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AN INVESTIGATION INTO THE BARRIERS AFFECTING THE ADOPTION OF ISO 9001:2015 CERTIFICATION IN ARABIC COUNTRIES: A CASE STUDY OF LIBYAN SERVICE AND MANUFACTURING INDUSTRIES (LSMI)

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Abstract

The study aims to investigate and analyse the barriers that affect the adoption of ISO 9001:2015 certifications, a quality management system, in Libyan Service and Manufacturing Industries (LSMI), and to identify how these barriers can be overcome. A review of the literature revealed a major gap in studies in this area of the quality management system and fills a gap in knowledge explicit to Libya. The paper adopts a case study approach to collect the data. It summarises the results from face to face semi-structured interviews conducted within LSMI, using template analysis to analyse the data from the case study. This study highlights the strong potential of ISO 9001:2015 in affecting organisational performance improvements. The study also offers a beneficial source of information for organisations, which are still lagging far behind when it comes to ISO implementation. The distribution of the current study results by the LSMI will lead to knowledge transfer and help organisations, among Arabic and developing countries, in the process of achieving standardisation. The study's results can support those organisations to deal with domestic customers and serve the local market, in addition to helping the LSMI find a place in the international market by seeking ISO 9001:2015 certification. The results have practical implications for the governments, the LSMI, experts and quality managers. The originality of this paper is to fill the gap in knowledge in this area, which is explicit to Libya. It contributes to the literature and professional practice by offering new insights into the barriers for the implementation of ISO 9001:2015 in LSMI.

Keywords: *ISO9001:2015, Reasons, Motives, Obstacles, Barriers, LSMI, Libya.*

1. INTRODUCTION

In recent years, the ISO 9001:2015 quality management system (QMS) has been widely accepted and adopted as a national/international standard by most of the industrial countries. The ISO 9001standard is the most popular standard of quality management system around the worldwide organisations. In addition, the ISO 9001:2015 standards were developed to achieve customer satisfaction. The progressive increase in applications from manufacturing firms, for approval to standards such as ISO 9001:2015, suggests that quality certification has been, and continues to be, viewed as important to a competitive position (Purwanto et al., 2020 and Bounabri et al, 2018). As many organisations have discovered that the key to customer satisfaction and competitive success lies in emphasizing and achieving product and service quality as a strategic weapon in performing business (Rybski et al., (2017); Tricker, R. (2016); Mehfooz and Saeed Lodhi, (2015); cianfrani et al, 2009; Magd, H.A.E, 2006; Hill, N et al., 2002 and Crosby, P. B. (1996).

Singhal and Singhal (2012) identified that ISO 9001, first introduced in 1987 by the International Organisation of Standardisation ISO among the ISO 9000 series (Such as ISO 9000, ISO 9002. ISO 9003 and ISO 9004), is an international standard that assists more than one million organisations around the world by providing a set of requirements for developing and demonstrating an effective documented QMS.

Tricker, R. (2016) pointed out that numerous quality standards have been developed and adopted over the years, with the ISO family of standards representing an international consensus on good management practices that have the aim of ensuring that an organisation can deliver products or services that meet the customers' quality requirements. Besides, the ISO standards can be applied to any type of organisation (private or public including government services) independent of the size of the organisation or the kind of products manufactured or services provided (Hussein et al., 2017). ISO 9001:2015 accreditation of organisations has been a subject of considerable interest because product quality guarantee has become one of the prime factors to be considered in the present time of highly competitive industrial activity.ISO 9001:2015 accreditation is still a new issue for the organisations in Libya, a developing country these organisations need to establish a new strategy towards accreditation focuses on the difficulties and barriers to implementation of ISO 9001:2015 in such a culture (Talib, F., & Rahman, Z. (2015).

According to the latest results of the ISO 9001 survey (2019) which shows an estimation of the total number of valid ISO 9001:2015 certificates 878 664 and a total number of sites 1

180 965 were issued on 31st December 2019 in 201 countries and economies around the world. As mentioned, little research has been carried out in the Arab world and particular Libya, as to why barriers to ISO 9001:2015 adoption might exist. However, what is clear is that the adoption of ISO 9001:2015 certifications in Libyan service and manufacturing industries is very low in comparison to other Arabic countries, as illustrated in Table1 and Figure 1,2. The latest results of the ISO 9001 Survey are for 2019 which show an estimation of the number of valid certificates and number of sites covered by the certificates for each country as of 31 December 2019.

