IMPACT OF PROJECT MANAGEMENT METHODOLOGY ON PROJECT MANAGEMENT SUCCESS IN THE SRI LANKAN CONSTRUCTION INDUSTRY

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ABSTRACT

The main objective of this study is to assess the impact of project management methodology (PMM) on project management success (PMS) of the construction industry in Sri Lanka by developing a new model to the existing body of knowledge and to contribute some practical aspects to the project management practitioners. Accordingly, the conceptual framework was developed with the theoretical support of the Contingency theory. The researcher-administrated questionnaires were distributed under a one-time survey strategy and 381 respondents were used for analysis. According to the nature of the study, the widely used Structural Equation Modelling technique (SEM) was used to analyze the data, and SmartPLS Version 3 was used as the tool found that all three project methodologies are impacting significantly on Project Management Success with Standard Project Management Methodology (SPMM) being the strongest followed by Customized Project Management Methodology (CPMM) and Inhouse Developed Project Management Methodologies (IPMM). The findings of this study show that 39% of the variation in project management success is explained by the project management methodologies.

Keywords: ***Project Management Methodologies, Project Management Success, Standard Project Management Methodologies, Customized Project Management Methodologies, Inhouse Developed Project Management Methodologies***

1. INTRODUCTION

The key role of project management is considered to identify and manage risks, optimum resource management, attractive budgeting and clever communication, and coordination across multiple teams and stakeholders most probably crossing geographical boundaries. In other words, the objective of project management is to plan and manage the projects to execute successfully to achieve the expected goals and deliverables within the allocated time and resources. These emerging global developments caused researchers to examine this area since the projects are globally used in all economic and non-economic fields to organize the activities, aiming for the achievement of desired objectives (Beleiu, Crisan, & Nistor, 2015).

According to Muller and Lecoeuvre (2014), the structural characteristics required for successful project execution are identified in the stream of literature. Pinto (2014) termed project governance as the use of systems, structures of authority, and procedures to allocate resources and control or coordinate activities associated with

a project. Joslin and Muller (2015) revealed that project management methodologies have positive and significant impacts on project management success in construction-based projects. Further, in supporting the findings of Joslin and Muller (2015), Malawige (2018) showed that project management methodologies have significant positive impacts on project management success. Both Joslin Muller and Malawige empirically suggested that project governance moderates the relationship between project management methodologies and project management success. But on a different note, Fareed, and Su (2022), indicated that project governance and top management style are positively significantly correlated with project performance. Further, they found that top management support acts as a quasi-moderator in the relationship between project governance and project management success.

Silva, Warnakulasuriya, & Arachchige (2015) state that studies related to construction project success are readily available in other countries though such studies in the Sri Lankan context are rare to find. According to De Silva, Rajakaruna & Bandara (2008), managing and coordinating projects are highlighted as great difficulties of Sri Lankan construction industry projects while cost and time planning, management of documents, progress monitoring, and other administrative issues are shown as regular issues for project failures. Further, Ranasinghe & Pathirana (2021) confirm that the Sri Lankan construction industry is one of the highest-hit main industries of the country as a result of the pandemic and highlight the importance of selecting the most suitable strategies by construction organizations to improve the success as the country is slowly moving towards post-pandemic era. This study aims to generate knowledge that will help such organizations and individuals in decision-making for the selection of the best strategies to increase project management success in the Sri Lankan context.

To achieve this prime objective, the research question is defined as "What is the relationship between the project management methodologies and project management success". To answer this question, the direct impact of the project management methodologies on the project management success was first empirically tested by using SmartPLS structural equation modeling techniques.

2. LITERATURE REVIEW

Sauser, Reilly & Shenhar (2009) state that the majority of the time the reason for project failure is not technical by managers and further state that incorrect choices of approach to specific projects by management have been the root cause. Many studies have quoted project management methodologies as a success factor or good practice (Cooke-Davis 2002) and the final goal of the methodology is to increase the probability of successful project delivery (Kerzner, 2001). Utilizing proper project management methodology is a key for success and project management methodologies are widely used across industries to ensure successful completion of projects (Karaman & Kurt, 2015). Concluding their research, Lehtonen & Martinsuo (2006) find that there is a direct relationship between project management methodologies and project management success, and further, Joslin & Muller (2015) find a positive relationship between Project Management Methodology and Project Success.

