, teiro and António Juan Briones Peñalver	Organizational innovation is a social, spatially embedded, interactive learning process that cannot be understood independently of its institutional and cultural. Innovation has also been the specific tool of entrepreneurs by which they understand the environment and identify the opportunity for a different business or a new combination of existing organizations.
2013	Angel L. Merono-Cerdan & Carolina Lopez-Nicolas	The implementation of a new organizational method in the firm’s business practices, workplace organization, or external relations.
2015	Zhen He, Yujia Deng, Min Zhang, Xingxing Zu & Jiju Antony	The creation or adoption of new ideas, knowledge, skills, and methods that can create value and the improve competitiveorganizationsisations.
2017	Angel L. Merono-Cerdan & Carolina Lopez-Nicolas	The key to thriving in an increasingly dynamic and global economy, a critical output for companies, a source ofthe value, indicator for the intrafirm diffusion of different organizational practices.

Table 2: Determinants of Organizational Innovation

Authors	Determinant
(Kraiczy, Hack, & Kellermanns, 2015a)	Even though this study looked at the perspective of a family business, it still holds merit in terms of the determinants proposed, i.e.: - Individual disposition - Preference of executives - Family ownership structure - Family management - Family - Risk-takingk taking behavior
(Subramanian & Nilakanta, 1996)	- Consistency of innovative behavior over time - Organization size - Degree of centralization The location of the decision-making authority - Degree of formalization This refers to the availability of pre-described job descriptions, policies and procedures for staff's - Resource slack The availability to suran plus or extra resourarehat area available to be used for prototyping or experimenting on innovation - Degree of specialization This refers to the availability of staff that has specific skill sets in several fununits/departmentsartments within the organization

(Montalvo, 2006)	- Innovative behavior - Institutional arrangements - Entrepreneurial risk behavior - Economic opportunities - Organizational learning - Technological capabilities - Organizational capabilities
(Wan et al., 2005)	- Decentralized structure - Presence of organizational rThe beliefe - Belief that innovation is important - Willingness to take risks - Willingness to exchange ideas - Communications channels
(Frambach & Schillewaert, 1999)	- Perceived innovation characteristics - Adopter characteristics - Supplier marketing activity - Social Network - Environmental influence - Organizational facilitators - Personal innovativeness - Social influence
(Read, 2000)	- Management Suppan ort for innovative - Customer - /market/ markeCommunication/networkingtworking – internal and external - Human resource strategies that emphasize on innovation - Team and teamwork

	- Knowledge management, dev, lopmoutsourcingsourcing - Leadership - Creative development - Strategic posture - Flexible structures - Continuous improvement - Technology Adoption
(Xie et al., 2017)	- Firms internal capabilities - Government policies - Collaboration mechanism
(zsomer, Calantone, & Di Bonetto, 1997)	- Organizational structure - Environmental uncertainty - Environmental hostility

Table 3: Organizational Innovation Measurements

Period	Means of Measurements
1998 – 2011 (Armbruster, Bikfalvi, Kinkel, & Lay, 2008; Reid & Roberts, 2011; Tang, 1998)	The focus during the early years of the study on measuring organizational innovation seems to be more of taking an inventory of how organizational innovation can be measured by using nine scales of measure. These nine scales of measures appear to be similar to the determinants of organizational innovation but none hwasss, were used to also measure organizational innovation. The nine scales of measures are: - Leadership - Support - Tasks - Behavior - Integration - Project raising - Project doing - Knowledge and skills - Information and communication This moved on to look at organizational innovation measurements in terms of technological vision where the following means of measurements were proposed: - Technological benefits - Technological Efficiency - Technological Magnetism - Technological Specificity - Infrastructure clarity
2012 (Patanakul, Chen, & Lynn, 2012; Spanjol,	An article discussed measuring organizational innovation from the perspective of measuring strategic orientations. More specifically on strategic orientation and product innovation relationship, which the author propos,ed there the measurement

Mühlmeier, & Tomczak, 2012)	should cover the direct, indirect, total and specific perspective of strategic orientation. The author also proposed that to measure the outcomes of organizational innovation by looking and understan if the organizational innovation is a breakthrough or incremental. In the same year, it was also identified that organizational innovation could be measured by looking at the following, i.e. - Development Cost - Development Period - Development Speed - And Overall Product Success
2013 (Caird, Hallett, & Potter, 2013)	There was one study that was produced that dissed on using a specific tool called, Open2-Innovation Tool. This is a tool that focusses on measuring the performance rating of organizational innovation.

