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# A Service Dominant Logic – based Crisis Management: Collaborative, Dynamic, Iterative, and Holistic

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**Abstract.** Covid-19 pandemic has affected the world's economy severely that businesses has been struggling to survive. Only if businesses, especially SMEs are more prepared to face the unprecedented, the impact might be damped into the lowest possible level. SDL-based crisis management offers enterprises, especially SMEs, a dynamic, iterative, and holistic approach to evaluate current crisis handling while planning for the next future. It emphasizes on collaboration between and among biotic entities e.g. stakeholder and abiotic entities e.g. technology and information. As a result, cognition, co-learning, continuous learning, and relevance of crisis management overtime could be achieved.

**Keywords:** Crisis Management; Service Dominant Logic; Service Science; SME; Dynamic; Collaboration; Holistic; Iterative.

# 1. Introduction

The emergence of the novel Coronavirus in the late 2019 in China shocked the world as it only took three to four months to become the world pandemic (Singhai, 2020). Until this study is written, the pandemic is still ongoing. Several countries such as the United States, Japan, South Korea, and many European countries are experiencing the second wave of Coronavirus infection a year later (Bontempi, 2021; Parry, 2020).

Governments around the world put measures to contain the virus from spreading, while waiting for vaccines to be distributed globally and thoroughly, thus casualties could be minimized. Several Government measures are to put cities or countries on lockdown, restricting the mobility of people, closing schools and universities, limiting working hours, and limiting the amount of people in offices and restaurants up to 75%. These measures affect businesses to different extent, though most of them hardly survive the catastrophe (Yesa, 2020). For instance, businesses are experiencing lower performance due to limited working hours and the *work-from-home*, which poses communication challenges, internet connection, digital adaptation of the employees, etc. Additionally, health problems experienced by the employees due to the Covid-19 virus, other physical diseases, or mental related problems are also another challenge for businesses.

Tackling challenges caused by such a crisis is another challenge for business. Many businesses do not have planning or vision beforehand of what potential crisis might occur in or to their firm. This reflects the missing ability and/or capability to sense risks even before it happens (Pearson and Clair, 1998). When managers or owners fail to acknowledge potential risks, then it is possible that their decision during a crisis will be spontaneous and may lead to breakdown (Ritchie, 2004). This behavior might put the firm at stake as their strategic decision may not be facilitated by the appropriate system, tools, personnel (knowledge and skill), and information to bring to survival.

Despite the value of systemic and multidisciplinary crisis management being recognized in previous research, only a few have attempted or succeeded in doing so in the past (Antonelli et al., 2015; Martens, Feldesz, and Merten, 2016; Ponis, Van Der Eijk, and Masselos, 2012). Furthermore, according to previous studies, crisis management in SMEs is seen as siloed and linear rather than systemic (Kraus et al., 2020; Eggers, 2020; Cepel et al., 2020). Several factors contribute to the aforementioned situation, including a lack of communication and understanding among stakeholders, lack of knowledge, different perspectives on the crisis, silo thinking, short-term or panic planning, and a lack of collaboration.

This study proposes a conceptual model of SDL-based crisis management to answer the existing gap. Service Dominant Logic offers the perspective of collaborative integration of resources from various actors to co-create value, thereby

improving the well-being of beneficiaries. To that end, service science provides a framework of interacting entities, not just actors, that are relevant for crisis handling and crisis planning in the twenty-first century (together as crisis management), namely People – Technology – Information – Value Proposition in a network form. SDL-based crisis management is available in two modes, zoom in and zoom out, which are both required for effective crisis management. Its dynamic, iterative, and holistic model solves multifaceted problems while remaining relevant over time.

# 2. Literature Review

## 2.1. Crisis and Crisis Management

To date, there is no universal definition of crisis (Coombs and Halladay, 2012, p.18). This study however refers to the following definitions, which in nature are relevant to the discussion in this research. According to Merriam-Webster dictionary, crisis can be defined in several ways that are related to personal or situational currents. For this study, the latter definition of situational crisis is appropriate as it is defined as "*an unstable or crucial time or state of affairs in which a decisive change is impending*" or "*a situation that has reached a critical phase*" (Merriam-Webster, n.d.). These definitions are often reflected in a situation such as financial crisis, environmental crisis, natural disaster, societal crisis, etc.

