

QUALITY PAPER

The role of quality management systems in fostering the international competitiveness of companies

Role of
certifications in
competitiveness

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Abstract

Purpose – There is a strong consensus among scholars that the international competitiveness of companies strongly depends on the support of institutions, which reduces uncertainty in transactions by giving form to economic interactions, while less attention was paid to the role of international standards within this context. This study intends to propose its contribution by deepening the role of process certifications in the competitiveness and internationalization strategies of companies, with specific reference to the wood-furniture sector.

Design/methodology/approach – Data were collected using a questionnaire survey distributed via computer-assisted web interviewing (CAWI) methodology and sent to a sample of 2,845 Italian companies which operate in the wood-furniture industry, using simple random sampling. Thanks to the survey administration, 228 companies participated to the survey.

Findings – The study shows that it is companies operating in international markets that define this tool as relevant; this underlines how certification is seen as a kind of business card for entering international markets. In this context, the role of business leadership emerges as fundamental in the practical definition of the objectives to be set by adopting a quality management systems and in the subsequent commitment to obtain them.

Originality/value – Up to now, the literature has taken these elements into analysis mainly considering the consumers' perspective. In sectors with a higher content of innovation, technology and design, such as the wood-furniture sector, the literature appears to be poor in terms of contributions.

Keywords Quality management systems, International standards, Internationalization strategies, Wood-furniture sector

Paper type Research paper

1. Introduction

In recent years, European economies have been experiencing a climate of persistent uncertainty, fueled by the succession of events such as Brexit, trade war between the United States, China and the European Union, Covid-19 pandemic, war in Ukraine, which is affecting forecasts and business expectations.

In this context, the progressive globalization of trade, the complexity of traded goods and services and the emergence of production processes organized along global value chains are requiring a growing capacity for coordination and cooperation even between independent companies (Ice, 2019). This has stimulated the adoption of internationally shared technical



and organizational standards, both to ensure compatibility between products and processes in the production chains of companies and global buyers, and to ensure the characteristics of goods and services expected by the market (Silva *et al.*, 2016; López-Rodríguez *et al.*, 2018; Nisie and Soriani, 2020).

The actual ability of the standards to instill confidence in the markets is guaranteed by the conformity assessments (certifications, inspections, laboratory tests and calibration of measuring instruments) issued by subjects whose impartiality, independence and technical competence must be indisputable and recognized, through the accreditation of certification bodies and laboratories by a National Accreditation Body appointed by each European member state (in Italy, this Body, born in 2009 from the merger of the National Laboratory Accreditation System or SINAL, and the National Accreditation System of the Certification Bodies or SINCERT, is Accredia), which guarantees these characteristics, making the certifications and laboratory tests credible signals at the national and international levels (www.accredia.it).

As regards business processes, the certification of quality management system (QMS), which affects multiple aspects of business activities, from the quality of processes (ISO 9001), the environmental impact (ISO 14001 and EMAS III), health and worker safety (ISO 45001) to corporate social responsibility (SA 8000), represents a tool for monitoring the correctness of all phases of the value chain in which the company is inserted (Murmura *et al.*, 2017, 2018; Santos *et al.*, 2018; Bravi *et al.*, 2019, 2020).

In general, all management systems describe the procedures that a company must follow to ensure a constant quality of its processes in the various areas of application. In this way, the ability, or the technical competence, to produce goods and services corresponding to the expected characteristics is certified (Murmura and Bravi 2018).

The most up-to-date data on system certifications and international competitiveness of companies, according to the Istat Report on the Competitiveness of Production Sectors of 2020 (Nisi and Soriani, 2020), show that in 2019, the exporting companies with an accredited certification for management systems were 19,677, equal to 16.0% of the total. These corresponded to a total export value of 238.9 billion euros (equal to 54.1% of the total) and just about 2 million employees (equal to 49.6%). Although, in absolute terms, certified exporting small and medium-sized enterprises are the majority, recourse to certification is more frequent in large enterprises and involves 57.2% of exporters with at least 500 employees, and in particular those that export to a greater extent (certified companies with at least 500 employees account for over 70% of exports for the size class).

Certification is seen as a tool that indicates the reliability of the company's management system, reducing its transaction costs and acting as a surrogate institution, putting companies on an equal footing in terms of managerial practices, commercial language and resolution procedures of conflicts, thus reducing the institutional distance between them (Goedhuys and Sleuwaegen, 2016).

Up to now the literature has taken these elements into analysis mainly considering the consumers' perspective (Bursi *et al.*, 2012; Wang *et al.*, 2018, 2020; Wu *et al.*, 2021), but numerous studies have also been conducted with reference both to relationships between companies (Cedrola and Battaglia, 2012; Matarazzo *et al.*, 2018) and to specific sectors (Bertoli, 2013; Aiello *et al.*, 2015). Particularly rich is the literature concerning food products. In these cases, the extent to which the consumer's choice is influenced by the certifications attesting to the compliance with certain quality standards, by the labels and by the country-of-origin effect, depends on the environmental attention of the consumer, on his trust in the countries as producers and on ethnocentrism (Xie *et al.*, 2016; Hinkes and Schulze-Ehlers, 2018; Thøgersen *et al.*, 2019; Savelli *et al.*, 2020).

