Development of integration risk on integrated management system in order to increase organizational performance of construction company

Ringgy Masuin¹ and Yusuf Latief²

¹University of Indonesia & Ministry of Public Work and Public Housing, Indonesia
²University of Indonesia, Indonesia
Email: ringgy.masuin61@ui.ac.id

Abstract. The implementation of integration management system (Quality, Health and Safety, Environment management system) begins in the manufacturing industry, then develops in the health industry and so on currently being researched for its application in the construction industry. There are various risks in the standard management system. These risks are very influential on the operational process of an organization. The risks involved in an organization's operations include quality risk, environmental risk, occupational health and safety risks, information system risks, and so on. If the risk can be recognized and managed well, will become a strategy for improving organization performance. So, this research discusses how risk management can be well managed so that improving organization performance. This research has survey method by giving questionnaires to experts and respondents to know the possible dominant risk. Then the survey results will be analysis through quantitative analysis using AHP method and failure mode and effect analysis (FMEA).

1. Introduction

Globalization makes all organization must have a robust management system to manage their organization (Ribeiro, Santos, Rebelo, & Silva, 2017). Through the management system, each organization tries to improve product of quality, environment, and worker safety, as well as other management practices. It is provided by some standard management system. These standards management system was embedded in regulation in international scale and national scale. Each organization is forces to follow this standard management system. It included quality management system, health and safety management system, environment management system.

Implemented of various management system standards can improve innovation and performance of an organization, etc. company (Bernardo, 2014). The integrated management system can reduce overlap due to each management system which can result in competitive level of an organization (Ribeiro et al., 2017). The integrated management system standards can be a support for risk management to avoid cost and safety issues (Rebelo, Silva, & Santos, 2017). It also has been growing requirements in order to meet their different interested parties as well as to improve their efficiency [2]. Value creation in organizations depends on the ability to continuously improve and innovate products and processes [2].

The development of ISO certification of standard management system in the world in 2015 has 1,033,936 ISO 9000 certification standards, 319,324 ISO 14000 (ISO, 2017) and 92,315 certifications under OHSAS 18000 (Nunhes, Motta Barbosa, & de Oliveira, 2017). These ISO certification is related to companies. Monitoring and evaluation of all construction companies in Indonesia show that each construction activity has a value below 50% in accordance with the standard and guidance of quality management system (ISO9000), environment management system (ISO14000), and occupational health and safety management system (ISO 18000) as shown in table 1 (Ministry of Public Work and Public Housing, 2017).
Table 1. Monitoring and Evaluation of Management System (Quality and Occupational Health and Safety) at Construction Company in Indonesia

| No. | Unit Organization       | Monitoring and Evaluation Implementation Result |
|-----|-------------------------|-----------------------------------------------|
| 1.  | Companies under project of SDA | 32.08%                                       |
| 2.  | Companies under project of BM  | 44.85%                                       |
| 3.  | Companies under project of CK  | 32.80%                                       |
| 4.  | Companies under project of PP  | 26.42%                                       |

Table 1 expose that organization in this research is concern to construction company. It can face some challenges when operating parallel management system. One of the benefits of integrated management system is to reduce conflicts between management systems (Simon, Karapetrovic, & Casadesus, 2012) (Jorgensen, 2008) (Griffith & Bhutto, 2008) (Olaru, Maier, A, & Maier, 2014). It could also be due to difficulties in understanding the standards and the lack of knowledge that integration might be implemented at the company level (Ekyalimpa, 2015)(George, Siti-Nabiha, Jalaludin, & Abdalla, 2016)(Karapetrović, Casadesus, & Heras, 2010). In fact, related to integration difficulties, is the low participation of organizations in the face of this difficulty and inadequate application (J. Zeng, Zhang, Matsui, & Zhao, 2017) (S. X. Zeng, Shi, & Lou, 2007) (Huh & Park, 2018).

