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RESEARCH ARTICLE

Conceptual Outlook of the Determinants Influencing the Intention to Adopt Return on Investment Evaluation in Malaysian Manufacturing Small and Medium Enterprises

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ABSTRACT

As one of the established methods for evaluating training, return on investment (ROI) is assuming an increasingly vital role in demonstrating that training provides organizations with both monetary and non-monetary benefits. Regrettably, despite ROI's importance and potential advantages, the implementation of ROI evaluation among Malaysian manufacturing small and medium-sized enterprises (SMEs) is nearly absent. Hence, this study seeks to investigate the factors that influence the intents of Malaysian manufacturing SMEs to adopt ROI training evaluation. Conducting a separate analysis on SMEs is crucial due to their distinctive attributes that set them apart from larger corporations. To accomplish this, the present study defines ROI evaluation as a form of innovation, as it is perceived as new by the organization using it. The determinants that may impact the inclination to adopt ROI evaluation are examined from three perspectives: perceived characteristics of innovation, organizational context, and environmental context. This study aims to enhance the understanding of the factors that can either facilitate or hinder an organization's goal to embrace ROI evaluation. Essentially, this study offers useful insights for HR professionals, government agencies, and policy makers that aim to promote the adoption of ROI measurement in SME firms.

1. INTRODUCTION

Malaysia government's decision to concentrate on human capital development especially in the era of industrial revolution 4.0 is justifiable as it is the main source of sustainability, competitive advantages, productivity and performance (Azizan et al., 2021; Ismail, 2018). This argument is based on the fact that the Malaysia could lose 65% of the current jobs by 2027 if most local employees are not equipped with industrial 4.0 (Nasir, 2017). Despite the claim that human capital development such as training program can produce positive effects to both individual and organization (Aguinis and Kraiger, 2009), training is often criticized for being too expensive and not improving the firm's profitability (Hooi, 2010; Kraiger *et al.,* 2004; Wright and Geroy, 2001). One of the reasons leading to this criticism is the weaknesses associated with the existing evaluation approach that provides little evidence about benefits of a training program especially the monetary benefits (Aragón-Sánchez *et al,* 2003). The evaluated training outcomes largely target individual e.g. reaction level (Level 1) that has simpler framework which gives an easy direction for the HRD professional in evaluating training program (Brinkerhoff and Dressler, 2015; Hashim, 2001). Similarly, the main focus of evaluation Level 2 and Level 3 is still on the impact of training program to individual employee while the impact to organization remains neglected (Tharenou *et al.,* 2007). As for the business result evaluation level

(level 4) , even though organizational outcomes from training such as increased profit/sales, improved performance, increased quality and productivity are demonstrated, this particular level is still unable to demonstrate the ultimate monetary benefit from training with respect to training cost (Bradley and Connors, 2013).

Based on this situation, the researcher believes that an evaluation practice should not stop at the Level 4 evaluation (business result). In other word, it is necessary for the HRD professional to go beyond Level 4 evaluation in order to provide the type of information that are relevant to the top management (Preston, 2010). Furthermore, it is crucial for organizations such as SMEs that are characterized with resource limitation to apply this approach in order to ensure that the investments made could eventually produce a positive return. Since small organizations are also more concern with cost and employee outcome, they are more likely to evaluate training programs in an intensive manner (Asadullah *et al.,* 2015). This is demonstrated in recent evidences that reveal how small organizations had successfully implemented ROI as means to improve their organizational profitability and effectiveness (Curado and Teixeira, 2014; Phillips and Zuniga, 2008).

Since ROI in training evaluation is new to the SMEs sector in Malaysia, it is defined in this study as an innovation. This is consistent with the widely acknowledged definition of innovation that can be in the form of an idea, product, service, practice, process or system that is perceived as new by the adopter (Rogers, 2003). Furthermore, based on the classification by various scholars in the innovation field that categorizes innovation into product, process, technological and management innovation, the focus of the current study is on management innovation based on the nature of ROI evaluation that involves new practices which changes how managerial work operates at the organizational level (Voccaro *et al.,* 2010).