In sectors with a higher content of innovation, technology and design, such as the wood-furniture sector, the literature appears to be poor in contributions about this topic. Within

the furniture sector, companies are required to be able to respond effectively to the growing demand for new solutions – also in relation to the changes that are taking place following the Covid-19 pandemic – which integrate design, sustainability and technology to adapt domestic spaces to the new needs for multifunctionality (from smart working to distance learning) and to enhance outdoor spaces as well. Companies already do this, showing a mature approach to sustainability and design, obviously made of materials (certified, recycled, recyclable), but also of increasingly efficient and sustainable production processes (Green Italy, 2020).

In general, there is a strong consensus among scholars that the international competitiveness of companies strongly depends on the support of institutions (Peng and Meyer, 2011), which define the “rules of the game” and reduce uncertainty in transactions (North, 1991). Less attention was paid to the role of international standards within this context. As the development of international standards has become increasingly important in the last decades of globalization and the adoption of these standards by companies has steadily increased (ISO, 2014; Goedhuys and Sleuwaegen, 2016), it is important to investigate these relationships.

Based on these reflections, the study intends to propose its contribution to fill the gap highlighted by deepening the role of process certifications in the competitiveness of companies and their internationalization strategies, with specific reference to the wood-furniture sector, as a sector that reflects not only the traditional elements of the “made in”, that is aesthetics, design, beauty, but also those more linked to technologies and materials.

Therefore, the research questions that the paper investigates are the following:

- RQ1. Which are the main motivations of Italian companies in the wood-furniture sector for implementing a QMS, and which are the main benefits and barriers deriving from its adoption?
- RQ2. To what extent are Italian companies in the wood-furniture sector using QMS to develop their international market development strategies?
- RQ3. What elements deriving from the adoption of a QMS are relevant for contributing to businesses’ internationalization strategies of Italian companies in the wood-furniture sector?

The paper is structured as follows: section 2 describes the theoretical background concerning the role of certification in the internationalization strategies of companies; section 3 describes the methodology used for the research; section 4 presents the results, while section 5 discusses them, presents theoretical and practical implications and draws the conclusions, underling the main limitations of the study.

2. Theoretical background

The speed with which today’s markets change has made it impossible for companies to ignore the concept of quality. Globalization, technological progress and increasing environmental and social concerns have resulted in strong pressures for organizations (Abdi *et al.*, 2008; Mokhtar *et al.*, 2013; Pacheco *et al.*, 2022), affecting their growth and survival in the market. As stated by Endo (2020, p. 2), “business is characterized by relentless change. Staying ahead of the competition, keeping up with technology and meeting customers’ needs requires the agility and ability to evolve in real time. In order to face up to a rapidly evolving world, you need to have a system in place to adapt with the changes.” In this perspective, the QMS becomes a key element in adapting to the complexity and changes in the market, configuring itself as an important source of competitive advantage and a fundamental strategic planning

tool for companies (Mokhtar *et al.*, 2013; Conde *et al.*, 2013; Giacomarra *et al.*, 2016). According to López-Rodríguez *et al.* (2018), QMSs are primarily responsible for the effectiveness and efficiency of business processes and activities to ensure the quality of products or services, as well as the satisfaction of customer requirements. Indeed, it is widely accepted in the literature that the adoption of a QMS can contribute to a reduction in costs and an increase in productivity through a clear identification of processes, activities, responsibilities and control within the organization.

To date, the possess of a certified QMS has taken on crucial importance to ensure the competitiveness of companies in both national and international markets. Through its important functions of quality signaling, definition of a common procedural language and conflict resolution, certification enables organizations to reduce transaction costs, overcome the liability of foreignness and shorten possible spatial, linguistic and cultural barriers (Liu and Xie, 2020; Pacheco *et al.*, 2022), as well as to demonstrate the reliability of the processes performed and the products or services offered. In this sense, the certification of international standards should be seen as a decentralized institution that allows companies to communicate qualitative performance that is not directly observable (Terlaak and King, 2006; Potoski and Prakash, 2009; Goedhuys and Sleuwaegen, 2016), overcoming the information asymmetries typical of business relationships.

Certification, indeed, conveys consistent and reliable information to buyers, end-consumers or other companies about the characteristics and quality of the production process, facilitating the conclusion of transactions or the establishment of buyer-seller relationships between companies (Terlaak and King, 2006). This becomes particularly important in international scenarios, which present even more complex information problems than national ones (Leonidou and Theodosiou, 2004). Although these standards are voluntarily implemented by organizations, their ability to instill confidence in the markets is guaranteed by the regular audits carried out by an accredited certification body, which provides a certificate of conformity if the requirements have been met. By obtaining international certification standards, companies become able to show their commitment to quality and strengthen their reputation (Wu and Jang, 2014), positively influencing different stakeholders and laying the foundation for gaining a solid and long-term competitive advantage.