Integrated management system explained that organizations has to implement different management system to improve their organization performance (Rebelo, Santos, & Silva, 2016) (Ferreira et al., 2014). These is from internal and external risk factor of organization that need to be consider (Simon, Honore, Yaya, Karapetrovic, & Casadesus, 2014) (Rebelo et al., 2016). Integrated management system also can provide a systematic approach to standardizing systems, such as, Quality, Environment, Occupational Health and Safety, Social Accountability and others (Hoque, 2017) (Carvalho, Picchi, Camarini, & Chamon, 2015). Therefore theory that built for this research is organization theory, integrated management system theory, and risk management theory. The theory suggest that organization performance would be increase if there was improvement in management aspect that involve minimize integration risk of rework, risk of accident, risk of sickness and risk of waste (Perlman, Sacks, & Barak, 2014) (Segarra Cañamares, Villena Escribano, González García, Romero Barriuso, & Rodríguez Sáiz, 2017) (Olaru et al., 2014) (Mas, Mesquida, & Lali, 2017) (Barafort, Mesquida, & Mas, 2017). Therefore, the research questions in this research are:

1. How does integration risk effect organization performance through integrated management system in construction company?
2. Is integration risk able to improve organization performance through integrated management system construction company?

2. Literature Review

2.1. Integration Risk

Risks are defined as uncertainties about outcomes, whether including positive opportunities or negative threats to events or events. Use of resources for risk management. Priority is done on the risk evaluation itself. Response to risks that are inscribed on the organization can be said to be "internal control". Enterprise risk management should assess processes, products, or assess the highest risk in the company.
Control can be focused on either prevention or detection. Preventive control eliminates or reduces the cause of risk, thereby reducing the value of occurrence.

Integrated risk is a systematic and explicit approach to addressing risks within an organization (Rebelo et al. 2017). Integrated risk in an organization must be based on risk requirements that take into account all existing management systems within the organization. They require risk evaluation in the organization that controls at the highest risk (Kymal et al., 2015; Bugdol et al., 2015).

Systematic approach to management is a procedure that does not escape the scope of this widespread practice of dissemination (Labodová, 2004). The term "management system integration" can cover various aspects of the company. For IMS direct implementation, a risk-based methodology is selected. Risks can be used as a factor for integrating environmental, life and health risks of employees and local people, and the risk of economic loss from building failure (Labodová, 2004) (O’Neil & Petty, 2013).

Paraschivescu (2016) conducts research on the integration of risk management with quality management. The results of this study of integration of management systems greatly affect how an organization in taking decisions after taking into account the risks that may occur (Paraschivescu, 2016). Mourougan et al (2016) undertook research on the integration of risk management in an integrated environmental management system, health, safety, and information security. This research was conducted by literature study method. From his writings that can be used as material for this research is a list of jobs of each phase of risk management that can be integrated and who is responsible for the work (Mourougan, 2015). Riberio (2017) conducted a study by dividing the reasons for integrating system management into internal and external reasons. The method used is a review literature combined with case studies. The study aims to understand how the role of integrated management system can make it easier to find the risks that may occur in a business(Ribeiro et al., 2017)(Rebelo, Santos, & Silva, 2014). From the research, the requirements of each management system standard such as quality management, environment, and health and safety are related to risk management. Integration risk in integrated management systems is divided into internal and external factors that are describe in 10 variable of high level structure (HLS) that is internal factor are scope (SC), terms and condition (TC), normative reference (NM), context of organization (CO), leadership (LD), planning (PL), support (SP), operational (OP), performance evaluation (PE), and improvement (IM). External factor that is describe in scope of organization (SC) factor consist of economic normative reference (NM), social cultural (SL), technological (TC), regulatory (LG), environment (EN) shown in table 2.

| Author                          | Internal | EF | SC | CO | NM | LD | PL | OP | PE | EN | IM |
|--------------------------------|----------|----|----|----|----|----|----|----|----|----|----|
| (Mourougan, 2015)              | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Ribeiro et al., 2017)         | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Ferreira et al., 2014)        | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Rebelo et al., 2014)          | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Baraort et al., 2017)         | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Labodová, 2004)               | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Douglas & Glen, 2000)         | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Yarahmadi, Moridi, & Roumiani, 2016) | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Bernardo, Gianni, Gotzamani, & Simon, 2017) | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| (Simon et al., 2014)           | ✓         | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
2.2. Integrated Management System
Integration management system in a management system can enable companies to improve internal efficiency by optimizing resources (Salomone, 2008); improve management control (Rebelo et al., 2014) and increase productivity (Pilar, Simon, Martí-ballester, & Simon, 2017). One integrated system management tool is an integrated process. This process model is subdivided into the areas of "management processes", "value creation processes" and "support processes" and shows how processes in different management systems are integrated (Klute-wenig, Refflinghaus, & Klute-wenig, 2015). Process integration of all formal and informal integration factors will improve organizational performance (Pimenta, Lago, Tate, & Tate, 2016).

