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INNOVATIVE STRATEGIES FOR COST REDUCTION AND RISK MITIGATION IN EVENT AND PUBLIC SAFETY MANAGEMENT (NOTING A CASE STUDY OF LARGE-SCALE EVENT)

Patrick Olise [a], Lois Kumiwaa Opoku [b*], Nicholas Mensah [c]

[a] *Department of Environmental Resource Management, Abia State University, Nigeria*
[b] *Department of Crop and Soil Sciences, Kwame Nkrumah University of Science and Technology, Ghana*
[c] *Department of Accounting, University of Ghana, Ghana*

***Corresponding Author:** Lois Kumiwaa Opoku*

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ABSTRACT

Risk is an integral part of innovation, especially in the contemporary global market where technological advancement and intense competition drive companies toward developing next-generation products. Innovation brings inherent risks, often categorized into project, product, and business risks, which require strategic project management to identify, assess, and mitigate potential threats. This paper discusses the dynamic nature of risk in innovative projects, which include technical, strategic, and enterprise-related risks, and emphasizes the necessity for organizations to balance risk management with the creativity essential for innovation. Effective risk management practices such as risk identification, prioritization, and mitigation are shown to not only reduce potential project delays and cost overruns but also support the achievement of long-term organizational goals and social responsibility. The paper also highlights the importance of clear communication, staff training, the use of effective tools, and adherence to safety measures, especially in public events, to enhance security and community trust. In summary, integrating structured risk management into innovative projects is crucial for optimizing resources, ensuring safety, and maintaining a competitive edge.

KEYWORDS: *Risk Management, Innovation, Project Management, Public Safety*

1. INTRODUCTION

In the contemporary global buying and selling market where advanced technologies and levels of competition are pushing, firms have been working towards achieving a new generation of products. New projects and ideas bring new problems and threats that appear throughout the novelties. In order to address these challenges, there is an increased adoption of tools and methodologies as part of managing projects that concern the creation of innovations, the delivery of high-quality products, accomplishing timetables, and managing project costs. Therefore, the potential risks are being mitigated by key decision-makers and researchers relying on the application of project management methodologies.

Risk can be defined as "any uncertain event or condition that, if it happens, may have a positive or negative effect on one or more of a project's goals." Should a risk occur, it may impact the objectives of a project's scope, time, budget, or quality. To ensure the project is not jeopardized, the project managers must use different project management techniques to identify risks. Risk identification is therefore dynamic depending on the organization and project which might be operational, technical, or organizational. After recognizing this, consistent measures and backup plans to minimize those risks' effects are developed [1]. Risk management is critical in the planning stage of business development for any project of size or scale.

The types of risks that must be managed include project risks, product risks, and business risks. It involves preparing organizations for probable risks and events, changes, and investments for occurrences in the future. It is important to

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note that risk is most important for organizations that are undertaking innovation-oriented activities, in that they will need to understand how to manage negative consequences, as well as leverage positive possibilities. The innovation process involves strategic, technical, delivery, and enterprise risks [2]. Strategic risks may therefore arise due to lack of funds, inadequate appreciation of process or poor management backing [3].

Innovation is essential for organizational change, productivity, and efficiency; nevertheless, innovation is inevitably implicated with risk. Risk is inherent in all projects but critical in innovative projects, most of which fail. For instance, the survival rate for new products in some developed nations is about 15% compared to about 2 % in less developed markets [4]. In innovative management, it is crucial to deem unacceptable risks as early as possible because they usually appear at this stage, though at a heftier cost. However, a fear of failure could more than likely slow down the process of innovation. Saying that failure is an option is an axiom of innovation projects while exiting a project is a much more significant problem than in ordinary projects. Risk management can also assist managers in deciding whether to stop a project since this prevents a project from continuing as a random idea generation process; instead, it channels research into what is necessary for innovation. Risk is inherent in innovation but sometimes is not dealt with directly [5].

