



# ISO 9001 AND SSI SPECIAL EMPHASIS ON DETERMINANTS, BARRIERS, OUTCOME AND PERFORMANCE

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## ABSTRACT

Since its inception in 1987, ISO 9001 has become one of the most implemented quality management systems in organizations around the world. Due to its wide application and international recognition, it is widely regarded as a prerequisite for successful internationalization. In the era of digitalization, transformation of labor and capital markets and emergence of born-global companies, questions are being asked if ISO 9001 is as important as it used to be. This is especially relevant in the context of Small Scale Industries (SSI) that forms the economic backbone of developed countries. The growing market globalization has changed the landscape in which SSIs compete, and many enter international markets from their inception. The aim of this paper is to answer the question how and under which circumstances SSIs make the decision to get ISO 9001 certification. In order to shed more light on this understudied issue we offer a systematization of the literature on the topic of ISO 9001 and SSIs, with a special emphasis on key determinants and barriers of ISO 9001 implementation in SSIs as well as the key outcomes in terms of SSI performance following the ISO 9001 implementation.

**KEYWORDS:** ISO 9001, SSI, Barriers, Determinants, Performance, ISO 9001 implementation.

## INTRODUCTION

With the advent of globalization, organizations need a platform from where they can remain in the competition. ISO 9001 is one of the common tools for organizations to remain and sustain in this era of competitive world. In today's business world organizations can't ignore any strategy or implications to improve the quality and performance of product or services. Thus, after the advent of ISO 9001 standards it gained wide acceptance.

Discussing and analyzing ways of achieving high quality outputs in different types of business organizations has been at the forefront of business research for quite some time. This is especially relevant in the times of economic instability caused by external market shocks such as the COVID 19 pandemic and the Russian invasion of Ukraine. These events led to worldwide supply chain disturbances as well as sudden changes in supply and demand, causing material shortages and unpredictable price changes.

One way for business organizations to tackle these challenges is to invest in quality practices and routines. Looking into history, the original quality movement breakthrough happened following the 1973 and 1979 oil shocks, when firms around the world were forced to abandon high volume - low quality production paradigms and focus more on cutting costs while achieving high quality at the same time.

According to Dahlgaard et al. (2013) quality in an organization is defined at the level of organizational values and principles,

tools and methods and the quality management system as a holistic tool that helps manage everything related to quality. In order to provide universal guidelines for implementation and maintenance of a quality management system the International Standards Organization published the first version of ISO 9000 in 1987. Since then, the standard underwent four revisions, in 1994, 2000, 2008 and 2015. During this period, it continues to be one of the most widely spread quality management systems. There were a total of 916,842 issued ISO 9001:2015 certificates worldwide in 2020, which was an increase of 4% compared to 2019 (ISO, 2020). The main purpose of ISO 9001 is to help organizations achieve their "publicly announced quality standards in relation to organizational processes and activities for delivery of products and services" (Manders et al., 2016). ISO 9001 is often related to large firms in the manufacturing industry. However, many SSIs have implemented the standard as well and Heras-Saizarbitoria and Boiral (2015) state that the effects of ISO 9001 are more visible in SSIs.

The importance of SSIs for the economy in most countries cannot be overstated. According to the World Bank Group (2022) they amount to 90% of total number of firms and more than 50% of employment worldwide. The relationship between ISO 9001 implementation and SMEs is well documented in the literature. According to Zimon et al. (2022) smaller organizations are subject to significant challenges in both the initial certification as well as the process of maintaining and improving the ISO 9001 quality management system when compared to large organizations. Although this tends to be true in general, there are different inter-organizational traits and



contextual factors that can influence the decision to implement ISO 9001 in an SSI as well the way an organization manages its requirements. This leads us to our main research question: How and under which circumstances do SSIs make the decision to implement ISO 9001 and what are the potential outcomes of this decision? In order to answer this question, the paper aims to synthesize the key findings in the literature related to determinants of ISO 9001 implementation, the benefits and potential dangers of ISO 9001 implementation and take a look at the potential relationship between ISO 9001 and SSI performance.

### DETERMINANTS AND BARRIERS OF ISO 9001 IMPLEMENTATION IN SSIs

There exists a large body of literature analyzing key determinants of ISO 9001 implementation. According to Heras Saizarbitoria et al. (2006) organizations implement ISO 9001 due to customer requirements, image, achieving higher levels of efficiency and business process control, increasing the market share, achieving higher levels of product and service quality and a desire to eliminate waste. Key factors influencing the decision of an organization to implement ISO 9001 can be both internal and external. The external factors played a dominant role in the early phases of ISO 9001 adoption (Martinez Costa et al., 2008). This is especially valid for SSIs due to higher pressure from their stakeholders to implement ISO 9001 when compared to large organizations (Brown et al., 1998). In order to elaborate key external factors influencing the decision of SSIs to implement ISO 9001 we draw on the literature on institutional theory.