The organization is still struggling with the implementation of MS activities, especially with the integration of several MSs (Nunhes et al., 2017); (Neppach, Nunes, & Schebek, 2017). This can be achieved through management coordination of processes and resource use (Ribeiro et al., 2017). The resources in question are materials, tools, methods, costs and labor. Globally, the construction industry is one of the largest natural resource users. This industry consumes 50% of natural resources, 40% of world energy, and 16% water (Li & Wang, 2016). Other related issues show the use of technology can reduce resource consumption by 80% (Kołotzek, Helbig, Thorenz, Reller, & Tuma, 2018).

2.3. Organization Performance
One important factor in construction performance is human resources (Hashim, Osman, & Alhabshi, 2015). Research involving human resources involved in some management systems, shows that managers and inspectors from management systems have a major influence on the implementation of management systems (Simon, Simon, Karapetrovic, & Casadesús, 2012). Therefore, it is important that managers and practitioners become aware of the challenges and obstacles of the integration process. If they fail to identify this process then there will be a delay in the process of integrated management system (Xavier, Jacobi, & Turra, 2018). In addition, well managed human resources will generate additional value for other resources (Wibowo & Waluyo, 2015). The construction activities have various management systems to manage their own independent resources, namely: quality management system (QMS: ISO900), environment management system (EMS: ISO14000), and occupational health and safety management system (OHSAS: ISO 18000) (Karapetrovic & Rosenbloom, 1999) (Bernardo, Casadesus, & Karapetrovic, 2010) (Simon, Simon, et al., 2012).

The implementation of various management systems leads to conflict and one of the benefits of integrated management systems is to reduce conflicts between management systems (Simon, Karapetrovic, et al., 2012)(Karapetrović et al., 2010) (Griffith & Bhutto, 2008) (Maier, Vadastreanu, Kepller, Eidenmuller, & Maier, 2015). Most of the management system standards adopted in different countries are ISO Standards (Sanz-calcedo, González, López, Salgado, & Cambero, 2015). By 2015 there are 1,033,936 ISO 9000 certification standards, 319,324 ISO 14000 certifications (ISO, 2017) and 92,315 certifications under OHSAS 18000 (Nunhes et al., 2017). With the growing number of management system certifications, there has been an increase in consumer demand, which is currently associated with not only quality but also environment, OHS, and sustainability (Domingues, Sampaio, & Arezes, 2016). Such achievements may benefit the efficiency and effectiveness of the organization, while reducing the cost of managing each system individually (Bernardo, Simon, Tari, & Molina-Azorín, 2015), simplification of tasks (this documentation requires explicit knowledge, requirements) (Maier et al., 2015), improved organizational efficiency, better use of internal and external audit results, and improvement of corporate image (Douglas & Glen, 2000).

3. Methodology

3.1. Research Design
The research design adopted in this study is qualitative quantitative research in which the data are analysed statistically by using AHP method and basic statistic. Furthermore, it goes based on the
research questions of this research. They are to see variable that have highest impact factor and frequency to increase organization performance, especially in construction company.

3.2. Sample
The samples of this research are construction company that have the obligations to implement different management system in Jakarta. Construction company in Jakarta have some event sequence of working accidents that need to be reduce. This accident is happening in company that have more than 7 gred (level of company). The selection of respondents because they are aware of strategic issues in the company related to integration risk, organization performance, and integrated management system.