2014
 	
(Boh, Evaristo, & Ouderkirk, 2014; C. C. J. Cheng & Huizingh, E K R E, 2014; Nelson, Earle, Howard-Grenville, Haack, & Young, 2014)
	While one study considered open innovation, another discussed specific areas such as innovation diffusion. The third stud, looked inventors. The means of measurements discussed on Open innovation activities, i.e.:
	- Outside-in activity
	- Inside-out activity
	- Coupled activity
	- Innovation performance
	  o New product or services innovativeness
	  o New product or services success
	  o Customer performance
	  o Financial performance

	In organizational innovation diffusion, the authors looked at diffusion markers such as: - Keywords - Database index terms - Domain expert assessment Finally, in the third study, the means of measurements reflected the following: - The number of inventions generated - Impact on technical domain - Career success.
2015 (Kawakami, Barczak, & Durmuşoɬlu, 2015; Reid & Roberts, 2011; Reid & De Brentani	Three studies in 2015 discussedissed on how organizational innovation can be measured. One considered how technology vision at the early stage of innovation could be further expended in terms of how it can be used to measure organizational innovation and the other study revolved around how the adoption or usage of technology tools or platforms are used to facilitate organizational innovation. Finally, a study resched on organizational innovation measurement from the perspective of divergent thinking. It is argued that encouraging ideas, encouraging diversity and moving from non-divergent to convergent thinking can be used to measure organizational innovation.
2016 (Birdi, Leach, & Magadley, 2016; Janssen,	One study proposed that within the service industry, it is very important to study how ideas are translated from ideas to implementation. The author also argued that it is critical to also consider innovative work behavior (patent submission and real-time idea submission), industrial capabilities (creativity skills, job expertise, operational skills, mo, ivation and contextual

Castaldi, & Alexiev, 2016)	knowledge) and environmental features (job control and department support for innovation). Another study proposed that the number of ideas from external should be included as a means to measure organizational innovation.
2017 (Sommer, Heidenreich, & Handrich, 2017)	It was proposed that the brand or perception of how innovative an organitation is needs to be measured as well as it will be a determining factor to attract innovative talent.

Table 4: Organizational Innovation Outcomes

Year	Perspective
2011 (Song, Im, Van Der Bij, & Song, 2011; Talke, Salomo, & Kock, 2011)	The role of top management in addressing organizational innoutcomes outcome. More so, the role of top management in coming up with a strategic oriented innovation planning that couto towards a desirable outcome.
2012 (Kandemir & Acur, 2012; O'Connor, 2012; Spanjol et al., 2012)	It is proposed that there is a need to understand the difference between incremental and breakthrough organizational innovation. There was also a discussion on the contribution of a flexible strategic decision-making process and how it impacts organizational innoutcomes outcome.
2013 (Im, Montoya, & Workman Jr., 2013; Schultz, Salomo, De Brentani, & Kleinschmidt, 2013; Y. Wei, O'Neill, Lee, & Zhou, 2013)	A study dissed on how combining new products and maprograms program with internal or externdynamics dynamic can impact the outcome of organizational innovation. While two studies discussed the role of an innovation culture and the level of formal that control contribute to the organizational innovation outcome respectively.
2014 (H. -. Lin & McDonough, 2014; Matsuno, Zhu, &	One paper discusses how an organizational entrepreneurial proclivity could be a determining factor in the outcome of organizational innovation. Another research considered, within the context of a low-income country, where building capacity, integrating with the locals and collaborating with