On the other hand, Pearson and Clair (1988) define crisis as:

A low probability, high impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect and means of resolution, as well as by a belief that decisions must be made quickly (Pearson and Clair, 1998, p. 60).

Inference from both definitions of crisis suggest that crisis is a situation where uncertainty is high, potentially unprecedented, and could cause significant damage to organization, people, nature, and any entities affected. In this situation, those entities, especially related to humans and its activities, tend to react spontaneously through quick decision making, thus the acute problem does not get worse and causes only minimum harm.

Whilst crisis is often referred to natural disaster, war, global or regional financial crisis, terrorism, and other rather extreme situations, organizational crisis is still often overlooked (Pearson and Clair, 1998; Comfort, 2007). It is undeniable, however, that the organizational crisis is feasible following those extreme situations. On the other hand, internal crises within the organization could have the same, lesser, or even worse impact as the former external-caused crisis.

In addition to the former, potential causes of crisis are often related to our recent knowledge and view of potential crises (Gundel, 2005). In that case, organization potentially also faces technological and social crisis as they are within our current

knowledge and are directly related to the daily activity of organization in recent decades. Technological disruptions that shift markets, socio trends and preferences that move faster towards digitalization, changes in lifestyle that changes human capital management, are instances which organizations need to adapt internally and externally in order to survive and thrive in a more competitive world. In other words, if organizations overlook this phenomenon, a crisis will be inevitable.

Crisis management is a tool available to prepare for potential crisis situations. The preparation means to track potential causes for crises, define the consequences of those crises, determine precautions to minimize the possibility for the crisis to happen or minimize the potential effect of the crisis, and to plan for coping mechanisms if the crisis occurs (Shrivastava, 1993).

Shrivastava (1993) and Pearson and Clair (1998) emphasize that crisis management is a contextual matter which differs from one organization to another and from one crisis to another. The 4Cs, "*cause*" - "*consequences*" - "*caution*" - "*coping*", help organizations to build proper crisis management that is endemic to its unique situation. However, the 4C model tends to be linear or investigating causes from a single point of view such as anchored in the crisis typologies.

Holistic approach to crisis or known to be *systems approach* is not new in crisis management. Its discussion has been around since the last millennium (e.g. Bowonder and Linston, 1987; Pauchant and Mitroff, 1992; Pearson and Clair, 1998). However, in reality, the implementation of systemic crisis management always faces challenges as it involves many stakeholders with different interests and cognition, and each has its own system or ways of coping with the crisis (Martens, Feldesz, and Merten, 2016).

In a systemic approach of crisis management, collaboration is a key to successful problem solving. Collaboration, here, means that important stakeholder hand in hand in tackling crisis issues through their specialized expertise. It is, however, important that each stakeholder has the same cognition of the crisis. Hence, they will put all necessary resources and efforts as they see the crisis at the same risk level.

Cognition means that someone recognizes that a crisis is happening or potentially could occur and aware of its risks (Comfort, 2007). The degree of cognition will define someone's perception of risks of the crisis. Different people and organizations might have their own cognition of the same situation. Some, due to their cognition, will see a crisis as not as risky as others might see it. Thus, their crisis management of the situation will differ as well.

To reach the same cognition in the system, collaboration needs to start in the planning of the crisis management. During the planning, stakeholders need to be invited and involved in the planning process to generate insights, which in turn, will give the organization a thorough perspective of what might be successful and fail in their crisis management.