Table 1: Number of ISO 9001:2015 Certificates issued and sites to end of 2019.

No	Arab Countries	Number of ISO 9001:2015 certifications	Sites
1	United Arab Emirates	3,839	5,558
2	Egypt	2,271	2,521
3	Saudi Arabia	2,206	3,020
4	Tunisia	1,105	1,408
5	Morocco	1,066	931
6	Qatar	827	1,169
7	Oman	636	978
8	Kuwait	587	733
9	Lebanon	576	666
10	Jordan	562	669
11	Algeria	499	1,082
12	Bahrain	435	575
13	Iraq	85	97
14	Sudan	83	99
15	Syrian Arab Republic	82	94
16	Palestine	33	34
17	Libya	28	31
18	Yemen	10	10

Source: Adopted from (ISO 9001 SURVEY, 2019).

Figures 1 and 2 presents the numbers of ISO 9001:2015 certifications and sites in the Arab countries in descending order. The country heading the Top ten ranking with the larger number of certificates at the end of 2019 in the United Arab Emirates followed by Egypt whereas Libyan comes in the seventeen places with 28 certified originations which is very low comparing to the Arabic countries.

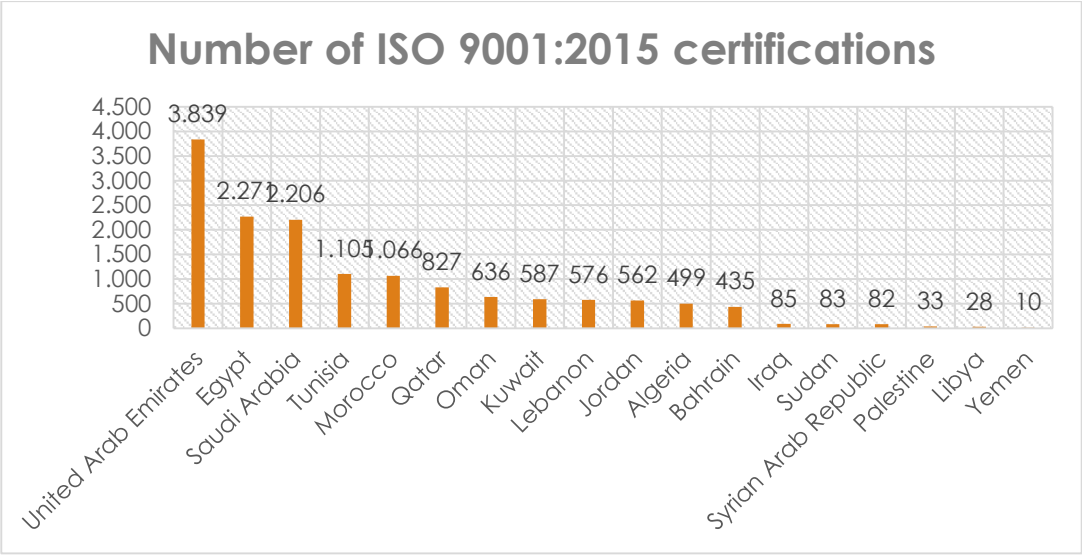


Figure 1: Number of ISO 9001 certificates issued to end of 2019.

