# Key Success Factors of ISO 9001 Implementation for Small Medium Enterprise: Systematic Literature Review

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Keywords: SMEs, Quality Management System, Key Success Factor, Synthesize, Meta-Ethnography

Abstract: The Small Medium Enterprises or SMEs found hard challenge to implement the quality management system especially ISO 9001. Although ISO 9001 is general and can be applied in all types of organizations including SMEs, many obstacles were still faced by SMEs such as limited resources, low of knowledge, inadequate HR competencies until lack of budget. The purpose of study is to synthesize various key success factors in implementing the ISO 9001 for SMEs context. The studies on the key success factors of ISO 9001 implementation in SMEs have been widely carried out but they are still scattered in various articles in journal or conference and there has been no agreement regarding the factors considered important in SMEs. The method used in this study is qualitative method with the Meta-Synthesis approach. The results show 125 metaphors and total of 20 Key Success Factors that should be adopted by SMEs in order to support the successful implementation of ISO 9001.

# **1 INTRODUCTION**

At the end of 2015 is a new history for the Indonesian economy. This is due to the commencement of the era of the ASEAN Economic Community (AEC) wherein the MEA products from ASEAN countries will be free to enter other ASEAN countries. This condition is both an opportunity and a challenge for businesses in Indonesia, especially small medium enterprises (SMEs) which have been the backbone of the Indonesian economy even during the monetary crisis of 1998. To be able to compete with products from within and outside the country, SMEs need to show their superiority. Quality improvement of products/services is absolutely necessary so that SMEs can have a competitive advantage. Good products/services can be produced through only good internal organizational processes so that ultimately can increase stakeholder satisfaction.

application of quality management The principles is needed to ensure the quality of the process, which in turn will affect the quality of products/services offered by SMEs. Therefore, strengthening management in SMEs is absolutely necessary. In other words, the principle of quality management is an important factor in organizational One the management. of most adopted organizational strategies is to implement the ISO 9001 as Quality Management System or QMS

(Muafi and Nilmawati, 2011). ISO 9001 is a framework that can be used to identify and manage all business activities or processes that have an impact on product/service quality (Poksinska, Dahlgaard and Antoni, 2002). In other words, ISO 9001 aims to provide quality assurance of products/services through improved quality management practices provided. ISO 9001 is a quality management system standard issued by the world standardization body The International Organization for Standardization (ISO) which is generic, can be applied to all government and private organizations and even non-profit organizations. ISO 9001 is also flexible to be applied at all levels of organizational management. ISO has been implemented in more than 162 countries because it is considered proven to be able to provide significant benefits in improving organizational performance. The intended performance includes organizational productivity, improved work procedures, increased trust in organizational quality, improved corporate image and customer satisfaction (Brown, Van der Wiele and Loughton, 1998; Poksinska, A.E. Eklund and Dahlgaard, 2006). Brown (1998) also added that the benefits obtained were not only improving the quality of products/services but improving internal management and awareness of the importance of quality. In other words, organizations that are able to implement a quality management system in

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accordance with the organizational context will benefit from ISO 9001 QMS including SMEs.

There are several definitions of SMEs based on asset and turnover categories. According to Law No. 20 of 2008 concerning SMEs, each category has limitations, namely small organization is an individual business or business entity that has assets of less than 500 million and turnover is less than 2.5 billion while medium-sized businesses have assets of less than 2.5 billion and turnover is smaller than 50 billion. Meanwhile, the definition of SMEs is based on the number of workers according to the Central Statistics Agency (BPS), namely small businesses have 5 to 19 workers while medium-sized businesses with 20 to 99 workers. Limitations of SMEs in terms of assets and human resources have created their own challenges in the effort to implement OMS ISO 9001.

