



## Sustainable Cities and Communities from Malaysian Local Authorities Perspectives

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### ABSTRACT

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*cost benefits analysis, private finance, risk management, sustainable cities, communities*

Perspectives of Malaysian local authorities on the development of sustainable cities and communities (SCC) are examined in this study, with a focus on the effects of cost-benefit analysis (CBA), private finance initiatives, and risk management. Additionally, the challenges faced by local authorities in developing SCC are presented. A qualitative method was used, involving face-to-face interviews with local authorities. Content analysis was conducted, and the results show that CBA, private finance initiatives, and risk management have a significant impact on the development of SCC. The primary challenge in implementing SCC is the limited funding available to support their implementation. This study sheds light on the importance of considering CBA, private finance initiatives, and risk management in developing SCC from the perspective of Malaysian local authorities. The findings also highlight the need for more funding and resources to support SCC implementation in Malaysia.

## 1. INTRODUCTION

The need to ensure a city becomes livable and sustainable is no longer a trivial issue. United Nations members undertake tremendous efforts in tackling this issue as it has been recognized as one of the Sustainable Development Goals (SDGs).

Malaysia, as a United Nations member, also views this matter seriously. The growing population in cities due to rapid urbanization creates challenges to livability and sustainability, such as air pollution, poor waste management, scarce resources, traffic congestion, ageing, and limited public infrastructure [1]. Thus, transforming cities into livable and sustainable places remains a significant challenge for most countries worldwide.

According to the study by United Nations Human Settlements Programme (UN-Habitat) urbanization is expected to reach 80 percent in 2030. The burgeoning Covid-19 urged the Malaysian government to view this issue seriously as living spaces will influence the population's health. Several initiatives have been proposed and implemented to address this problem. The most significant effort is empowering local authorities to play a bigger role in accelerating the process of creating sustainable cities and communities (SCC), which is one of the sustainable development goals. The empowerment given aligns with the role of local authorities as documented in the Local Act 1973. The act states that local authorities are responsible and accountable for developing their local areas. Their roles include providing affordable housing, safe transport, better quality water, and reliable waste management systems.

A shift has occurred in the role of local authorities due to the emergence of SCC. They have been recognized as the leading player in supporting government initiatives to achieve

this target. Through the Ministry of Housing and Local Government, Malaysia introduced the Malaysia Smart City Framework and developed the Iskandar Malaysia Smart City as a pilot project for a smart city. These two significant efforts are expected to solve the issues arising from urbanization. Nevertheless, implementing these SCC projects requires a high financial commitment yet this is the major weakness of local authorities. Recent studies indicated that local authorities are among the public bodies that receive tremendous criticism for poor financial management, particularly in generating or managing funds [2]. As healthy finances are a critical component of well managed SCC project, it is advisable for local authorities to make changes in their current financial affairs. Thus, practicing proper financial management, such as cost-benefit analysis (CBA), will help local authorities lessen the negative consequences of project selection and implementation.

A recent study indicated that local authorities were unable to manage their limited financial resources efficiently and recorded poor revenue collection [2]. The decline in revenue limits the local authorities from performing their responsibilities in supporting public operational activities and providing services [3]. As the job scope of local authorities expands, they are required to diversify their income sources instead of being highly dependent on government grants. Although local authorities cannot be directly involved in business, they can adopt or utilize new procurement strategies, such as collaborating with the private sector [3].

Private finance initiatives, occasionally known as public-private partnerships, are among the conventional procurement methods involving private bodies. These procurements offer the public sector an advantage in capital funding since the private sector often bears initial outlays in providing the infrastructure [4]. Thus, considering these private

collaboration methods could offer advantages to local authorities, especially in fulfilling public demand regarding their service.

Besides improving financial management, practicing good governance can also give local authorities an advantage in ensuring that public duties are not compromised [5]. Governance refers to rules, controls, policies, and resolutions to direct corporate behaviors [6]. In this study, an emphasis on governance is placed on implementing risk management in the organization. While performing their functions and roles, especially in providing public infrastructure, local authorities face several unpredicted issues, such as delays in completing the projects, actual costs exceeding the budget, unreliable business partners, and others [7]. Thus, risk management could assist in dealing with these issues as it is based on the discipline that attempts to identify and control future events that adversely affect the project cost, schedule, and quality. Hence, it is advisable to determine the extent of risk management usage among local authorities that assists them in performing their duty, especially in implementing SCC in their administrative areas.