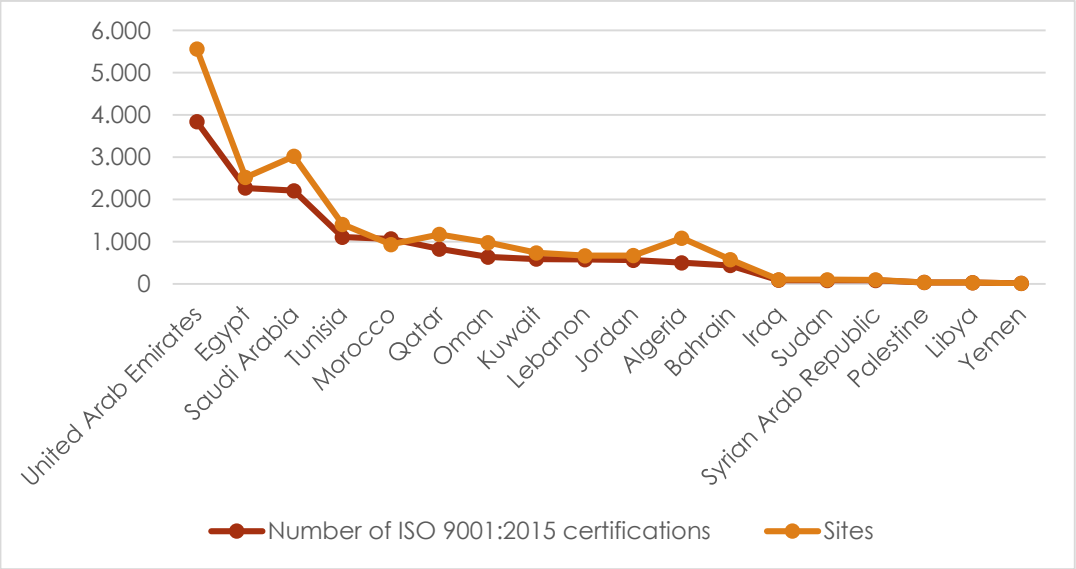


Figure 2: Number of ISO 9001 certificates and sites to end of 2019.

Source: Created from (ISO 9001 SURVEY, 2019).

A key question to ask following this evidence is why is the adoption of ISO 9001 so low in Libya. This in turn raises a further question of what the barriers to adoption are and whether they might be specific to Libya. Therefore, the study is exploratory in nature and seeks to collect data related to the difficulties that affect the implementation of ISO 9001 in Libyan service and manufacturing industries.

Libya is still considered as a „developing country" and until recently had little investment internally or from foreign companies therefore, the implementation of any type of quality management system was deemed unnecessary. However, since the imposed sanctions were lifted, service and manufacturing organisations alike are being inspired to improve their business in order to achieve a better position in an extremely competitive market place. The challenges that ensue compel the management of those organisations to transform their long-standing traditional management systems (Aamer et al., (2020); Tricker, R. (2016). Hence, improving business performance by implementing a successful QMS will have a positive impact in many areas, e.g. increased market share, improved service provision, increased productivity and streamlined procedures and processes.

When more Libyan companies embark on the application process, and they fully understand the concept of ISO 9000 standards, they will identify the benefits that will dramatically improve their standing in both local and international markets. Fulfilling the requirements means a constant striving to produce top quality goods and services which in the long-term can only be seen as beneficial.

Therefore, this study aims to investigate and analyse the barriers that affect the adoption of ISO 9001:2015 certifications, a quality management system, in Libyan Service and Manufacturing Industries (LSMI), and to identify how these barriers can be overcome. A review of the literature revealed a major gap in studies in this area of the quality management system and fills a gap in knowledge explicit to Libya.

The study's contributions lies in providing a more complete picture of the difficulties affecting and challenges arising during implementation of ISO 9000, quality management system (QMS) in Libyan service and manufacturing industries. The research will review and discuss the most importance of ISO 9001:2015 QMS implementation. Organisations of all types and sizes find that using the ISO 9001:2015 standard helps them: organize processes, improve the efficiency of processes, and continually improve. This will help Arabic organisations and LSMI to have a comprehensive understanding of what factors that they have to focus on in order to achieve a successful organisation quality management system that meet customers'

need and the goal of organisation. Arabic industries and LSMI can use these results as a guide to develop and implement an industry management system that complies with ISO 9001:2015. Moreover, the present study seeks to fill the gaps in the current literature debate on the prospects of ISO 9001:2015 factors that affect the development of QMS.