Joslin & Muller (2015) used contingency theory as the main theoretical lens with the stakeholder and shareholder approach to explain the moderating effects of project governance on the relationship between the project management methodologies (PMMs') and project management success (PMS) theoretically. As mentioned by Joslin and Muller (2015), according to Burns and Stalker (1961); Woodward et al. (1965), the importance of idiosyncratic structures for organizations is stressed by the Contingency theory, depending on their context. According to Hanisch & Wald (2012), a bibliographical review of contingency theory in the field of project management recently revealed that it has been progressively used in research with a significant increase since 2005 (Joslin and Muller, 2015). Accordingly, in this study, the contingency theory as used by Joslin and Muller (2016) is used as the main theoretical lens to explain and justify the theoretical relationship between the PMMs and PMS under the positivistic approach.

Usually, when project managers are in the process of evaluating the project realization, they generalize the project outcome by the term "success". However, the two concepts are usually distinguished in the literature as project success and project management success (De Wit, 1988.). Unquestionably, successful project management causes successful projects (Sebestyen, 2017) though poor project management still can cause the projects to be successful. Similar ideas were shared by Munns & Bjeirmi (1996) who noted that "a project could be a success despite an underprivileged project management performance". Characteristically, project success narrates to the achievement of a project or the anticipated goals and objectives of the company, while project management success generally refers to the conventional measurement factors of the project triangle: cost, time, and quality (Radujkovic and Sjekavica, 2017). Perhaps in some other related literature, it is called triple constraints.

In the meantime, Cooke-Davies (2002) differentiates between project and project management success leading to the desired objectives and goals within specified time and cost, and project success where the project delivers the anticipated business objectives. it is relatively difficult to find a precise definition between these two fundamental concepts because of their similar nature in the context though, in general, there are various models and views on project success and project management success; Cooke-Davis (2002) attempted to integrate their research elements leading towards the consistent and sustainable success (Sebestyen, 2017).

3. RESEARCH METHODOLOGY.

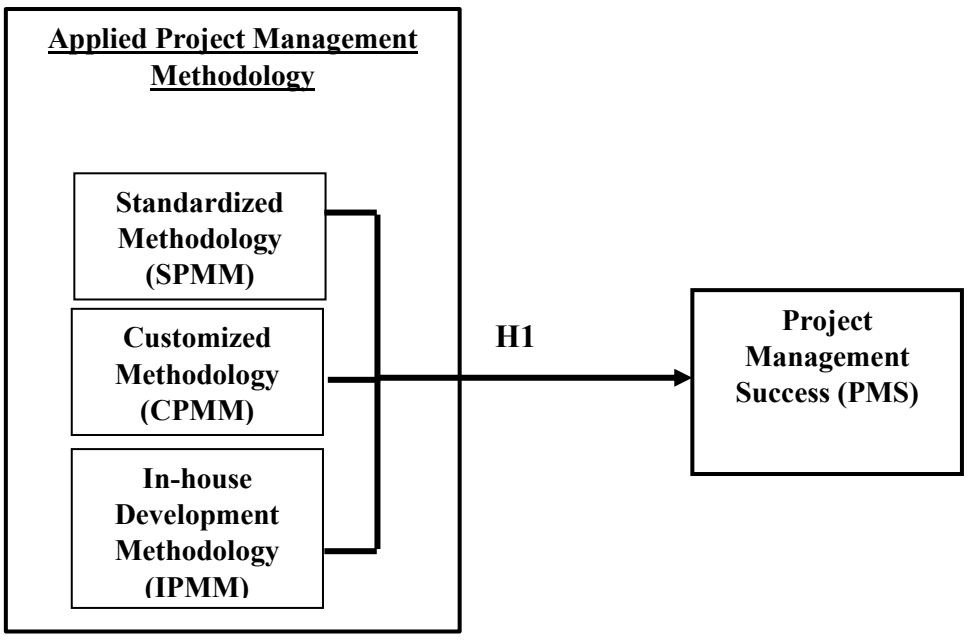
According to the research onion developed by Saunders et al. (2011), the epistemological stance or the research philosophy of this study was considered positivism. Sekaran & Bougie (2016), positivists believe the employing deductive laws and quantitative methods to get at the truth under the ontological stance of representationalism. In other words, Sekaran & Bougie say for a positivist, the world shapes the laws of cause and effect so that an individual may discern whether the individual applies a scientific approach in research. Accordingly, in this research as Saunders et al.; Sekaran & Bougie said deductive laws and quantitative methods were adopted.