It is therefore evident that the QMS, if understood, accepted and implemented correctly, offers important benefits for organizations (Bravi *et al.*, 2019; Santos *et al.*, 2019). These benefits appear to be closely linked to the reasons why the organization adheres to the certification standards. When companies are certified on the basis of internal motivations such as improvements in organizational processes, implementation of operations and human resource management, the resulting benefits are both internal and external (Chatzoglou *et al.*, 2015; Willar *et al.*, 2015; del Castillo-Peces *et al.*, 2018). Conversely, when companies are certified on the basis of external motivations such as market access, pressure from competitors, financial improvements and customer satisfaction, the positive effects achieved are predominantly external (Tari *et al.*, 2013). Several studies have also highlighted the difficulties that can act as inhibitors to the implementation and certification of a QMS. Among these barriers, the main ones are changes in corporate culture, lack of financial and human resources, lack of specific skills and knowledge, commitment and support from top management and resistance to change (Mosadeghrad, 2014; Talib and Rahman, 2015; Zgodavova *et al.*, 2017). Other important obstacles are high implementation and maintenance costs, bureaucratic management of the standard, lack of training, communication and coordination (Martínez-Costa and Martínez-Lorente, 2007; Rebelo *et al.*, 2015; Talib and Rahman, 2015). Some scholars have also identified a further barrier, namely the perception of certification, as a necessary requirement to cope with stakeholder pressures and market demands rather than something voluntarily adopted to

improve corporate operational and management performance (Zeng *et al.*, 2007; Pacheco *et al.*, 2022). Table 1 summarizes the findings in literature considering the main motivations, benefits and barriers of QMS standards adoption by companies.

Within this framework, a positive relationship between the adoption of a certified QMS and the internationalization processes of companies could be easily expected. Entering international markets is a high-risk decision involving sunk costs, revenue volatility determined by exchange rate movements, limited information, language and cultural barriers (Helpman *et al.*, 2008; Goedhuys and Sleuwaegen, 2016). International certification standards allow organizations to address this uncertainty by providing identifiable and globally recognized references on product quality, reliability and proper business management (Cao and Prakash, 2011). Nevertheless, studies investigating the link between certification and internationalization are recent and limited, focusing primarily on the effects on trade stemming from the adoption of a certified QMS (Li *et al.*, 2017; Ikram *et al.*, 2020; Du and Li, 2020).

In this sense, the present study intends to offer a different perspective to the existing literature, focusing on the role of certification as a promoter of the internationalization process of companies, through a detailed analysis of certification elements on which management should focus so that this tool could be effectively used to facilitate the internationalization path of companies.

In sectors with a higher content of innovation, technology and design, such as the wood-furniture sector, the literature appears to be lacking in contributions. As a result of the growing demand for new solutions also in relation to the changes taking place following the Covid-19 pandemic, certifications have become even more fundamental for effectively meeting these needs among furniture companies. Furthermore, given the significant propulsion of these companies toward internationalization (Pegan and De Luca, 2014) as well as innovation, it could be extremely interesting to investigate the link between certified QMS and internationalization in this sector.

3. Methodology

3.1 Data collection

Data were collected using a questionnaire survey distributed via computer-assisted web interviewing (CAWI) methodology and sent to a sample of 2,845 Italian companies which operate in the wood-furniture industry, using simple random sampling. The data set of companies has been retrieved from the Customer Relationship Management software of Cosmob Laboratory, an Italian accredited laboratory for the wood-furniture sector.

The survey began on 8 November 2021, and answers were accepted until 7 December 2021. The administration of the survey took place by e-mail using a two-step administration – that is, after the first submission, it has been sent again, asking those companies who did not answer to it yet, the possibility to participate. It has been asked that the questionnaire would be answered by the quality manager or the export manager of the company, or by someone who is more knowledgeable with respect to quality standard and internationalization strategies of the company. Thanks to the double administration, 228 companies participated to the survey.

The questionnaire has been structured in 3 sections. Section one depicts the profile of respondent companies. Section two defines the business level of internationalization in terms of foreign markets of the interviewed companies, the weight of exports in their income and the possession of business certifications. Section three analyzes the main motivations that led companies to the certification process, the main benefits and barriers to certification and companies' perception of the usefulness of standards in their internationalization strategies.

Motivations

Improvement of the corporate image	Wu and Jang (2014)
Achievement of internal organizational improvements	López-Rodríguez <i>et al.</i> (2018)
Improvement of environmental protection	Bravi <i>et al.</i> (2020)
Compliance with legislation	Tarì <i>et al.</i> (2013)
Maintaining market competitiveness	Terlaak and King (2006), Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Company policy transparency	Chatzoglou <i>et al.</i> (2015), Willar <i>et al.</i> (2015), del Castillo-Peces <i>et al.</i> (2018)
Access to international markets	Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Improvement of relations with customers and suppliers	Terlaak and King (2006), Potoski and Prakash (2009), Goedhuys and Sleuwaegen (2016), Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Guarantee of compliance with high standards by suppliers	Terlaak and King (2006)
Use of certification as a marketing tool	Terlaak and King (2006), Wu and Jang (2014)
Market pressures	Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Positive aspects detected by companies already certified	Tarì <i>et al.</i> (2013)
Improvement of relations with government authorities	Tarì <i>et al.</i> (2013)
Creation of new partnerships	Terlaak and King (2006)
Financial benefits	López-Rodríguez <i>et al.</i> (2018)
<i>Benefits</i>	
Improvement of corporate image and reputation	Wu and Jang (2014), Bravi <i>et al.</i> (2019), Santos <i>et al.</i> (2019)
Greater awareness of business possibilities (in terms of continual improvement)	López-Rodríguez <i>et al.</i> (2018)
Increase in the efficiency of business processes	López-Rodríguez <i>et al.</i> (2018), Bravi <i>et al.</i> (2019), Santos <i>et al.</i> (2019)
Greater customer satisfaction	Terlaak and King (2006), Wu and Jang (2014), Bravi <i>et al.</i> (2019), Santos <i>et al.</i> (2019)
Greater compliance with legal requirements	Bravi <i>et al.</i> (2020)
Product defects reduction	López-Rodríguez <i>et al.</i> (2018)
Risk prevention	Bravi <i>et al.</i> (2020)
Complaint reduction	López-Rodríguez <i>et al.</i> (2018)
Improvement of corporate and employee awareness of environmental issues	Bravi <i>et al.</i> (2020)
Company's performance improvement	López-Rodríguez <i>et al.</i> (2018)
Creation of new objectives for the reduction of energy, waste and better efficiency	Bravi <i>et al.</i> (2020)
Improvement of internal communication	Chatzoglou <i>et al.</i> (2015), Willar <i>et al.</i> (2015), del Castillo-Peces <i>et al.</i> (2018)
Greater recognition of the company in European and international markets	Leonidou and Theodosiou (2004), Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Opening to European and international markets	Leonidou and Theodosiou (2004), Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Identification of pollution prevention opportunities	Bravi <i>et al.</i> (2020)
Improvement of the competitive advantage	Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
More growth opportunities	Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Increase in sales	López-Rodríguez <i>et al.</i> (2018)