In the light of this definition, the current study conceptualises ROI evaluation in training programs as a type of management innovation to be adopted in the Malaysian manufacturing SMEs, given its newness to the sector. This move is also consistent with the fact that ROI has received a worldwide recognition to the extent that it has been listed recently as the top five most significant management innovation in this century (Hamel, 2006). First created by the Du Pont Corporation as a measure of return on the total business investment (Kaplan, 1991), the concept has now been applied to different investment types including training and development (Phillips, 1997a). ROI is also getting an increasing attention from the members of public that demands accountability in the government and corporate spending (Baharim, 2008).

From a research standpoint, many of previous works on innovation adoption in management innovation focuses more on lean management, strategic management accounting, halal transportation, management accounting innovation (Belfanti, 2019; Ben Hamadi & Fournès, 2023; Ngah et al., 2022; Oyewo, 2021). However, very few studies integrate innovation adoption with training evaluation (Gilpin-Jackson & Bushe, 2007; Schaffer & Keller, 2003). Therefore, in this study, the innovation process of ROI evaluation will be studied from the combination of innovation and training evaluation perspectives. It is believed that this approach will be able to provide better understanding on the topic through organizational level analysis.

2.0 THEORETICAL BACKGROUND

The Diffusion of Innovation (DOI) theory was developed by Everett Rogers who dedicated a book on this theory in 1962. Rogers (2003) describes diffusion as the process in which an innovation is communicated through certain channels over time among the members of a social system. Based on the definition, diffusion is claimed to have four important elements: innovation, communication channel, time and social system. Furthermore, innovation can be defined as an idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003). DOI theory suggests that innovation adoption process involves five stages: knowledge, persuasion, decision, implementation and confirmation (Rogers, 2003). During the initial stage, an individual or organization is first exposed to an innovation and subsequently gains knowledge about the innovation. In the persuasion stage, the individual or organization develops positive or negative attitude towards the innovation. The decision stage occurs when the individual or organization makes preparations to either reject or adopt the innovation. At the implementation stage, the individual or organizational actually utilizes the innovation, followed by the confirmation stage in

which individual or organization evaluates the consequences of the innovation decision that was made and modifies this decision accordingly, based on the positives or negatives consequences of decision (Rogers, 2003). On the other hand, several characteristics of innovation that influence an organization's decision to adopt are also defined in the DOI theory (Rogers, 2003). These characteristics are relative advantages, compatibility, complexity, trialability and observability. Relative advantages is the degree to which an innovation is perceived as being better than the idea it supersedes. Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experience and needs of potential adopters'; complexity is the degree to which an innovation is perceived as difficult to understand and use; trialability is the degree to which an innovation may be experimented with on a limited basis and observability is 'the degree to which the results of an innovation are visible to others' (Rogers, 2003).

Meanwhile, Technology-Organization-Environment (TOE) framework was developed by Tornatzky & Fleischer (1990) to examine organizational level adoption of various information system or information technology (IS/IT) products and services. The framework distinguishes between three different contexts which include technology, organizational and environmental contexts that may influence the adoption of innovation. Several prior studies have used TOE framework to understand various innovation adoptions at the individual or organizational level such as cloud computing in education (Shahzad *et al.,* 2020), cloud computing (Singh & Mansotra, 2019), and e-learning (Ali *et al.,* 2017). Thus, it is suggested that the TOE framework is applicable to investigate factors influencing the organizational intention to adopt ROI evaluation.

3.0 RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

This research proposed a model based on the previous theoretical and empirical findings to predict the factor that may influence the organizational intention to adopt ROI evaluation. Specifically, the research model is developed based on the DOI) theory and the TOE framework, both of which are well-established in innovation adoption research (Hameed *et al.,* 2012a). Figure 1.0 presents the proposed research framework for this study.