Crisis Management typologies are therefore necessary to locate potential causes of crisis and as a basis ground for the discussion with stakeholders. Pearson and Mitroff (1993) found seven major causes for crisis in organization:

*(1) Economic-related crisis*
*(2) Information-related crisis*
*(3) Physical-related crisis*
*(4) Human resources-related crisis*
*(5) Reputational-related crisis*
*(6) Psychopathic act*
*(7) Natural disaster.*

Björck (2016) indicates that framing a crisis needs to be approached multidisciplinary in order to holistically tackle the problem. This multidisciplinary approach refers to the involvement of different knowledge and skills, different department, and also different entities in the planning. Almost two decades later, study by Björck (re)confirms Pearson and Clair's (1998) propositions on handling crisis in a holistic and multidisciplinary way. On the other hand, as crisis is in nature a complex situation, which often involves many major causes at the same time (e.g. economic-, informational-, and human resources-related), makes a multidisciplinary approach is plausible.

## 2.2. SME in the crisis context

In Nature, SMEs have limitations that makes it prone to crises (Eggers, 2020). Its limited financial strengths, managerial capabilities, technology, human resources, and operational system could cause significant turbulence in the organization. On the other hand, these points could be the catalysator for an on-going crisis to worsen, as the SMEs might lack of the means to survive.

Prior study has found that SMEs tend to respond to crisis in four patterns: *retrench*, *persevere*, *innovate*, or *exit* (Wenzel, Stanske, and Lieberman, 2020). Retrenchment refers to the attempt of minimizing the scope of the business thus cost can be cut. This is mostly observable among enterprises during crisis and reflects a rather quick response or decision making to survive the unprecedented. On the other hand, some enterprises choose to persevere with their current state during the crisis and try to mitigate the effect caused by the crisis. To do so, the entrepreneur needs to be aware of what it may be taken to do so and form strategies accordingly. Lesser enterprise innovates during the crisis to survive. This innovation could be an innovation in the whole business model or only a part of it such as in the product, process, or services (Heider, et al., 2020; Randhawa, et al., 2020). In order to innovate, there must be relevant resources and capabilities available within the enterprise. If this is not the case, innovation could be done collaboratively with other entities such as stakeholders, competitors, or consumers (Ritchie, 2004). Lastly, *Exit* from the market is a choice too for enterprises that are not able to

survive the turbulence situations. The enterprise could be off the market for the crisis period only before returning afterwards or exit from the market for good. The latest depends on how the entrepreneur manage the situation, resources, and opportunities during the unprecedented.

Ravindran and Boh (2020) claimed that there are three archetypes of enterprises during the unprecedented, namely: (1) the pandemic warrior; (2) the survivor; and (3) the digital native. The pandemic warrior is described as enterprises providing essential products and services for daily needs or necessity such as groceries. On the other hand, the survivor group entails enterprises that deal with unessential products and services which highly depend on spaces and people to remain relevant during the crisis e.g. home security services. Lastly, enterprises which products and services are technology or initially already used technology or digitalization as its enabler are the digital native enterprise. In this case, web developer or digital marketing enterprise are among businesses in this category.

The aforesaid categorization is however due for several critiques. First, in their study, Ravindran and Boh (2021) did not further elaborate the term of "essential products and services for daily needs". It is indeed true that e.g. groceries, sanitation, and such are important for daily needs, however for some part of the population other things such as certain medicine, treatment, or therapy are a daily crucial aspect. Here, necessity means something necessary or indispensable (Lexico, n.d.). Thus, daily needs or necessities could also mean something crucial for the continuation of human life and activity that is required to be present or available to guarantee its preservation. In this case, besides groceries, shelter, clothing, medicines, physical or mental therapies, medical treatments such as dialysis, transportation, and such could also be considered as daily necessities. Secondly, the categorization based on the essentials is also ambiguous, supported by the fact that the grouping is also asymmetrical. It is ambiguous because even the enterprises that provide essential products and services could have the behavior of enterprises that offer unessential one. For instance, as the pandemic rises, demands are shifted into healthy green products and herbals (Vig and Agarwal, 2021). The former type i.e. pandemic warrior are started to exploit the opportunities by pivoting to adjust the market demand. This behavior, however, is mentioned in their study as the typical of the survivor, whilst in reality also being done by the pandemic warrior. In addition to that, not few pandemic warriors and survivors are already digitalized their enterprise through entering online marketplace, having their own apps, or using digital payments (Manyati and Mutsau, 2021; Vig and Agarwal, 2021). Hence, the categorization is somewhat irrelevant to the reality or to a high extent exclusive that is does not capture the cross-category that the enterprise in nature represent.