Table 1.
Reference literature on main motivations, benefits and barriers of QMS standards implementation

(continued)

	References
Trade barriers reduction	Terlaak and King (2006), Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Greater dynamism and innovative capacity	López-Rodríguez <i>et al.</i> (2018)
Increased staff motivation	Chatzoglou <i>et al.</i> (2015), Willar <i>et al.</i> (2015), del Castillo-Peces <i>et al.</i> (2018), Bravi <i>et al.</i> (2019), Santos <i>et al.</i> (2019)
Increase in market share	Liu and Xie (2020), Pacheco <i>et al.</i> (2022)
Improved cooperation with the authorities	Tari <i>et al.</i> (2013), Bravi <i>et al.</i> (2020)
Financial advantages	López-Rodríguez <i>et al.</i> (2018)
<i>Barriers</i>	
Increase in bureaucratization	Martínez-Costa and Martínez-Lorente (2007), Rebelo <i>et al.</i> (2015), Talib and Rahman (2015)
Increase in complexity of corporate procedures	Martínez-Costa and Martínez-Lorente (2007), Rebelo <i>et al.</i> (2015), Talib and Rahman (2015)
Increase in business costs	Martínez-Costa and Martínez-Lorente (2007), Rebelo <i>et al.</i> (2015), Talib and Rahman (2015)
Employee resistance to change	Mosadeghrad (2014), Talib and Rahman (2015), Zgodavova <i>et al.</i> (2017)
Implementing the standard does not translate into better performance	Zeng <i>et al.</i> (2007), Pacheco <i>et al.</i> (2022)
Difficulty of practical implementation of the standard	Mosadeghrad (2014), Talib and Rahman (2015), Zgodavova <i>et al.</i> (2017)
Excessive use of resources to keep standards active	Martínez-Costa and Martínez-Lorente (2007), Rebelo <i>et al.</i> (2015), Talib and Rahman (2015)
Less control of company procedures	Zgodavova <i>et al.</i> (2017)
Poor acceptance by international market	Zgodavova <i>et al.</i> (2017)
Source(s): Author's own work	

Table 1.

Questionnaire items were developed after a careful literature review analysis, summarized in Table 1 together with their reference literature.

In order to validate the questionnaire structure, it has been pretested on a pilot sample, conducted to learn of any discrepancies within the questions, which included determining whether the format of the questionnaire and questions were suitable. The pilot test has also been relevant to establish the time duration for completing the questionnaire. The pilot questionnaire was delivered via weblink to Cosmob Laboratory, which was the company partner to this study, and other 4 wood-furniture companies directly contacted by the laboratory. A total of 5 selected participants were obtained; most of them reported that the questionnaire was easily understandable and required 7–8 min for completing it. Only minor changes to the final design of the instrument were undertaken based upon the received feedback. Subsequently, the final version of the questionnaire was sent to the whole sample of Italian wood-furniture companies.

3.2 Data analysis

The aim of the research was to develop an exploratory analysis (Malhotra and Grover, 1998) in order to evaluate the role of QMS implementation in the internationalization process of companies.

A descriptive analysis was developed to describe the profile of the wood-furniture companies that participated to the survey and the main motivations, benefits and barriers to QMS implementation. The questionnaire items related to motivation benefits and barriers to QMS implementation have been evaluated using a five-point Likert scale and were drawn from previous literature considering specific studies on the role of ISO 9001, ISO 14001 and SA800 in business performance (Murmura and Bravi, 2017; Murmura *et al.*, 2017, 2018; Santos *et al.*, 2018; Bravi *et al.*, 2020; Bravi and Murmura, 2022).

To test the reliability of the items, Cronbach's alpha values were computed, taking into account only values greater than 0.60 as suggested by [Nunnally and Bernstein \(1994\)](#).

Subsequently, a correspondence analysis was performed between companies' main reference markets and their perception of the relevance of QMS implementation in businesses' internationalization.

Correspondence analysis is a mapping tool, which can be used to provide visual relationships and differences in data. The primary objective of correspondence analysis is to portray data geometrically as a set of row and column points in a low-dimensional space. Data are then transformed into metric form, dimensionally reduced, and a perceptual map is produced in a similar fashion to multidimensional scaling, where the categories are represented in multidimensional space ([Yvi, 2001](#)).