As noted in this paper, risk impacts every project regardless of the degree of size or specialization. Sub-characteristics such as the level of innovation, constraints, relationships with multinational and political players in the project, and fluctuations in the environment also enhance the risks of a project. Therefore, the project managers need to look for optimality solutions that still reduce the risk, but at the same time, the degree of novelty must be managed for it to be realistic to achieve by using enough resources to meet the expectations of those involved. It is always important to control and contain risks as much as possible to ensure the project stays on schedule, which means risk assessment must be done right from the beginning. Without solid and efficient risk assessment and response planning, actual costs and timescale of projects cannot be properly estimated.

Nowadays global resources of high quality are essential for modern innovation at a fast pace and outsourcing is the solution for efficiency and reduced risk. Outsourcing has brought positive impacts in managing complicated and innovative products for development, but it brings issues with managing the available resources especially when facing economic fluctuations [6]. New papers are devoted to the problem of outsourcing in Information Technology (IT) studying the problems of such a strategy, and its further developments concerning the aspects of complexity, cost, and time factors from the perspective of generating models of dependencies between the given project, existing risks, and general goals. These models raise questions on assessing risks from the onset and formulation of contingency measures based on Expected Utility Theory [7].

The same is true about evaluating innovation's effect on the environment and future sustainable prospects in fields such as nanotechnologies for which it is crucially important to apply highly developed structured approaches to risk assessment and management [8]. It is estimated that 70 percent of enterprise strategies require dynamic capabilities when enterprises engage in innovative projects. As has been highlighted here, it might therefore be appropriate for most strategic, especially multiparty projects for an organization to be partitioned into phases due to the growing complexities as well as high stakeholder expectations [9].

Innovativeness brings about complexity, thus when considering the possibility of a difficult task, it is crucial at the initial stages. Failure to do so may lead to expensive rectification costs, project delays, and decreased competitiveness, a lesson learned from the Boeing Dreamliner project [10]. At times new wave projects seek to look for other options for typical hydrocarbons, where diversification reduces the risk of dependence. Therefore, the identification of an alternative energy option as a risk management tool is a recognition that risk management is a multivariate activity. Nevertheless, sometimes due to regulation and a country's strategic plans, options for such risk management activities while investing in renewable energy assets are confined [11].

2. A CASE STUDY OF CROWD MANAGEMENT STRATEGIES DURING A LARGE-SCALE EVENT

The management of crowds has remained a vital problem for event planners as they attract huge traffic of people to the events while at the same time focusing on the security of the events besides the general experience that an attendant gains [12]. Over the past year, the use of people during occasions has been a paramount aspect with social distancing

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measures, and risk mitigation gaining prominence due to the increased outbreak of diseases due to viruses. Therefore, well-designed crowd management measures can contribute significantly as they impact attendees' security and satisfaction levels and build credibility and believability of the event executors and City imaging as the host area.

2.1 Study Content

An event at Indianapolis brought together over 110,000 fans, along with 2,000 volunteers, football teams, training staff, media crews, event personnel, and venue staff, in addition to Indianapolis's 857,642 residents, including 30,000 in Mile Square area [13]. Fans had the chance to enjoy activities at iconic city locations, such as Bankers Life Fieldhouse, Georgia Street, Pan-Am Plaza, Lucas Oil Stadium, Monument Circle, and White River State Park. However, Indiana's cold winter winds and low temperatures pushed many attendees indoors. While the College Football Playoffs contributed significantly to economic growth and attracted tourists to cities like Indianapolis, large crowds also presented considerable challenges. This case study emphasizes the need for a well-rounded crowd risk management plan to ensure attendee safety, protect event and venue owners from liability, support residents' quality of life, and maintain the host city's environment.

2.2 Managing People in Events

Crowded risk situations may be occasioned by the accumulated density of individuals in each area or by the nature of the population movement density occurring in a bulky movement with restrictions in a particular area's flow density rate. Such overcrowding causes insecurity or endangers the lives of those within the structure. However, undesirable clustering occurs when the additional public density line-forming tends to vendors, services, or attractions exceed the time attendees expect to spend while waiting in line. With wait times of greater than eight minutes, it has adverse effects on attendee experience, satisfaction, and revenue generation [14, 15]. Further, some behaviors exhibited by people within crowds may contribute to increasing crowd density to even dangerous levels of crowd motion. In addition to best practices, several considerations must be taken into consideration in developing crowd management policies for large promoter city sports events such as the College Football Playoffs. They include the sporting atmosphere, the increase in the urban population, the trend of hosting mega events, and different crowd management strategies and methods.

