

Bioecological Theory and Risk Management: A Model for School Risk Planning

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Abstract

With the vulnerability, unpredictability, and ambiguity of the situation, schools all over the world have faced a variety of restrictions and unprecedented risks that caused some to cease operations and classes permanently or for an extended period of time. The concept of risk has become closely associated with every school process and structure so as to aid them in adapting to the current situation. This paper explores the concept of risk management and risks planning through the lens of school management and the Plan-Do-Check-Act (PDCA) Cycle. Furthermore, the researchers link the permeation of the direct and indirect effects of risks in the school system by reflecting on the layers of the school's bioecological nest as adapted from the Bioecological Theory of Urie Bronfenbrenner. Finally, this paper suggests a model for risk planning that can help school administrators and leaders in managing risks and aid future researchers in studying concepts related to risk management.

Key Words: Bioecological Theory; PDCA Cycle; risk management; school management; systems thinking

1. Introduction

The world is undergoing a drastic health situation involving billions of individual lives. This situation has birthed a cascade of challenges, difficulties, and imparity, and imbalance in an otherwise steady and organized set of planned activities and tasks, in economics, social, environmental, political, educational, and medical fields.

Since the emergence of CoViD- 19 back in December 2019, many other diseases have risen and caused havoc aside from the deadly COVID virus itself. Challenges of societal unpreparedness, medical

disparities, economic and financial depression, political mishaps, and even educational setbacks have come into view. All of these add up together— a great “generational catastrophe” (UN, 2020, p. 10).

The main theme for this year’s situation is about risks and threats. The risky situation of going out and getting infected through close contact and unsafe socialization practice, the threat of family and job loss, and the burden of conscience: to die of hunger or to die of infection, have become the mental frame of the common Filipinos experiencing this generational catastrophe. It has caused them to tread as carefully as possible, with eyes focused on survival.

The same is true for many institutions and organizations around the world. In the Philippines, 15% of businesses have permanently closed, causing a pessimistic and skeptical attitude among the Filipinos as the community lockdown continues to subdue the economy because of the CoViD- 19 threat (OneNews, 2020). This comes in a growing number as more businesses are in decline because of low sales and poor logistics and operations since all are required to operate within the set standard of health protocols, delimiting their regular activities.

Furthermore, in educational businesses, schools have either temporarily or permanently suspended their services. Reportedly, CNN revealed that about 748 private schools have decided to temporarily close and suspend school operations during this time of the pandemic (CNN Philippine Staff, 2020). The risk of operation with fewer student enrollment is a threat to school stability. Due to the devastating effects of the pandemic, a catholic school in Manila has permanently closed (Jazul, 2020). This is a gap that needs to be addressed as it involves a seemingly permeated effect of the pandemic in the environment and society.

Managing risks and threats can become the fundamental life-support of risky schools, those at the point of closing or suspending due to various reasons including the pandemic. Risk management occupies a very important role during these uncertain economic times and can help to address these stressful situations. Risk management takes into account the proactive key steps to reduce or alleviate limiting factors in an organization. Further, it takes into consideration the vision, mission, goals, and objectives of the organization to set the direction in developing sure-fire-target strategies to address a certain threshold. The researchers argue that the role of risk management is often only seen when administrators deal with specific problems in specific instances, not on the layered level targeting the scope of issues. This causes an oversight on other existing risks, in a different environment, which adds to the specific problem.

2. Conceptual and Theoretical Frameworks

2.1 Risk and Risk Management

Bialostok (2015, p. 562) stated that “society is characterized by uncertainty: dangers, hazards, and threats, and a proliferation of risks”. The statement poses several implications: (1) uncertainty is everywhere, (2) people, institutions, and organizations always face uncertainty, and (3) uncertainty comes into many forms. This description captures the complex threshold, the extent of which, and the importance of taking into account the effects and root cause of understanding uncertainty. Further, it also specifies who is involved in the characterization, identification, and assessment, and process of risk management.

As stated, risk and threat is a form of and a way for uncertainties. Šotić & Rajić (2015, p.17) stated that risk is “ a word that causes the feeling of urgency because it addresses detrimental, sometimes catastrophic

outcomes. In another definition, Bialostok (2015) stated that, based on several social and cultural contexts, a risk may be defined as "...a requisite way of understanding contemporary uncertainties and our times" (p. 562). Williams & Heins (1964) defined risk

"...as objective doubt concerning the outcome in a given situation. It is the doubt a person would have concerning the future outcome even if he knew all the possible outcomes and their probability or chance of occurrence" (cited by Crowe & Horn, 1967, p. 460).