Based on some literature, not a few SMEs face difficulties in applying and obtaining ISO 9001 QMS certification (Mo and Chan, 1997; Brown, Van der Wiele and Loughton, 1998; Yuwono, Zakaria and Panjaitan, 2012; Anholon et al., 2017). The number of obstacles that are owned by SMEs, especially internal barriers become problems in the application of ISO 9001 such as Not enough knowledge about ISO 9000 and quality management, lack of resources, lack of strategic thinking and also inappropriate motivation (Brown, Van der Wiele and Loughton, 1998; Poksinska, 2007; Xydias-Lobo and Jones T, 2014; Waśniewski, 2017). Undeniably, many SMEs are encouraged to obtain ISO 9001 certification because of marketing needs in the form of customer demands that make ISO 9001 certification as one of the requirements (Brown, Van der Wiele and Loughton, 1998; Barros, Sampaio and Saraiva, 2014). SMEs get strong pressure from outside the organization, especially customers and government agencies. Several studies show that many organizations request that suppliers have ISO 9001 certification (Poksinska, Dahlgaard and Antoni, 2002; Lo, Yeung and Cheng, 2009).But with this motivation the organization lacks commitment to standards and only focuses on obtaining its certification so that it tends to ignore the implementation process which in turn does not produce any improvement for the organization (Barros, Sampaio and Saraiva, 2014).

Another problem is the assumption that ISO 9001 is not appropriate for SMEs. This is because in achieving its objectives, organizations tend to categorize themselves as organic organizations that emphasize the important role of individuals. As a big role, the owner is involved and there is no clear

division of labour and procedures for the staff as a result of the staff being too busy with their work and not doing improvement of the system. Whereas ISO 9001 generally views organizations as forming mechanistic organizations that emphasize the important role of procedures. This is rarely found in SMEs (Lunenberg, 2012).

Departing from the above problems, it does not mean that SMEs are unable to implement ISO 9001 QMS at all. In the initial survey, researchers found several SMEs took the initiative to implement the QMS until they successfully obtained ISO 9001 QMS certification. This study aims to identify important factors (Key Factors) which has an effect on the successful implementation of ISO 9001. Researchers have conducted a literature review of previous research which has proposed various Key Factors for succeeding with ISO 9001 standards for SMEs (Bounabri et al., 1954; Rahman, 2001; Poksinska, A.E. Eklund and Dahlgaard, 2006; Psomas, Fotopoulos and Kafetzopoulos, 2010; Kaziliunas, 2010; Al-Najjar and Jawad, 2011; Fard, Naha and Mansor, 2011; Khanna, Sharma and Laroiya, 2011; Matsoso and Benedict, 2015; Psomas and Antony, 2015; Ismyrlis, Moschidis and Tsiotras, 2015; Mardani et al., 2015; Douglas et al., 2017; Gopal and Attri, 2017; del Castillo-Peces et al., 2018) but the literature is spread in various journals and proceedings. As a result, there is no agreement and a complete picture, especially about key factors that affect the successful implementation of ISO 9001 at the level of SMEs in Indonesia.

This study aims to identify a variety of Key Factors that influence the success in the application of ISO 9001 QMS in the context of SMEs through synthesis process. Key Factors in this study are called Key Success Factors (KSF). The contribution of this research indicated that it was successfully used a qualitative Meta-Ethnography approach where previously it had never been used to obtain KSF in the application of ISO 9001 in SMEs. In addition, contributions are given by producing KSF that are generic so that they can be adopted by various types of SMEs.

# 2 METHODS

The method used in this research is Meta-Synthesis which is an approach to integrating qualitative studies. Meta-Synthesis is part of the Systematic Review used to distinguish it from the quantitative approach to Meta-Analysis (Urquhart, 2011). Meta-Synthesis is an interpretive analytical technique that enables researchers to identify specific research questions, select and assess relevant sources, summarize and combine qualitative findings from previous research so that a better understanding of a particular phenomenon can be obtained while answering research questions. In other words, Meta-Synthesis is a technique used to accumulate knowledge from qualitative research where a series of processes is carried out, especially the process of synthesis and interpretative meaning. When Meta-Analysis is aggregating and averaging findings so that different results can be considered the same, the Meta-Synthesis approach produces comprehensive and interpretive findings and a more in-depth meaning. In Meta-Analysis, the data used is quantitative data in large numbers with statistical calculations to then be analyzed to produce general conclusions (generalizations). Meta-Analysis is not suitable for small data samples (Glass, 2012). While Meta-Synthesis emphasizes the unique search of each individual study both from significant and nonresults in order to produce refined theory, extended even new theories or knowledge (Napitupulu, 2016), not for generalization purposes (Britten et al., 2002).

In this study, the authors are interested in the study of the successful implementation of ISO 9001 at the level of Small Medium Enterprise (SMEs) and intend to synthesize key factors that influence successful implementation of ISO 9001 in SMEs. As stated that studies related to key factors have been carried out and spread in various journal or conference articles but there has been no mutual agreement and complete understanding of these factors. In addition, most of these articles are qualitative so that the Meta-Synthesis technique is very suitable to be applied to research in order to produce comprehensive findings.