The rest of the study is structured as follows.. The first section sets out the key literature and identifies the gaps in knowledge that lead to an explanation of the research background, including an explanation of the significance of this research and the aim of the research and the main research questions. The second sections presents the research strategy, data collection methods and data analysis techniques, which includes the background to the research philosophy, research approach and selection of data collection methods. The third section discusses the results of the study; revealing which and why barriers to ISO 9001:2015 adoption and implementation might occur in Libya and how this relates to existing literature. In the final section, conclusions are drawn and recommendations are made as to how this research may be used by professional practitioners or by Libyan authorities whilst also considering the limitations of the research.

2. RELEVANT LITERATURE

The process of implementing ISO 9001:2015 certification a QMS may appear simple at first, especially given the increasing numbers of ISO 9001:2015 certified organisations over years there are so many barriers to overcome when taking the decision of implementation. Certification does not guarantee a fluent QMS implementation, as the process brings inevitably change to the organisation. Many forces acting against it create barriers, such as resistance, commitment and flexibility issues when the implemented change is not managed the best way possible. Although there has been considerable interest in the improvement of business management in Libya, the study of quality management has been significantly less prominent, a situation that is also found in other Arabic countries (Jayasundara and Rajini, 2014; Talib and Rahman, 2015). It is therefore valuable to examine the reasons why many organisations fail to be familiar with and understand the advantages of ISO 9001:2015.

The philosophy of quality, inherent in ISO standards, requires employees and managers across all departments in the organisation to work together to identify and resolve quality problems. However, empirical evidence often shows that the implementation of ISO 9001:2015 meets many different barriers in organisations throughout the world among others, Al-Refaie et al (2012); Ashrafi and Bashir (2011), Ashrafi, (2008); Sampaio, et al 2009; Al-Zamany et al,(2002), just a few in the Arab world such as Ismail-Salaheldin, (2003); Curry and Kadasah

(2002); Al-Khalifa and Aspinwall (2000), Hesham and Magd (2007), Al-Najjar and Jawad (2011). Specifically, and emblematic of many of these studies, Bounabri et al, (2018) and Hamadameen and Wali (2019) suggest that the major difficulties faced in implementing ISO 9001:2015 are the low level of involvement of top management and employees, a poor flow of information (for the functioning of the quality system), resistance to new responsibilities, a lack of appropriate technical knowledge, and difficulty in the communication of new tasks and functions for each job. Once implementing change, there are continually obstacles that are involved, as Aamer et al., (2020) quoted, such as lack of communication, lack of top management commitment, misunderstanding of the aims and process of change and resistance.

Although the literature on QMS in general and ISO 9001:2015, in particular, is significant, there is a limited focus on barriers and problems with ISO 9001:2015 and even more so when examining Arabic countries. For brevity here, in Table 2, the authors identify six key papers that provide an Arabic country context and which highlight well the key reasons stated in the literature why organizations may have difficulties with the implementation of ISO 9001:2015.

Table 2: Common obstacles of implementing ISO 9001:2015 identified by various authors with different Arabic Countries.

Authors	Country	Identified Barriers to implementing ISO 9001:2015 QMS
Aamer et al., (2020) Al-Awlaqi and Aamer. (2019)	Yemen	•Lack of qualified personnel; • lack of trust between the employees and their manager; •Lack of financial resources; •Organizational resistance to change; •Lack of experience in establishing quality systems; • Cultural and employee barrier; •Difficulties in motivating staff participation; • Lack of continuous training programs and quality education; •Absence of financial support for the implementation of ISO 9001.

Hamadameen and Wali (2019)	Iraq	•Organizational barriers: human resource, attitude towards quality, management, culture, interdepartmental relations, machines and equipment, materials, quality-related information, method, training, and finance. • Cultural and employee barrier; • Lack of understanding the importance of certification; • Lack of continuous training programs; •Language barriers and lack of awareness.
Bounabri et al,(2018)	Moroccan	• Resistance to change by employees; • Lack of communication; •Absence of qualified and professional personnel in ISO Certification. •Bureaucracy of documentation and poor interdependence between departments in organisations; • Poor top management commitment and insufficient training were also ascertained to be obstacles to QMS implementation in Morocco.
Hussein et al,. (2017)	Lebanon	• Lack of awareness on ISO 9001; • Resistance to change; • Terminology used in ISO 9001; • Commitment of top management; •Existence of an accreditation system; •Lack of resource availability.
Aqoulah et al,.(2016)	Jordan	•Organizational resistance to change •Lack of qualified personnel; •Lack of continuous training programs; • Cultural and employee barrier; • Resistance to change by employs; •Lack of understanding and knowledge of ISO standards and QMS.