Finally, a binary regression ([Hoetker, 2007](#)) was used to assess which elements (motivations, benefits and barriers) in the implementation of a QMS have been perceived by companies to significantly influence their internationalization process.

The binary regression equation used is the following.

$$\begin{aligned} \text{Pr}(\text{INT} = \text{yes}) \\ = \text{logit} (\beta_0 + \beta_1 \text{Motivation1} + \dots + \beta_{15} \text{Motivation 15} + \beta_{16} \text{Benefit1} + \dots \\ + \beta_{39} \text{Benefit24} + \beta_{40} \text{Barrier1} + \dots + \beta_{48} \text{Barrier9} + \varepsilon) \end{aligned} \quad (1)$$

Where:

- (1) INT (internationalization) is 1 if it was crucial for the company to obtain a certification in order to have access to the market(s) in which the company exports/sells its products.
- (2) β_1 motivation1– β_{15} motivation15 are the motivation for implementing QMS defined in [Table 4](#) and evaluated with a five-point Likert scale.
- (3) β_{16} benefit1– β_{39} benefit24 are the benefits derived from implementing QMS defined in [Table 5](#) and evaluated with a five-point Likert scale.
- (4) β_{40} barrier1– β_{48} barrier9 are the barriers derived from implementing QMS defined in [Table 6](#) and evaluated with a five-point Likert scale.

In data processing, SPSS 23.0 program, Statistical Package for Social Science, is used.

3.3 Non-response bias

In order to detect if there was a non-response bias derived from the survey administration, it has been verified that there were not significant differences among early and late respondents ([Armstrong and Overton, 1977](#)). For this reason, a set of tests were developed that compared answers during the first and the second administration of the questionnaire. All *t*-test comparisons showed insignificant differences ($p < 0.1$ level).

4. Results

4.1 Profile of respondent companies

Depicting the profile of respondent companies ([Table 2](#)), the majority of companies participating in the survey are of small (38.6%) and medium (37.7%) size, with a turnover between 2 and 50 million euros. The vast majority of companies operate in international markets (84.2%), and, on average, they have half of their turnover deriving from exports;

	<i>n</i>	%	Role of certifications in competitiveness
<i>Dimension</i>			
Micro (<10 employee)	15	6.6	
Small (10–49 employee)	88	38.6	
Medium (50–249 employee)	86	37.7	
Large (>250 employee)	39	17.1	
<i>Income</i>			
Less than 2 million euros	14	6.1	
2–10 million euros	83	36.4	
11–50 million euros	85	37.7	
More than 50 million euros	46	20.2	
<i>Reference markets</i>			
Italy	6	2.6	
Italy and Europe	30	13.2	
International markets	192	84.2	
<i>Years of certification</i>			
Mean	15.41		
S.D.	7.467		
<i>Price range</i>			
Low	0	0.0	
Lower-middle	7	3.1	
Medium	55	24.1	
Upper-middle	138	60.5	
High	28	12.3	
<i>Type of certification</i>			
ISO 9001	202	88.6	
ISO 14001	96	42.1	
ISO 45001	51	22.4	
SA8000	10	4.4	
EMAS	7	3.1	
Other (FSC . . .)	46	20.2	
<i>% of income derived from export</i>			
Mean	47.45		
S.D.	28.932		
Source(s): Author's own work			Table 2. Profile of respondent companies

most of them declare that they sell medium to high-end products. As for the main standards they are certified with, the vast majority has QMS and is ISO 9001 certified (88.6%), followed by those who have an environmental management system (ISO 14001, 42.1%) and a health and safety management system (ISO 45001, 22.4%). On average, the companies in the sample have been certified in mean for at least 15 years; these data indicate a good maturity in terms of the quality culture of the companies in the sector.

Considering the areas of specialization in the wood-furniture industry of companies, they mostly produce office furniture (16.2%), kitchen and domestic furniture (11.8% and 11.4%), accessories (11.0%) and semifinished products (10.1%) (see [Table 3](#)).

4.2 Motivation, benefits and barriers of QMS implementation

Subsequently the main motivations for implementing a QMS have been investigated ([Table 4](#)). External and internal motivations are both present; among the external most cited,

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	<i>n</i>	%
Accessorize	25	11.0
Furnishing for bars and shops	7	3.1
Classic furnishing	2	0.9
Outdoor furnishing	6	2.6
Bathroom furnishing	1	0.4
Bedroom furnishing	5	2.2
Collectivity	14	6.1
Kitchen furnishing	27	11.8
Domestic multiproducts	26	11.4
Upholstered furnishing	7	3.1
Mattresses	3	1.3
Panels	17	7.5
School furnishing	5	2.2
Semifinished products	23	10.1
Living room furnishing	4	1.8
Office furnishing	37	16.2
Other	19	8.3
<i>Total</i>	<i>228</i>	<i>100.0</i>

Table 3. Wood-furniture sectors of respondent companies
Source(s): Author's own work

Motivations	Total sample (n. 228; 100%)	
	Mean	SD
Improvement of the corporate image	4.10	0.957
Achievement of internal organizational improvements	3.86	1.115
Improvement of environmental protection	3.71	1.178
Compliance with legislation	3.69	1.196
Maintaining market competitiveness	3.65	1.145
Company policy transparency	3.57	1.164
Access to international markets	3.49	1.289
Improvement of relations with customers and suppliers	3.48	1.076
Guarantee of compliance with high standards by suppliers	3.46	1.063
Use of certification as a marketing tool	3.43	1.122
Market pressures	3.33	1.274
Positive aspects detected by companies already certified	3.01	1.187
Improvement of relations with government authorities	2.84	1.299
Creation of new partnerships	2.71	1.163
Financial benefits	2.46	1.170
<i>Cronbach's alpha</i>	<i>0.903</i>	

Table 4. Motivation for developing a quality management system
Source(s): Author's own work

there is the fact that the certification enables the improvement of corporate image (4.10), the improvement of environmental protection (3.71) and maintains market competitiveness (3.65), giving easier access to international markets (3.49). The internal motivations include the achievement of organizational improvements (3.86), the opportunity to be in compliance with legislation (3.69) and the possibility to have a policy of transparency (3.57).

