Business model transformation in the manufacturing company – how custom project governance framework enhances the chances of success

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Abstract. The demand for complete solution providers is trending, and as a result, manufacturing companies, more than ever, are being challenged to transform their approach from hardware-centric to solutions-centric. Failure to do so could be catastrophic. Many companies have started the transformation in order to stay in business and also for enhancement of growth prospects. They work on increasing their chances of success through project governance that applies across a range of solutions. This paper shows that transformation success is enhanced through the use of a custom project governance framework that allows for the selection of the appropriate custom project governance for any solution category. The nature and relationship between the development work and customization of personalization has led the authors to opt for personalization theory as the theoretical lens. This study started with the formulation of the research process, followed by literature review, development work, and finally a qualitative longitudinal study in an advanced analytical equipment company. The positive outcomes from the development work that has been customized for custom solution businesses will allow researchers and practitioners to develop intangible customization of personalization for a project governance framework of their own to aid business model transformation in the manufacturing company.

1. Introduction
Manufacturing companies are trending towards user-oriented practices, and custom solutions emerge as an alternative to enhance sustainable business models. Manufacturing companies across diverse sectors are increasingly moving away from their existing business models for a custom solution offering [1]. However, hardware-centric to solution-centric transformation is challenging. For example, one company experienced three imperfections during physical deployment at the user’s facility. Elfving et al. [2] revealed that one of the main challenges in the transformation process is performance assessment, which implies that a shift in governance is inevitable. To name a few, ul Musawir et al. [3], Too & Weaver [4] and Ahola et al. [5] applied project governance to increase their chances of success. Further, Liu et al. [6] proposed a value co-creation framework that emphasizes active participation of users. PMI & Agile [7] revealed that the one-size-fits-all concept is no longer practical. Rather, project governance selection from a custom project governance framework would enhance the chances of success. Unfortunately, not much research has been conducted on project governance framework for custom solution projects.
In this study, an American-based, advanced analytical equipment company is chosen as a sample company (referred to as Company A in this paper) in this project governance framework development work. It is anticipated that the methodology developed in this study would be applicable in manufacturing companies similar to Company A. The research question (RQ) in the study is, “What are the relevant set of project governance components for a range of custom solution projects?”

The unit of analysis for this research is the intangible custom solution designed for tangible custom solution. Two studies are carried out. Study 1 is a literature review, of which intangible customization in manufacturing companies is observed. Study 2, which is a qualitative longitudinal study, uses a case study to determine the effectiveness of intangible custom solution in the transformation of hardware-centric to solution-centric approach. For ease of reading, “intangible custom solution” and “tangible custom solution” are substituted with “the development work” and “custom solution”, respectively. The former denotes “custom project governance framework” and the latter represents “custom solution business”, referring to the solution that Company A delivers and deploys to its users. The nature and practice of the development work and its relativity to customization of personalization led the authors to opt for personalization theory to understand the phenomenon. The authors applied Fan & Poole’s [8] version of personalization theory, extended from Poulin et al. [9]. Functionality is the main objective for instrumental perspective of personalization theory that is equipped with design, provision, and utilization. For implementation, the functionality concept is structured in all three aspects in the form of design for usability, availability of the platform, and utilization, respectively.

The following sections start with a literature review, where the context-related portion of the related knowledge gap for the RQ is bridged. This is followed by research methodology, outcomes of the research methodology, discussion, interpretation, and finally, conclusion and further research.

2. Literature review

The authors attempted to provide a conceptual view and relationship between solution and personalization, which links strongly with the customization that this study focuses on. This is followed by personalization theory in action, before a closer analysis on customization of personalization. Lastly, studies by other researchers and practitioners on project governance are discussed.

2.1 Solution to Personalization

Herterich et al. [10] reported that some case studies showed that competition had led manufacturing companies to look for better solutions in the past decade. Gudergan et al. [11] suggested an evaluation concept driven by clear operational goals and vision. In contrast, Schuh et al. [12] focused on reduction in losses of information from one phase to another, while Michalik et al. [13] worked on strong linkages between digitized customer data and solution to secure the success of transformation. To increase the chances of success, Rasouli et al. [14] implemented various dynamic capabilities to resolve operational challenges, while Raja et al. [15] spelled out the transformation challenges faced by three companies which are in the same industry as Company A. The companies offered services related to solution offering that involved a significant degree of customization.