Meta-Synthesis can be broadly categorized as an integrative and interpretative approach. In this study, the Meta-Ethnography approach was adopted because the synthesis process was intended to reinterpret it rather than summarize such an integrative approach (Campbell *et al.*, 2011).

Meta-Ethnography is also the method most widely cited by other researchers. Meta-Ethnography approach is a form of synthesis of interpretive and inductive qualitative knowledge. Meta-Ethnography is an attempt to overcome limitations or weaknesses in aggregative techniques because it does not provide an explanation for the findings. As a result, the results of the synthesis do not give researchers an idea of what is wrong and what can be done later (Britten *et al.*, 2002). MetaEthnography is consistently applied in 7 steps as in Figure 1 below:

The Seven Phases of the Meta-ethnographic appro	ach
Phase one: getting started	
Phase two: deciding what is relevant to the initial i	nterest
Phase three: reading the studies	
Phase four: determining how the studies are relate	ed
Phase five:translating the studies into one another	
Phase six: synthesizing the translation	
Phase seven: expressing the synthesis	

Figure 1: Meta-Ethnography Phase (Campbell et al., 2011)

Based on Figure 1 above, there are 7 phases of Meta-ethnography which can be divided into four major parts, namely selecting studies, translating, synthesizing and reporting. Selecting studies include phase 1 (getting started) to phase 3 (reading the studies), translating including phase 4 (determining how studies are related) and phase 5 (translating the studies into one another), synthesizing includes phase 6 (synthesizing translations) and reporting is the last phase, expressing the synthesis or reporting synthesis results. However, the translation and synthesis process can actually be carried out in parallel (Campbell et al., 2011). Another advantage of Meta-Ethnography is that it is possible to take concepts that are often implicit to be linked together and arranged to complement or become a theory that has new meaning (Greenwood and Smith, 2016).

### **3 RESULT & DISCUSSIONS**

In this section, 7 steps of Meta-Ethnography were carried out as illustrated in Figure 1 as follows (Campbell *et al.*, 2011):

- 1. **Getting Started**. At this stage, we identify qualitative research that might inform. The topic of interest in this study has been determined, namely the Key Success Factors of ISO 9001 implementation at the level of SMEs.
- 2. Describing what is relevant to initial interest. At this stage, the search process was carried out on various cross studies that were relevant to the topic of interest in this study. The data source that is the basis of the search is an electronic database where most of the data (journals or proceedings) come from a reputable database of scopus and science direct. Articles Journals or proceedings selected at this stage also mostly come from large publishers such as Emerald, Taylor and Francis, elsevier, Wiley, etc. This is

to provide a level of confidence in the quality of the articles involved in this Meta-Ethnography study. The article search process in this study uses three combined keywords, namely success factor, ISO 9001 and SMEs so as to produce initially 48 journal articles and proceedings that are relevant to the topic of interest as in Figure 2. However, after going through the filter process, the remaining number of articles is only 17 that will be involved in the next stage. The screening process from the electronic database source includes duplication, title and abstract as well as content and conclusions. In other words, the articles involved are only those that are really significantly related to the topic of interest, in addition to paying attention to several criteria, namely qualitative studies, data collection and analysis methods clearly explained, the results obtained with a clear plot and evidence adequate.



Figure 2: Article Searching & Filtering Process

3. **Reading the studies**. At this stage, the articles that have been obtained are re-read and reviewed as well as marking the key concepts that emerged from 17 cross-studies. The metaphor in this study is in the form of Key Success Factors identified in each article. Based on the results of the identification, there were 125 key concepts which can be presented in Table 1 as follows:

N o	Key Success Factors	Sources
1	1.Meeting Customer Needs & Expectation	(Psomas,