According to the institutional theory, there are three types of external pressure that can affect an organization: coercive, mimetic and normative pressure. Each of these types of pressure played a significant role in ISO 9001 dissemination and wide spread implementation. Coercive pressure stems from the regulatory surroundings and social norms prevalent in the environment of the organization. DiMaggio & Powell (1983) explain the manifestation of coercive pressure as “organizational rituals of conformity to wider institutions”. The increase of ISO 9001 certification can be attributed to coercive pressures in terms of stakeholder demands (Guler et al., 2002). Mimetic isomorphism is the propensity of an organization to imitate its competitors due to the belief that this can lead to market gains (DiMaggio & Powell, 1983). Mimetic pressure is always present when the goals and strategy of an organization are not clear, which makes mimicking of another successful organization a good way to conduct business. Strong market competition is another key determinant of ISO 9001 implementation, i.e. the need for organizations to get ISO 9001 certification in order to respond to their competitors’ actions. Normative pressure is dependent on organizational values and norms and it affects the decision to act in a certain way. In terms of ISO 9001 certification, Jones et al. (1997) state that normative pressure manifests itself through the perception of an organization that it will have a positive effect on its public image, which can lead to the decision to implement ISO 9001.

There are a number of other factors that influence ISO 9001 implementation as well, such as the industry within the organization operates and firm size. The manufacturing sector firms were the first organizations to implement ISO 9001. Since the quality movement has its roots in the manufacturing industry and quality was often viewed as industry specific this was expected and the trend lasted during the first years of ISO 9001. However, over time many firms from the service industry decided to implement it, while today there are a large number of public sector institutions and non-profit organizations that have implemented ISO 9001 as well.

When it comes to internal determinants of ISO 9001 implementation, resource endowment and motivation for implementation are most analyzed in the literature (Prajogo, 2011). Limited resources are often seen as key detrimental factors for ISO 9001 implementation in SSIs (Chiarini et al., 2020). Motivation on the other hand is less dependent on firm size. It is important to distinguish between a) external motivation coming from the need of an organization to prove that it has the necessary business routines and processes adequate for delivering the promised quality outcomes and b) internal motivation that arises from the desire of an organization to improve its business processes and their outcomes (del Castillo-Peces et al. 2018).

There are several differences in the way SSIs make the decision to implement ISO 9001 compared to large organizations. They are more prone to different forms of institutional pressure, especially coercive pressure from their customers as well as mimetic pressure in terms of other SSIs that have implemented ISO 9001 as well. Another trait of SSIs is their smaller resource endowment, when compared to large firms. ISO 9001 implementation is a costly process, in terms of both resources as well as the time needed to complete it, making this task challenging for SSIs.

SSIs tend to have a shallower management structure, which allows for more flexibility and focus on key activities such as sales, but lacks specialization that is necessary for managing quality (Brown et al., 1998). Lack of knowledge management techniques, as well as QMS implementation knowledge in general is often cited as an important obstacle to ISO 9001 implementation in SSIs (Sousa – Poza et al., 2009). Due to the fact that many SSIs face strong institutional pressure to implement ISO 9001, some of them think of it as a short term goal and face a lack of long term planning necessary for achieving benefits related to ISO 9001 (Martinez Costa et al., 2008). Sousa – Poza et al. (2009) discuss potential remedies for this phenomenon. They state that organizations should focus on developing quality management as an organizational function, making it familiar and internal to an organization. The reasoning behind this is the probability that employees and management will otherwise see ISO 9001 as something foreign to an organization, which can be an obstacle to successful implementation. If all members of an organization have the knowledge of ISO 9001 requirements and the way key procedures of the standard reflect on their daily business



routines and processes it is expected that ISO 9001 implementation won't face significant obstacles and the organization will reap more benefits from the standard. Therefore, employee training can act as another potential strategy for eliminating risks related to ISO 9001 implementation in SSIs (Manders et al., 2016).