Figure 1, the theoretically and empirically justified hypothesized relationships were introduced as follows. There are significant and positive impacts of Project Management Methodologies on Project Management Success. Under this main relationship, the following three sub-hypotheses were developed. The critically reviewed literature proposes the existence of a research gap regarding the collective impact of a project's project management methodology elements on project management success.

Accordingly, a first hypothesized relationship can be developed as:

H1: There is a positive relationship between a project management methodology and project management success.

According to Curlee (2008), the project management methodology and its underlying processes have been discussed under organizational processes that imply they have the luxury of standardization. The project management professionals used to practice often perceive projects to achieve the corporate and anticipated goals thus following the path of corporate control standardized methodologies (Packendorff, 1995). Further, according to Hobbs et al. (2008), project management centers often used to focus on standardized project management methodologies. Further, Joslin & Mullar (2015) have shown the significance of the comprehensive set of project management methodology elements and project success. Accordingly, the following sub-hypothesis can be developed under H1.



Source: Author developed based on literature

Figure 1: Conceptual Framework

H1a: Standard project management methodology has a significant impact on project management success.

Shenhar & Dvir (1996) first emphasized the importance of customized project management methodologies going against the existing literature as said by Joslin & Muller (2015). Wysocki (2011) In supporting his mantra and challenging standardization concepts went on to say that the frequently used term "one size fits all" may not work in a project management context at all times. Supporting this customized project management methodology, Payne & Turner (1999) found that project managing professionals generally achieve better results when the procedures can be tailored to suit based on the context, they are involved in. In supporting to customized project management methodology concept, furthermore, in support of the customized project management methodology concept, Joslin & Muller (2015) also confirmed that the customized project management methodology also has a significant impact on project management success. Thus, it can be reasonably hypothesized the following sub-hypothesis under H1.

H1b: Customized project management methodology has a significant impact on project management success.

According to Joslin & Muller (2015), irrespective of whether the methodologies are under categories of standardization or customization, the project managers might still have a chance of deciding to apply in-house developed project management methodologies. Accordingly, under reasonable grounds, the researcher proposes that the in-house developed project management methodologies also have a significant impact on project management success as Standard and Customized project management methodologies do on PMS.

H1c: Inhouse-developed project management methodologies have a significant impact on project management success.

All the constructs included in the conceptual framework were measured by using the previously validated scales. The project management success (PMS) using by Iron triangle was adopted from Diallo & Thuillier (2004); Silva, Warnakulasuriy, & Arachchig (2016); Demirkesen & Ozorhon (2017); Sirisomboonsuk, Gu, Cao, & Burns (2017); Davis (2017). The SPMMs were measured by the scales adopted by Joslin & Muller (2015); Joslin & Muller (2016), CPMMs' by using scales developed by Charvat (2003); Chin & Spowage (2010); McHugh & Hogan (2011) IPMMs scales by Zielinski (2005); Rehman & Hussain (2007); Kerzner (2001). All the items of the two constructs were operationalized using a seven-point Likert scale ranging from 1 (extremely disagree) to 7 (extremely agree) as developed by Likert (1932). The sampling method provides a light to recognize the participants for a research study when collecting census data is limited due to various reasons. While sampling helps to estimate population parameters, there may be identifiable subgroups within the population. Data will therefore have to be collected in a way that helps assess the needs of each subgroup in the population. C

The stratified random sampling process is handy in this case (Sekaran and Bougie, 2016). Therefore, in the current study, proportionate stratified random sampling is

used for data collection purposes. The eight strata have been developed based on the project category introduced by the survey of construction industries in the Department of Census and Statistics in 2017 under the 182,539 construction-based projects completed in 2017 in Sri Lanka. A researcher-administrated questionnaire was used to collect data from managerial employees of projects and based on their responses to the questionnaire, the project management methodology applied in the particular project, and the level of project management success was decided with the collection of other relevant demographic information. 381 valid responses were obtained from the responsible individuals for the 385 completed projects in 2017.