3.3. Instrument
The instrument used to collect the data in this research is questioner. The questioner is given before construction company implemented integrated management system, but already implemented different management system. Later on questions in questioner before and after implemented integrated management system are the same. The test itself contains verbal sentence in Bahasa Indonesia that translated. Furthermore, the questioner have Likert scale are those of basic verbal sentences which contain positive sentence and negative sentence. The before test is given to answer research question. It is to see impact and frequency that occurs in an activities of implementing integrated management system in construction company organization. The after test is given for validation of implementation integrated management system that would be future research. It is to see the score of frequency and impact. If the score is higher, it means that the activities need more concern to prevent.

3.4. Data Normality Test
Data normality test is utilized to see the distribution of the data. In other words, it is to know that the data are normally distributed. To see the chart of the normal distribution of the data, the researcher adopts the method of Normal Probability Plots in testing the data for construction company. The followings are the charts that show the normal distribution of the data in this research. The data distribution are normal because the data spread around the diagonal line of the chart table 3.

| One-Sample Kolmogorov-Smirnov Test |
|-----------------|----------------|
|                  | x               | y               |
| N                | 19              | 19              |
| Normal Parameters<sup>a,b</sup> | Mean 4.56 9.63 | Std. Deviation 1.811 2.480 |
|                  | Absolute .154 .102 | Positive .154 .076 |
|                  | Negative -.103 -.102 |
| Kolmogorov-Smirnov Z | .672 .443 |
| Asymp. Sig. (2-tailed) | .757 .989 |

a. Test distribution is Normal.
b. Calculated from data.

Then, the data are calculated by using data description, analytical hierarchical process (AHP).
A. Mean
Using formulation of mean as follow:
\[
\mu = \frac{\sum x_i}{N}
\] 

We found that \( \mu = 4.558 \). It means that respondent are agree with all variable require in this research.

B. Validation
From SPSS processing obtained Chi-Square (0.05, df = 4) = 7.815 (based on table of chi-square value) or Asym value. Sig (2-sided)> level of significant (\( \alpha \)) 0.05, so Ho accepted and Ha rejected. It can be concluded that there is no difference in perception of answers. Based on results of the validation of content and constructs in research methodologies we find that there were 10 clauses are valid for integration risk. Clauses used for integration risk are 10 variable of high level structure (HLS) that are scope (SC), terms and condition (TC), normative reference (NM), context of organization (CO), leadership (LD), planning (PL), support (SP), operational (OP), performance evaluation (PE), and improvement (IM).

4. Result
As we are having valid variable for measure, so next we will find most variable important in integration risk, we consider to have normalization of matrix and priority first as shown in table 3.

As we are having AHP method to configure what variable is most important in integration risk, we consider to have normalization of matrix and priority first in table 1. After we are consider that weight that used in this paper are normal, so we concluded weight that clauses used for risk context are scope (SC), terms and condition (TC), normative reference (NM), context of organization (CO), leadership (LD), planning (PL), support (SP), operational (OP), performance evaluation (PE), and improvement (IM). There were some variable that have highest frequency event is Leadership (4.225), scope of organization (4.125 and 4.223), than highest impact is leadership (4.75) and scope of organization (4.64).

5. Conclusion
Clauses used for risk context are scope (SC), terms and condition (TC), normative reference (NM), context of organization (CO), leadership (LD), planning (PL), support (SP), operational (OP), performance evaluation (PE), and improvement (IM). There were some variable that have highest frequency event is Leadership (4.225), scope of organization (4.125 and 4.223), than highest impact is leadership (4.75) and scope of organization (4.64).

For future research, we would develop the implementation to reduce risk using integrated management system that can improve organization performance through integrated management system and research for correlation of integration risk to improve organization performance.

Acknowledgement
Authors would like to thank the financial support provides by University of Indonesia through the PITTA 2018 funding scheme under grant number 861/UN2.R3.1/HKP.05.00/2018 Managed by Directorate for Research and Public Services (DRPM) University of Indonesia.