2.3 Sporting Setting

The diversity of sports events means that every type will appeal to the specific view of spectators. In college football, numerous supporters commonly assemble enormous and multiple groups, consisting of enthusiasm for their group, liquor, and social media might provoke potential aggressiveness and misconduct [16]. Police records also reveal that during the 2016 college football season, 3,778 fans were ejected and 1,102 arrested. The percentages above are only from the Total 128 FBS teams who reported their data to KGW for the investigation and include data from 60 colleges only. Some of the records also indicate that crowd policing at some games included the use of one state trooper per 1,000 fans and the use of surveillance cameras from control rooms. Sports psychologist Brian Baxter shares the influence of the environment with fans by saying "You just lose yourself to the group, Moral's kind of erode, your individual responsibility erodes, and you are more likely to do something you would never do" [17].

3. IMPORTANT CASES OF MANAGING PROJECTS/EVENTS

Risk management helps the manager in decision making such as whether to quit a project, helps to act as a screen to identify in which aspect projects may be successful or unsuccessful, and is useful for continuous ongoing research in making ongoing innovations in projects. Innovation inevitably involves risk management even if it is unconsciously done. Although it can be difficult to encourage teams to create innovative solutions, the rigid implementation of risk management procedures may slow down innovative ideas and discourage radical thinking. Where decisions depend on analysis, each project must consider available data, cost, and the benefit of analysis, especially concerning creativity. Even though risk management is a part of innovation, the current chapter suggests that making it more formal by integrating the models of innovation and risk management may provide more structure to process [5].

Innovation that is using current information, data, or knowledge to create a new product or service is by its very nature creative and risky [5]. Tradition and common sense suggest that risk is inherent in all projects and is particularly prominent where failure is the norm in innovative initiatives. In many cases, major risks are found during later stages of innovation management, which is more costly. But what is too much fear of failure? This is dangerous since fear of failure is likely to stunt innovation, while only vol. 100 % of innovation projects should be encouraged to embrace

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the possibility of failure. It is sometimes possible to require models that include failure as an expected result of the change effort.

Contingency theory, according to this idea points out that pioneering creative projects are most likely to deviate from the manifest phase including the generation of the idea and implementation. However, the greatest difficulty is to define such a configuration that will fit the project's profiles of demand and distribution of resources for the successful project outcome [17]. On public sector projects outcomes relate to the lives of the citizens and as such risk management reduces to social risk impact assessment as opposed to equalities impact assessment[19].

Innovation and risk management are part processes that are usually customized into phases to provide legitimate procedures and simple where necessary [19]. The greatest difficulty is how to pinpoint risks themselves in terms of projects, or basic reasons for them. The management of risk would therefore have to encompass not only output but co-benefits. It must be recognized that different kinds of projects help shape fewer tangible aspects of life such as health, safety, and sustainability. Much has been said about the fact that innovators may fail to consider some risks, especially those of the newer type, which impact non-tangible aspects. Integrating risk management principles right from planning can give firms a competitive edge before the introduction of new technologies [20].

Risk management strategies are critical to project success in the following ways:

- Risk identification and risk prioritization help project managers and teams concentrate on the key aspects of a project.
- Risk management techniques protect the project manager from exposing the project to risks by providing contingency money and means to analyze the adequacy of the project's budget.
- Risk identification allows team members to record key risks and ideas on how unwanted events may be avoided or their consequences lessened.
- Risk logs technically refer to documented records of handling risks to project risks by persons in charge of managing risks.

3.1 Large Scale Event Trend

City centers are already extremely crowded, but the propensity towards staging Large Scale Events merely exacerbates the problem. Attempts made to optimize the profit-bringing effect of such events by including extra related activities attract even more people and the duration they spend at the venue. This is because large-scale, city-wide events also attract many tourists who may not be conversant with the region. Although it is easy for tourists to avoid congestion in a small hall with good signs, large halls, and less noticeable signs force tourists to 'get lost' or focus in small zones.