2.2 Personalization Theory

Wells [16] reported that personalization theory has been used to understand why humans choose to personalize. Their disposition was found on categories of context, system and user, whereby the effects were in the emotional, cognitive and social realms [17]. Rodin [18] investigated the linkages between control and emotional responses of elderly residents in a nursing home. In addition, personalization theory was focused on the emotional ties between user and product, as reported by Holman [19]. In 2006, research to differentiate personalization design philosophies into four distinct types was done [8]. In this study, one of the four types of personalization theories by Fan & Poole [8] is applied as a theoretical lens.
2.3 Customization
Customization of personalization is classified into tangible and intangible, with the former on fulfilling users’ driven requirement [20-21]. To Gilmore & Pine [22], this was about delivering a unique solution that met individual user needs. For that, Pine & Gilmore (p.76, [21]) believed that “users do not want choice; they just want exactly what they want”. To better define their needs [23], intangible customization of personalization enables users to determine the contents that appear in company websites [24]. User’s participation is imperative, which corresponds with the proposal of Liu et al. [25] on value co-creation framework that emphasizes active user participation. Porter [26] described marketers using value offered to users as the basis of competitive advantage. At one point, marketers were caught in between differentiation and price. Until the arrival of customization of personalization as the solution, marketers had no choice but to concentrate on either differentiation or price to gain advancement. Where marketers delivered the exact solution demanded by users, the first-to-market customized solution became the winning approach, as supported by Hubert [27].

2.4 Project Governance
Of late, project governance has gained much interest [28]. Governance provides a framework for decision-making based on transparency, accountability and defined roles (Müller, [29], p.2). Specifically, project governance is where roles, responsibilities, policies and processes are the common components [29]. Mossalam & Arafa [30] suggested that governance implementation should include sub-project governance components such as quality and performance. This aligns well with the development work on sub-project governances of this study. Pitsis et al. [31] emphasized that project governance should be internalized by all stakeholders and not just the project manager alone. Research by Joslin and Müller [32] indicated that project governance has a significant correlation with project success. Similarly, Müller et al. [33] revealed that there was a positive correlation between project and organizational success, with governance as the moderator. The application of project governance over the entire project life cycle has become the second strongest predictor of overall project success [3]. Müller et al. [34] also emphasized flexibility as a key characteristic of success, which is aligned with this study through the customization of project governance for three different categories of custom solution in Company A. According to Too & Weaver [4], achieving optimal balance through project governance framework is vital. For Müller [29], balance is achieved through the selection of governance components from an existing pool or the customization of project governance. Again, this approach by Muller is aligned with this study, which focuses on the factors that need to be governed in the custom solution. During the development of a custom project governance framework, the authors found that Ahola et al. [5] were also attempting similar line of work as this study.

3. Methodology
The methodology begins with the research process, followed by Study 1, development of a custom project governance framework, and finally, Study 2.

3.1 Research Process
Research process is a process where a number of decisions take place prior to conducting a study. The version used in this study is similar to that used by Dudovskiy [35]. The research method was the first decision to be made, followed by the research approach and research design. Subsequently, the method of data collection, data analysis and research process are decided upon. In this study, the authors applied a multi-method used by Saunders et al. [36] to yield a comprehensive understanding of the phenomenon under investigation.

Study 1 utilized a well-known secondary data collection method to answer the context-related portion of the RQ [36], while Study 2 used a qualitative data collection method that utilized three different categories of custom solution. The authors conducted an explanatory, rather than exploratory, case study. This single-case explanatory study was coupled with a longitudinal approach [37]. Many researchers agree that case studies have a significant weightage in research, especially in intricate,
The willingness of Company A to become a subject in this research allowed for a single-case study to be carried out [39]. As stated by Campbell & Stanley [40], case studies can reflect real life situations. However, evidence from multiple-case studies would be better compared to a single-case study. Hence, external validation is applied to strengthen the study. Personalization theory is tested by repeating the findings through second and third categories of custom solution in the case, leading to the generalization of personalization theory [37].

Yin’s [37] construct validity criteria is introduced during data collection to identify the correct operational measures for the concept being studied. Multiple sources of evidence, namely the archival record mentioned earlier, and artifacts, are introduced. The search for artifacts are carried out in the restricted communication network of Company A. This is the platform for the development work of the study. The focus is on the number of imperfections captured, whereby “pre-implementation” and “post-implementation” imperfection data comparison is recorded in a longitudinal graph. For simplicity, the authors use the term “organizational” to epitomize artefacts belonging to Company A. Instead of theory building, this study uses the optimum number of cases suggested by Eisenhardt [41] as a guideline for generalization to personalization theory. Archival records and artifacts become multiple sources of evidence that serve as data triangulation [42]. It is indeed normal for researchers to present findings in various ways [41]. Therefore, longitudinal graph is used to present different categories of custom solution for Study 2 [43].