Often the expectations that lead to the implementation of a QMS are met (Table 5). In fact, among the main benefits deriving from its implementation are an enhanced corporate image and reputation (3.92), greater awareness of business possibilities for internal improvements connected to continual improvement (3.78), increased business processes efficiency (3.66),

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Benefits	Total sample (n. 228; 100%)	
	Mean	SD
Improvement of corporate image and reputation	3.92	0.877
Greater awareness of business possibilities (in terms of continual improvement)	3.78	1.061
Increase in the efficiency of business processes	3.66	1.060
Greater customer satisfaction	3.50	0.982
Greater compliance with legal requirements	3.44	1.180
Product defects reduction	3.39	1.099
Risk prevention	3.39	1.154
Complaint reduction	3.34	1.113
Improvement of corporate and employee awareness of environmental issues	3.29	1.119
Company's performance improvement	3.28	1.050
Creation of new objectives for the reduction of energy, waste and better efficiency	3.28	1.169
Improvement of internal communication	3.27	1.081
Greater recognition of the company in European and international markets	3.27	1.240
Opening to European and international markets	3.21	1.212
Identification of pollution prevention opportunities	3.21	1.172
Improvement of the competitive advantage	3.19	1.076
More growth opportunities	3.09	1.155
Increase in sales	3.02	1.030
Trade barriers reduction	3.02	1.146
Greater dynamism and innovative capacity	2.94	1.113
Increased staff motivation	2.89	1.044
Increase in market share	2.80	1.104
Improved cooperation with the authorities	2.62	1.209
Financial advantages	2.37	1.089
<i>Cronbach's alpha</i>	<i>0.962</i>	

Table 5. Benefits deriving from the implementation of a quality management system

Source(s): Author's own work

greater customer satisfaction (3.50), greater recognition of the company in European and international markets (3.27) and opening to European and international markets (3.21). On the other side, certification did not result as a key factor for gaining financial advantages (2.37) or for an improved cooperation with authorities (2.62).

Evaluating the main barriers to the implementation of a QMS, companies do not identify high barriers to certification (Table 6), with values that slightly exceed the mean value of 3.5

Barriers	Total sample (n. 228; 100%)	
	Mean	SD
Increase in bureaucratization	3.56	0.930
Increase in complexity of corporate procedures	3.32	0.927
Increase in business costs	3.20	0.861
Employee resistance to change	2.90	1.161
Implementing the standard does not translate into better performance	2.86	0.951
Difficulty of practical implementation of the standard	2.86	0.909
Excessive use of resources to keep standards active	2.61	0.962
Less control of company procedures	2.19	0.919
Poor acceptance by international market	2.02	1.002
<i>Cronbach's alpha</i>	<i>0.806</i>	

Table 6. Barriers deriving from the implementation of a quality management system

Source(s): Author's own work

in a five-point Likert scale. The main difficulties concern the bureaucratization (3.56), the greater complexity of the procedures due to the need to implement a formalized system (3.32) and obviously the increase in company costs (3.20), primarily due to the costs incurred for the periodic audits of the system and subsequently to the use of greater human resources time for the internal development of the system itself. It is worth noting that the item related to a poor acceptance by international market received the lowest mean value (2.02).

4.3 The role of QMS in businesses' internationalization strategies

Focusing on the role of QMS in businesses' internationalization strategies, an analysis of the correspondences has been developed, taking into account, as variables, the main reference markets of the companies and their opinion on standard relevance in their internationalization strategies. As can be seen from Figure 1, as companies indicate that they have wider markets than the national one, the relevance of having a QMS as a tool to facilitate internationalization increases, with companies operating only in the Italian market deeming it irrelevant. It is indifferent to the majority of those operating in Italian and in European markets, while it becomes relevant for companies operating in international markets.

Subsequently a regression model was developed to assess which elements among the main motivations, benefits and barriers, in the implementation of a QMS, have been perceived by companies to significantly influence their internationalization process. The dependent variable is a binary variable that takes the value 1 if it was crucial for the company to obtain a certification in order to have access to the market(s) in which the company exports/sells its products, otherwise it is zero. The logistic model allows to predict how the main motivations, benefits and barriers to a QMS implementation influence the internationalization process of a company with a probability equal to 82.0% (Table 7). The Nagelkerke test shows the goodness of the model (Table 8).