Rice, 2014; Schuster & Holtbrügge, 2014; Troilo, De Luca, & Atuahene-Gima, 2014)	non-conventional stakeholders could raise the chances of organizational innovation performance. A third study looked into the area of exploitation and exploration and how to manage the tensions between the two to allow a more positive outcome to organizational innovation.
2015 (Kawakami et al., 2015; Robbins & O'Gorman, 2015)	While one study looked at how the usage of IT can be a determininginactor to the organizational innovation outcome, the other paper discussed the management of organizational innovatioteam-basedam based innovation tournament. The final paper discussed how design thinking can be used from the perspective of individual cognition and decision making.
2016 (Aalbers, Dolfsma, & Leenders, R T A J, 2016; Apanasovich, Alcalde Heras, & Parrilli, 2016; Bammens, 2016; Beverland, Micheli, & Farrelly, 2016; Gurtner & Reinhardt	Five papers werethat was found in the final list of studies in this review. One argued that the ambidexterity at the initial stage of idea generation and how it eventually affects new product development. The second paper looked at the difinrence of using science and technology innovation and "doing, using and interacting based innovation" and how it contributes towards corporate innovation performance. Next, a paper discussing how combining marketing and design via a resourceful sense-making in transforming knto expandxpanding each other's horizon to ensure a better team outcome a part of the outcome of organizational innovatifourthhe forth paperat looked the social aspthe ects of work environment, especially on the well-being of employees where the authors argued that by allowing employees to do good, it will impact them to do well, thereby contributing to the outcome of organizational innovation. The final paper discussed on how to integrate the vertical and

	horizontal hierarchical structure in an organization to allow a more scollaboration/teamworkeam work.
2017 (Garcia Martinez, Zouaghi, & Garcia Marco, 2017; Maria Stock, Zacharias, & Schnellbaecher, 2017; Shaner, Beeler, & Noble, 2016; Zobel, 2017)	One paper discussed how open innovation effects the outcome of organizational innovation, while another study looked at how social cohesion and team dynamics contributions towards the outcome of organizational innovation.

Table 5: Organizational Innovation Theories

Theory	Description	In relev
User-orientedoriented product innovation theory	Also known as "need pull" or information about user needs in the development of a new product or service (Holt, 1987)	The study took place in better understanding user requirements in innovation and how it has practical applications (Holt, 1987)
The ththe eory of firm and industrial organization	This theory discusses the fundamental issues revolving around the existence of the firm, the gap that exists between firms and market in relevance to size and out of the firm, the structure of a firm (for example, decentralized, centralized, policy, organizational chart and alike) and the diversity of a firm in affecting the performance of a firm (Macher & Richman, 2008)	This was discussed based on addressing innovation management in a multi-technology organization (Granstrand & Sjölander, 1990)
Process Innovation theory	This is not to be confusthe ed with innovation process as process innovation discussed novel approached of coming up with new processes directly derived from coming up with a new product or service	To how organizations differ in dealing with market forces by looking at how to create resource through a learning process (Amendola & Gaffard, 1994) To explore how the innovation process depds on a learning by

	that requires a new process to achieve it.	doing, by using and interacting (DUI) mode of innovation including activities such ad technology adaptation and the use of external firm sources (Trott & Simms, 2017)
Kadaption-innovationnovation theory	A theory of organizational behavior, rather than an intra-individual theory of psychological process.	To better understand Kirton's theory (Mudd,
Resource-basedce based theor	esource-basedce based view or RBV discusses a mechanism to determine the available resources that is strategic to the growth of a firm. RBV also discusses how such strategic avresourcesresource can be used to enhance ora create new competitive edge. By definitiois RBV are "firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that	The empowerment of employees as corporate entrepreneurs (Sundbo, 1996) To investigate theoretically and empirically how a perceived innovative culture can be a building block for a firm's competitive resource and advantage by creating superior employee-level outcomes and how a market information-sharing process may moderate these effects (Wei et al., 2013)

	improve its efficiency and effectiveness" (Barney, 1991)	
Behavioral theory Institutional	The behavioralhavioral theory claimed that while start-ups and smaller companies are driven by entrepreneurs or entrepreneurial like behavior, large companies do not share the same attributes. This theory attempts to predict specific behavior relating to price, output and resource allocation decisions. This theory also highligdecision-makingn making process (Cyert& Mar). 1963) . Institutional theory has two prevailing trends, i.e. old institutionalism institutionalismtionaism. New institutionalism argues that the cultural and cognitive aspects of both societal and organimpact impacts how decision making needs to be made (Scott, 1995)	In the authors attempt to compare betwtake-up take up rate of adopting or creating by looking at how reference groups are created (Massini, Lewin, & Greve, 2005)