Regardless of their types and patterns in handling crisis, an empirical study by Kraus et al (2020) suggest that survival of the SMEs depends on several aspects such as safeguarding liquidity, safeguarding operations, safeguarding

communications, adjusting business model, and changes in organizational culture. Other studies also found that financing especially cost control is a crucial aspect for SMEs in the unprecedented, as it could provide the enterprise with the means to achieve another means such as operational continuity, employment, organizational support, and marketing as well as it is the highest risk post for SMEs (Eggers, 2020; Brown and Rocha, 2020; Kukanja, Planinc, and Sikošek, 2020; Cepel et al., 2020). Overall, many studies deemed that survival of SMEs in the crisis are related and depends on operational-related aspects.

Besides the aforementioned aspects, Eggers (2020) emphasized that the orientation strategy of the enterprise also defines enterprise's potential to survive. In this case, enterprise with entrepreneurial orientation has a higher change of survival in crisis compared to market orientation strategy, as the former embraces innovation, is more risk taker, and proactive to the changes in the environment. On contrary, Petzold et al. (2018) found that Market orientation could also help SMEs to survive crisis when it is responsive or proactive, yet it requires the right perspective or cognition of the managers about the crisis and depends on the intensity of the crisis affecting individual's environment, organization, and personnel in the organization.

Recent crisis of pandemic Covid-19 forces SMEs to adopt digitalization and move towards digital platforms to survive (Manyati and Mutsau, 2021; Sheresheva et al., 2021; Vig and Agarwal, 2021). The digitalization ranges from entrance to online marketplace, owning digital platform such as website or apps, using digital payments, exploiting digital marketing, or having a delivery-only business such as cloud kitchen (Vig and Agarwal, 2021). The aforementioned digitalization enables SMEs to enter the market and explore limitlessly the opportunities available as well as building a broad network (Manyati and Mutsau, 2021). In terms of access, digital platform is accessible to almost any SMEs that has a smartphone or simple, unsophisticated computer. Even when digital platforms provide great opportunities for SMEs, the number of SMEs entering the platform is still low to moderate compared to the whole number of existing SMEs due to lack of knowledge, skill, or awareness of the great potential of the platform (Klein and Todesco, 2021). Thus, a knowledge-sharing attitude is important internally and externally to lift the survivability of SMEs.

In relation to the prior section, collaboration is a crucial aspect in battling crisis for SMEs. Even so, scarce past studies have investigated the necessity of employing this approach and studying the process of its implementation in a holistic way during the unprecedented (Ponis, Van Der Eijk, and Masselos, 2012; Antonelli et al., 2015). Most studies focus on one aspect or several aspects individually while left out the potential of finding fruitful relation and interaction among involved entities (e.g. Kraus et al., 2020; Eggers, 2020; Cepel et al., 2020). Extending the latter point, it is important as well not only to find the relation between aspects concerning the causes of crisis or stakeholders, but also to map the interaction and integration

pattern between all entities that suits for the unprecedented.

As per Aristotle's insight that the whole is something different to the sum of its parts (Jackson, 2019), handling crisis in SME will have the same mindset as well.