4. TECHNIQUES IN PERFORMANCE SECURITY AND ASSESSMENT

Risk management measures are contingency blueprints describing how certain risks are managed, including options for optimizing gains. This process comprises conducting a rigorous risk assessment in review of and risk reduction or mitigation of all threats, risks, or any form of hitches to any business operations, projects, or enterprise. It is also suggested that each of the identified risks should be countered by the required response, and the information of which should be recorded in a risk register. From literature research, several project risk management actions have been identified that can be classified into the following categories based on the characteristics of innovative projects [21]. Risk management is one of the key drivers of projects and should thus be integrated in all projects as a core concept in project management and should be uniformly applied across all phases and process groups.

4.1 Increase Responsiveness

Another was to reduce the risks associated with a project by increasing overall responsiveness by delivering things faster; the latter was seen to increase production rates by up to 20%. Ideally, the product should go through the consumer channel as quickly as possible. A faster pace for project delivery can also solve three significant risk issues concerning cost, time, safety, and quality in renewable energy parks.

4.2 Cost Reduction

Some common cost risks that accompany attempts to fast-track a project include cost estimate errors, delayed or insufficient funding, schedule compression issues, and limited vendor competition. The implementation of fast tracking in project planning helps minimize these cost estimate risks because preliminary engineering and scheduling

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are comprehensive. If these issues can be identified during the team design phase, then the cost estimate becomes more accurate and excludes potential costly surprises.

4.3 Schedule, safety, and quality risk reduction

When modularizing equipment, it is also important for the project team to involve the equipment suppliers at an early stage possible and there should always be put in place an equipment expediting method so as to curb possible delay resulting from issues such as the delivery of the equipment and / or any other associated damage that may have occurred during delivery. Fast-track projects also help decrease issues caused by work area overcrowding by producing an hour-to-hour plan that shows trade overlap area, and the team can change approaches to avoid conflicts.

4.4 Clear Communication

In any effective project management, communication is crucial with regard to all the stakeholders involved in the said project at every phase. An organization needs to understand communication as a tactical process if they are to ensure that they address the communication needs of the organization's project since communication is a critical element that needs to be put into consideration by the project if it is to succeed. This need for clear communication becomes more critical than ever in innovative projects, especially if there is no proper, timely, and accurate dissemination of information between the project team and other stakeholders such as the public; this may lead to misunderstandings or conflict which may be very costly to the project.

4.5 Training Staff/workers

The following is a strategy that develops, disseminates and encourages organizational educational programs centered on the acquisition of soft competencies in line with communications, cooperation, delegation of authority, team leadership, problem solving and strategic viewpoint as well as formal knowledge. Staff training is also important for underlining goals and success indicators and for sharing employees' information, such as the environment and equipment to be used. Employees who are trained properly are less likely to make expensive mistakes, leading to a few recalls, low levels of rework, and a lesser probability of project failure. Therefore, there is a need to develop an effective and comprehensive training regime that will enhance demonstrated competencies deemed relevant to the project.

4.6 Making use of highly effective tools

Originally it is quite important to underline that innovation is inevitably accompanied by a certain level of risk. Like any other project, it is crucial to leverage what has already been in place in terms of technology and tact utilized for creating and manufacturing a product to help control the risks associated with the project. Also, the effective methods have been tried, and their effectiveness and efficiency can easily be availed than the less effective methods. This approach can, of course, inevitably decrease the total amount of uncertainty about the project to a certain extent.

5. RISK MITIGATION PLANNING

This is the case since the risk mitigation process entails producing plans meant to tackle, neutralize, or minimize risks. These plans must then be kept active to assess their performance and which changes if needed. The risk reduction plan also encompasses flexible approaches and measures intended for the enhancement of gains for the project along with a practical avoidance or mitigation of dangers against the accomplishment of project goals. Risk management and execution of risk mitigation actions are the key activities involved with decreasing risks. Some of the things that require monitoring concerning identified risks include enhancements of recognized risks, introduction of new risks and the monitoring of efficiency of the risk management strategy during the project.