•	2.Continuous Improvement of Process & Product Quality	Fotopoulos and
	3.Improvement of Company Image	Kafetzopou
	4. Equipment & Infrastructure required	los, 2010)
	5.Commitmen & Support of Senior	
	Management	-
	6.Employee Involvement & Commitment	
	7.Employee Training in requirement of the quality standard	
	8. Know-how of Employees	-
	9. Employee Acceptance of required changes	
	10. Number of Employees	
	11. Volume of paper work	
	12. Financial resources required	
	13. Pressure from competitor	
	14. Customer pressure	-
2	15.Involvement of government authorities	(dal
2	Customer Management     Z. Financial	(del Castillo-
•	3. Requirement to compete in the sector	Peces <i>et al.</i> ,
	4. Participation in work teams	2018)
	5. Improve overall efficiency	-
	6.Establishment of responsibilities and rules	
	7.Improvement coordination with supplier	1
3	1. Leadership	(Rahman,
	2. Strategy & Planning	2001)
	3. Employee Empowerment &	
	Involvement	
	4. Employee Training & Development	
	5. Customer Management	-
/	<ol> <li>Customer Satisfaction</li> <li>Information &amp; Analysis</li> </ol>	
	<ol> <li>7. Information &amp; Analysis</li> <li>8. Design quality management</li> </ol>	
	9. Process control	
4	1. Top Management Commitment	(Al-Najjar
		and Jawad,
	Employee Readiness     Financial Resource     Human resource	and Jawad,
	<ol> <li>Employee Readiness</li> <li>Financial Resource</li> <li>Human resource</li> <li>Employee training programs</li> </ol>	and Jawad, 2011)
5	<ol> <li>Employee Readiness</li> <li>Financial Resource</li> <li>Human resource</li> <li>Employee training programs</li> <li>Top Management Leadership</li> </ol>	and Jawad, 2011) (Khanna,
	<ol> <li>Employee Readiness</li> <li>Financial Resource</li> <li>Human resource</li> <li>Employee training programs</li> <li>Top Management Leadership</li> <li>Human resource management</li> </ol>	and Jawad, 2011) (Khanna, Sharma and
	<ol> <li>Employee Readiness</li> <li>Financial Resource</li> <li>Human resource</li> <li>Employee training programs</li> <li>Top Management Leadership</li> <li>Human resource management</li> <li>Supplier quality management</li> </ol>	and Jawad, 2011) (Khanna, Sharma and Laroiya,
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	2. Employee Readiness         3. Financial Resource         4. Human resource         5. Employee training programs         1. Top Management Leadership         2. Human resource management         3. Supplier quality management         4. Process management         5. Training         6. Customer focus         7. Role of quality department         8. Use of IT	and Jawad, 2011) (Khanna, Sharma and Laroiya,
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	8. Employee Involvement	
9	1. Top management commitment	Ismail &
. [	2. Customer focus	Ebrahimpo
-	3. Information & Analysis	ur (2003)
Ē	4. Training	
Ē	5. Supplier management	
Ē	6. Strategic planning	
Ē	7. Employee involvement	
-	8. HRM	
-	9. Process Management	
-	10. Teamwork	
F	11. Product & Service design	
ŀ	12. Process control	
ŀ	13. Benchmarking	
F	14. Continous Improvement	
-	15. Employee empowerment	
-	16. Quality Assurance	
-		
-	17. Social Responsibility	
1	18. Employee satisfaction	(IZ 11
1	1. Internal Motivation	(Kaziliunas
0	2. Reward system	, 2010)
·	3. Teamwork	
-	4. Continuous Improvement	
-	5. Measurement of Performance	
	6. Communication	
	7. Audit	$\sim$
1	1. Communication	(Gopal and
1	2.Top Management Commitment	Attri, 2017)
•	3. Training & Education	
	4. Employee Support & Involvement	
	5. Teamwork	
Γ	6. Motivation	
_	7. Internal Audit	
1	1. Communication	(Bounabri
3	2. Top Management Commitment	et al.,
	3. Training	2018)
	4. People Acceptance	
1	1. Leadership	(Matsoso
4	2. Process Control	and
	3. Customer Orientation	Benedict,
-	4. Resource	2015)
-	5. Employee involvement	
F	<ol> <li>Employee Training</li> </ol>	
ŀ	7. Use of IT	
F	8. Supplier Relations	
ŀ	9. Team Building	
ŀ	9.   Team Bunding     10.   Benchmarking	
1	Motivation Internal & External	(Juanzon
1	wouvation internal & External	(Juanzon
5		and Muhi, 2017)
· 1	1 Continuous Improvement	2017) (Mardani <i>et</i>
1 6	1. Continuous Improvement	(Mardani <i>et</i> <i>al.</i> , 2015)
0	2. Strategic Planning	<i>ai</i> ., 2013)
·	3. Team Working	
Ļ	4. Process Management	
Ļ	5. Customer Focus	
Ļ	6. Employee empowerment	
L	7. Employee Involvement	
	8. Leadership	
	1. Know how & Knowledge	(Sahoo and
1	2. Commitment of Management	Yadav,
1 7	2. Communent of Management	ruduv,
	3. Enough Budget	2017)
	3. Enough Budget	