From the series of definitions, it can be stated that risk is a perception of the observer on the possibilities and probabilities that a certain threat/opportunity (or situation) can cause a loss or damage, or reward. This definition is supported by Helsloot & Jong (2006) who stated that risk is a social construct that is constructed by actors (p. 144), hence, the identification of risk is dependent on the observer. This calls for an understanding of the process of risk management and understanding the limits caused by threats and opportunities.

The connotative definitions of risk always result in the thinking of negative results and outcomes. However, risk comes in two types, positive and negative risks. Bisson (2014) defined positive risk as taking advantage of the opportunities present while the negative risk is a threat that causes an issue. The two definitions posit the sense of future possibilities depending on the kind of risk, whether an institution can gain or incur a loss. Therefore, in managing risks, one needs to identify key opportunities and threats and make use of them to an advantage.

2.2 Risk Management and the P-D-C-A Cycle

Going back to the statement of Bialostok (2015) that society is characterized by uncertainty, this means that individuals or groups of individuals such as corporations, institutions, or organizations belonging to the society always face uncertainty, as stated above. This rudimentarily points to the involvement of the direct and indirect parties, as well as the internal and external environment in which the parties are situated. According to Ennouri (2013), identification of risks can help organizations or individuals to favorably and confidently manage risk based on sound decision-making. Ennouri (2013) stated that risk identification is the first step in detecting uncertain events that can upset order in the system. During this pandemic, risk identification helps in proactive management of schools to check the possible routes or directions of policy implementations and operations following the community lockdowns and strict health protocols.

Further, Ennouri (2013) and Srinivas (2019) stated the importance of risk assessment. Srinivas (2019) stated that risk assessment is the stage where the collected and identified risks are analyzed. Additionally, Srinivas (2019) and Ennouri (2013) underpin the fundamental step of forming, developing, and taking corrective actions and categorizing potential impacts of risk to reduce, mitigate, or avoid them. Performing environmental scanning and surveys from school stakeholders and interested parties is a step that, not only identifies risk, can assess the situation to help in sound decision-making strategies.

The next stage is risk response planning (Srinivas, 2019). It involves the adoption of strategies in response to the identified and assessed risks. On the other hand, Ennouri (2013) refers to this stage as another risk management step. Ennouri (2013) stated that it "refers to the selection and implementation of the optimal corrective strategy for the risks identified" (p. 291). This stage, according to the definitions, checks the developed strategies for their suitability and feasibility as they are applied to address different risks within

an institution. In schools during the pandemic, this is seen as the implementation of various instructional, logistical and operational, and service strategies to address the needs of the school. However, it doesn't stop there.

The last stage refers to the risk monitoring and controlling step (Srinivas, 2019; Ennouri, 2013). Ennouri (2013, p. 291) stated that this last stage is “where the system is supervised to measure the efficiency of corrective actions and detect the potential risks not identified in the previous steps, this step can improve the risk management system”. Srinivas (2019) identified four strategies to be implemented when facing negative risk: (1) risk avoidance, (2) risk transfer, (3) risk reduction, and (4) risk acceptance; and he also identified key strategies for dealing with positive risks (1) exploit, (2) share, (4) enhance, (5) accept, (6) contingent response strategies and (7) Expert judgment.

The process of risk management involves and touches the Plan-Do-Check-Act cycle. The Plan stage equates to the risk identification where there is a proactive determination of key steps in various risk control mechanisms, its severity and prioritization, and possible treatment. Do stage equates to the risk assessment step where it involves the corrective action phase and risk analysis. Risk analysis calls forth decision-making as a vital step in fighting potential risk along with risk management. Risk and exposure to it is an important concept within an organization (Sevilay & Ömer, 2018). The check stage is the adoption of strategies and implementation to further collect more data and determine if the strategies are successful. Lastly, the Act stage is when the strategies are given in a larger scope if the strategies worked well, or replanning if the strategies didn't conform with proper monitoring and controlling. Since the core of the risk management process is the PDCA cycle, it can be considered that risk management is an iterative process involving the “systematic application of management policies, procedures, and practices to assess and manage risks” (Ennouri, 2013, p. 291).