To date, studies that have examined the relationships between the application of CBA, the use of private finance initiatives, and risk management in enhancing decision-making to implement SCC projects are considered dearth. Thus, studying these in the context of Malaysian local authorities is important due to their significant role in SCC.

## 2. LITERATURE REVIEW

Research on local authorities revealed the loopholes in local authorities' finances and resources management and governance [3]. Local authorities have been criticised as a public agency lacking financial resources and poor revenue collection. This problem has been reoccurring over the years. Revenue decline limits them from performing their responsibilities in supporting public operational activities and providing services [3, 8]. The CBA, which documents a long history in project evaluation, started to gain academic attention when discussing this issue. This tool is regarded as the best in appraising and prioritising potential investments as it can judge the net present value of investments [9]. It assesses and evaluates the positive and negative impacts of the project by considering the costs and benefits involved [10]. Atkins et al. [9] agreed that CBA not only assists in project valuation but also in spending allocation under fiscal constraints and reprioritising the optimal mix of projects. Debates on the application of CBA in the context of Malaysia's local authorities started long years ago. Past literature claim that CBA was used in evaluating public projects such as solid management waste and transportation projects due to the potential benefits in assisting the decision-making process. However, as the practice shed light in some areas, it also associates with a few weaknesses such as the complexity of the process, shortage of technical expertise, and data or result interpretation [11].

Nevertheless, the result differs from study [12]. The study claimed that CBA techniques are well suited for small discrete projects but inadequate to evaluate mega or highly significant projects in which its implementation may span for years, and the whole-life cost is more than RM1 million. Undeniably, SCC projects usually involve mega projects and require after-development services, with the implementation requiring huge

investments. Deciding whether to continue a project should not be based on monetary aspects but also on the views of non-monetary issues such as deliverability, affordability, and prevailing politics [9]. Some public projects require after-development services such as maintenance, which causes an additional financial burden to local authorities in the future. Nevertheless, most of the projects undertaken by local authorities are usually social benefits-driven. Thus, examining the extent of CBA could offer valuable insights for the local authorities and the federal government, especially when deciding between competing projects which is more cost-effective and offer high benefits to communities.

With fiscal constraints and insufficient public sector capital funding, a new procurement method known as private finance initiatives was introduced to public sectors. This method is perceived as the most cost-effective means of procuring public infrastructure projects and is capable of overcoming the drawbacks of the traditional procurement method. Hasan and Salleh [3] stated that this procurement concept assists the government in providing highly efficient public infrastructure and service. This concept will require private entities to finance, construct, manage, maintain, and operate the facility on the government's behalf. Although this concept offers few advantages, its use among Malaysian local authorities is still in its infancy, although this procurement concept was introduced long ago [3, 13].

Most of the studies related to private finance initiatives investigate the needs, issues, or challenges of using this approach as an alternative to the traditional government funding method [3, 13, 14]. Little has been researched on using private finance initiatives to assist the government in public infrastructure project execution. One of the researchers who explored these areas, documented mixed findings [15]. Singaravelloo [15] asserted that clear communication and organisational financial stability are among the significant factors influencing whether the collaboration will succeed. Besides that, the literature also opined that the success of PFI projects is dependent on greater transparency and accountability in the financing and delivery of infrastructure projects and community involvement as cost and awareness are among the concerns when entering this financing partnership type [16, 17].