It is important to acknowledge the role of ISO 9001 consultants in the preparation of an organization for ISO 9001 implementation. Although ISO 9001 is universally applicable, a number of authors state that consultants can sometimes lack the knowledge on SSI specifics and fail to recognize the variation between SSIs when it comes to business process organization or firm hierarchy (Brown et al., 1998). This can act as a significant barrier to successful ISO 9001 implementation in SSIs.

### ISO 9001 AND SSI PERFORMANCE

In general, QMS implementation should help organizations achieve better performance. The application of PDCA cycle as the basis for continuous improvement leads organizations to higher levels of efficiency, resulting in better performance (Djekic et al., 2014). However, literature on the relationship between ISO 9001 an SSI performance is still ambiguous. Some authors claim SSIs that have implemented ISO 9001 do not differ significantly from SSIs that did not implement it (Ilkay & Aslan, 2012) while others state that there is a significant relationship between ISO 9001 and firm performance (Manders et al., 2016; Sfredo et al., 2021). Firm performance in general can be defined as the degree of goal achievement within an organization (Ismyrlis & Moschidis, 2015). ISO 9001 literature focuses on firm market, operational and financial performance (Sfredo et al., 2021). Operational performance is related to key firm processes and can be measured through internal indicators such as productivity and product or service costs. Gotzamani et al. (2007) state that ISO 9001 helps operational performance through management process formalization and development of a framework for monitoring of business processes and internal indicators related to firm performance, customer satisfaction and quality requirements. Market performance is measured using external indicators, most commonly the company's market share, image compared to competitors or customer satisfaction. Financial performance is analyzed through key financial indicators, such as sales, profitability or return on investments. Since ISO 9001 is primarily oriented towards operational performance, it can be expected that ISO 9001 certified firms should have higher operational performance compared to their non-certified competitors. Jang & Lin (2008) and Fotopoulos & Psomas (2009) find that ISO 9001 implementation has a direct positive impact on operational performance that in turn leads to indirect increase in market performance.

However, Sfredo et al. (2021) find that this is the case in only 53% of the papers analyzing the relationship between ISO 9001 and operational performance. Similar findings can be found when it comes to market (35% papers find a positive relationship) and financial performance (26% of the papers).

Based on their literature review, Sfredo et al. (2018) propose a model that explains the possible relationship between ISO 9001 and firm performance. According to the model, ISO 9001 should have a positive influence on firm operational performance which will in turn lead to better market and financial performance.

However, the question remains why ISO 9001 seems to have a positive influence on firm performance in some SSIs while no effect can be detected in others. The answer to this question can be found in the different ways organizations accept and understand ISO 9001. Nair & Prajogo (2009) state that ISO 9001 has become "institutionalized". The institutionalization of ISO 9001 manifest itself through a significant number of SSIs that view ISO 9001 implementation as a means of getting the ISO 9001 certificate, lacking deep understanding of the underlying guiding principles and the way these principles should be put to use in everyday organizational routines and processes (Prajogo, 2011). ISO 9001 certification should be viewed as a necessary first step a firm takes with the aim of achieving its publicly proclaimed quality goals, and not as an end goal by itself. Naveh & Marcus (2005) explain that ISO 9001 certificate acts as a signal that the management of an organization is familiar with key principles of the standard but does not in itself guarantee better firm performance.

In regards to this, Briscoe et al. (2005) state that the level of ISO 9001 internalization is the key determinant of the way ISO 9001 will affect firm performance. In order to explain the concept of internalization we draw on knowledge management theory. According to Nonaka et al. (1994) all management systems are based on different explicit or implicit forms of embedded knowledge and internalization is one of the ways that information related to a specific management system can be transformed into organizational knowledge. Liesch & Knight (1999) explain internalization as a process consisting of search for new information, its acquiring and absorbing it into an organization after which it is translated into knowledge that will serve a specific purpose. ISO 9001 internalization can therefore be defined as successful translation of explicit and implicit information acquired during the process of ISO 9001 implementation into organizational knowledge. This knowledge can lead to active use of practices and routines related to ISO 9001 and have a positive effect on firm performance. A number of authors have analyzed the need for ISO 9001 internalization as a key prerequisite for an increase in firm performance (Naveh & Marcus, 2004; Briscoe et al., 2005; Ataseven et al., 2013; Kafetzopoulos et al., 2015). Higher levels of ISO 9001 internalization are related to investment in employee education and their familiarity with the requirements of the standard. Detailed process documentation and application of ISO 9001 principles in all organizational processes have also shown correlation with the level of ISO 9001 internalization.