3.1 Perceived characteristic of innovation

The characteristic of a new idea affect how it is being evaluated and the decision to adopt by an organization (Rogers, 2003). Scholars have developed and advanced several models of the DOI and a number of innovation characteristics have been identified as determinants of adoption (Firth, 1996). Downs & Mohr, (1976) differentiate between two types of innovation characteristics (or attributes), namely: primary and perceived (secondary) characteristics. Primary characteristics are inherent to the innovation itself regardless of the adopters and may include radicalness and physical properties; while perceived attributes are related to the way in which adopters perceive an innovation's primary attributes. Perceived characteristic of innovation that proposed by Rogers (2003) are the most vital characteristics in describing the adoption of innovation. The importance of Roger's innovation attributes is reflected by the mainstream tendency among the innovation scholars that use these attributes in carrying out their empirical works. These five perceived charactristics of innovation are perceived relative advantage, perceived complexity, perceived compatibility, perceived observability and perceived trialability.

3.1.1 Relative advantage

Relative advantage has been expressed in various ways such as economic profitability, impact, social benefit, and enhanced status of the department, organization or industry or among its customer (Nystrom et al., 2002; Phillips & Phillips, 2008; Rogers, 2003; Schneider, 2007). In the current study, relative advantage corresponds to the perception that an ROI evaluation is superior to the existing training evaluation in terms of improving program effectiveness and efficiencies, secure funding for training programs, setting priorities over training activities, improving the image of training department and changing management perception on training (ROI Institute, 2013;Subramanian *et al.,* 2012). Therefore, these benefits can become a significant motivation for the intention to adopt ROI evaluation among manufacturing SMEs in Malaysia when considering the competitive marketplace in today's global world. Several prior empirical studies found that perceived relative advantage significantly influence the intention to adopt various innovation in SMEs (Abulehia et al.,

2023; Bhardwaj et al., 2021; Chau et al., 2020, 2024; Ghallab et al., 2021; Iranmanesh et al., 2023; Jang et al., 2019; Kumar et al., 2017; Lin et al., 2020; Rawashdeh & Al-Namlah, 2017; Sivathanu, 2019; Tsai et al., 2021; Van Huy et al., 2024). Consequently, the following hypotheses are proposed:

H1a: Relative advantage is positively associated with the intention to adopt ROI evaluation.

3.1.2 Compatibility

Innovation literature has reported an encouraging association between the perceived compatibility of an innovation and innovation adoption (Tornatzky & Klein, 1982). Moreover, it is important that changes resulting from innovation adoption are compatible with the organization's values and belief (Premkumar & Roberts, 1999). In the case of higher level evaluation such as ROI evaluation, it can be argued that the presence of first four evaluation levels (reaction, learning, training transfer and business result) serve as a preceding idea that speed up the rate of adoption of ROI evaluation (Stevens, 1992). Positive relationship has been reported between perceived compatibility and the intention to adopt various innovation (Abu Bakar et al., 2019; Abulehia et al., 2023; AL-Shboul, 2019; Bhardwaj et al., 2021; Chau et al., 2020, 2024; Ghallab et al., 2021; Jang et al., 2019; Latip et al., 2021; Lin et al., 2020; Sivathanu, 2019; Tsai et al., 2021; Usman et al., 2019; Van Huy et al., 2024) and Level 4 evaluation (Schaffer & Keller, 2003). The latter study also suggests how the low adoption rate of organizational level evaluation can be increased by having better compatibility with the existing practise. Consequently, the following hypotheses are proposed:

H1b: Compatibility is positively associated with the intention to adopt ROI evaluation.

3.1.3 Observability

Observability is a vital driver for innovation adoption as it provides the adopter an opportunity to learn and assess the innovation, which may facilitate its adoption (Kim & Srivastava, 1998). It is notable that a company may better assess an innovation through observing the results of adopting it rather than observing the innovation itself (Rogers, 2003). For instance, an increasing number of international companies adopted ROI approach on the strength of observing the performance and benefits that had been gained by other companies which had adopted the approach. Several studies report a positive relationship between observability and intention to adopt various innovation (Abu Bakar et al., 2019; Al Mamun, 2017; Ghallab et al., 2021; Tsai et al., 2021) and Level 4 evaluation (Schaffer & Keller, 2003). In (Schaffer & Keller, 2003), it was found that significant association presents between perceived observability, and the frequency of business impact evaluation. Following trend from the above reviews, the following hypotheses are proposed:

H1c: Observability is positively associated with the intention to adopt ROI evaluation.