3.2 Literature Review (Study 1)
Study 1 is guided by the questions, “what is the relationship among solution and personalization?” and “what are the industrial and organizational project governances available, and what are the organizational custom solutions delivered in the past?” This would answer the context-related portion of the RQ. Study 1 encompasses ScienceDirect-Elsevier, PMI, and Springer databases. The main keywords used in the literature search were “project governance”, “custom solution”, “solution”, “personalization”, “customization” and the combinations thereof. The search is also performed on the restricted communication network and the custom solution roadmap of Company A. Relevant literature is analyzed and fine-tuned to yield Study 1 outcome. This then becomes the input for the development work, and then evaluated in Study 2.

3.3 Custom Solution Development
Study 1 has equipped the development work with a strong foundation, which leads to the development-related portion of the RQ, under the deductive approach outlined by Schaeken et al. [44]. For the development-related portion of the RQ, organizational project governance, organizational business cases and industrial project governance have contributed to the development of a single custom project governance. Appropriate project governance components are placed into individual phases of the project life cycle. Subsequently, the authors used the development approach in two more sets of custom project governance components that form the custom project governance framework. The custom project governance framework is designed to satisfy three categories of custom solution business cases by weighting one component over another. This involves mapping relevant project governance components that address the needs of individual categories of the custom solution. This implies that some of the project governance components are common and/or unique for three categories of custom solution, namely, Hardware and Software Integration (HW+SW Int), Hardware Integration (HW Int), and Bundling + Software Integration (BD+SW Int).

3.4 Qualitative Longitudinal Study (Study 2)
The objective of the qualitative longitudinal study is to ensure the effectiveness of the development work. Verification is carried out by triggering the data source under archival record, User Acceptance Plan (UAP). UAP is where physical deployment is carried out upon arrival at the user’s location. UAP is a non-exhausive test for the functionality of the custom solution, whereby the key features of the custom solution are verified with the user’s device. Once UAP is completed, the custom solution
would be accepted. The method suggested by Eisenhardt [41] for theory-building is applied, where a minimum of four actual custom solutions per category are involved in the verification work.

4. Result and Discussion
In this section, outcomes, discussion and interpretation from Study 1, custom solution development, Study 2, and multiple sources of evidences are discussed.

4.1 Results from Literature Review
Five organizational custom solutions are uncovered in Company A’s custom solution roadmap, as the company was in the process of shifting from hardware-centric to solutions-centric approach. Two of each are from HW+SW Int and HW Int, and one from BD+SW Int custom solution. Industrial project governance is found in the governance of portfolios, programs, and projects, as highlighted in PMI (2016) [45]. Company A has a repertoire of fifty-five organizational project governance components of which the authors reveal only the applicable custom solution in Section 4.2.

4.2 Results from Custom Solution Development
This study’s context-related portion of the RQ is given in Section 4.1. Nevertheless, the gaps that relate to the development-related portion of the RQ remain. Hence, development of a custom project governance framework is inevitable. One common misconception in project management is that all projects are the same, thus similar processes can be applied for all project activities. In reality, projects differ in many ways, and very few companies are aware of taking the right steps to acquire successful outcomes, thus the need for customization [46]. Customization for custom project governance is done by mapping fifty-five organizational project governance components against five organizational custom solutions. The relevance is assessed via the HW+SW Int custom solution, which is the most demanding custom solution among the three categories. Ten out of fifty-five project governance components were yielded, as shown in Table 1.

| Table 1. Company A’s project governance components. |
|-----------------------------------------------|
| Project Management Plan (PMP) | Manufacturing Development Report (MDR) |
| Financial Work Book (FWB) | Quality Sign-off (QSO) |
| Statement of Work (SOW) | RoHS Compliance Report (RCR) |
| Bill of Materials (BOM) | User Acceptance Plan (UAP) |
| Intellectual Property Plan (IPP) | User Acceptance Sign-off (UASO) |