2.3 Risk, Risk Management and Limits to Growth Archetype

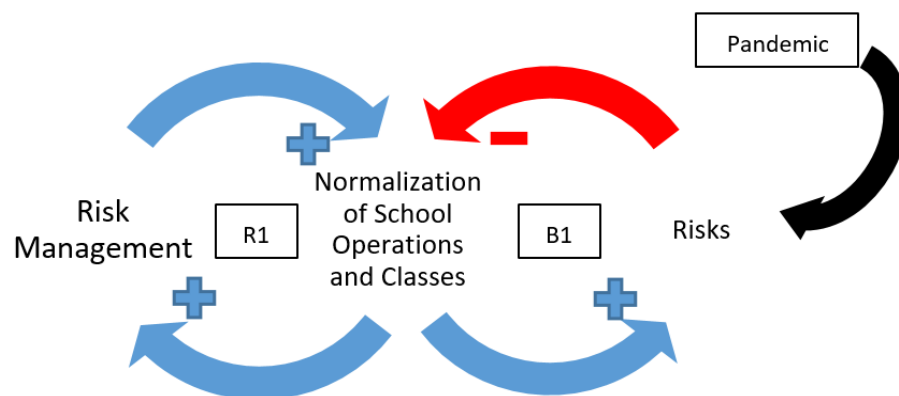


Figure 1. The interaction between risk and risk management, and pandemic as a limit to growth. According to Braun (2002), limits to growth or limits to success archetype “put forth the premise that growth cannot continue unabated in an unrestricted reinforcing dynamic” (p. 2). This means that growth will also be pushed back by unknown factors, which causes it to be restricted or limited after some time. Limits to growth/success archetype are made up of two loops, the first loop is the Reinforcing Loop, which

represents the growth/success, which is countered by the second loop, the Balancing Loop, which restricts the growth.

Fig. 1 above shows the interaction between risk and risk management and pandemic in the lens of limit to growth archetype. The school, to achieve continuous growth and success, will continuously employ strategies and managerial techniques. This process is causal in line with the balancing loop seen as the day-to-day risks a school experiences. However, due to the drastic explosion of infection of CoViD-19, the continuing efforts of risk management are disrupted because of its scale, cascade of implications, and other mitigating factors that influence the loop. As the school approaches its limit, one may find it hard to maintain the balance again, hence as school closure, either temporarily or permanently (as seen in the case of a catholic school in the Philippines), is the last end. This is seen as a collapse in the system. This calls for a proactive risk planning of the unknown, planning for the limit. It is obvious that many schools have experienced a shock in their operations and classes because of unpreparedness and lack of foresight in risk and risk management. Braun (2002) stated that “If we don’t plan for limits, we are planning for failure” (p. 3). This calls for a holistic risk management model that does not target day-to-day risk, opportunities, and threats, but something that is applicable in immediate, abrupt, and large scale issues.

2.4 Risks, Limits to Growth Archetype and Bronfenbrenner’s Bioecological Theory

Reflecting on the idea that risk can be seen internally and externally (Crowe & Horn, 1967; Aven, 2016), it can be said that a school’s way to deal with risk and limitations cascades from within to its immediate surroundings and environment. Additionally, reflecting on the idea that schools develop and improve over time like a person, the researchers integrated the concept of Bronfenbrenner’s Bioecological Theory as a unifying concept for the model.