Determinants of ISO 9001 implementation are an important antecedent of standard internalization. Nair & Prajogo (2009) explain that both external and internal factors can affect the



level of internalization, however, internal motivation for implementation was shown to have a significant effect on the firms with high levels of business performance. This can be explained using the resource based view of the firm. Higher levels of ISO 9001 internalization have the potential to create a competitive advantage for the SSIs achieving them. In this sense, ISO 9001 internalization is a rare organizational resource that differentiates organizations that have implemented the standard. Previous research has shown that high levels of ISO 9001 internalization have a positive influence on firm operational and financial performance (Naveh & Marcus, 2004). Briscoe et al. (2005) claim that the process of ISO 9001 internalization is dependent on the success in establishing a quality culture within the organization which should in turn shape the way of analyzing and solving problems within the organization in a better way, fostering and helping firm performance as well. ISO 9001 internalization is especially relevant in the context of SSIs. The fact that ISO 9001 implementation is a significant strain on firm resources should motivate SSIs to try and make the most of it, not only in terms of external recognition, but better operational, market and financial performance as well. Sfreddo et al. (2021) state that this can be more easily achieved in SSIs compared to large organizations due to their flexible and shallow organizational structure and better two-way communication between employees and the management. It is also possible that different requirements related to ISO 9001 implementation can affect firm performance in a different way. The ISO 9001 standard is based on seven distinct principles: Engagement of people, Customer focus, Leadership, Process approach, Improvement, Evidence-based decision making, Relationship management (ISO, 2015). These principles can be divided into hard and soft principles. Hard principles are related to the technological base of an organization while soft principles have a stronger relationship with the social system of an organization (Zeng et al., 2017). Hard ISO 9001 principles provide a technical structure that enables the implementation of firm strategy and effective process management, which will in turn help employee productivity (Calvo Mora et al., 2013). Soft ISO 9001 principles on the other hand provide a framework for employee motivation and higher level of involvement. People engagement, customer focus and leadership are often viewed as soft ISO 9001 principles, with process approach and evidence based decision making being hard principles. On the other hand, relationship management and relationship management have traits of both hard and soft ISO 9001 principles. Quality management systems are designed in such a way that they help optimize business processes, i.e. they are focused on hard quality principles. However, there is a strong relationship between hard and soft quality principles, and fostering a focus on both is a prerequisite for achieving desired outcomes of ISO 9001 implementation (Rahman & Bullock, 2005).

## CONCLUSION

ISO 9001 has been present for more than three and a half decades. Over this period, it has grown into one of the most internationally recognized quality management systems. The popularity of the standard does not seem to wane as it enters

new markets and more organizations around the world adopt it every year. Revisions of the standard have made sure that it passes the test of time and adapts to key changes in global markets. However, some questions regarding the relationship between ISO 9001 and SSIs remain unanswered.

This paper aimed to analyze the key determinants of ISO 9001 implementation as well as the ways ISO 9001 can affect SSI performance. Institutional pressure played a key role in the spread of ISO 9001 implementation in SSIs. Many large firms demanded their SSI business partners to become ISO 9001 certified as a prerequisite for collaboration. On the other hand, SSIs that were not obliged to implement the standard, viewed it as a potential tool for achieving competitive advantage and boosting their public image. SSIs were also internally motivated for ISO 9001 implementation, viewing it as a tool for increasing business process efficiency, delivering the promised quality outcomes, decreasing waste and achieving continuous improvement.

Organizational resources are the key obstacle to ISO 9001 implementation in SSIs. The process of implementation requires financial resources, time and significant efforts in employee training in order for it to be successful. Shallow hierarchy and flexible structure on the other hand can help SSIs to implement ISO 9001 in a better way due to better communication and faster decision-making process compared to large organizations.

ISO 9001 can affect SSI operational, market and financial performance. However, the way in which this happens is still unclear. Studies have shown the existence of a positive, neutral or negative relationship between ISO 9001 implementation and firm performance. ISO 9001 certification in itself is just the first step towards improving organizational performance. The obtaining of the certificate signifies that management of an organization is familiar with key requirements and principles of ISO 9001. On the other hand, the degree in which SSIs have successfully translated explicit and implicit information contained in the ISO 9001 standard into everyday organizational practices, i.e. internalization, can be used as a predictor of the way in which ISO 9001 will affect firm performance. Research has shown that ISO 9001 can help firms formalize internal business processes and measure key indicators related to quality therefore affecting operational performance. Current research has shown that the effect of ISO 9001 on market and financial performance of SSIs is indirect and dependent on the improvement of operational performance.

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