Fifteen components from the original list are placed under the ten newly finalized project governance components called sub-project governance components. Scheduling, team formation, manufacturing strategy and support strategy are the sub-project governance components that are repeated in one of the ten project governance components named PMP. PMP acts as an initiation and closure. It appears in three phases, namely requirement, development and manufacturing. Table 2 shows the relationship among project governance and sub-project governance components. As suggested by Martin & Tate [47], checkpoints are designed to mark the completion of specific phases and to gain formal approval to enter the next phase. The availability of relevant information for decision making, as part of effective project governance, is the strongest predictor for overall project success [3]. Table 2 is developed to allow stakeholders to focus on the project rather than spending time and effort to determine what should be governed and why. This is supported by PMI Standards Committee [48]. For custom project governance, the checkpoints are part of scheduling, which is the sub-project governance component under PMP.
Table 2. Custom project governance framework.

| Requirement                                    | Development | Manufacturing | Deliver |
|------------------------------------------------|-------------|---------------|---------|
| Project Management Plan (PMP)                  | Project Management Plan (PMP) | Project Management Plan (PMP) | User Assistance Plan (UAP) |
| Scheduling                                    | Scheduling | Scheduling | User Assistance Sign-off (UASO) |
| Team Formation                                | Team Formation | Team Formation | |
| Manufacturing Strategy                         | Manufacturing Strategy | Manufacturing Strategy | |
| Support Strategy                               | Support Strategy | Support Strategy | |
| Financial Work Book (FWB)                      | Client Requirements | Client Requirements | |
| Statement of Work (SOW)                        | Organizational Requirements | Organizational Requirements | |
| Bill of Materials (BOM)                        | Risk Management | Risk Management | |
| Intellectual Property Plan (IPP)               | Lessons Learned | Lessons Learned | |
| Financial Work Book (FWB)                      | Financial Work Book (FWB) | Financial Work Book (FWB) | |
|                                            | Manufacturing Development Report (MDR) | Manufacturing Development Report (MDR) | |
|                                            | Software Qualification Plan | Software Qualification Plan | |
|                                            | Safety & Environmental Test Plan | Safety & Environmental Test Plan | |
|                                            | Performance Qualification Plan | Performance Qualification Plan | |
|                                            | Custom & Export Control Classifications | Custom & Export Control Classifications | |
|                                            | Packaging & Battery Classifications | Packaging & Battery Classifications | |
|                                            | Manufacturing Process Plan | Manufacturing Process Plan | |
|                                            | Final Quality Audit (FQA) | Final Quality Audit (FQA) | |
|                                            | Quality Sign-off (QSO) | Quality Sign-off (QSO) | |
|                                            | Roni’s Compliance Report (RCR) | Roni’s Compliance Report (RCR) | |

Custom project governance framework is designed to cater for three different categories of custom solution. Given the categories of custom solution of Company A, the development and use of such framework is appropriate. It allows the project team to be formed very quickly, replacing the traditional time-consuming process of planning, development, manufacturing, delivery and acceptance of product by the user. Project governance within a company is a form of self-regulation that should be implemented through a framework that guides managers in decision making [29]. This is supported by Kumar [49], who stated that project governance framework could fuel continuous improvement during execution. Customization of project governance framework to the needs of a company’s custom solution categories is highly recommended by PMI [7]. Table 2 also unveiled the newly developed custom project governance for HW Int and BD+SW Int. The only difference among these two, compared to HW+SW Int, is the exclusion of software qualification plan (green font), and safety & environmental test plan (blue font). These are the sub-project governance components under Manufacturing Development Report which were removed as they are irrelevant to the custom solution.

Now, selection of the appropriate custom project governance from the custom project governance framework is possible in the the particular custom solution category in order to start and complete a custom solution based on the recommended project and sub-project governance components. For instance, HW+SW Int custom project governance shall be used when the SOW calls for an integration work that consists of redesign work and custom SW. In contrast, HW Int shall be selected when the SOW does not call for custom SW to be delivered and redesign work is the sole requirement. With all these in place, the custom project governance framework will serve as a convincing evidence (artefact) for the transformation of hardware-centric to solution-centric approach.