3.1.4 Trialability

Trialability indicates the extent in which an innovation can be experimented on a limited basis (Rogers, 2003). Given the newness of ROI evaluation among the SMEs in the country, the ability to experiment with this a part of the ROI evaluation on a trial or limited basis will undoubtedly increase the intention to adopt it. This can also encourage the participation from small firms that are constrained with scarce financial resource and thus hesitate to invest substantially in an unproven innovation. A number of studies report positive relationship between trialability and the adoption of various innovation (Al Mamun, 2017; Alshamaila et al., 2013; Ghallab et al., 2021; Hasani et al., 2017; Johnson et al., 2016; Kendall et al., 2001; Ramdani et al., 2013; Ramdani & Kawalek, 2008; Rogers, 2003; Schaffer & Keller, 2003; Seyal & Rahman, 2003; Stevens, 1992) and Level 4 evaluation (Schaffer & Keller, 2003). Findings from the latter study indicate that trialability is the innovation attribute that has the most consistent impact on the frequency of business impact evaluation level. Respondents also suggest that the high level of experimentation relate to a positive perception of trialability. Following trend from the above reviews, the following hypotheses are proposed:

H1d: Trialability is positively associated with the intention to adopt ROI evaluation.

3.1.5 Complexity

Passmore (2012) considered ROI evaluation a complex training evaluation, especially in certain features such as determining the intangible benefit of the training program. ROI evaluation has also

been critiqued on its complexity and difficulty (Morrison, 2015). According to Jeyaraj *et al.,* (2006) complexity is one of the most significant predictors and has a negative effect on an organization's decision to adopt an innovation. Several studies have reported the significant influence that complexity imposes on the initial stage of innovation adoption (Abulehia et al., 2023; Faasolo & Sumarliah, 2022; Kung et al., 2015; Latip et al., 2021; Lin et al., 2020; Maduku et al., 2016; Martins et al., 2016; Mujalli et al., 2024; Ngah et al., 2015; Tsai et al., 2010; Usman et al., 2019; Wong et al., 2020). For instance, Lin et al. (2020) emphasized that complexity was significantly and negatively related to the intention to adopt green practices in Malaysian SMEs. In a similar vein, Ramdani et al., (2013) also found similar findings due to lack of internal ICT experts, which consequently makes the adoption of e-commerce seem difficult to use and implement. Besides, Abou-Shouk & Eraqi, (2015) also found that complexity emerged as a barrier to e-commerce adoption in Egyptian SMEs. Based on the above reviews, the following hypothesis is proposed:

H1e: Complexity is negatively associated with the intention to adopt ROI evaluation.

3.2 Organizational context

The determinants of organizational contexts play an essential role in SMEs' adoption decisions as it looks at the structure and organization process. Organizational context refers to the various factors inside the organizational firm that might influence the intention to adopt an innovation (Ming *et al.,* 2018). Simultaneously, the literature review on the innovation adoption in SME suggested various organizational context factors. However, this study only considers four factors under organizational contexts that might influence the intention to adopt ROI evaluation, including organizational readiness, top management support, centralization, and formalization.