The drastic changes in the world economic landscape have resulted in poor economic performance and influenced the allocation to states and local authorities. Nonetheless, as a body responsible for providing service to the public, local authorities must strive to identify creative ways to manage their operation, particularly using the available resources. One of the ways to overcome this situation is to implement risk management in operation. The study [18] claimed that risk management is integral to good corporate governance and should be implemented in all business processes. Past literature supported previously undertaken study that suggests risk management can strengthen the internal control system [19-21]. Risk management allows the business to predict the uncertainty inherited throughout the operation [22]. In addition, it can improve the return on equity and business efficiency by mitigating the potential risk that can impact the project and the overall organisational performance [23-27]. Past literature documents the importance of risk management practices in Malaysian local authorities especially in dealing with the issue of natural disasters. Despite its importance, risk management has still less been implemented due to several challenges such as data availability, technical expertise, and

awareness of the risk management process [28, 29]. Depth studies are needed to address the challenges associated with the risk management process, particularly in the context of SCC as implementing SCC projects does not only involved in dealing with financial risk but also the social and environmental risks.

### 3. RESEARCH METHODOLOGY

The research objective of this study is to obtain data on the impact of CBA, private finance initiatives, and risk management in influencing investments concerning SCC projects. A qualitative approach using a face-to-face interview was employed to achieve the objective. Semi-structured questions were used in interview sessions as they allowed the discussion between the researcher and participants.

The interviews involved local authorities from the city council category. Four individuals from two local authorities who participated in this study were selected using purposive sampling. This sampling type is appropriate because it fulfills the study objective, as both local authorities and the respondents were directly involved in projects involving the independent variable used in this study in the past despite the different work portfolios. Although this study records a small number of interviewees, it is considered normal for a qualitative study, as the sample was selected based on the criteria. They provide potentially useful information on the explored subject [30, 31]. Following the smallest number of samples, this study can be interpreted as a preliminary study and thus the result obtained should be treated with extra caution. Further analysis should be conducted in the future if the future researchers intend to generalize the findings to wider groups of local authorities.

The chosen respondents were coded based on the local authorities they represent. This approach was utilised to ensure data confidentiality. Content analysis was undertaken to generate the results. No specific software was utilised in assisting the transcription process as it was performed manually. The information related to the respondents' profiles is documented in Table 1 below:

**Table 1.** Respondent' profile

Local Authority	Category/Region	Position Level	Highest Education
LA 1-P1	City Councils/ East Coast	Executive	Degree
LA 1-P2	City Councils/ East Coast	Executive	Degree
LA 2-P1	City Councils/ Southern	Executive	Degree
LA 2-P2	City Councils/ Southern	Executive	Degree

Both selected local authorities are represented by key personnel who hold executive positions in their respective organisations and possess a degree as their highest educational qualification. The representatives from LA 1 have different portfolios from the other individuals from the same local authority. As for LA 2, both key personnel assigned by the mayor hold the same portfolio, which is directly related to SCC.

## 4. FINDINGS AND DISCUSSION

### 4.1 The impact of CBA, private finance initiatives, and risk management on the development of SCC

#### 4.1.1 The application of CBA on the development of SCC

The interviews offered information on using CBA in developing SCC from the perspectives of local authorities. The two local authorities' representatives agreed that CBA influences the development of SCC project implementation. One of the respondents explained as follows:

*"...CBA is suitable for project evaluation but is limited to the project with an initial cost of RM500,000 and above. But, if the SCC projects only cost a small amount of money, the decision will be based on the committee or responsible officer's discretion...." (LA 1- P1)*

Subsequently, another respondent opined that:

*"...We cannot provide concrete justification on the practice of CBA in project implementation as we are not the responsible officer for this matter. However, our organisation used CBA in the privatisation, finance, and evaluation departments, especially in the project involving private organisations. For example, in the case of developing land, the privatisation department will evaluate the project by looking at what benefits the project could offer and how much cost will involve in ensuring the project will give benefit our stakeholders from both the financial and non-financial aspects...." (LA 2 -P1)*

Therefore, CBA is evidently useful in assisting project evaluation and confirmed [9] findings regarding the role of CBA. The findings from LA 1 support the views of the [12], which claim that projects involving high costs suitably apply these tools. The application of CBA in project evaluation also can help governments in deciding which projects is parallel to the objective of its existence (i.e., delivering the best service to communities) since it provided financial and non-financial assessment.