Options for managing risks include: To plan how to deal with the risks, the following options are available: (a) **to accept it** understanding a specific risk and deliberately decide to take it with little control, provided permission from project leaders; (b) **to avoid it** changing the characteristics of the risk to minimize it or eliminate it, at the likely cost of budget, functionalities, or time constraints; (c) **to reduce it**. When including risks, it is necessary to introduce risk analysis of recognized risks and risks perceived according to the degree of their potential negative impact and the probability of such an outcome. These risks are then ranked in relation to the risk management plan, after which the relevant risk-decreasing measures are designed and integrated into the risk management framework. Risk management plan remains a checklist of foreseeable risks in terms of their probability, for instance, high, medium, or low. Other project managers may find it convenient to analyze risks as most probable, probable, or less probable. The project

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manager must take full control of the risk management to reduce the likelihood of risk occurrence during the project's duration.

6. MEASURES USED TO MITIGATE RISK IN INNOVATION

In integrated innovative risk management, risk control is accomplished by going after the negative effects that risks may bring about and this is done systematically to slice down not only risks exposure but also the likelihood of risk occurrences. Risk responses, which should be considered for implementation, should address approaches that enable reduction in impact of the uncertain events, underpinning project's actions, and availability of disaster recovery. Key risk responses include:

- **Risk Avoidance**: Changing the project plans and goals and avoiding certain risks in this way by changing resources, time, or technical specifications.
- **Risk Reduction/Control**: Minimizing the likelihood or severity of risks via changes to the team including increasing the training of the team, including using recognized technologies, or increasing the quality checking measures.
- **Risk Transfer**: Delegating some risks to other parties, meaning that an organization may choose to insure some of its risks or to sub-contract some of the tasks in the project.
- **Risk Acceptance**: Identifying it and deciding to make a conscious prevention never for considerable risk but for minimal impact or low probability risks while keeping a monitoring plan.
- **Risk Monitoring**: Monitoring certain risks over time to detect changes that may require a change in response strategies.

They assist in controlling risk factors which are associated with each project that deals with innovative solutions, plus they enhance the ability to deal with risk challenges.

7. PUBLIC SAFETY MANAGEMENT

According to J, Wolff [22], in what conditions can people afford to endanger the other? This question is important in sports safety, environmental risk, and health and safety risks within workplaces. Often, in other fields, it is politicians and corporate executives who make the decisions with the engineers and the economists. Nevertheless, some cases might be expected to have different views and approaches. This variability gives rise to two important questions.

First, the shortage of cooperation can result in severe problems with the effectiveness of the applied efforts and means. Second, while less frequently discussed, this issue is also inherently moral: As to the rationality of defining which risks we are allowed to take from each other, there is ethical implication needed. Safety regulation's objectives and the ways to achieve objectives are utterly ethical in nature. It was observed that politicians, corporate heads, economists, and engineers might not be fully aware of all aspects of ethical issues.

These two concerns are linked: if the politically acceptable goals of safety regulation are unknown, then it is impossible to decide whether any safety measure is rational or irrational, or whether that measure will be economic or uneconomic in its results.

Ferenc & Varmus, 2018 [24] stated that putting this information into practice reveals that risk is a major factor to be considered when hosting a sporting event. If the public is to actively engage in these events, it must first feel secure doing so. The sports clubs can help with this by ensuring they champion public safety and thus improve the rating that the community has for the club. Creating more positive community awareness also contributes to addressing the capacity for clubs to create social responsibility as a long-term goal for clubs given the process of their socialization. When it comes to the matter of organizing an event, sports clubs need to meet the demands from the side of the main organizing body, for example, an association. Thus, club sports managers and security managers must be appointed to ensure close coordination during the event. To help achieve this, sports clubs have several strategies they can employ, including:

- Ensuring the organization staff are adequate for training and providing them with necessary training.
- Identifying those risks that might occur during the event
- Mitigation of the risks of confusion regarding the duties of different organizers through the deployment of a clear disbursement of tasks.
- In a store, some signs to differentiate between organizers contain special jackets or vests.
- Focusing on all the representatives from different stakeholders and their ability to communicate.