3.2.1 Organizational readiness

Phillips & Phillips (2002) stated that knowledge and financial readiness are among the common factors that shy organizations away from adopting ROI evaluation in their training programs. Many of the HR employees do not have the essential skills to apply ROI since most of the existing approaches do not involve statistical analysis of evaluation data. Later research provides more details on the aspects of ROI knowledge that have become a major concern by many, such as prerequisite in statistics, accounting and financials, which are not the typical skills expected from HR professionals (Phillips & Phillips, 2008). Furthermore, ROI evaluation appears to be complicated due to the presence of many options within each of its step which are provided solely to cater for different evaluation scenarios. As for cost, even though ROI evaluation incurs additional cost, typically it involves only around 4-5% from the total HR budget where the benefits brought by ROI are claimed would be able to offset its cost (Phillips & Phillips, 2002). However, organizations in a resource limited environment might still be very critical in their decision to adopt ROI since the benefits are normally observed over a considerable time period (Burkett, 2005). Many studies reported the significant influence of organizational readiness positively influence the intention to adopt various innovation (Abed, 2020; Bhardwaj et al., 2021; Chau et al., 2020, 2024; Mukherjee et al., 2024; Van Huy et al., 2024). In comparison to large organizations, SMEs in nature are less prepared in terms of finance and expertise, and thus organizational readiness will play even more vital influence in the adoption of ROI evaluation. In accordance with the findings from literature, the following hypotheses is proposed:

H2a: Organizational readiness is positively associated with the intention to adopt ROI evaluation.

3.2.2 Top management support

Stevens (1992) claims the lack of top management's support as the main reason for training managers' failure to implement Level 4 evaluation even though it is recognized as a useful innovation. Meanwhile, Abdullah, (2006) studied within large manufacturing organizations in Malaysia also reveals that lack of support from management emerges as one of the main factors that impede the adoption of ROI evaluation. It is suggested that less emphasis on training in small organization compared to the larger organizations can be attributed to the reluctance from the side of managers/owners to invest in training or to allow their employees to attend training courses (Westhead and Storey, 1997). Without top management support, an organization may disregard the importance of training activities and focus more on the routine activities. Top management support

has been identified as a key determinant for the adoption of ROI evaluation level (Mohamed *et al*, 2012; Elenkov *et al*., 2005; Schaffer, 2003; West *et. al*, 2003; Phillips and Phillips, 2002; Henry, 2001). Meanwhile, previous empirical studies have also reported a positive relationship between top management support and the intention to adopt various innovations (Abulehia et al., 2023; Alaskar & Alsadi, 2023; Alshaher et al., 2023; Bhardwaj et al., 2021; Ghallab et al., 2021; Van Huy et al., 2024) .With regards to the successfulness of ROI approach in SMEs, favorable top management belief and attitudes need to be extended into action and visible support (including moral support and the allocation of adequate resources in particular financially) due to the numerous challenging priorities due to limited resources. In line with most of the literature work that report significant relationship between top management support and management innovation practices, the following hypotheses is proposed:

H2b: Top management support is positively associated with the intention to adopt ROI evaluation.

3.2.3 Centralization

The adoption of management innovation including ROI evaluation is claimed to be generated in a top-down approach where decisions made in a centralized manner facilitate the adoption of management innovation (Daft, 1978). Since its introduction can cause a drastic change in the conventional training practices in organizations, the initiation of ROI evaluation would need a centralized alliance of authority to reallocate the financial budget and other resources, and to handle opponents which to some extent involve removing the parties that become an obstacle to change. Clearly, the decision to initiate ROI evaluation must be a strategic one and thus it concerns the degree of centralization of "real power". A review on prior empirical studies revealed a positive link between centralization and the adoption of innovations with a central design nature such as management innovations (Jaskyte, 2011; Kinuthia, 2014; Zhang *et al.,* 2015; Kinuthia and Chung, 2017; Zeng *et al.,* 2017; Gentile-Lüdecke *et al.,* 2019). Kinuthia (2014) for instance reported the significant role played by centralization in enhancing the intention to adopt cloud enterprise resource planning (ERP) within American SMEs. Even though the studied innovation is technology-based that is more commonly associated with decentralized structure, the design nature of ERP system that suits centralized structure led to the opposing finding. Moreover, SMEs also are characterized by having a straightforward and highly centralized structure where owners and top managements are normally the same person. Thus, considering the significance of centralized SMEs organizational structure in the adoption of management innovations like ROI evaluation level, the following hypothesis is proposed:

H2c: Centralization is positively associated with the intention to adopt ROI evaluation.