References

[1] Article, O., Yarahmadi, R., Moridi, P., & Roumiani, Y 2016 Health, safety and environmental risk management in laboratory fields 1–9

[2] Barafort, B., Mesquida, A. L., & Mas, A 2017 Integrating risk management in IT settings from ISO standards and management systems perspectives Computer Standards and Interfaces, 54 176–185 https://doi.org/10.1016/j.csi.2016.11.010

[3] Bernardo, M 2014 Integration of management systems as an innovation: A proposal for a new model Journal of Cleaner Production 82 132–142 https://doi.org/10.1016/j.jclepro.2014.06.089
[4] Bernardo, M., Casadesus, M., & Karapetrovic, S. 2010 An empirical study on the integration of management system audits 18 486–495 https://doi.org/10.1016/j.jclepro.2009.12.001
[5] Bernardo, M., Gianni, M., Gotzamanis, K., & Simon, A. 2017 Is there a common pattern to integrate multiple management systems? A comparative analysis between organizations in Greece and Spain Journal of Cleaner Production 151 121–133 https://doi.org/10.1016/j.jclepro.2017.03.036
[6] Bernardo, M., Simon, A., Tari, J. J., & Molina-Azorín, J. F. 2015 Benefits of management systems integration: A literature review Journal of Cleaner Production 94 260–267 https://doi.org/10.1016/j.jclepro.2015.01.075
[7] Clara P et.al 2017 Translation Modalities: An Investigation of The Translated Short Story “De Dezembro” Cadernos de Tradução 37(2) 80-100 Retrieved from DOI 10.1016/j.jclepro.2017.03.036
[8] Carvalho, K. M. P., Picchi, F., Camarini, G., & Chamon, E. M. Q. O. 2015 Benefits in the Implementation of Safety, Health, Environmental and Quality Integrated System 7 4 https://doi.org/10.7763/IJET.2015.V7.814
[9] Domingues, P., Sampaio, P., & Arezes, P. M. 2016 Integrated management systems assessment: A maturity model proposal Journal of Cleaner Production 124 164–174 https://doi.org/10.1016/j.jclepro.2016.02.103
[10] Douglas, A., & Glen, D. 2000 Integrated management systems in small and medium enterprises. Total Quality Management 11(4–6) 686–690 https://doi.org/10.1080/09544120050008075
[11] Ekyalimpa, R. 2015 A distributed simulation approach for contractor company performance management in the construction industry
[12] Ferreira, M., Gilberto, R., Rui, S., Rebelo, M. F., Santos, G., & Silva, R. 2014 A generic model for integration of Quality, Environment and Safety Management Systems https://doi.org/10.1108/TQM-08-2012-0055
[13] George, R. A., Siti-Nabiha, A. K., Jalaludin, D., & Abdalla, Y. A 2016 Barriers to and enablers of sustainability integration in the performance management systems of an oil and gas company Journal of Cleaner Production 136 197–212 https://doi.org/10.1016/j.jclepro.2016.01.097
[14] Griffith, A., & Bhutto, K. 2008 Improving environmental performance through integrated management systems (IMS) in the UK Management of Environmental Quality: An International Journal 19(5) 565–578 https://doi.org/10.1108/14777830810894247
[15] Hashim, M. J., Osman, I., & Alhabsi, S. M. 2015 Effect of Intellectual Capital on Organizational Performance Procedia - Social and Behavioral Sciences 211 207–214 https://doi.org/10.1016/j.sbspro.2015.11.085
[16] Hoque, M. E. 2017 Why Company Should Adopt Integrated Reporting? 7(1) 241–248
[17] Horiguchi, Sachico et.al 2015 Voices from the Field. In Foreign Language Education in Japan: Exploring Qualitative Approach: Sense Publishers pp 1-18 Retrieved from DOI: https://doi.org/10.5565/rev/ijt3.732
[18] Huh, H. S., & Park, C. Y. 2018 Asia-Pacific regional integration index: Construction, interpretation, and comparison Journal of Asian Economics 54 22–38 https://doi.org/10.1016/j.asieco.2017.12.001
[19] Irawati, I. & Maharani, L. 2012 Teaching And Learning Writing Using Teacher’s Written Feedback And Conference Register Journal 5(1) 121-145 Retrieved from http://dx.doi.org/10.18326/rgt.v5i1.25
[20] Jorgensen, T. H. 2008 Towards more sustainable management systems: through life cycle management and integration Journal of Cleaner Production 16(10) 1071–1080 https://doi.org/10.1016/j.jclepro.2007.06.006
[21] Kalmazova. N. 2016 Teaching Law Students Pre-Translation Text Analysis Studies in Logic, Grammar and Rhetoric 45(1) 87-96 Retrieved from DOI 10.1515/slgr-2016-0017
[22] Karapetrović, S., Casadesus, M., & Heras, I. 2010 Empirical analysis of integration within the standards-based integrated management systems International Journal for Quality Research 4(1) 25–35
[23] Karapetrovic, S., & Rosenbloom, E. S. 1999 Quality control approach to consistency paradoxes in
AHP European Journal of Operational Research 119(3) 704–718 https://doi.org/10.1016/S0377-2217(98)00334-8