Form table 2 where it can be said that there is literature to support the following points:

• The shortage of Arabic studies, not one on those studies was carried out in Libyan organisations. This supports the originality of this research and adds another contribution to the field;

• Most common barriers in studies mentioned in Table 2 are: Top management related issues (Organisational resistance to change; lack of commitment and inadequate leadership), Resistance to change by employs and lack of resources availability;

• All Arabic countries mentioned in Table 2 experienced human resources barriers to QMS implementation such as issues related to understanding the purpose of ISO 9001:2015 certification, requirements of the standard in addition to lack of competence in the field.

Clearly, there is a large amount of information in this literature, but to summaries, the key factors for ISO 9001:2015 failure include, a lack of top management support and commitment, the resistance of employees towards change, a lack of understanding of the ISO requirements, inadequate training and quality knowledge, a low level of quality awareness and culture, the allocation of personal responsibilities and constraints on resources such as manpower, time and finance.

Wali and Hamadameen (2019) claimed that in order to havea successful organisational change, good change management is important to ensure to get the desired results. Aamer et al., (2020) reported that change management is a specific approach of management by using specific technics and tools to ensure a successful change implementation, based on prosocial definition of change management as a set of processes and tools used to lead the people side of change in order to attain the desired results.

3. RESEARCH METHODS

The study included two phases, in the first phase email interviews were conducted, followed up by telephone interviews to provide a greater degree of flexibility. To obtain a general perspective on difficulties regarding the implementation of ISO9001:2015, the interviews were focused on Quality professionals most likely to be aware of all aspects of the certification process. In the second phase of the study, semi-structured interviews were carried out to gain more in-depth information.