3.2.4 Formalization

In highly formalized organizations where rules and regulations are strictly documented and adhered to, the top management has more controlling power over employees. The presence of such as condition in an organization usually eases the introduction of management innovations such as ROI evaluation since failure to follow instructions will result in severe consequences due to continuous enforcement in such a structure (Jaskyte, 2011). Past studies highlighted a few formalization elements such as procedures and organizational standards that are important for manufacturing SMEs (Prakash and Gupta, 2008). These elements are essential to clarify the employees' roles, resulting in better employee commitment, involvement, and organizational effectiveness (Patel, 2005; Prakash and Gupta, 2008). Research also showed that organizations with a written policy related to training and evaluation programs had more success at evaluation through ROI evaluation (Ilecki, 2010). Positive relationship between formalization and innovation adoption has been reported in the past (Braam and Nijssen, 2011; Daugherty *et al.,* 2011; Hung *et al.,* 2011; Jaskyte, 2011; Zhang *et al.,* 2015). In particular, few empirical research showed formalization to be positively related to the early innovation adoption in various fields (Alkisher, 2013; Tanninen *et al.,* 2011). For instance, finding by Kinuthia (2014) revealed that formalization had a significant role on the intention to adopt cloud ERP within American SMEs. In line with the previous observation on centralization, the design nature of ERP system led to this finding. Since ERP requires integration and standardization of common processes, data and business practices, its adoption would benefit from formalized rules and procedures that occur in an organization. In addition, another study by Al-

Somali *et al.,* (2015) also showed a significant influence of formalization on the adoption of e-commerce within the Saudi SMEs. Formalization through written rules and procedures facilitated the communication process that helped adopters in utilizing the e-commerce services. Based on the past research findings that demonstrate the significance of formalization in innovation adoption particularly management innovation, the study proposes the following hypothesis:

H2d: Formalization is positively associated with the intention to adopt ROI evaluation.

3.3 Environmental context

The last component of this study is the environmental context, which refers to the external conditions in which the organization operates (Abu Bakar *et al.,* 2019). Environmental context plays an important role in influencing the intention to adopt an innovative practice in an organization (Aljowaidi, 2015). Aboelmaged (2018) has emphasized several factors within the business environment that can influence how an organization behaves, including pressures from stakeholders, competitors, and industry. In this study, the emphasis is given to four environmental factors; environment uncertainty, external support, external stakeholder pressure, and competitive pressure since these factors are amongst the highly important factors in the business environment, especially in SMEs (Aboelmaged, 2018; Hassan *et al.,* 2017).

3.3.1 Environmental uncertainty

Since the environment is changing continuously, it involves a degree of uncertainty. Environmental uncertainty plays a key role in the adoption of innovation. Thus, when it comes to management innovation such as ROI evaluation one would expect that an organization in an environment characterized by instability and unpredictability like SME would benefit from it. This is based on the fact that during uncertainty condition, top management is often inclined to put pressure on human resources manager through reduction in training and development budgets (Cairns, 2012; Rowden, 2000). As a result, managers in this circumstance tend to be more proactive than their counterparts in the less turbulent environments with regards to the use of innovative strategies such as ROI evaluation as a justification to conduct training (Lin & Ho, 2010). Therefore, based on the above argument, environmental uncertainty is expected to be a positive influence on the intention to adopt ROI evaluation as it is considered as the type of management innovation that can help the manager to justify training budget in a cost-effective manner. Accordingly, several previous studies have supported the contention that environmental uncertainty is positively associated with the adoption of innovation by companies (Alaskar & Alsadi, 2023; Hossain & Quaddus, 2014; Iranmanesh et al., 2023; Lin et al., 2020) The empirical findings lead to the following hypotheses:

H3a: Environment uncertainty is positively associated with the intention to adopt ROI evaluation.