#### 4.1.2 The use of private finance initiatives in the development of SCC

Both interviewees from the two local authorities agreed that the development of SCC is affected by private finance initiatives. Similar to the CBA practice, private finance initiatives utilisation in both local authorities document the same finding where the defined private finance initiatives are the collaboration in which the private will invest capital, and the public (local authorities) provide the land or spaces to develop the projects. The representatives from LA 1 remarked that:

*"... Yes, we had used private finance initiatives in some of our projects. Especially the projects which required us to provide land or spaces for infrastructure development. Currently, two projects (i.e., zoo construction and smart lighting) utilise this type of funding. This collaboration involved the establishment of agreements which will discuss the terms, responsibility, and benefits enjoyed by parties involved...." (LA 1- P1)*

"... Well, as private finance initiatives give an advantage in costing aspects, it also inherits several problems. For example, in zoo construction, the benefits (in monetary terms) will be paid to our organisation based on visitors. But we cannot make sure the visitor data is reliable or not as the private party controls it...." (LA 1- P2)

The representative from LA 2 stated:

"... The collaboration between private and us do exist. The private organisation usually acts as a land developer, while the city council is a land provider. The private organisation will suggest potential projects to us and agree to borne all costs incurred during the development phase. However, we faced several challenges when using this mechanism, such as late payment, delay in maintenance, and low quality in managing the cleanliness in their development areas...." (LA 2- P1)

The present findings support [14], who stated that successful collaboration rates depend on the communication between two parties and the private sector's financial position. Effective communication will allow both parties to understand their roles and the rules they need to follow in ensuring success and avoid any problems which might impact the collaboration.

#### 4.1.3 The implementation of risk management in the development of SCC

Regarding risk management, both representatives mentioned that their organisations had already practiced risk management, but no further explanation related to the development of SCC was provided. One of the respondents from LA 1 remarked:

"...We do use risk management in our organisation. But the practice is still at the beginning phase and usually can be found in the engineering department. To our knowledge, the risk management process in our organisation is similar to being documented in MS: ISO 31000...." (LA 1- P1)

On the other hand, LA 2 offered different views on risk management applications in their organisation compared to LA 1. One respondent from LA 2 explained:

"... Risk management was introduced to all levels and departments. The simple evidence which indicates the existence of risk management is through the placement of risk management in every working procedure...." (LA 2 - P2)

"...Besides that, we are being audited by the Standard and Industrial Research Institute of Malaysia (SIRIM) every year on risk management implementation as we are bounded by ISO 9100:2015. If we don't comply, we cannot get the certificate...." (LA 2- P2)

Based on the findings obtained, no specific evidence indicates to what extent risk management influences SCC development. Less evidence could be due to the fact that risk management is not a mandatory practice and the decision to implement it in the projects depend on the top management. Nevertheless, both city councils are aware of the existence of risk management in their organisations and slowly practice it in their operation.

## 4.2 The challenges for implementing sustainable cities and communities in Malaysian local authorities

Although SCC provides a path for local authorities to assist the Malaysian government in achieving the targeted sustainable development goals, several problems are associated with the goal. The interviewees from selected local authorities agreed that cost is the primary issue, followed by inadequate and improper guidance provided to them on this matter. From the funding aspect, representatives from both local authorities stated that:

"...Insufficient funding is the biggest issue in SCC implementation. Executing SCC projects requires huge amounts of money, but we at local authorities have limited financial resources. The budget received yearly is only enough to finance our fixed annual expenses. Thus, to ensure we can deliver this goal, the government should provide specific budget allocation under these goals ..." (LA 1- P1)

"... We are aware of the sustainable development goals but have limited resources. Our current budget allocation is only able to cover our fixed annual expenses. If the government wants us to implement any sustainable development goal projects, including SCC, they should give us a specific budget under this matter...." (LA 2- P2)

From the side of non-monetary assistance, P2 from LA 1 admitted that:

"... Malaysia strongly supports 17 goals under sustainable development goals, but there is no clear direction on what kind of activities or programmes should be in place in ensuring the efforts are in line with the objective of sustainable development goals highlighted at the national level. No proper guidance was given to us on how sustainable development goals activities should be implemented. I think if the government provides us with the guidance, it will be better because it can help us craft the path towards achieving sustainable development goals and SCC...."