4. DATA ANALYSIS AND DISCUSSION

The exploratory factor analysis (EFA) has been utilized to ensure validity and reliability (Higueras-Castillo et al., 2019). Then the two-stage approach was carried out to analyze the data. Having assessed the measurement model (outer model) first, then the structural model (inner model) was assessed to test the proposed hypotheses by using SmartPLS version 3.

Analysis was completed as guided by Hair et al. (2018). To test the normality, the average skewness and kurtosis values of all three constructs were tested. According to Bryan (2010); Hair et al. (2010), the skewness value must be within -2 and +2 while the kurtosis value is -7 and +7 to the date be normally distributed as required by the SPSS prerequisites under parametric tests. Further, to test the multicollinearity issues, the variance inflation factors (VIF) values were tested and tables in Table 1.

Table 1: Descriptive Statistic

		SPMM	PMS	CPMM	IPMM
N	Valid	381	381	381	381
	Missing	0	0	0	0
Mean		6.4510	5.3822	4.3552	5.4173
Skewness		-1.633	-1.058	-.221	-.515
Std. Error of Skewness		.125	.125	.125	.125
Kurtosis		2.177	.391	-.662	-.111
Std. Error of Kurtosis		.249	.249	.249	.249
VIF		1.123		1.482	1.566

Source: IBM SPSS Descriptive statistics and Regression output (VIF)

Since the Skewness values and Kurtosis values are well within the recommended values and VIF values are less than 3 (Hair et al., 2018), the data is eligible for the techniques used. seven responses were removed as multivariate outliers because the analysis showed that the answers from these respondents were significantly different from the rest of the sample.

As per Hair et al. (2018), to confirm if the constructs were formative or reflective, Confirmatory Tetrad Analysis (CTA) was initially conducted and identified all constructs were as reflectively measured. Then out of the four steps, to assess the measurement model, the first step of the reflectively measured model assessment includes investigating the indicator loadings. Indicator loading greater than 0.708 is generally recommended, since they show that the construct explains more than 50% of the variance indicators, consequently showing acceptable item reliability (Hair,

Risher, Sarstedt, & Ringle, 2019) and confirming that all indicators are above 0.708 and significant.

The second step is to assess the reliability of the measurement model. To ensure reliability, two internal consistency indicators: Cronbactch's Alpha (CA) and composite reliability (CR) were tested. The most popular and widely used test of interitem reliability is Cronbach's Alpha coefficient (Cronbach, 1946). Both CA and CR were reported higher than the minimum recommended values of 0.6 and 0.7 respectively and tabulated in Table 2. Having assessed the internal consistency, the next or third step is to assess the construct validity under convergent validity and divergent validity (Sekaran & Bougie, 2016). The average variance extracted (AVE) is used to assess convergent validity which should be above 0.50. The final or fourth step is to assess the discriminant validity (hair et al., 2018). Hensler et al. (2015) proposed that assessing the Hetrtotrait-Monotrait (HTMT) ratio of the correlations are better replacement for the Fornell and Larcker criteria developed by Fornell and Larcker (1981). Therefore, according to Hair, Black, Babin, & Anderson (2018), the CA, CR, and AVE are well within the minimum recommended value and tabulated in Table 2, and the HTMT ratios to test the discriminant validity were also tabled in Table 2.

Table 2: Reliability and convergent validity of the constructs

Construct	AVE	Composite Reliability	Rho_A	Cronbach Alpha
SPMM	0.562	0.885	0.940	0.853
CPMM	0.837	0.939	0.902	0.902
IPMM	0.803	0.891	0.768	0.756
PMS	0.876	0.972	0.965	0.964
Reference Value	>0.5	>0.70	>0.70	>0.6

CA: Cronbach Alpha; CR: Composite Reliability; AVE: Average Variance Extracted
Source: SmartPLS Algorithm output

All CA, CR, and AVE values are well above the minimum recommended values by Hair et al. (2018).