## 2.3. Service Dominant Logic and Service Science

Service Dominant Logic (SDL) is a perspective that stresses integration and exchange of operand resources i.e. knowledge and skill to leverage beneficiary's well-being (Vargo and Lusch, 2004; Vargo and Lusch, 2008b). These could be achieved through a service-for-service exchange (Vargo and Lusch, 2017). The latter italic term means that everyone involved in the integration is exchanging its service represented by knowledge and skill with the one of others to obtain benefit it needs. In this mindset, physical goods act only as a media to transfer the service and money is only a value-in-exchange (Vargo and Lusch, 2008a). The real value is thus the benefit that others gain from the interaction. The latter word emphasizes that value could only be obtained from an interaction, which could only occur if a minimum of two actors or entities are involved (Vargo and Lusch, 2008b). In this regard, as value are created collaboratively with different actors or entities, the process is then called as value co-creation (Vargo and Lusch, 2008a).

In an interaction that seems to be dyadic, many actors or entities are actually involved which makes it a holistic experience for the beneficiary (Vargo and Lusch, 2017; Frow and Payne, 2011). This experience could occur in any level i.e. macro, meso, or micro depends on the zoom in or zoom out done by the observer. For instance, managerial or organizational experience will happen around the micro level aggregation, while macroeconomics belongs to the macro level aggregation.

Value co-creation through holistic experience is only possible and make sense through interaction of multiple actors with a multidisciplinary background or various operand resources (Vargo and Lusch, 2008b; Frow and Payne, 2011). This multidisciplinary principle gives the interacting actors or entities the possibility to fill up the gap exist within itself through the advantageous of others in order to generate value. Collaboration of this type will need a value proposition delivered by the interacting actors to achieve value alignment, thus interacting actors are moving toward the same direction (Frow and Payne, 2011).

To complement the former concept, Service science adds the stream with the aim to encourage multidisciplinary collaboration on service and innovation to combat silo department development of service, which often does not provide a holistic improvement of the whole system (Chesbrough, 2005). The notion of service science focuses on interaction within service systems which configurates people, technology, value proposition, and shared information to co-create value in order to achieve a systemic innovation and thus benefits (Maglio and Spohrer, 2007). In this case, the aspects of service systems are actors (people) and entities (technology and information) necessary for the interaction (Spohrer and Maglio, 2009). In that

regard, an innovation of service could be achieved only by integrating the biotic (living entities) and the abiotic (non-living entities) component of the system.

Inferencing from the aforesaid concepts, SDL provides the philosophy of how current state of the world to be seen as economies started to shift toward service based. Meanwhile, service science stands on a more practical level by giving clues on the means to achieve the philosophy and objectifies the improvement on businesses and society through multidisciplinary and holistic collaboration.

## 3. A SDL-based Crisis Management

A SDL-based Crisis Management is proposed to overcome prior limitations and enhance the current state by synthesizing the traditional Crisis Management with the service science approach under the Service Dominant Logic perspective. To be exact, the proposed approach of crisis management aims to evaluate the current situation of how an organization react to prior or on-going crisis, what aspects are needed to do so, do the organization has a plan to overcome crisis, and how they collaborate to achieve the prior, especially concerning the interaction between the biotic and abiotic component. Additionally, the proposed approach is able spot failure points that will serve as a learning points for the organization. The latter is then useful for the next step of forming crisis management design that is suitable for the organization. All of this process is framed using SDL perspective that emphasizes value co-creation to give benefits for others to elevate their wellbeing through collaboration.

In this approach, the evaluation of the current situation or real world and the designing of crisis management are seen from the multi-stakeholder and multi-discipline angels. These are important as crisis in nature are complex and interconnected. Moreover, crisis often affects systems which interact with other systems (i.e. *systemshood*) such as between department and/or affects entities that interact with other entities (i.e. *thinghood*) such as between actors (Jackson, 2019). So far, there is no exact definition or threshold to polarize *systemshood* and *thinghood* as in reality it is sometimes overlapping and are defined contextually according to researcher's point of views.

Entity or entities as a term is utilized in this approach to refer stakeholders, technology, information, or other necessary aspect for the crisis management. The reason for the use is that it has a neutral tendency to not only refer to human or biotic aspect as stakeholder does, but also could cover the abiotic aspects such as technology, information, and value proposition crucial for crisis management. The latter is important as it puts both in the same level. It is undeniable that biotic and abiotic components of a system need each other to be able to generate something meaningful, in which requires interaction and integration of each possessed resources in a proper and just way. If one of both is put in the different level that one has a more power over the other, there is a potential of misintegration or

misineraction that results in a less efficient crisis management.