The representative from LA 2 suggested:

"Besides giving financial assistance, the government can also encourage collaboration with international bodies involved in this matter. The collaboration will allow us to obtain views on what kind of programme should be implemented or executed to deliver SCC successfully...." (LA 2-P1)

Considering that local authorities' efforts towards supporting the SCC also depend on the communities, the representative from LA 2, P2, agreed that:

"...lack of awareness among communities also contributes to the factors which restrain local authorities from SCC implementation. Their limited understanding of the importance of SCC makes them less interested in joining hands to make this goal a success...."

In a nutshell, the findings discovered that numerous efforts or actions must be taken by interested stakeholders, such as

government and communities, to ensure that SCC is achievable. Local authorities cannot achieve the target without commitment and cooperation between the interested parties, as SCC is not a siloed effort.

## 5. CONCLUSION AND RECOMMENDATIONS

This study examined the impact of CBA, private finance initiatives, and risk management in supporting investments in SCCs from the Malaysian local authorities' lens. The study's findings conclude that the selected factors positively influence the implementation of SCC. Undeniably, CBA plays a significant role in project assessment, especially with large investments but little economic return. Besides, collaboration with private investment allows Malaysian local authorities to work on SCC projects continuously despite scarce monetary resources. In terms of risk management, the application will provide an advantage for the organization, but the extent of the level remains questionable.

On the other hand, challenges associated with SCC were also documented. The most crucial challenge is insufficient funding from the federal government. Funding is the main element in SCC projects as most projects are costly and local authorities are among the public agencies that report slow revenue. The findings offer several recommendations to the government and potential stakeholders, especially in identifying areas that require attention to ensure SCC targets are achievable.

The findings offered in this study have particular implications for Malaysian local authorities. Understanding the impacts of CBA, private finance initiatives, and risk management is crucial in assisting local authorities in implementing SCC projects. Despite the limited number of respondents, the findings assist potential stakeholders in understanding how Malaysian local authorities perceive this goal and in what area improvements can be made to embrace this goal. For example, the government can offer long-term funding and guidance to optimise local authorities' commitment towards these matters.

Like the other study, this study is subject to several limitations as well as provides a direction for further research. Firstly, the results may be generalized to the same type of local council in Malaysia only and cannot be applied to developing countries where the responsibility and the financial strength of the local council differ from the chosen sample. Hence, to increase the generalisation of the findings of this study, future research could be performed by involving all local councils in Malaysia as well as local councils from other developing countries. Secondly, our results might be weakened as we relied on a small number of samples. In order to improve the understanding of the effect of CBA, private finance initiatives, and risk management on the implementation of SCC. Thus, to overcome this shortcoming future research should involve more samples from the population to where it can increase the level of results reliability.