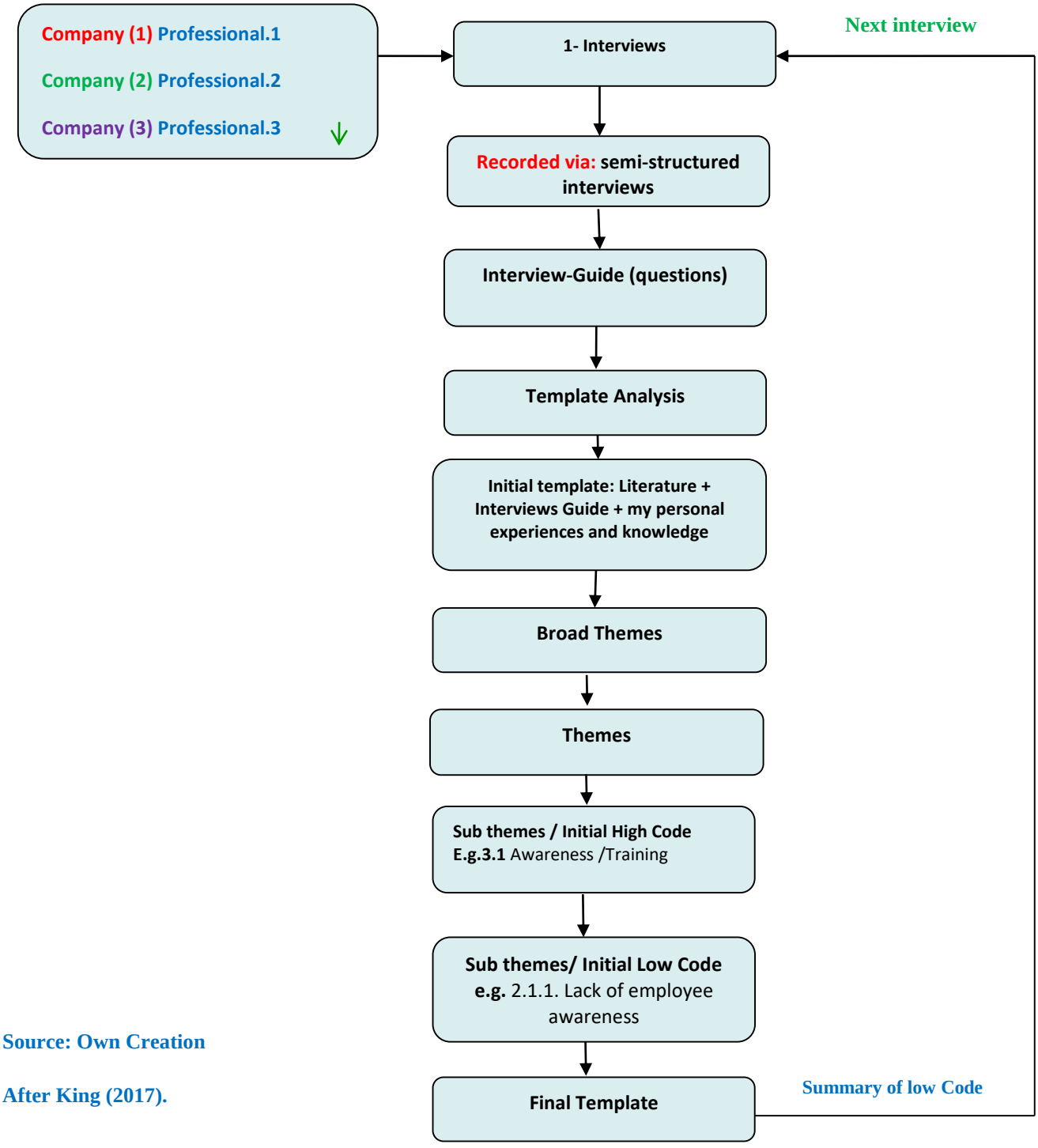
Interview guides were developed from a pilot study and the research strategy was designed to increase the validity and reliability of the interview questions. As a research strategy, a case study approach was adopted to gain a depth of understanding of the information necessary to identify and investigate the barriers regarding the LSMI implementation of ISO 9001:2015. Also, following a constructivist viewpoint, it was appropriate to apply an interpretive paradigm, which is integral to qualitative research (Denzin and Lincoln, 2005), and which is also consistent with this as an exploratory study. The nature of the data collected from the case studies were qualitative transcripts of the semi-structured interviews held with case study participants.

The data collected from the case studies were analysed using Template Analysis. King (2017) defines template analysis as a particular approach to analysing qualitative data: "The data involved are usually interview transcripts but may be any kind of textual data including diary entries, text from diary entries, text from electronic "interviews" (email) or open-ended question responses on a written questionnaire." King, (2017).

The purpose of template analysis is basically to provide the reader with an overview of the key themes emerging from the mass of information garnered from the interviews. The themes and codes are defined by King (2017) as relevant features of the participant's accounts and the process of identifying the themes. The essential purpose of Template Analysis is to provide an overview of the key themes and sub-themes emerging from qualitative data, where those themes and sub-themes are features of the data that are relevant to the research questions. It is essentially a qualitative data reduction and categorization exercise. In this case, the research questions focus on the need to understand the barriers to the adoption of ISO9001:2015 across a range of different circumstances. An initial template for analysis of the data was subsequently created using the codes presented in table 2. This enabled adjustments to be made to the themes and sub-themes as the analysis evolved before developing the "final" template, although King (2017) further states that because there are other ways of interpreting qualitative data sets there is no stage where you can say with absolute certainty that the template is finished.

In this study, this Final Template is the one where no further propositions were emerging from the case studies and could be assumed to be an exhaustive listing of all propositions that explain why barriers to ISO 9001:2015 adoption in Libya occur?

Utility of Template analysis techniques



Source: Own Creation

After King (2017).

4. RESULTS

Table 2 presents the 'final template' reached for the study, the following template was produced using the transcriptions from the interviews carried out with the 10 respondents in the case study (LSMI), and comprises different first-order propositions grouped into 6 second-order sub-themes. The column on the right identifies each of the initial propositions directly identified from the interview transcripts, and the left-hand column identifies the higher-order sub-theme within which these propositions can be grouped, under the overall subject of reasons for seeking ISO 9001:2015.