4. **Determining how the studies are related**. Based on Table 1 above, the relationship

between one study and another will be determined. Noblit & Hare (1988) recommends coding each key concept (metaphor) so that translation is easy to do in the next stage. As an example of the key concept in the first reference (Psomas, Fotopoulos and Kafetzopoulos, 2010), the Customer Needs & Expectation Meeting is given code 1.1; Continuous Improvement of Process & Product Quality 1.2; and Know-how of Employees 1.8. Likewise also the second reference (del Castillo-Peces et al., 2018), there is a key concept (metaphor) that is Customer Management is given code 2.1; Financial has code 2.2; Requirements to compete in the sector are given code 2.3, and so on for other key concepts. Based on Table 1, it can be seen that the key concepts between a study and another have many similarities that can be translated (Britten et al., 2002; Campbell et al., 2011).

#### 5. Translating the studies into one another.

In this stage, the researcher translates and synthesizes parallel meaning by looking at the relationship between studies where key concepts that have similarities will be synthesized and those that do not have similarities will be integrated. In translating and synthesizing, researchers first understand each key concept (metaphor). For example, Fard & Mansor (2011) identified one of the key concepts is "Training & Education" which is defined as a company's training and education support the improvement of employee knowledge and capability. Bounabri et al (2018) stated that one of the metaphors is "Training" which is explained as a form of improving employee competence in completing tasks related to the ISO 9001 quality management system. Khanna (2011) also mentions one of the key concepts that is "Training" which is appropriate training and education of employees to improve their knowledge and skills. From the three key concepts, there are similarities in the essence of training and education that enhance the capability of employees in carrying out work according to the demands of the ISO 9001. Therefore, based on the level of similarity of meaning of the metaphor, synthesis of the three key concepts can be made a new key concept that is "Training & Development". This key concept is the result of an in-depth interpretation of the key concepts of cross-study. This was also done in the whole study in the same way.

6. Synthesizing the translations & Expressing the synthesis. At this stage, the synthesis

results that have been carried out in the previous stage are expressed where the synthesis process is carried out with a deep interpretation of each key concept, namely Key Success Factors (KSF) of ISO 9001 Implementation at the level of SMEs. Overall expression results of 20 KSF ISO 9001 implementation at the level of SMEs based on Meta-Ethnography approach as presented in Table 2.

Table 2: New Expression of Key Success Factor	Table 2: New	Expression	of Key	Success	Factors
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Code	Key Success Factors (KSF)
Α	Customer Focus
В	Top Management Support
С	Information & Analysis
D	Strategy & Planning
E	Training & Development
F	Design Quality
G	Process Control
Н	Continuous Improvement
Ι	Motivation
J	Enough Funding
K	Supplier Quality Management
L	Infrastructure & Technology
М	Team Involvement
N	Clear Job Responsibility
0	Awareness of ISO 9001
Р	Quality Oriented Culture
Q	Employee Acceptance
R	Cooperation & Teamwork
S	Communication
Т	Audit

Based on Table 4 above, the KSF Implementation of ISO 9001 at the level of SMEs can be seen that the overall KSF obtained is relevant to the context of ISO success in SMEs. Therefore, KSF generally needs to be adopted by SMEs to improve the success of implementing ISO 9001 in their environment.

# 4 CONCLUSIONS

Based on the research that has been conducted can be drawn that the research has obtained 20 Key Success Factors that influence ISO 9001 implementation in the context of SMEs. The contribution of this study is the successful demonstration of using Meta-Ethnography qualitative approach that never been used before to synthesize the Key Success Factors (KSF) especially in the study of ISO 9001 for SMEs. In addition, another important findings as contribution of this paper are generating KSF that are general in nature (generic), especially in the implementation of ISO 9001 for SMEs, thus they could be adopted by any type of SMEs. In the future, the research needs empirical research for validating and implementing KSF in Indonesian SMEs.

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