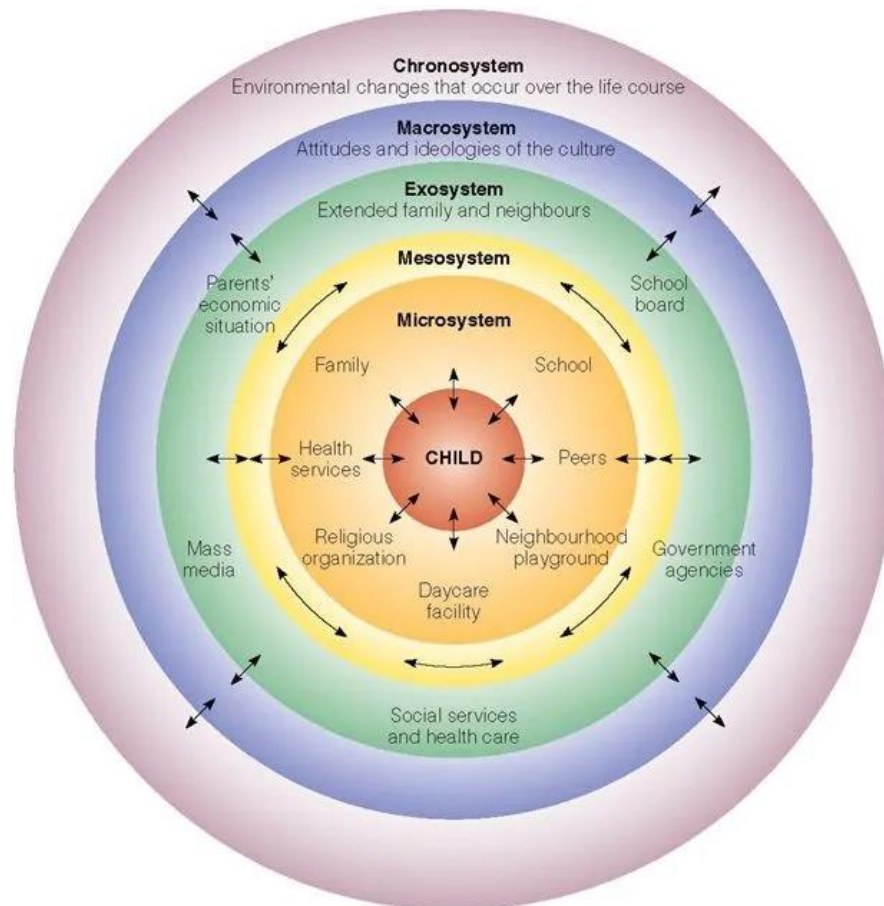


Figure 2. The five Bioecological System as described and viewed by Guy-Evans (2020) in a child’s environment.

Bronfenbrenner’s Bioecological Theory posits the effects of a person’s environment on his/her growth and development, the conditions and process involved within the nested system (Ashiabi & O’Neal, 2015; Guy-Evans, 2020). This nested system refers to the (1) Microsystem, (2) Mesosystem, (3) Exosystem, (4) Macrosystem, and (5) Chronosystem, which continuously interrelates and affects one another. In the lens of a school, the school microsystem includes the immediate relationships and interactions present between and among teachers, students, administrators, parents, and support staff. Mesosystem level is the connection between microsystems, for example, the competitive relationship among schools through different school activities. Exosystem level refers to the indirect effect of the society (such as the community or neighborhood) on the school. The macrosystem is the level wherein the culture and social values of the school are involved along with resources and opportunities. For example, the relationship of the school’s Philosophy, Vision, Mission, and Goals to their desired social ideology of a person (eg. morally decent and spiritually attuned). Lastly, the concept of time (Ashiabi & O’Neal, 2015) in the school’s development, the chronosystem level. For example, the temporal sense in the changing relationship of school-teacher-student which relates the shift from a teacher-centered to a student-centered classroom or the temporal dynamics of curriculum change.

Applying this concept to risk and risk management, the researcher sees that at each level, there is an underlying risk waiting to be accidentally unearthed in the course of school development and improvement. Risks at the microsystem level involve the immediate and direct stakeholders of the school; at the mesosystem, the risk of ever-changing competition among schools and the needs of students; at the exosystem level, the risks and dangers of commuting and safety; at the macrosystem level, the risk of molding socially responsive and proactive individuals who are anchored to the school’s PMVG; and at the chronosystem level, the risk of the temporal sense of New Normal for schools during this time of the pandemic.

This creates frames at which the school administrators and managers should look on to carefully identify, assess, respond to, and control and monitor the risks. The application of Bioecological Theory in school risk management targets emerging unknown limiting factors as seen in the archetype at different environmental levels.

3. Methods

This paper explores the concepts of risk management, systems archetypes, Bioecological Theory, through related literature to draft a model to be used by a school organization in risk management planning. Further, it delves into the application of said concepts to build a strong argument that helps in understanding the proposed school-based risk management model.