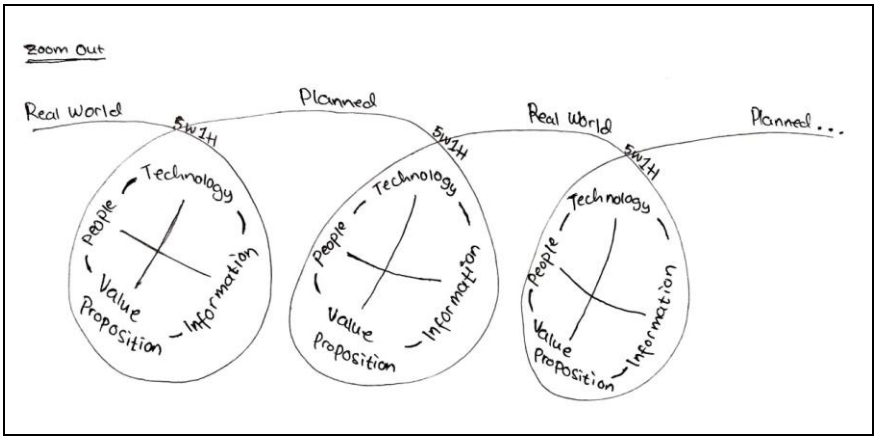


Fig. 1: SDL-Based Crisis Management in a zoom out setting.

In nature, entities are dynamics. Biotic entities such as human or people are a learning organism that through interaction with other entities will give them new information whether it relates to knowledge or skill. On the same hand, abiotic entities are dynamic as well. Information flows every second and brings new ideas, facts, sets up a position, or anything that affects the biotic and abiotic state. Technological changes are also fluid, as innovations are fast, accessible, and has a magnitude for both kind of entities. Thus, proposed values of all entities are constantly changing and need iteration as all entities' state is dynamic.

In that regard, crisis management of an organization or institution that consists of biotic and abiotic entities must be dynamic as well to facilitate their natural behavior. This dynamism reflects in the ability to continuously looking at the real-world situation that the organization currently has, while iterating its planned crisis management. The evaluation and iteration occur continuously that crisis management becomes a learning process for the organization, instead of a one-shot planning at front.

Fig. 1. pictures the dynamic and iterative crisis management. The setting of displaying real-world situation besides the planned or vice versa aims to provide comparison and easier evaluation. The 5w1H or *what, why, when, who,* and *how* serves as the exploration questions for both the evaluation and iteration stage. These simple basic questions could open up new more in-depth questions during the process, especially when it is done in a multi-stakeholder and multi-discipline setting. The result of these questions will then be modeled in the holistic interaction of *People – Technology – Information – Value Proposition*. The aforesaid aspects is adopted from the service science notion (Maglio and Spohrer, 2007) for some reasons: (1) Technology and information are inevitable entities that are crucial for this decades service, production, activity, security, and so on; (2) Technology and

information do not serve as a complementary products anymore, but the main aspect in the whole process of private or public activities; (3) Service economies has shed the light that the critical point of economic activity is the value proposition; (4) Having this interaction into a conscious planning will create an effective crisis management as it synthesizes operand resources of available and potentially available entities; (5) The modelling will help organization to communicate or arrange the planning to other entities, thus easier to understand; and (6) The model provides a learning process as entities are aware of their strengths and weaknesses. Lastly, the loops are a reflection of the iterative process of the crisis management in the organization.

In a *zoom in* setting, more robust interaction is visible (see Figure 2). For instance, people as an entity could refer to one person in *thinghood* constellation or as an interaction between many people thus people as entity serves as a system i.e. the modeled interaction becomes a *systemshood*. The same apply to technology and information each as an entity. The sub-entities mentioned in the Figure 2 such as manager, smart factory, customer database, and so on are only examples of the potential sub-entities that interact within the entity. These are flexible and fully adjustable to any context of organization or crisis. In the case of iteration, the sub-entities can only a part or even fully change due to changes in the organization, operand resources, health issues, or any external aspects such as policy and regulation according to the needs.