[24] Klute-wenig, S., Refflinghaus, R., & Klute-wenig, S 2015 Integrating sustainability aspects into an integrated management system https://doi.org/10.1016/TQM-12-2013-0128

[25] Kolotzek, C., Helbig, C., Thorenz, A., Reller, A., & Tuma, A 2018 A company-oriented model for the assessment of raw material supply risks, environmental impact and social implications Journal of Cleaner Production 176 566–580 https://doi.org/10.1016/j.jclepro.2017.12.162

[26] Labodová, A 2004 Implementing integrated management systems using a risk analysis based approach Journal of Cleaner Production 12(6) 571–580 https://doi.org/10.1016/j.jclepro.2003.08.008

[27] Li, W., & Wang, X 2016 Innovations on Management of Sustainable Construction in a Large Earthwork Project: An Australian Case Research Procedia Engineering 145 677–684 https://doi.org/10.1016/j.proeng.2016.04.067

[28] Maier, D., Vadastreanu, A. M., Keppler, T., Eidenmuller, T., & Maier, A 2015 Innovation as a Part of an Existing Integrated Management System Procedia Economics and Finance 26(15) 1060–1067 https://doi.org/10.1016/S2212-5671(15)00930-2

[29] Mas, A., Mesquida, A., & Lali, B 2017 The Journal of Systems and Software Transition of organizational roles in Agile transformation process: A grounded theory approach 133 174–194 https://doi.org/10.1016/j.jss.2017.07.008

[30] Mourougan, S 2015 Auditing Integrated Management System for Continuing Suitability , Sustainability and Improvement 17(10) 1–14 https://doi.org/10.9790/487X-171020114

[31] Nava, Andrea 2017 Error and Learning/Teaching English as a Second/Foreign Language: An Exercise in Grammaticology. Altre Modernità 0(0) 79-97 Retrieved from DOI 10.13130/2035-7680/8304

[32] Neppach, S., Nunes, K. R. A., & Schebek, L 2017 Organizational Environmental Footprint in German construction companies Journal of Cleaner Production 142 78–86 https://doi.org/10.1016/j.jclepro.2016.05.065

[33] Nunhes, T. V., Motta Barbosa, L. C. F., & de Oliveira, O. J 2017 Identification and analysis of the elements and functions integrable in integrated management systems Journal of Cleaner Production 142 3225–3235 https://doi.org/10.1016/j.jclepro.2016.10.147

[34] O’Neil, D. A., & Petty, M. D 2013 Organizational simulation for model based systems engineering Procedia Computer Science 16 323–332 https://doi.org/10.1016/j.procs.2013.01.034

[35] Olaru, M., Maier, D., A. D. N., & Maier, A 2014 Establishing the basis for development of an organization by adopting the integrated management systems: comparative study of various models and concepts of integration 109 693–697 https://doi.org/10.1016/j.sbspro.2013.12.531

[36] Paraschivescu, A. O 2016 Quality Management System 19(2) 48–56

[37] Prasetyo, B 2014 Metode Penelitian Kuantitatif: Teori dan Aplikasi (Jakarta: PT. Raja Grafindo Persada)

[38] Pedro A. Fuertes-Olivera & Carmen Piqué-Noguera 2015 The Literal Translation Hypothesis in ESP Teaching/Learning Environments Scripta Manent 8(1) 15-30

[39] Perlman, A., Sacks, R., & Barak, R 2014 Hazard recognition and risk perception in construction Safety Science 64 13–21 https://doi.org/10.1016/j.ssci.2013.11.019