Since the HTMT ratios are well below the recommended maximum value of 0.85 or 0.90, the Discriminant validity issues are unlikely to present (Henselr et al., 2015). As explained in the previous paragraph, having assessed the measurement model appropriately, the next step is to assess the structural model where the main constructs are concerned.

Table 3: Discriminant validity of the constructs

	CPMM	IPMM	PMS	SPMM
CPMM				
IPMM	0.449			
PMS	0.556	0.547		
SPMM	0.266	0.405	0.354	

Source: SmartPLS Algorithm output

In-depth PLS-SEM analysis is governed by the scope of the research project, the complexity of the model, and common presentation. Accordingly, a multicollinearity assessment needs to be included in a detailed PLS-SEM. Therefore, each set of exogenous latent variables in the inner model needs to be checked for potential

collinearity issues to see whether there are any variables to be eliminated, merged into one, or simply have a higher-order latent variable developed.

According to Hair et al. (2019), the Collinearity values VIF are probably when VIF is greater than 5, possibly when VIFs are at the 5-3 range and ideally show that VIF is less than 3.

Table 4: Collinearity statistics (VIF Inner values)

	PMS
CPMM	1.979
IPMM	1.396
SPMM	1.187

Source: SmartPLS Algorithm output

According to the results shown in Table 4, no collinearity issues are likely to be present among the independent variables as VIF values are less than 3. (Hair et al. 2011). The next step is to assess the structural model path coefficient. Further, these values can also be checked using multiple regression in IBM SPSS 25. The VIF values of each indicator and instruction should be less than 5. Otherwise, eliminating indicators, merging indicators into a single index, or creating higher-order constructs should be considered to treat collinearity problems according to Hair et al. (2017). The next step is to assess the relevance of the significance of the structural model relationships and confirm that ensured the relevance of the significance. Having assessed the Relevance and the significance of the structural model relationship, according to Hair et al. (2017), the next step is to assess the R2, the coefficient of determination, which will determine the proportion of variance in the dependent variable that can be explained by the independent variable.

If the collinearity is within the acceptable limits (Hair et al., (2017), the next step is investigating the R2 values of the endogenous values, and the results are tabled in the table. To evaluate the structural model proposed here, R2 or the multiple correlation coefficient squared is assessed first. This coefficient indicates the amount of variance of the construct (Dependent variable) explained by the model (Independent variable). Falk and Miller (1992) advocated that an appropriate value should be greater than or equal to 0.1.

Table 5: R2 values

	R Square	R Square Adjusted
PMS	0.389	0.384

Source: SmartPLS Algorithm output

As shown in Table 5, the value of R2 for the project management success was 0.39 so the recommended minimum value was exceeded, and the factors explain a moderate proportion of the model variance.

In this section, the relationships between PMMs and Project Management Success were examined. Empirical and theoretical justifications were discussed in detail in the early sections under the development of hypotheses.

Having evaluated the R2 values of all endogenous constructs, the next step is to assess the effect sizes of each exogenous construct on the endogenous construct.

Table 6: Effect sizes

	PMS
CPMM	0.189
IPMM	0.094
SPMM	0.050

Source: SmartPLS Algorithm output

According to Table 6, the effect size of CPMM is medium with IPMM and SPMM small.

Guidelines for assessing $f2$ are those values of 0.02, 0.15, and 0.35, respectively, representing small, medium, and large effects (Cohen, 1988) of the exogenous latent variable. Effect size values of less than 0.02 indicate that there is no effect (Hair et al. 2017).

According to Hair et al. (2017), In addition to evaluating the magnitude of the R2 values as a criterion of predictive accuracy, the predictive relevance (Q2) is also assessed to predict data not used in the model of estimation. According to Hair et al. (2019), the values Q2 higher than 0 are meaningful with values higher than 0, 0.25, and 0.50 depicting small, medium, and large predicted accuracy of the PLS path model respectively.

Table 7: Construct Cross-validated Redundancy

	SSO	SSE	Q^2 (=1-SSE/SSO)
CPMM	1143.000	1143.000	
IPMM	762.000	762.000	
PMS	1905.000	1272.384	0.332
SPMM	2286.000	2286.000	

Source: SmartPLS Algorithm output

According to the calculated values in Table 7, the predictive relevance is medium (0.332).