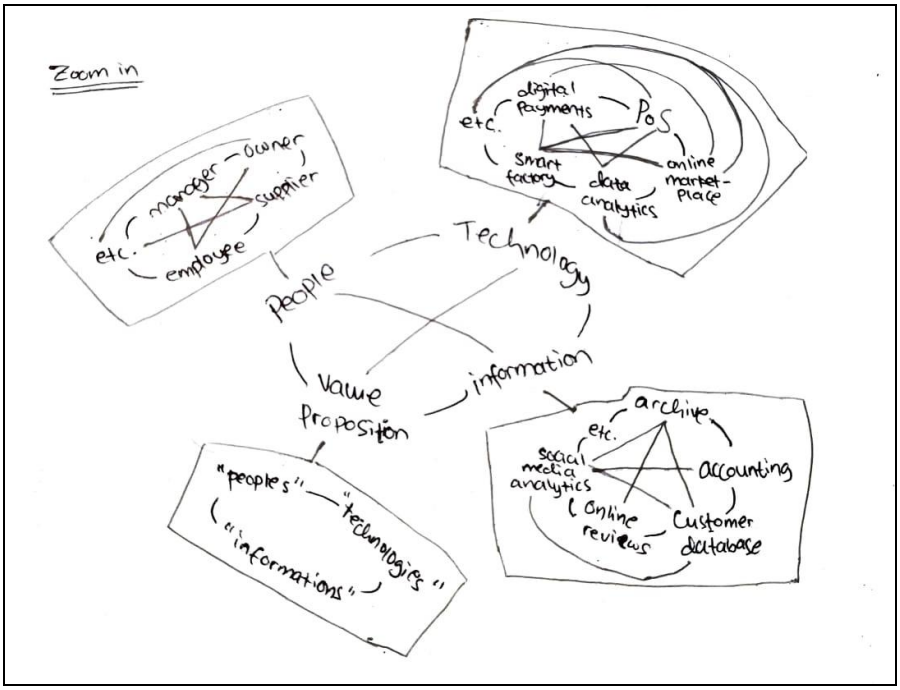


Fig. 2: SDL-Based Crisis Management in a zoom in setting.

Value proposition in this interaction acts not only as an entity that is possessed, offered, and needed by other entities, but also as a hub in a *systemshood* that sets a place for value proposed by other entities to interact and find accommodation. In the case of value proposition, it goes a little deeper than other entities as the sub-entities i.e. "people s", "technologies", and "informations" also have its sub-entities (here: sub sub-entity). For instance, there are value proposed between manager, owner, employee, and supplier, who are sub sub-entities, to achieve the value proposed by "people s", which is sub-entity. The latter will then interact with value proposed by other sub-entities.

In the macro or *zoom out* level, there will be the interaction of *People – Technology – Information – Value Proposition* that is already agreed or accommodated will be shown. In this regard, both *zoom out* and *zoom in* setting is not a substitute of each other, but compulsory for designing a SDL-based crisis management that is collaborative, dynamic, iterative, and holistic.

# 4. Discussions and Implications

## 4.1. Discussions

Prior studies have noted the importance of a holistic and multidisciplinary crisis management, yet only few has done or successfully done it in the past (Antonelli et al., 2015; Martens, Feldesz, and Merten, 2016; Ponis, Van Der Eijk, and Masselos, 2012). Besides that, crisis handling in SMEs are seen to be silo and linear instead of systemic according to past research (Kraus et al., 2020; Eggers, 2020; Cepel et al., 2020). Several reasons cause the aforesaid situation i.e. lack of communication and understanding across stakeholders, lack of knowledge, different cognition of crisis, silo thinking, short-term or panic planning, and no collaboration.