3.3.2 External support

The scarcity in resources face by most SMEs is the main barrier when they intent to introduce new practices in the organization. The common ways to resolve this issue is by seeking external support. In this study, the external support refers to the support from outside organizations which may include government bodies, private agency and training consultant. According to Phillips *et al.,* (2004) the advantage to using training consultant is that they are usually quite skilful in conducting effective evaluation. In Malaysia, there are several training consultants available to assist organizations in the implementation of ROI evaluation (1MyROI, 2016). However, since the fee incurred can be quite costly for small organizations to bear, governmental assistance becomes a necessity. In fact, fee of some of the workshops organized by the ROI training consultant can be claimable under the HRDF fund (1MYROI, 2015). In the research context, external support is found to be positively associated with the adoption of higher training evaluation levels (Mohamed *et. al*, 2012; Bussaman, 2008; Reeve and Peerbhoy, 2007; Hashim; 2005 and Brakel, 2002). Previous empirical studies have also reported a positive relationship between external support and the intention to adopt various innovations (Alshaher et al., 2023; Bhardwaj et al., 2021; Ghallab et al., 2021; Van Huy et al., 2024). This variables is more significant in the case of resource-limited SMEs as external supports from both the supply chain sources (customers, suppliers and users) and R&D organizations may serve as resource advantage that are significant to SMEs' innovativeness (Lasagni,

2012). In line with the positive association between external support found in the literature review, the following hypotheses is proposed:

H3b: External support is positively associated with the intention to adopt ROI evaluation.

3.3.3 External stakeholder pressure

Small and medium organizations are more likely to adopt management innovation due to external pressure, which implies that, in most cases, innovations are 'pushed on' them by parties outside the organization. Likewise, in this study, the researcher proposed that organizations consider adopting ROI evaluation due to the pressure from external influences such as government and customer. Strong intention to adopt training evaluations such as ROI in SMEs may be observed when organizational-level evaluation becomes part of the regulatory body's recommendations that seek the implementation of a highly effective training program in the sector (Pembangunan Sumber Manusia Berhad, 2012). In this study, the conceptual definition of external pressure refers to the forces to adopt ROI approach from customer expectation, government regulation, supplier or technology. In the research context, a significant relationship between external stakeholder pressure and innovation adoption has been reported in several studies on SMEs (Amar, 2010; Chau et al., 2024; Duan et al., 2012; Saffu et al., 2012; Shaharudin et al., 2012; Van Huy et al., 2024; Walker et al., 2016). Particularly, external pressure has influenced SMEs' intention to adopt social commerce (Abed, 2020), smart factory (Won and Park, 2020), green practices (Lin *et al.,* 2020) and mobile marketing (Maduku *et al.,* 2016). Consequently, it is proposed that:

H3c: External Stakeholder pressure is positively associated with the intention to adopt ROI evaluation.

3.3.4 Competitive pressure

Competition pressure is an important factor that could influence an organization to adopt ROI. If a new HRM practice is perceived to provide an organization with competitive advantage, top management will be more supportive toward its adoption. Global competition that demands for increased quality, innovation and productivity can become a major driver for the implementation of training programs (Yadapadithaya, 2001). Nevertheless, the highly observable role played by training function can also lead to an increasing demand for accountability as executives and other stakeholders would want to assess and hold all tools and efforts accountable. In the context of resource limited business environments like SMEs, ROI has huge potential to provide competitive advantage, as it helps organizations to dedicate valuable resources to training programs which contribute the most to organizational performance. Prior studies have reported a positive relationship between competitive pressure and the intention to adopt various innovations (Abed, 2020; Abulehia et al., 2023; Ahmad et al., 2019; Alshaher et al., 2023; Faasolo & Sumarliah, 2022; Gangwar et al., 2015; Hassan et al., 2018; Iranmanesh et al., 2023; Jang et al., 2019; Maduku et al., 2016; Matias & Hernandez, 2019; Mukherjee et al., 2024; Sivathanu, 2019; Usman et al., 2019; Wong et al., 2020). Sivathanu (2019) found competitive pressure as the most significant factor influencing the adoption intention of IIOT within the Indian automobile component and manufacturing SMEs. The great competitive pressure was due to the industrial context of automobile spare parts and components where IIOT adoption is on its rise, and the presence of many new start-up companies within the same market. Similarly, the trend was observed in a study by Wong *et al.,* (2020) who studied the adoption intention of blockchain technology among the Malaysian manufacturing SMEs. It was suggested that the pressure to be at the forefront in the competitive manufacturing industry led to the increase of innovation adoption. For this reason, researcher formulates the following hypotheses:

H3d: Competitive pressure is positively associated with the intention to adopt ROI evaluation.