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- Supervising and decentralizing fan clubs of home side teams.
- Avoid crowding during events and only allow participants to attend events in compliance with the number allowed in the venue.
- Properly eliminate people who are likely to be carrying any weapons or pyrotechnic devices to the event.
- Events are planned for interruption of the threats to public safety.

If security measures are followed as indicated above, the public's safety is reduced, making the environment safe for all participants.

8. MANAGING RISKS FOR SUSTAINABILITY

Other threats originating from the environment such as those resulting from innovation and large events are usually not considered in traditional risk analysis. That being said, it is a disregard for sustainability-related risks which cause reputational losses, fines, and eventually higher costs.

Big conferences are a great source of emissions, and overproduction is a problematic aspect of innovation projects. These activities magnify environmental dangers, and therefore it's necessary to implement sustainable actions [25]. Mega forces can pose challenges whereby companies can manage risks through the use of renewable energy, recycling materials in production, and reducing waste through digitalization. For example, when it comes to power supply during events, there is a possibility to shift to renewable energy sources it will decrease spending and meet corporate social responsibility objectives [30].

The current world ISO 20121 standard provides for a proper framework for incorporating sustainability in events. This framework promotes and recommends an approach that includes resource optimization and involving a wide range of stakeholders to achieve better, long-term levels of resilience [27].

9. EMBRACING EMERGING TECHNOLOGIES

The conventional risk management approach suffices but has proved relevant where real-time threat scenarios are involved. New technologies such as Artificial Intelligence, Internet of Things, and Blockchain are disrupting this space helping organizations adapt the risk management process more effectively [26].

9.1 Applications of emerging technologies in Risk Management:

9.1.1 AI-driven Predictive Analytics: AI applications can be used to constantly track risks, for instance, crowd density at events not to exceed a certain limit or potential delays in supply chain. Case studies show that predictive analytics reduced project delays by up to **20%** in industries like manufacturing and logistics [28].

9.1.2 Cost Savings: Implementing renewable energy solutions for event operations led to a **30% reduction in operational costs** over five years, demonstrating both financial and environmental benefits. Incorporating such data provides a compelling case for adopting these strategies [34].

9.2 IoT Integration: IoT devices increase practical controllability, for example, measuring equipment productivity or studying crowd behavior to prevent occurrence of accidents [32].

9.3 Blockchain for Transparency: Blockchain enables safe data management and maintains an unchangeable record of supply chain activities which minimizes risks characteristic for frauds and inefficiencies [29].
For instance, an AI system with IoT sensors can enable the accurate prevention of equipment breakdowns and thus reduce the additional charges and time consumption on a project.

10. COVID-19 AND RISK MANAGEMENT

In drawing on the existing knowledge, most recent trends seek to inform ideas of learning from recent developments. COVID-19 brought significant changes to Risk Management, in particular to virtual and hybrid forms. Therefore, the lessons learned from this period must be incorporated in handling of similar problems in the future [31]..

10.1 Hybrid and Virtual Solutions: Those organizations that have implemented hybrid systems during the pandemic have shown flexibility; projects continued, and risks addressed. For instance, virtual platforms that were adopted simply helped exterminate logistical challenges that come with big happenings.

10.2 Post-2020 Research: Current research discusses the need to shift from traditional change management towards learning about new risks such as cyber threats in remote systems. It is for this reason that investment in appropriate cybersecurity and other adaptive technologies has become a foundation of risk management today.
Through combining these insights, organizations are going to gauge or predict further outputs or even obstacles in the future.

11. BROADENING THE SCOPE

Typically, risk management frameworks are general, but approaches targeting sector risks and global challenges make the problem more realistic.

11.1 Sector-Specific Risks: Cybersecurity is important within IT and compliance risk is common in renewable energy projects. It also makes sense when such strategies are customized to suit industry requirements for better results [33].