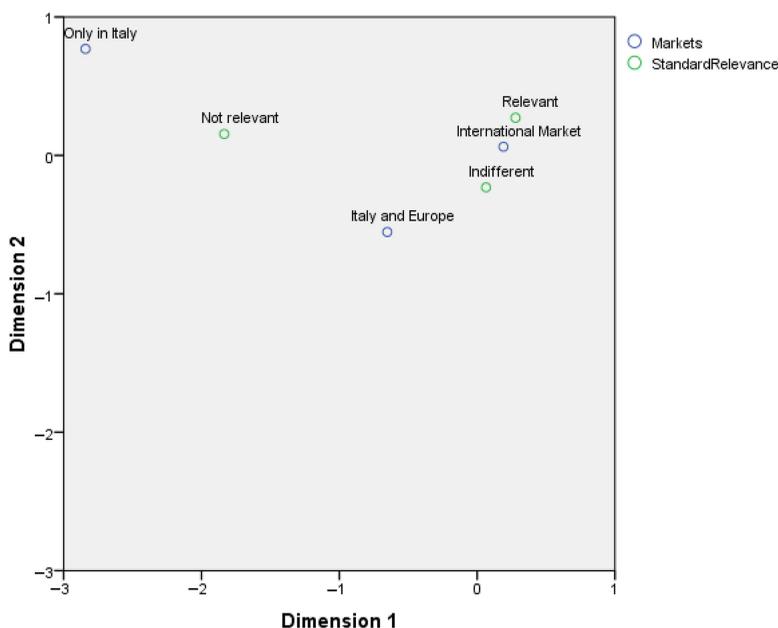


Figure 1. Correspondence analysis on the relevance of QMS implementation in businesses' internationalization and companies' main reference markets

Source(s): Author's own work

The significant motivations that contributed to companies' internationalization are five, four of which appear to have contributed positively, while one appears to have contributed negatively (Table 9). Among the motivations that contributed positively, there are the positive aspects detected by companies already certified, the improvement of environmental protection, the creation of new partnerships and the motivation to access international markets. The motivation that negatively impacts is the use of the certification as a marketing tool.

As for the benefits deriving from a QMS implementation that impact the internationalization process of companies, these are two: the benefit of having a greater compliance with legal requirements impacts positively, while the internal benefit of reducing product defects impacts negatively.

Finally, considering the barriers that impact the role of standards in the internationalization processes, three of them emerged as statistically significant: the fact that implementing the standard does not translate into better performance impacts positively on this process, while the increase in the complexity of corporate procedures and employee resistance to change impact negatively on this process.

5. Discussion, implications and conclusions

5.1 Discussion of results

This study aimed to analyze the role of process certifications in the internationalization strategies of companies, with specific reference to those in the wood-furniture sector. To this end, a quantitative analysis among 2,845 Italian companies of this sector has been developed.

Given the gap previously highlighted, this study attempts to theoretically contribute to the literature by analyzing which elements of the implementation of a QMS are necessary to focus on, so that they could be used as an effective tool to facilitate the international market development of wood-furniture companies. From a managerial perspective, the paper offers support on how to pursue quality policies according to international standards, in order to support foreign market access and improve performances.

The results of the study show a relationship between the motivations that lead companies to implement a QMS and the advantages obtained after its implementation (RQ1). This suggests

Observed	Predicted			Percentage correct
	Y_ posjudg			
	No	Yes		
Step 1 Y_ Contribution to the internationalization of the company	No 69	Yes 18		81.8
	Yes 27	107		82.4
Overall percentage				82.0

Note(s): •The cut value is, 400
Source(s): Author's own work

Table 7. The probability of QMS contribution to company internationalization based on motivations, perceived benefits and barriers

Phase	Logarithm of likelihood -2	Cox and snell R-square	Nagelkerke's R-square
1	163.710 ^a	0.466	0.630

Note(s): ^aEstimation ended on iteration number 7 because parameter estimates changed by less than 0.001
Source(s): Author's own work