4.0 CONCLUSION

This study highlights the critical importance of return on investment (ROI) evaluation in demonstrating the monetary and non-monetary benefits of training within organizations. Despite its significance, the implementation of ROI evaluation among Malaysian manufacturing SMEs remains notably limited. By exploring the factors influencing the adoption of ROI evaluation, this research emphasizes the unique characteristics of SMEs, distinguishing them from larger corporations.

Viewing ROI evaluation as an innovation, the study examines determinants from three perspectives: perceived characteristics of innovation, organizational context, and environmental context. The proposed framework offers valuable insights for HR professionals, government agencies, and policymakers, towards the factors that may influence the ROI's intention adoption in SMEs. This research aims to bridge the gap in ROI evaluation practices, fostering a more comprehensive and effective approach to training evaluation within the SME sector.

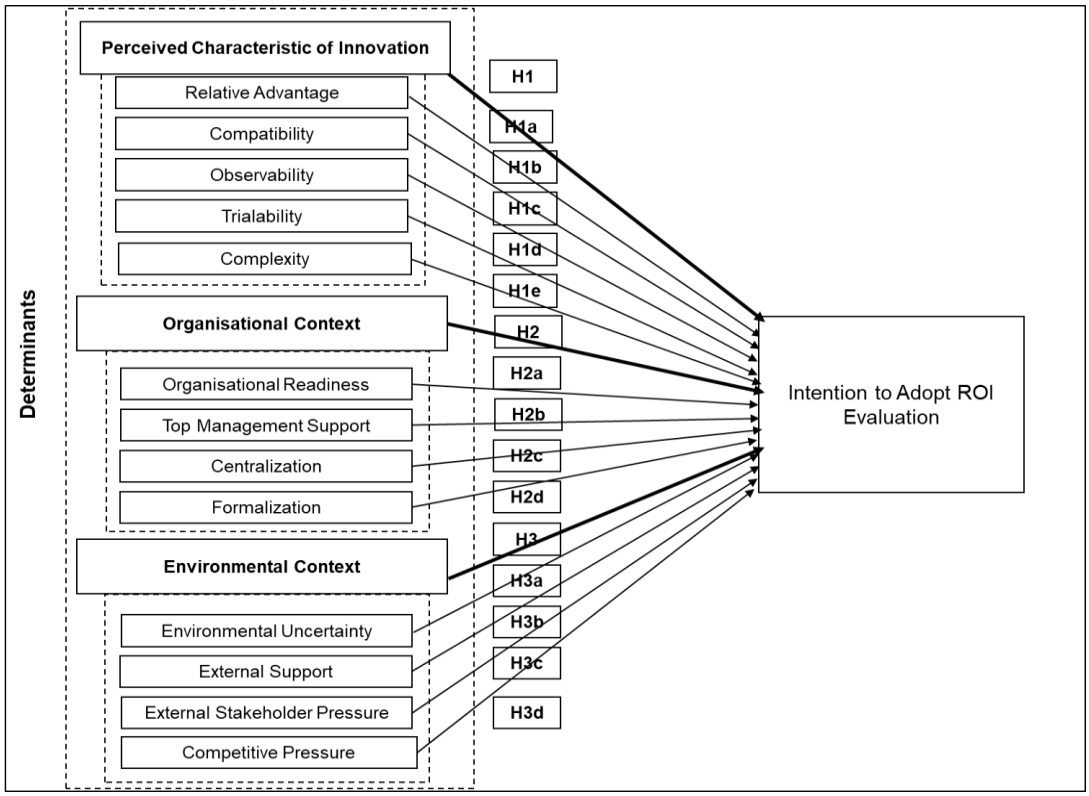

Figure 1: Conceptual framework

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