11.2 Global Challenges: Threats such as climate change, geopolitical risk, and the disruptive forces in the supply chain are increasingly emerging and now are in force. For instance, the risk which is related to supply chain disruptions due to geopolitical risks is manageable by diversification of suppliers. The implied advantages of pursuing these more general questions make the risk management more comprehensive and flexible.

CONCLUSION

Innovation and risk management are deeply interconnected, with risk being both a catalyst and a potential obstacle to progress. While innovation drives organizational growth and adaptability, it simultaneously introduces uncertainties that, if not effectively managed, could lead to costly setbacks and diminished success rates. Structured risk management practices such as identifying risks early, applying contingency planning, and fostering clear communication organizations can mitigate the impact of these uncertainties. Moreover, in projects with a high level of public engagement, such as sporting events, adhering to comprehensive safety protocols is essential to safeguard participants and enhance community relations. By integrating systematic risk management with flexible innovation strategies, organizations can navigate complexities more effectively, ensuring that innovative efforts contribute positively to their competitive position and social responsibility. While such innovations are on the rise and as large-scale events become more elaborate the field of risk management must also adapt to new challenges. Thus, they can manage uncertainty better with references to sustainability, utilizing advanced technology, recent knowledge, data, and expanding the range of vision. Of course, a rather innovative system of risk assessment can not only protect an implementation but also contribute to its sustainability and viability.

REFERENCES

1. *Luppino R, Hosseini MR, Rameezdeen R. Risk Management in Research and Devel Academy of Management; 2014 opment (R&D) Projects: The Case of South Australia. Doctoral dissertation. Asian*
2. *ChePa N, Jnr BA, Nor RNH, Murad MAA. A review on risk mitigation of IT governance. Information Technology Journal. 2015;14(1):1-9*
3. *Kumsuprom S, Corbitt B, Pittayachawan S. ICT risk management in organizations: Case studies in Thai business. ACIS 2008 Proceedings. 2008. pp. 98-106*
4. *Simon R. New product development and forecasting challenges. The Journal of Business Forecasting. 2009;28(4):19*
5. *Ozer M. New product development in Asia: An introduction to the special issue. Industrial Marketing Management. 2006;35(3):252-261*
6. *Bowers J, Khorakian A. Integrating risk management in the innovation projects. European Journal of Innovation Management. 2014; 17:25-40*
7. *Su N, Levina N, Ross JW. The long-tail strategy of IT outsourcing. MIT Sloan Management Review. 2016;57(2):81-87*
8. *Qazi A, Quigley J, Dickson A, Kirytopoulos K. Project Complexity and Risk Management (ProCRiM): Towards modelling project complexity driven risk paths in construction projects. International Journal of Project Management. 2016;34(7):1183-1198 Electronic copy available at: https://ssrn.com/abstract=3884687 100 Key Issues for Management of Innovative Projects*
9. *Subramanian V, Semenzin E, Hristozov D, Zabeo A, Malsch I, McAlea E, Murphy F, Mullins M, van Harmelen T, Ligthart T, Linkov I, Marcomini A. Sustainable nanotech nology decision support system: Bridging risk management, sustainable innovation, and risk governance. Journal of Nanoparticle Research. 2016;18(4):1-13*
10. *Davies A, Dodgson M, Gann D. Dynamic capabilities in complex projects: the case of London Heathrow Terminal 5. Project Management Journal 2016;47(2):26-46*