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## REFERENCES

- [1] Toli, A.M., Murtagh, N. (2020). The concept of sustainability in smart city definitions. *Frontiers in Built Environment*, 6. <https://doi.org/10.3389/fbuil.2020.00077>
- [2] Mohd, E., Ayub, Z.A., Anuar, H.M. (2018). The challenges of local authority in Malaysia in assessment rates arrears collection. *International Journal of Law, Government and Communication*, 3(13): 34-43. <http://www.ijlgc.com/PDF/IJLGC-2018-13-12-03.pdf>.
- [3] Hasan, M., Salleh, D. (2018). The adoption of private finance initiatives in local authorities in Malaysia: Understanding the Barriers Factors. [https://www.academia.edu/73110411/The\\_Adoption\\_of\\_Private\\_Finance\\_Initiatives\\_in\\_Local\\_Authorities\\_in\\_Malaysia\\_Understanding\\_the\\_Barriers\\_Factors](https://www.academia.edu/73110411/The_Adoption_of_Private_Finance_Initiatives_in_Local_Authorities_in_Malaysia_Understanding_the_Barriers_Factors).
- [4] Khaderi, S.S., Aziz, A.R.A. (2010). Adoption of private finance initiative (PFI) in Malaysian public works projects: Are we ready? *CIB TG72 World Building Congress*, 105-120.
- [5] Saidin, S.Z., Badara, M.S., Ahmi, A. (2020). Assessment of the governance practices in public sector: Case studies of Malaysian federal government agencies. *Journal of Governance and Integrity*, 2(2): 45-52. <https://doi.org/10.15282/jgi.2.2.2019.5472>
- [6] Mostepaniuk, A. (2017). *Corporate Governance*.
- [7] Adnan, H., Amalina, R., Yaman, R., Rosman, M.R. (2012). Risk management in built operate transfer (BOT) in Malaysia. *Paripex - Indian Journal of Research*, 3(2): 5-10. <https://doi.org/10.15373/22501991/feb2014/2>
- [8] Atan, R., Raman, S.A., Sawiran, M.S., Mohamed, N., Mail, R. (2010). Financial performance of Malaysian local authorities: A trend analysis. In *2010 International Conference on Science and Social Research (CSSR 2010)*, December 5-10, 2010, Kuala Lumpur, Malaysia, pp. 271-276. <https://doi.org/10.1109/CSSR.2010.5773782>
- [9] Atkins, G., Davies, N., Bishop, T.K. (2017). How to value infrastructure: Improving cost benefit analysis. <https://www.instituteforgovernment.org.uk/sites/default/files/publications/IfG%20Report%20CBA%20infrastructure%20web%20final1.pdf>.
- [10] Drèze, J., Stern, N. (1987). The Theory of Cost-Benefit Analysis. *Handbook of Public Economics*, 2: 909-989.
- [11] Jones, H., Moura, F., Domingos, T. (2014). Transport infrastructure project evaluation using cost-benefit analysis. *Procedia - Social and Behavioral Sciences*, 111: 400-409. <https://doi.org/10.1016/j.sbspro.2014.01.073>
- [12] United Nations New York and Geneva (2009). The role of public investment in social and economic development, *Public Investment: Vital for Growth and Renewal, but should it be a countercyclical instrument?*. [https://unctad.org/system/files/official-document/webdiae20091\\_en.pdf](https://unctad.org/system/files/official-document/webdiae20091_en.pdf).
- [13] Saron, N.N.M., Jaafar, M.N., Razali, M.N. (2013). Implementation public private partnership (PPP) in Malaysia: A Review on Participation of Local Government and Private Sector's in Land Development Proceeding of the Global Conference on Business. *Economic and Social Sciences (GBSR, 2013)*, 1-19. [https://www.academia.edu/4633322/Implementation\\_Public\\_Private\\_Partnership\\_PPP\\_in\\_Malaysia\\_A\\_Review\\_on\\_Participation\\_of\\_Local\\_Government\\_and\\_Private](https://www.academia.edu/4633322/Implementation_Public_Private_Partnership_PPP_in_Malaysia_A_Review_on_Participation_of_Local_Government_and_Private)