According to the Bootstrapping output of SmartPLS, the results were tabulated in Table 8.

Table 8: Summary of H1 (PLS-SEM)

No	Relationships	Original Sample	Sample Mean	Std Dev	2.5%	97.5%	T Statistic	P Values	Results
H1a	SPMM -> PMS	0.188	0.194	0.045	0.092	0.269	4.210	0.000	Accepted
H1b	CPMM -> PMS	0.370	0.367	0.049	0.277	0.468	7.544	0.000	Accepted
H1c	IPMM -> PMS	0.268	0.268	0.056	0.156	0.378	4.781	0.000	Accepted
				Reference	**No zero falls between**		>1.96	<0.005	

Source: SmartPLS Bootstrapping output

According to Table 8, all three project management methodologies have significant positive impacts (PMMs') on project management success with customized project management methodologies being the highest followed by in-house developed project management methodologies. Further, according to Table 8, all the hypotheses were supported as the no zeros lie in the bias-corrected values and since the T statistic

values are greater than 1.96 with p values less than 0.05. The assessment of measurement and structural model criteria, as discussed earlier in the direct hypotheses analysis also applies to moderator models as well as shown in table 2 and 3. When the reflective measurement models are assessed, the moderator variable must satisfy all pertinent criteria in terms of internal consistency reliability, convergent validity, and discriminant validity (Hair et al., 2017).

Table 9: Summary of Hypotheses testing.

Hypotheses	Relationship	Status	Justification
H1a	SPMM→PMS	Accepted	R2 = 0.389
	SPMM→PMS	Accepted	β=0.188, t=4.219, p<0.001 Bias corrected confidence interval level Lower 0.105 Upper 0.278
H1b	CPMM→PMS	Accepted	R^2 = 0.389
	CPMM→PMS	Accepted	β=0.370, t=7.465, p<0.001 Bias corrected confidence interval level Lower 0.269 Upper 0.465
H1c	IPMM→PMS	Accepted	R2 = 0.389
	IPMM→PMS	Accepted	β=0.268, t=4.853, p<0.001 Bias corrected confidence interval level Lower 0.163 Upper 0.380

Source: Researcher arranged based on SmartPLS Bootstrapping output.

The objective of this study is to contribute to the existing body of knowledge of the project management methodologies (PMMs') towards project management success (PMS). According to Table 9, the findings revealed some important theoretical and practical implications which are mentioned below sections. The findings of this study should be beneficial to the project managing practitioners by offering deep insights into the choice of project management methodologies in the contexts of the different governance. Further, academics are required to benefit from deep insights into PMMs and understand the importance of the role as a key success factor in projects. This study helps provide new understandings that are useful to theory development. The present study explained the importance of differentiating the project methodology under three categories Standardized, Customized, and In-house developed. This revelation is well supported by Joslin and Muller (2015) in their detailed study. Thus all in one, this study presents a new model for the existing body of theoretical knowledge comprising 37% of the variation of the project management success. Accordingly, further studies are required to reveal the other critical factors influencing project management success. As Joslin and Muller (2015) pointed out this would certainly push the academicians to investigate other human or non-human factors accounting the project management success in the long run. Since project management methodologies account for nearly 40% of the variation of project management success, the findings of this study have greatly changed the present understanding of the key success factors towards project management success to a greater extent.

Further, the findings reveal another important criterion citing that standardized project management methodologies are preferred by behavior-controlled organizations while result-oriented organizations prefer customized project management methodologies when looking for sustainable success in their projects. Furthermore, the highly accepted contingency theory and Stakeholder and Shareholder approach were used as the theoretical lenses for this study. So, as the contingency theory posits, the findings clearly show that the project management methodologies have significant impacts on project management success which validates the robustness of the contingency theory.

Contingency theory, which is operationalized in this study to link the project Management Methodologies to Project Management Success, was proven to be an appropriate theoretical lens for assessing the impacts of Project Management Methodologies on Project Management Success Accordingly, the findings provide clear evidence for a generalization to a theory in respect of Contingency theory and stakeholder and shareholder approach's applicability for project settings and a generalization to the wider population of projects. As such Contingency theory and stakeholder and shareholder approach are recommended as valid theoretical lenses for the development and implementation of Project Management Methodologies and project governance towards project management success respectively.