Table 3: Template Analysis results of barriers to ISO/IEC 9001:2015 adoption according to respondents.

Themes	Sub-Themes Initial High Code	Sub-Themes Initial Low Code
1. Barriers to ISO/IEC 17025adoption.	1.1Awareness /Training	1.1.1. Lack of employee awareness of the concept of QMS. 1.1.2. Inadequate training. 1.1.3. Training programs take time. 1.1.4. Lack of directed guidance for the employees to understand the ISO 17025 requirements. 1.1.5. Lack of free advice. 1.1.6. Lack of available information in Arab language 1.1.7. Lack of government programs that are needed to support quality activities. 1.1.8. lack of technical knowledge.

	1.2. Organisational Culture	1.2.1. Lack of management support and commitment. 1.2.2. Difficulties in accepting new approach/direction. 1.2.3. Employee absenteeism. 1.2.4. Lack of Accountability. 1.2.5. Lack of trust in the Libyan Training. 1.2.6. Wrong person in the wrong position. 1.2.7. The difficulty of having arguments or discussions with the managers. 1.2.8. Bureaucratic administration. 1.2.9. Setting targets and then being held accountable by higher-level management. 1.2.10. Large workforce. 1.2.11. Economic Crisis. 1.2.12. Financial support difficulties.
	1.3. Internal Resistance	1.3.1. No desire to change. 1.3.2. Increase in workload by an increase in the documentation. 1.3.3. Unwillingness to change from the existing system. 1.3.4. Process of ISO 9001 too complicated. 1.3.5. Bureaucracy.
	1.4 Expertise	1.4.1. Absence of experts. 1.4.2. Shortage of skilled personal. 1.4.3. No accredited local agencies. 1.4.4. calibration difficulties.
	1.5 Cost	1.5.1. Cost of contracting foreign consultants. 1.5.2. Training Programmes are costly. Calibrations are costly. 1.5.3. Lack of documentation and Materials. 1.5.4. Consultation process.

		1.5.5. Unavailability of a locally accredited calibration and accreditation body. 1.5.6. High cost of certification.
	1.6. Quality Manual	1.6.1. The presence of foreign languages documents + Manual in English. 1.6.2. Lack of people to translate. 1.6.3. Lack of English quality language courses and Arabic translator. 1.6.4. Lack of available information in the Arab language.

According to the answers given by all respondents, it's clear that the most significant problem was a lack of employees awareness and difficulty in understanding the purpose of ISO 9001:2015, because of this, employees have been very resistant to the introduction of ISO 9001:2015 standards, which is seen as a lot of extra and possibly unnecessary work partly due to the dogma associated with working with the current system for a long time and them not wanting the challenge of learning new skills.

This sits comfortably with propositions by Al-Najjar et al. (2011) and Al-Refaie et al., (2012) but as Crosby (1996) proposed, it is more likely that poor management creates such quality problems and, as discussed by Hussein et al,. (2017); and Elsmuai and McCollin, (2013) problems with training and skills may be more related to a lack of awareness of skills requirements than the actual training itself, which came through in the template analysis as shown where there was a clear lack of information, education and training programs available on quality issues.

The second significant problem area is related to organizational culture barriers, where barriers occur due to, resistance to change, wrong people in the wrong position, inappropriate managerial traditions, relationships with supervisor, the relationship of individuals, people involved in attending meetings, the celebration of social events, ease of adjustment to new requirements, senior managers taking time to talk informally to employees, more co-operation than competition between different departments. These findings were similar and consistent with other Arabic researchers such as (Aamer et al., (2020); Al-Awlaqi and Aamer. (2019); Bounabri et al. (2018); Hussein et al,. (2017); Ashrafi (2008); Zaramdini. (2007); and Al-Zamany et al. (2002).