11. *Shenhar Shenhar AJ, Holzmann V, Melamed B, Zhao Y. The challenge of innovation in highly complex projects: What can we learn from Boeing's dreamliner experience? Project Management Journal. 2016;47(2):62-78*
12. *Gatzert N, Kosub T. Risks, and risk management of renewable energy projects: The case of onshore and offshore wind parks. Renewable and Sustainable Energy Reviews. 2016; 60:982-998 13 Salerno MS, de Vasconcelos Gomes LA, da Silva DO, Bagno RB, Freitas, SLTU. Innovation processes: Which process for which project? Technovation. 2015; 35:59-70*
13. *Mowen, A. J., Vogelsong, H. G., & Graefe, A. R. (2003). Perceived crowding and its relationship to crowd management practices at park and recreation events. Event Management, 8(2), 63-72.*
14. *Kollar, J. (2021, September 3). Indianapolis prepares to host national championship as college football kicks off. Fox 59. Retrieved October 18, 2021, from https://fox59.com/sports/indianapolis-prepares-to-host-national-championship-as-college football-kicks-off/.*
15. *Alvarado-Valencia, J. A., Tueti Silva, G. C., & Montoya-Torres, J. R. (2017). Modeling and simulation of customer dissatisfaction in waiting lines and its effects. The Society for Modeling and Simulation International, 93(2), 91–101. https://doi org.proxy.ulib.uits.iu.edu/10.1177/0037549716678477*
16. *Martella, C., Li, J., Conrado, C., & Vermeeren, A. (2017). On current crowd management practices and the need for increased situation awareness, prediction, and intervention. Safety Science, 91, 381–393. https://doi.org/10.1016/j.ssci.2016.09.006.*
17. *Iboshi, K. (2017). Beer, fights, and bad behavior: Are college football fans getting too rowdy? Channel 9News. https://www.9news.com/article/news/investigations/beer-fights-and-bad behavior-are-college-football-fans-getting-too-rowdy/283 486339923*
18. *Asenova D, Bailey S, McCann C. Managing municipal austerity: mitigation of social Risks. Local Government Studies. 2015; 41:1-19*
19. *Wang C, Cai W, Liao H, Lin J. China's carbon mitigation strategies: Enough. Energy Policy 2014; 73:47-56*
20. *Köhler AR, Som C. Risk preventative innovation strategies for emerging technologies the cases of nano-textiles and smart textiles. Technovation. 2014;34(8):420-430*
21. *Pyra J, Trask J. Risk management post analysis: Gauging the success of a simple strategy in a complex project. Project Management Journal. 2002;33(2):41-48*
22. *Khorakian, A. (2011). Developing a conceptual framework for integrating risk management in the innovation project.*
23. *Wolff, J. (2006). Risk, fear, blame, shame, and the regulation of public safety. Economics & Philosophy, 22(3), 409-427.*
24. *Ferenc, P., & Varmus, M. (2018). PUBLIC SECURITY IN FIELD OF SPORT. http://www.ucps.sk/SPORTOVE_KLUBY_V_NAVRHU_ZAKONA_O_*
25. *Post-Pandemic Event Management: Lee, K. et al. (2022). Hybrid Event Strategies and Health Protocols Post-COVID. Journal of Event Management.*
26. *AI in Risk Management: Smith, J., & Patel, R. (2023). Artificial Intelligence in Public Safety: Case Studies and Applications. Risk Management Review.*
27. *Sustainability in Events: Brown, L. et al. (2023). The Role of ISO 20121 in Large-Scale Event Planning. Journal of Environmental Management.*
28. *Bhatnagar, R. & Arora, A. (2020). "AI in Risk Management: Transforming the Future." International Journal of Advanced Computer Science and Applications, 11(6), 524-528.*
29. *Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). "Blockchain technology: A survey on applications and security challenges." Supply Chain Management: An International Journal, 24(1), 14-35.*
30. *Mair, J., & Laing, J. (2018). "Sustainability in Event Management: Principles and Practices." Routledge. ISBN 9781138495030*
31. *Veenendaal, A. (2020). "Pandemic and Project Management: Lessons Learned from COVID-19." International Journal of Project Management, 38(6), 347-358.*
32. *Laird, P., & Whitley, J. (2018). "IoT-Driven Risk Management: Applications in Asset Management." Journal of Risk and Financial Management, 11(1), 10.*
33. *PwC (2021). "Cybersecurity in the Age of Remote Work." PwC Global Insights. https://www.pwc.com/gx/en/services/consulting/cybersecurity.html*
34. *Eccles, R. G., & Klimenko, S. (2019). "The Investor Revolution." Harvard Business Review. https://hbr.org/2019/05/the-investor-revolution*