4.3 Results from Qualitative Longitudinal Study

As a qualitative longitudinal study, Study 2 does not influence the outcomes of the subject investigated, and it allows the preservation of distinct patterns of contemporary events [37]. A longitudinal graph, given in Figure 1, indicates the data for HW+SW Int, HW Int, and BD+SW Int, which are the three categories of custom solution offered by Company A in a period of thirty months. Within a six-month period prior to the implementation of the development work, Company A experiences three imperfections out of five custom solutions released to its customers. These impact all three categories of the custom solution offered, and demonstrates the utilization aspect of instrumental personalization. The custom project governance framework, inspired by the functionality concept of instrumental personalization, has proven to be effective, yielding zero imperfections for twenty-four months in a row. During this period, fifteen new custom solutions are released. In terms of validation, HW+SW Int exceeds the minimum criteria by three, while HW Int and BD+SW Int custom solutions meet the minimum criteria of four suggested by Eisenhardt [41].
In conclusion, in two years, Study 2 has met the goal of in-depth familiarization for custom solution and is validated through two custom solution categories used on top of HW+SW Int. With that, Study 2 expands and generalizes the personalization theory. The theory is successfully applied in the advanced analytical equipment industry. Generalization of personalization theory has been established by the findings in the second and third categories of custom solution in Study 2, as per plan. Hence, the personalization theory is a key element for hardware-centric to solution-centric transformation.

4.4 Results from Multiple Sources of Evidence
In this study, archival record and artifact are the multiple sources of evidence. Archival record, as shown in the longitudinal graph (Section 4.3), custom project governance framework, and the artifact are located in the restricted communication network of Company A. Similar to research triangulation by Given [42] and Yin [37], data from archival record and artifact, which are two separate sources of evidence, reveals the same result, which means the development work implemented is effective in the hardware-centric to solution-centric transformation.

5. Conclusion
Earlier studies suggest that personalization theory has been used to understand the customization phenomenon at the final product, system, and service levels. This led the authors to believe that intangible custom solution development to enhance the chances of success for final product, system and/or services is still in the initial stages. Thus, development work that allows for three new categories of custom solution is carried out and monitored in a two-year period. The development work has successfully expanded the instrumental perspective of personalization theory into intangible customization of personalization. The second and third categories of tangible custom solution tested within the same single-case explanatory study has also led to the generalization of personalization theory. The relevance of the development work has enabled the success of manufacturing companies to transform from hardware-centric to solution-centric. The outcome of this study would provide practitioners with insights for their development work. As suggested by Yin [37], a case study is representative of many others in the same industry. Hence, custom project life cycle, custom solution in various market segments, and other qualitative methods such as interview, would be worthy of further study.

6. References
[1] Martinez, V., Neely, A., Velu, C., Leinster-Evans, S., & Bisessar, D. (2019). Exploring the
journey to services. In Handbook of Service Science, Volume II, (pp. 377-407). Springer, Cham.

[2] Elfving, S. W., Lindahl, M., & Sundin, E. (2015). Ericsson – The History from Product to Solution Provider and Challenges and Opportunities in an Evolving Environment. Procedia CIRP, 239-244.

[3] ul Musawir, A., Serra, C. E., Zwikael, O., & Ali, I. (2017). Project governance, benefit management, and project success: Towards a framework for supporting organizational strategy implementation. International Journal of Project Management, 35(8), 1658-1672.

[4] Too, E. G., & Weaver, P. (2014). The management of project management: A conceptual framework for project governance. International Journal of Project Management, 32(8), 1382-1394.

[5] Ahola, T., Ruuska, I., Arto, K., & Kujala, J. (2014). What is project governance and what are its origins? International Journal of Project Management, 32(8), 1321-1332.

[6] Liu, Z., Ming, X., Song, W., Qiu, S., & Qu, Y. (2018). A perspective on value co-creation-oriented framework for smart product-service system. Procedia CIRP, 73, 155-160.

[7] PMI. (2017). A Guide to the Project Management Body of Knowledge (PMBOK® Guide) — Sixth Edition. Newton Square, PA: Project Management Institute.

[8] Fan, H., & Poole, M. S. (2006). What is personalization? Perspectives on the design and implementation of personalization in information systems. Journal of Organizational Computing and Electronic Commerce, 16(3-4), 179-202.

[9] Poulin, M., Montreuil, B., & Martel, A. (2006). Implications of personalization offers on demand and supply network design: A case from the golf club industry. European Journal of Operational Research, 169(3), 996-1009.

[10] Herterich, M. M., Uebernickel, F., & Brenner, W. (2015). The impact of cyber-physical systems on industrial services in manufacturing. Procedia CIRP, 30, 323-328.

[11] Gudergan, G., Buschmeyer, A., Krechting, D., & Feige, B. (2015). Evaluating the readiness to transform towards a product-service system provider by a capability maturity modelling approach. Procedia CIRP, 30, 384-389.

[12] Schuh, G., Gudergan, G., Feige, B. A., Buschmeyer, A., & Krechting, D. (2015). Business Transformation in the manufacturing industry—How information acquisition, analysis, usage and distribution affects the success of Lifecycle-Product-Service-Systems. Procedia CIRP, 30, 335-340.