Internal resistance is identified by the respondents as another problem area. Where there was no desire to change, the Process of ISO 9001:2015 too complicated, Unwillingness to change from the existing system and bureaucracy. These problems and difficulties were consistent and supportive of previous studies, for example, Fonseca et al., (2019); Talib & Rahman (2015); Mosadeghrad (2014); Al-Najjar & Jawad (2011); Hesham & Magd (2007), and Kumar & Balakrishnan (2011). Similarly, a lack of relevant expertise including an absence of Libyan professionals and experts in this field, which in turn led to the contracting of external organisations to carry out training created further barriers to adoption and implementation. Furthermore, the unavailability of a locally accredited calibration and accreditation body that issue ISO 9001:2015 certifications means dealing with foreign institutions which causes delays in obtaining the certificate as well as the absence of accredited institutions that assess the trainers and coaches that adopt the training programs on ISO 9001:2015 and the cost of contracting foreign consultants. This again is consistent with studies carried out by (Aamer et al., (2020); Kumar & Balakrishnan (2011); Al-Najjar & Jawad (2011) and Ashrafi Rafi (2011) where they indicated that a lack of 'local' experts in QM is a barrier to ISO 9001:2015 implementation.

The ultimate barriers to ISO 9001to emerge as sub-themes from the respondents' answers were related to Cost and issues related to the Quality manual itself. In terms of the former, respondents identified that training programs, quality calibrations, and consultation processes were the most costly items that created reduced adoption rates and although these are unlikely to be specific to Libya, there was also felt to be a lack of accessible Libyan documentation and all materials were in foreign languages, principally with the Manual being in English. Combined with the fact that there was a lack of Quality-qualified people to translate, a lack of English Quality-based language courses with Arabic translators and a lack of available information in the Arab language, this has serious implications for the success or failure of the ISO 9001implementation, and could again drive up costs.

Several organisations have found it necessary to translate the manual into Libyan, but this normally results in ambiguities, effectively making the quality system more costly and less efficient. These findings are similar to another study by Aamer et al. (2020); Bounabri et al. (2018); Aqoulah et al. (2016) and Al-Najjar & Jawad (2011) where they indicated that the relatively high cost of the certification is a barrier facing most organisations. It is generated by training, time, and consultancy fees to facilitate the registration process. Ashrafi and Bashir (2011) identified that the lack of financial capacity to meet implementation costs and

maintaining QMS costs in Egyptian organisations is one of the barriers affecting the adoption of ISO 9001standards. The findings indicate the urgent need to ensure that proper training and awareness education programs on ISO 9001 standards are available and provide solutions to overcome these barriers during the implementation process.

5. CONCLUSIONS

From the results presented in the Template Analysis above, one can glean a number of recommendations that could be put in place, to both aid organisational performance and increase adoption of ISO 9001:2015 certification in Libya:

- Resolve the lack of quality awareness when implementing the QMS including top management; managers and employees.
- Refresher courses could be conducted to ensure employees and managers are familiar with what is required of them. Also, to resolve the problem of unawareness of new employees towards the standard, in-house adaptations of external training sessions can be conducted for them.
- To increase management support in the implementation process, the government and organisation management should support their employees by motivating them and providing more information in Arabic about ISO requirements including the quality manual.
- Resolve the lack of information regarding ISO 9001:2015 standards introduction where most of the documentation is written in English, and little has been translated in Arabic. Hence within a quality management system, there is a need to ensure that all documentation of the quality management system should be written in Arabic to help the employees understand the system.
- To increase the number of local agencies and Libyan experts in the ISO 9001:2015 field the Libyan National Centre for Standardisation and Metrology (LNCSM) should train more people thus reducing the problem of the lack of expertise and support those companies by opening more local accreditation agencies to reduce the cost of accreditation and solve the problem of the high cost associated with the auditing process, as some of these agencies charge substantial fees.
- The Libyan government and LNCSM must provide more information, conferences, training, awareness, and seminars. This should then increase the number of certified companies so that Libya's rank in the Arab list of companies holding ISO certification becomes more in line with other Arab countries.

6. LIMITATIONS OF THE STUDY AND FUTURE STUDIES

No major constraints were found while conducting the study. However, the research was limited to LSMI only. Furthermore as far as conducting the interviews was concerned, there was a limit imposed upon the maximum duration of the individual interviews, as they were taken during normal working hours and thus the respondents could not afford to spend more time with the researchers. Hence, using quantitative approach is recommended for future studies.

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