The C-K theory	The interaction and co-evolution of concepts and knowledge is the main engine through which design progresses.	The authors proposed to use the C-K theory to better understand co-innovation or the up andexploratoryloratoty partnership in an innovation community (Gillier, Piat, Roussel, & Truchot, 2010)
The upper echelon theory	Upper Echelons Theory statehe ts that top management team (TMT) members' characteristics, including past experiences, values, and personalities, affect how they make strategic and organizational decisions (Herman & Smith, 2015)	This study was done in relevance to how the top management team's characteristics affect a firm's strategic innovation orientation, and how this relates to innovation outcomes and firm performance (Talke et al., 2011)
Situated learning theory	This theory predicts that tacit knowledge sharing will be largely prevented by "decontextualization." Therefore, increasing usage of dispersed collaboration will decrease levels of tacit knowledge-crucial to innovation and organizperformance inmance-in the business unit.	To find out the mechanisms believedbelieved to allow tacit knowledge transfer in the front end of innovation (Bertels, Kleinschmidt, & Koen, 2011)

Resource-advantage theory	Resource advantage theory refers to firm size, R&D intensity, and organizational redundancy (Song et al., 2011)	To examine the conditions in which strategic planning increases or decreases the number of new product development projects and firm performance (Song et al., 2011)
The theory of inventive problem solving (TRIZ)	TRIZ or "theory of the resolution of invention-related tasks" is essentially a means to solve problems as analyze analyse and forecast trends in innovation with the main focus on patents (Altshull). 1999) .	To test this theory in an engineering firm (Birdi, Leach, & Magadley, 2012) To explore why the use of TRIZ is challenging from a practical perspective by looking into its acquisition and application based on practical experience (Ilevbare, Probert, & Phaal, 2013)
The real options theory	An approach to enhancing strategic flexibility in the firm	To explore the application of real options theory to innovation theory and to propose a model in which real options reasoning improves the level of product/process technological innovation (Verdu, Tamayo, & Ruiz-Moreno, 2012)
Social network theory	To understand the relationships between individuals, groups, organizations or even societies as a whole by	To investigate an indirect ties-innovation argument where organizational knowledge creation processes, including knowledge exchange and

	studying the social structure of the interactions.	knowledge combination, are mediators and managerial ties are examined through two traditional dimensions, business ties and political ties (Shu, Page, Gao, & Jiang, 2012)
Control theory	Control theory is basically about how an organization iscentralizedtrapised or decentralized in its work environment.	To analyze the relationship between controlling organizational innovation and corporate culture by taking the perspective os of management practice (Bschgens, Bausch, & Balkin, 2013) To investigate NPD programs in terms of three perspectives: (1) the formal control mechanisms used for managing NPD programs - specifically SGS, which is mainly seen as a higher organizational level approach used for guiding and implementing a portfolio of NPD projects, and PM, which is a precise formal control mechanism relevant for managing specific problems at a single project level; (2) the immediate outcome of the application of formal

		controls, i.e. decision-making clarity (DMC); (3) degree of NPD innovativeness, a key contingency hypothesized to impact the efficacy of formal controls. (Schultz et al., 2013)
Organizational information processing theory	This theory discusses how communication is disseminated but more specifically, the process of how information is disseminated (Weick, 1976)	To propose and examine the antecedents and consequences of new product portfolio management (NPPM) decisions (McNally, Durmuşoğlu, & Calantone, 2013)
Absorptive capacity theory	This has been defined as “a firm's ability to recognize the value of new information, assimilate it, and apply it to commercial ends” (Cohen & Levinthal, 1990)	To examined coordination antecedents to potential absorptive capacity for cross-industry innovation with partners at moderate and high distance applying case study analysis. How to build potential absorptive capacity for distant collaboration beyond established industry boundaries to gain radical rather than incremental results

		(Enkel & Heil, 2014)
Activity Theory	The main intent of activity theory is to better comprehend the psychological capabilities of an individual while dismissing the 'isolated individual' by bringing in the analysis of how culture and specific technical aspects affect human actions (Bertelsen & Bdker, 2003)	To understand dynathe mics of complex service innovation system and model the actions taken by different entities in telehealth service projects, in which we identified important contradictions that affect the sustainability of newly developed services (F. -. Lin & Hsieh, 2014)
The classical institutional theory	This theory suggests that organizational attributes, no matter whether they are control oriented or flexibility oriented, serve two major functions: a constraining function and an enabling function.	To investigate how two different types of organizational attributes i.e. controlled and flexibility oriented imthe pact on product. Specifically, how flexibility oriented organizational attributes impacts product innovation iandease amd how control oriented attributes impacts negatively towards product innovation (Song & Chen, 2014)
The static resource assumption (centralextente extant debate in organizational	This iout the how knowledge can be created, retained and tranwithin withing and between organizations.	to explore how firms should dynamically reconfigure resource portfolios to leverage organizational ambidexterity for new product development and