[13] Michalik, A., Möller, F., Henke, M., & Otto, B. (2018). Towards utilizing Customer Data for Business Model Innovation: The Case of a German Manufacturer. Procedia CIRP, 73, 310-316.

[14] Rasouli, M. R., Trieneckens, J. J., Kusters, R. J., & Grefen, P. W. (2015). A dynamic capabilities perspective on service-orientation in demand-supply chains. Procedia CIRP, 30, 396-401.

[15] Raja, J. Z., Frandsen, T., & Mouritsen, J. (2017). Exploring the managerial dilemmas encountered by advanced analytical equipment providers in developing service-led growth strategies. International Journal of Production Economics, 192, 120-132.

[16] Wells, M. M. (2000). Office clutter or meaningful personal displays: The role of office personalization in employee and organizational well-being. Journal of environmental psychology 20(3), 239-255.

[17] Blom, J. O., & Monk, A. F. (2003). Theory of personalization of appearance: why users personalize their pcs and mobile phones. Human-computer interaction, 18(3), 193-228.
[18] Rodin, J. (1986). Aging and health: Effects of the sense of control. Science, 233(4770), 1271-1276.
[19] Holman, R. H. (1986). Advertising and emotionality. The role of affect in consumer behavior, 119-140. Lexington, MA: Lexington Books.
[20] Nielsen, J. (1998). Personalization is over-rated. Jakob Nielsen’s Alertbox for October, 4, 1998.
[21] Pine, B. J., & Gilmore, J. H. (1999). The experience economy. Boston, MA, Harvard Business School Press.
[22] Gilmore, J. H., & Pine, B. J. (1997). The four faces of mass customization. Harvard business review, 75(1), 91-102.
[23] Wind, J., & Rangaswamy, A. (2001). Customization: The next revolution in mass customization. Journal of interactive marketing, 15(1), 13-32.
[24] Treiblmaier, H., Madlberger, M., Knotzer, N., & Pollach, I. (2004). Evaluating personalization and customization from an ethical point of view: an empirical study. In 37th Annual Hawaii
[25] Liu, P., Jin, F., Zhang, X., Su, Y., & Wang, M. (2011). Research on the multi-attribute decision-making under risk with interval probability based on prospect theory and the uncertain linguistic variables. Knowledge-Based Systems, 24(4), 554-561.
[26] Porter, M. E. (1998). Competitive Advantage – Creating and Sustaining Superior Performance, 2nd Edition. New York: The Free Press.
[27] Hubert, P. (2018). Learning from System Engineering to deploy Product Lifecycle Management. IFAC-PapersOnLine, 51(11), 1592-1597.
[28] Biesenthal, C., & Wilden, R. (2014). Multi-level project governance: Trends and opportunities. International Journal of Project Management, 32(8), 1291-1308.
[29] Müller, R. (2009). Project governance: fundamentals of project management. Farnham, England: Gower Publishing Limited.
[30] Mossalam, A., & Arafa, M. (2017). Governance model for integrating organizational project management (OPM) with corporate practices. HBRC journal, 13(3), 302-314.
[31] Pitsis, T. S., Sankaran, S., Gudergan, S., & Clegg, S. R. (2014). Governing projects under complexity: theory and practice in project management. International Journal of Project Management, 32(8), 1285-1290.
[32] Joslin, R., & Müller, R. (2016). The relationship between project governance and project success. International Journal of Project Management, 34(4), 613-626.
[33] Müller, R., Zhai, L., & Wang, A. (2017). Governance and governmentality in projects: Profiles and relationships with success. International Journal of Project Management, 35(3), 378-392.
[34] Müller, R., Pemsel, S., & Shao, J. (2014). Organizational enablers for governance and governmentality of projects: A literature review. International Journal of Project Management, 32(8), 1309-1320.
[35] Dudovskiy, J. (2018). The Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by-Step Assistance. Pittsburgh.
[36] Saunders, M., Lewis, P., & Thornhill, A. (2016). Research methods for business students Seventh Edition. Harlow, England: Pearson Education Limited.
[37] Yin, R. K. (2018). Case study research and applications. Design and methods Sixth Edition. Los Angeles, CA: SAGE Publications, Inc.
[38] Patton, M. Q. (2002). Qualitative research and evaluation methods. Thousand Oakes, CA: Sage.
[39] Flyvbjerg, B. (2006). Five misunderstandings about case-study research. Qualitative inquiry,
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