[40] Pilar, C., Simon, M. A., Martí-ballester, C. P., & Simon, A 2017 Union is strength financial performance https://doi.org/10.1108/MD-09-2015-0414

[41] Pimenta, M. L., Lago, A., Tate, W. L., & Tate, W. L. 2016 Characteristics of cross- functional integration processes Evidence from Brazilian organizations https://doi.org/10.1108/IJLM-01-2014-0010

[42] Rebeiro, M. F., Santos, G., & Silva, R 2014 A Methodology to Develop the Integration of the Environmental Management System with Other Standardized Management Systems 170–181

[43] Rebeiro, M. F., Santos, G., & Silva, R 2016 Integration of management systems: towards a sustained success and development of organizations Journal of Cleaner Production 127 96–111 https://doi.org/10.1016/j.jclepro.2016.04.011

[44] Ribeiro, F., Santos, G., Rebeiro, M. F., & Silva, R 2017 Integrated Management Systems: Trends for Portugal in the 2025 horizon Procedia Manufacturing 13 1191–1198
[45] Richardson, V 1997 Constructivist Teaching and Teacher Education: Theory and Practice In Constructivist Teacher Education (London: The Falmer Press)

[46] Salomone, R 2008 Integrated management systems: experiences in Italian organizations Journal of Cleaner Production 16(16) 1786–1806 https://doi.org/10.1016/j.jclepro.2007.12.003

[47] Sanz-calcedo, J. G., González, A. G., Lópex, O., Salgado, D. R., & Cambero, I 2015 Analysis on integrated management of the quality, environment and safety on the industrial projects Procedia Engineering 132 140–145 https://doi.org/10.1016/j.proeng.2015.12.490

[48] Seatter, C.S. & Ceulemans, K 2017 Sustainability in Higher Education Pedagogical Styles that Make a Difference Canadian Journal of Higher Education 47(2) Retrieved from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/186284/pdf

[49] Segarra Cañamares, M., Villena Escribano, B. M., González García, M. N., Romero Barriuso, A., & Rodríguez Sáiz, A 2017 Occupational risk-prevention diagnosis: A study of construction SMEs in Spain Safety Science 92 104–115 https://doi.org/10.1016/j.ssci.2016.09.016

[50] Simon, A., Honore, L., Yaya, P., Karapetrovic, S., & Casadesús, M 2014 An empirical analysis of the integration of internal and external management system audits Journal of Cleaner Production 66 499–506 https://doi.org/10.1016/j.jclepro.2013.11.020

[51] Simon, A., Karapetrovic, S., & Casadesus, M 2012 Evolution of Integrated Management Systems in Spanish firms Journal of Cleaner Production 23(1) 8–19 https://doi.org/10.1016/j.jclepro.2011.10.025

[52] Tulegen, et.al. 2016 Grammatical Means of Temporality Expression in Translation International Journal of Applied Linguistics and English Literature 6(1) 202-208 Retrieved from http://dx.doi.org/10.7575/aiac.ijalel.v.6n.1p.202

[53] Wibowo, M. A., & Waluyo, R 2015 Knowledge management maturity in construction companies Procedia Engineering 125 89–94 https://doi.org/10.1016/j.proeng.2015.11.014

[54] Wong, R.M.H 2012 Linking Motivation and Pedagogy: The Case of Newly-Arrived Hong Kong Students The Asia-Pacific Education Resercher 21(3) 636-647 Retrieved from https://eijournals.ph/article.php?id=4541

[55] Xavier, L. Y., Jacobi, P. R., & Turra, A 2018 On the advantages of working together: Social Learning and knowledge integration in the management of marine areas Marine Policy 88 139–150 https://doi.org/10.1016/j.marpol.2017.11.026

[56] Zeng, J., Zhang, W., Matsui, Y., & Zhao, X 2017 The impact of organizational context on hard and soft quality management and innovation performance International Journal of Production Economics 185 240–251 https://doi.org/10.1016/j.ijpe.2016.12.031

[57] Zeng, S. X., Shi, J. J., & Lou, G. X 2007 A synergetic model for implementing an integrated management system: an empirical study in China Journal of Cleaner Production 15(18) 1760–1767 https://doi.org/10.1016/j.jclepro.2006.03.007