- Sectors\_in\_Land\_Development.
- [14] Ismail, S., Rashid, K.A. (2007). Private finance initiative (pfi) in Malaysia: The need for and issues related to the public sector comparator (Psc). *Jurnal Akuntansi Dan Keuangan Indonesia*, 4(2): 137-154. <https://doi.org/10.21002/jaki.2007.07>
- [15] Singaravelloo, K. (2010). PPP: The right marriage between local government and the private sector in Malaysia? *International Journal of Institutions and Economies*, 2: 142-166. <https://ejournal.um.edu.my/index.php/ijie/article/view/4765/2584>.
- [16] Lop, N.S., Ismail, K., Isa, H.M. (2018). A conceptual framework of performance assessment for private finance initiative projects in Malaysia. *Journal of Building Performance ISSN*, 9(1): 2018. <http://spaj.ukm.my/jsb/index.php/jbp/issue/view/37>
- [17] Lop, N.S., Ismail, K., Isa, H.M., Khalil, N. (2020). Exploring private finance initiative implementation issues in Malaysia construction projects: A way forward. *Environment-Behaviour Proceedings Journal*, 5(S13): 41-46. <http://dx.doi.org/10.21834/ebpj.v5iS13.2531>
- [18] Victorian Managed Insurance Authority. (2010). Risk management for community services organisations. <http://fundassist.flinders.edu.au/uploads/docs/VMIA.pdf>
- [19] Altuntas, M., Berry-Stölzle, T.R., Hoyt, R.E. (2011). Implementation of enterprise risk management: Evidence from the German property-liability insurance industry. *Geneva Papers on Risk and Insurance: Issues and Practice*, 36(3): 414-439. <https://doi.org/10.1057/gpp.2011.11>
- [20] Zulkifli, A.F. (2014). A study on risk management key performance indicators for developing comprehensive Malaysian standard risk management performance level in construction industry, Bachelor's Thesis, Universiti Malaysia Pahang. <http://umpir.ump.edu.my/id/eprint/9130/1/CD8469%20@%2049.pdf>.
- [21] Jabbour, M., Abdel-Kader, M. (2015). Changes in capital allocation practices - ERM and organizational change. *Accounting Forum*, 39(4): 295-311. <https://doi.org/10.1016/j.accfor.2015.08.001>
- [22] Mohamad Fauzi, S.N., Ghazali, P.L., Mohammed Foziah, N.H., Mahmud, M.S., Muhammad, N., Rohim, R.A.A. (2022). The role of enterprise risk management on smes performance: A review paper. *The Journal of Management Theory and Practice (JMTP)*, 3(1): 73-77. <https://doi.org/10.37231/jmtp.2022.3.1.214>
- [23] Rashid, N., Muhmad, S.N., M.H.C., Muhmad, S.N., Hashim, H.A., Afthanorhan, A. (2018). Risk management effectiveness index score for pre and post Malaysian code on corporate governance 2012. *International Journal of Academic Research in Business and Social Sciences*, 8(12): 729-741. <http://dx.doi.org/10.6007/IJARBS/v8-i12/5068>
- [24] Dioubate, B.M., Daud, W., Norhayate, W. (2022). Cyber security risk management frameworks implementation in Malaysian higher education institutions. *International Journal of Academic Research in Business and Social Sciences*, 12(4): 1356-1371. <http://dx.doi.org/10.6007/IJARBS/v12-i4/12300>
- [25] Makkawi, H. (2021). The role of risk management in increasing business performance. *Proceedings of the International Conference on Business Excellence*, 15(1): 1054-1059. <https://doi.org/10.2478/picbe-2021-0099>
- [26] Jafari, M., Chadegani, A.A., Biglari, V. (2011). Effective risk management and company's performance: Investment in innovations and intellectual capital using behavioral and practical approach. *Journal of Economics and International Finance*, 3(15): 780-786. <http://dx.doi.org/10.5897/JEIF11.123>
- [27] Mohammed, H.K., Knapkova, A. (2016). The impact of total risk management on company's performance. *Procedia - Social and Behavioral Sciences*, 220: 271-277. <https://doi.org/10.1016/j.sbspro.2016.05.499>
- [28] Ahmeti, R., Vladi, B. (2017). Risk management in public sector: A literature review. *European Journal of Multidisciplinary Studies*, 2(5): 190-196. <https://doi.org/10.26417/ejms.v5i1.p323-329>
- [29] Alijoyo, F.A., Al Fattaah, M.S. Fisabilillah. (2021). Risk management implementation in public sector organizations-global phenomena. *International Journal of Current Science Research and Review*, 4(3): 195-202. <http://dx.doi.org/10.47191/ijcsrr/V4-i3-07>
- [30] Yaso'a, M.R., Abdullah, W.A.W., Endut, W.A. (2020). The role of shariah auditor in Islamic banks: The effect of shariah governance framework (SGF) 2011. *International Journal of Financial Research*, 11(4): 443-452. <https://doi.org/10.5430/ijfr.v11n4p443>
- [31] Creswell, J.W., Poth, C.N. (2018). *Qualitative Inquiry and Research Design Choosing among Five Approaches* (Fourth Ed). Thousand Oaks, Calif.: SAGE Publications Inc.