ambidexterity literature) The dynamic resource management view Organizational learning theory		to bring greater conceptual clarity to the notion of balance To investigate the moderating effect of resource flexibility and coordination flexibility on the impacts of the two dimensions on new product development performance (Z. Wei, Yi, & Guo, 2014)
Resource-based view Organizational support theory		To investigate how innovation-oriented leadership and HR practices might support members of the R&D function and encourage cross-functional R&D cooperation, which enhances product program innovativeness. Specifically, members of the R&D function who are supported in their innovation efforts through innovation-oriented leadership and HR practices should reciprocate for the support they receive by intensifying their cross-functional cooperation to achieve greater product program innovativeness (Stock, Totzauer, & Zacharias, 2014) To test the interrelationships between the levels of fit,

		innovativeness, speed to market, and financial new product performance (Stanko, Molina-Castillo, & Harmancioglu, 2015)
Job engagement theory The theory of job design		To develop a framework that positions solver engagement as a key determinant of creativity in online innovation contests (Garcia Martinez, 2015)
Strain theory Social cognitive theory	This argues that there is a certain pressure that forces individuals to act in a specific way (Merton, 1938)	study whether the emergence of bootlegging behavior is influenced by formal management practices, in particular, strategic autonomy, front-end formality, rewards, and sanctions. Additionally, we investigate the role of employees' self-efficacy related to innovation tasks at the entrepreneurial stage to explain the emergence of bootlegging (Globocnik & Salomo, 2015)
Institutional theory		This study was in relevance to patenting and the role of government (Shu, Wang, Gao, & Liu, 2015)
Contingency theory	This theory proposed that there is ultimately no real way to structure an organization other than to	How does a firm organize and plan resource allocation for those innovation processes that do not easily fit into traditional

	rely on both internal and external forces to dictate how an organization needs to behave.	models (Salerno, Gomes, L A D V, Da Silva, Bagno, & Freitas, S L T U, 2015)
Strategic process theory		To analyze the relationship between ambidexterity-oriented decisions and innovative ambidexterity (Kortmann, 2015)
Strategic innovation management theory		To better understand the phenomenon of innovation roadmapping (what it is and what it is not) and its impact on innovation performance (Simonse, Hultink, & Buijs, 2015)
The construal level theory	This theory moots that there is a mentally driven perception that how far or antant and object or an idea is, the more distant it is and conversely visa versa. Such objects can be in the form of time (how far a time in the future is being looked into), distance (geographically), social (the distance between individuals) and hypothetical (a potential event that may or may not occur)	To investigate whether ambidextrous idea generation, defined as the capability to actively generate both incremental and radical ideas, affects new product development (NPD) success. To investigate which antecedents foster ambidextrous idea generation (Gurtner & Reinhardt, 2016)

Theofheory on dual Person-organization fit theory	The ability of an individual's traits to adapt to an organization	to explore the dynamics of organizational and professional commitment among scientists and engineers working in hybrid, research-focused organizations (Perry, Hunter, & Currall, 2016)
Self-determination theory Social exchange theory,	This is a theory of how humans are motivated that comes with the personality for psychological growth.	The purpose of this study is to present a conceptual analysis of the intricate relationship between organizational care and employees' (Bammens, 2016)
Configurational theory		To explore the effect of organization risk aversion on the benefits of service innovation (Torugsa & Arundel, 2017)
Boundary theory Organizational learning theory Dependent Theory		To investtop-downtop down perspective to stimulate co-development with customers (Maria Stock et al., 2017)
The goal commitment theory		To explore the difference in individual innovation performance and individual innovators to firm's innovation efforts (Bettencourt, Bond, Cole, & Houston, 2017)

Alignment theory		To explore the effects of aligning knowledge assets on facilitating a firm's ability to pursue ambidexterity, which is defined as the simultaneous pursuit of explorative and exploitative innovation strategies. We also explore the relative influence of organizational and human capital in fostering an exploitation innovation strategy on the one hand, and an exploration innovation strategy on the other (H. -. Lin, McDonough, Yang, & Wang, 2017)