Though numerous stakeholders and participants are involved in the construction industry, according to Jin, Zhang, Liu, Feng, & Zuo, (2017), major participants in the construction industry are clients, design teams, contractors, and project managers who can be again categorized under internal and external. Accordingly, the practical implications or the managerial implications should be discussed under each category. The results of the study show that the application of a project management methodology accounts for about 39% of the variation in project success, and PMMs that are considered sufficiently comprehensive to manage the project lead to higher levels of project success than project management methodologies that need to be supplemented for usage by the project managing professionals.

5. CONCLUSION

According to Joslin & Muller (2015), 22.3% of the project management success was explained by the identified project management methodologies. Whereas the findings of the present study show that the explanation of the project management methodologies accounts for about 38.9% by PLS-SEM of the total variation in project success and the project management methodologies can be considered sufficient and comprehensive to accomplish the project leading to higher levels of project success. Accordingly, our findings are in line with the findings of Joslin and Muller. Through the inferential analysis of PLS-SEM, it was confirmed that three independent factors (Standardized Project Management Methodology, Customized Project Management Methodology, and in-house developed Project Management Methodology) are significantly impacting project management success. Curlee (2008) noted that a project management methodology and its relevant processes have been identified as processes of organizations that imply, they have degrees of standardization. Accordingly, our findings of the significant impact of SPMM on PMS are well

supported by the findings of Curlee. Further, according to Packendorff (1995), the projects are generally perceived by the project management practitioners to achieve the goals and thus follow the path of corporate control and standardization. Accordingly, our findings on the SPMM support the findings of Packendorff. Hobbs et al. (2008) noted that the project managing offices are generally focused on the standardized organizational project management methodology and project management. Therefore, our findings are well consistent with the findings of Hobs et al. On a different note, according to Higueras-Castillo, Molinillo, Coca-Stefaniak, & Liebana-Cabanillas (2019), the costs of technology development and manufacturing, lead times can generally be reduced if the relevant manufacturers engage in a more collaborative relationship concerning common standards, which could lead to price reductions affecting the purchase and maintenance of the products. So, these findings are consistent with our findings that the SPMM has a significant positive impact on the project's success.

As mentioned in the previous paragraph, the Customized Project Management Methodology has a significant impact on project management success. Our findings are consistent with the revelations of Shenhar and Dvir (1996) who first discuss the importance and the validity of customization showing the projects exhibit substantial variation. Supporting Shenhar and Dvir's disclosure, Wysocki (2011) also stated that the standardization management methodology doesn't work in all the circumstances of project management. Therefore, our findings on the confirmation of the impacts of customized project management methodology on the project management success support Wysoxki as well. Further, our findings were supported by Payne and Turner (1999) whose studies suggested that project managing professionals often achieve improved results when they can customize the procedures. Further, Joslin and Muller (2015) said that the most successful project management methodologies are the project management methodologies developed for the industry or organization aligning to the context factors (Russo, and Stolterman, 2002). Accordingly, our findings on the customized project management methodology support the revelations of Fortune et al. (2011); White and Fortune (2002) showed that project managing organizations find limitations in their project management methodologies irrespective of whether it is in-house developed project management methodology which is little inconsistent with our findings on the in-house developed project management methodology. In support of the revelations of Fortune et al. (2011; White and Fortune (2002), Wells (2012) noted that when the needs of the departments and projects are not addressed by the selection of project management methodologies at the organizational level, the project managers would customize their organizational project management methodologies specifically for their projects rather than opting out other project management methodologies. Thus, the findings of Wells are inconsistent with our findings on standard project management methodology and in-house developed project management methodology.

According to Donaldson (2006); Müller, Geraldi, & Turner, (2012), the contingency theory within the context of project management suggests how to adopt best practices of project management within a given context to achieve project management goals. The findings of this study reveal that highly experienced project managing

professionals are required to effectively and efficiently adopt standardized project management methodologies, customized project management methodologies, and In-house developed project management methodologies. Based on the findings of the study supported by the previous studies, to improve project management success (PMS), the actions of standard project management methodologies (SPMM) must be improved with the close support of customized project management methodologies (CPMM) under the different project governance contexts.

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