A SDL-based crisis management emphasizes collaborative, dynamic, iterative, and holistic approach of picturing real world situation of crisis handling and crisis planning (together then as crisis management). The *zoom in* and zoom *out* setting enable organization to have both robust and general idea of what and how their crisis management works. Additionally, the display of loops in *zoom out* and networks in *zoom in* setting is appealing and easy to understand to encourage mutual understanding or cognition of stakeholder. This cognition is achieved by the collaborative making of the display involving all entities in the model. By doing so, a co-learning is present, thus it adjusts everyone's cognition into the same level. In that regard, the latter could minimize the chance of ineffective crisis management due to imbalance cognition among stakeholders and encourage holistic crisis management.

Dynamic model of SDL-based crisis management promotes a continuous learning and planning of crisis management. As entities are dynamic in their nature and external environment are continuously changing as well, organization's crisis

management needs to be able to capture those in order to survive. A one-shot planned crisis management might miss the risks and opportunities that may come to the organization over time. This is especially concerning, when the upcoming crisis is the one that is not in the planning, totally unknown, or unprecedented. No one cannot really plan for the future. However, by having a model that is dynamic and promotes continuous learning, stakeholders are trained to have collaboration, having about the similar cognition of general risks, and having at least the knowledge of what operand and operant resources are available in their system that may be useful to handle the unprecedented.

Prior crisis management often anchors its approach into crisis management typologies and linear approach. It is not fully wrong to do so as typologies could give idea of where to start to plan. However, crisis management typology is to certain extent restrictive or at least psychologically as it put causes of crisis into boxes of what belongs and not belongs there. Manager could get lost and ends up planning crisis in silo for every typology while leaving out the importance of integrating many typologies, since crisis are often multifaceted and affects many components of organization. SDL-based crisis management does not put causes of crisis into boxes nor leveling those causes. Instead, the model embraces all potential causes and entities as necessary and interconnected in causing crisis as well as in solving the crisis itself. Hence, the model is adjustable for any necessary context and inclusive.

## 4.2. Implications

SDL-based crisis management implies for any enterprises, especially the small and medium enterprises (SMEs). SMEs are in nature resource restricted yet has the agility in handling crisis due to the lean structure and closeness between stakeholders. In this case, the collaboration between entities that is emphasized in this model could facilitate co-learning, innovation opportunities, and resilience of SMEs and its stakeholders during the crisis. Additionally, the model also helps SMEs to map its internal operand and operant resources' availability while finding gaps to fill in as well as its capacity to potential crisis. The aforementioned aspects then will be useful to plan an effective crisis management as it is based on the facts in the real world of its competence, potential, and needs.

# 5. Concluding remarks

As the Covid-19 pandemic has shaken the world's economy and stability, organizations are started to look into something to secure their businesses. Bigger organization or enterprise might have the means to tackle the former issue by minimum intervention. Yet, SMEs are struggling mostly on their own only to survive due to scarce resources. Here, collaboration might become the answer for SMEs to come out of the crisis healthily.

This research proposes a conceptual model of SDL-based crisis management to facilitate the problem solving. Service Dominant Logic provides the perspective of collaborative integration of resources of different actors to co-create value thus beneficiary's well-being could be lifted. To support that, service science gives a framework of interacting entities, not only actors, relevant for this century's crisis handling and crisis planning (Together as crisis management) i.e. *People – Technology – Information – Value Proposition* in a network form. SDL-based crisis management is available in two setting i.e. *zoom in* and *zoom out* setting that are both compulsory for an effective crisis management. Its model that is dynamic, iterative, and holistic provides a multifaceted problem solving while keeps it relevant overtime.

Further exploration in this stream might add fruitful extension to the notion. This study is a conceptual paper. Empirical study in general may be useful to confirm and/or extend the current position. It is interesting to investigate the complexity of the model for SMEs and big enterprise, and then give both the comparison. Lastly, it is also intriguing to explore whether another entity is involved and has a magnitude to affect the model.

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