4. Discussion

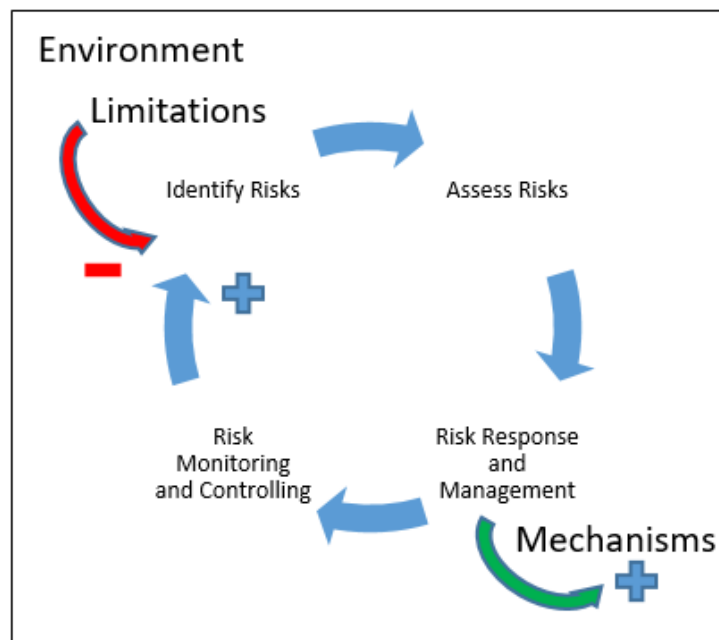


Figure 3. The conceptualized model for school-based risk management.

The researchers argue that the pandemic did not just affect schools on a large scale, but the effects have permeated between the bioecological nests causing a more specific risk-oriented issue that may cause unforeseeable impacts in the future. The model offers a way to solve these issues procedurally.

Risks are dealt with only when they arise because they involve efforts, time, money, knowledge, and skills for proper decision-making. However, the model proposes that school leaders and administrators should always look at their sources at different bioecological layers where the school is nested in. This proactive management of risk develops school leaders and administrators to see things in a greater eye as it involves multifaceted scopes of proximal frames based on the environment, meaning organizations and institutions should earlier identify limitations at each level of the environment that will serve as both an opportunity and risk, not only when these arise. The limitations are seen as a potential disturbance within the normality of the system, which, using the process of risk management, will be strategically corrected through various efforts such as planning and implementation within your system. Once processed, new mechanisms to approach risks will be developed to address particular concerns on a particular bioecological level. Once the new mechanism is applied, in a particular layer, success will be determined if there's a seen reduction in the limits, otherwise, the process begins again. The way of addressing the issue becomes systemic, as it involves the management of risk through archetype analysis, and systematic as it looks into the layers of the environment where the organization or institution is, hence, it is also a dynamic and holistic approach (Guy-Evans, 2020) into viewing risks because it looks into the persistent relationship, influences, and interaction of the school with its immediate surroundings.

The systemic and systematic way of dealing with risks becomes the core attributes of the model. In the context of this proposed model, the bioecological nests or layers as seen through the lens of risk and risk management will be determined as the *proximal frames of risk*, which, by definition in this paper, is the layered context for an emerging set of risks depending on the environment it was observed or analyzed. With this definition, the school leaders or administrators should observe these frames while developing, strategizing, and monitoring for risk and risk management. This poses a challenge to the pre-existing risk management plans, frameworks, and strategies in different schools solely targeting specific concerns that rarely deal with the root cause, but instead, produce solutions that are only symptomatic in nature.

5. Conclusion & Future Directions

The paper targeted to conceptualize a new model in the perspectives of risk and risk management, systems archetype, and the Bioecological Theory. Since the emergence of the pandemic, many different kinds of risks emerged causing uncertainty and disturbance in the otherwise normal school operations. This causes a burgeoning of limitations for the schools, which, in turn, causes a negative impact for them. The model posits a systematic and systemic approach in dealing with these risks as seen in each bioecological layer, hoping that it will reduce the negative effects of risks.

The researchers suggest that further research and studies should be undertaken to find out the capacity of the model in helping school organizations and institutions in risk planning. Furthermore, the researchers recommend a series of studies that will look into the concept of seeing risks at the different bioecological nests of a school, specifically: (1) in analyzing the context of proximal frames of risks in order to create

mechanisms/strategies/programs suited for managing a particular risk, (2) in analyzing risk management praxis of schools in line with proximal frames of risks, (3) in understanding the discourse of risk planning and management in view of proximal frames of risks and systems limits, and (4) in the improvement of the model presented.

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