Table 8. Nagelkerke test

	B	S.E.	Wald	gl	Sign	Exp(B)
Company size	0.382	0.301	1.604	1	0.205	1.465
<i>Motivations</i>	–	–	–	–	–	–
Market pressures	0.108	0.248	0.189	1	0.664	1.114
<i>Use of certification as a marketing tool</i>	–0.684	0.304	5.078	1	0.024**	0.505
Achievement of internal organizational improvements	–0.198	0.356	0.308	1	0.579	0.821
Maintaining market competitiveness	0.355	0.367	0.934	1	0.334	1.426
<i>Positive aspects detected by companies already certified</i>	0.577	0.257	5.036	1	0.025**	1.781
<i>Access to international markets</i>	0.611	0.326	3.508	1	0.061*	1.842
Improvement of relations with government authorities	0.311	0.327	0.907	1	0.341	1.365
Improvement of the corporate image	0.569	0.451	1.596	1	0.206	1.767
Company policy transparency	–0.476	0.380	1.566	1	0.211	0.621
<i>Creation of new partnerships</i>	0.603	0.327	3.395	1	0.065*	0.547
Improvement of relations with customers and suppliers	0.538	0.386	1.938	1	0.164	1.712
<i>Improvement of environmental protection</i>	0.745	0.352	4.480	1	0.034**	2.107
Compliance with legislation	–0.197	0.314	0.394	1	0.530	0.821
Financial benefits	0.059	0.355	0.027	1	0.869	1.061
Guarantee of compliance with high standards by suppliers	–0.074	0.323	0.053	1	0.818	0.928
<i>Benefits</i>	–	–	–	–	–	–
Greater customer satisfaction	0.355	0.488	0.529	1	0.467	1.426
Improvement of corporate image and reputation	0.136	0.536	0.065	1	0.799	1.146
Greater awareness of business possibilities (in terms of continuous improvement)	–0.419	0.471	0.793	1	0.373	0.657
Increase in the efficiency of business processes	0.261	0.428	0.370	1	0.543	1.298
Product defects reduction	–0.921	0.513	3.227	1	0.072*	0.398
Complaint reduction	0.775	0.534	2.108	1	0.147	2.170
Improvement of internal communication	–0.209	0.407	0.263	1	0.608	0.811
Increase in sales	0.188	0.424	0.197	1	0.657	1.207
Improvement of the competitive advantage	0.122	0.437	0.078	1	0.781	1.130
Increased staff motivation	0.045	0.398	0.013	1	0.910	1.046
Financial advantages	–0.078	0.413	0.036	1	0.850	0.925
Improved cooperation with the authorities	–0.026	0.386	0.005	1	0.946	0.974
Risk prevention	0.358	0.326	1.205	1	0.272	1.430
Trade barriers reduction	–0.069	0.411	0.028	1	0.866	0.933
Increase in market share	0.083	0.440	0.036	1	0.850	1.087
Company's performance Improvement	–0.506	0.420	1.446	1	0.229	0.603
Opening to European and international markets	0.613	0.504	1.481	1	0.224	1.847
Greater recognition of the company in European and international markets	0.570	0.546	1.091	1	0.296	1.769
Greater dynamism and innovative capacity	0.090	0.437	0.043	1	0.837	1.094
More growth opportunities	0.495	0.491	1.017	1	0.313	1.640
<i>Greater compliance with legal requirements</i>	0.789	0.354	4.965	1	0.026**	0.454
Creation of new objectives for the reduction of energy, waste and better efficiency	0.259	0.470	0.303	1	0.582	1.295
Identification of pollution prevention opportunities	–0.501	0.546	0.841	1	0.359	0.606
Improvement of corporate and employee awareness of environmental issues	–0.441	0.501	0.774	1	0.379	0.644
<i>Barriers</i>	–	–	–	–	–	–
<i>Implementing the standard does not translate into better performance</i>	0.732	0.307	5.698	1	0.017**	2.079
Increase in bureaucratization	–0.244	0.369	0.438	1	0.508	0.783
Increase in business costs	0.405	0.418	0.935	1	0.334	1.499
<i>Increase in complexity of corporate procedures</i>	–0.823	0.453	3.292	1	0.070*	0.439
Difficulty of practical implementation of the standard	–0.344	0.383	0.808	1	0.369	0.709

Table 9. Motivations, perceived benefits and barriers of QMS contributing to company internationalization

(continued)

	B	S.E.	Wald	gl	Sign	Exp(B)
<i>Employee resistance to change</i>	-0.599	0.248	5.857	1	0.016***	0.549
Less control of company procedures	0.404	0.336	1.450	1	0.229	1.498
Excessive use of resources to keep standards active	0.446	0.353	1.603	1	0.205	1.563
Poor acceptance by international market	-0.248	0.297	0.696	1	0.404	0.781
Constant	-7.957	2.107	14.266	1	0.000	0.000

Note(s): Italic values are those that are statistically significant. Significantly different average scores

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source(s): Author's own work

Table 9.

that a clearer awareness about the advantages achievable from a QMS in terms of international markets competitiveness can better address companies toward a more consistent and effective approach to the international development. Therefore, certifications allow companies to obtain valid advantages both in terms of corporate image to be utilized in foreign markets and within their own supply chain, and in terms of internal operational and managerial efficiency.

The main constraints on certification seem to be the greater bureaucratization of certification-related procedures and maintenance costs. However, they do not prevent even small and medium-sized companies such as those in the wood-furniture sector from approaching this tool. This is in line with previous literature defining international standards as efficient tools to achieve internal and external improvements for businesses (Wu and Jang, 2014; Talib and Rahman, 2015; Bravi *et al.*, 2019; Santos *et al.*, 2019).

As regards the extent to which Italian companies are now using QMS as a tool to support their international market development (RQ2), the study shows that it is above all companies operating internationally that recognize the relevance of certifications, since they consider them as a kind of visiting card for entering international markets. Indeed, certifications result less relevant for companies operating in national/local markets, where relationships take place through other methods, such as positive word-of-mouth or direct knowledge of the company itself as it is part of a better-known business environment (Parrilli *et al.*, 2013).

Answering to RQ3, the results show that companies motivated to use QMS with the aim of accessing international markets and creating new partnerships can more frequently achieve the desired goal. Again, similarly to what emerged about RQ1, if a company implements the certification with a clearer market-addressed purpose, the effectiveness of approaching foreign markets can be enhanced. In this context, the role of the business strategy emerges as fundamental in the concrete definition of the objectives to be set by adopting QMS and in the subsequent commitment to obtain them. In fact, the results show that adopting a certification just to improve the company image, but without really adopting the related cultural approach for effectively following the principles indicated by the standard, is not sufficient for obtaining a concrete advantage in developing international markets. This is in contrast with what has been defined by Wu and Jang (2014), who found how the certification could enhance company's brand image influencing positive attitudes from all its stakeholders. In the international context, using a certification just as a window-dressing tool does not seem to produce positive effects, being necessarily a comprehensive adoption of all the principles (technical, organizational, relational, cultural) related to a certified standard.

Approaching certification with the aim of improving environmental aspects is also an effective element of internationalization, as it allows the company to be in line with the environmental regulations required at European and international levels and thus increasing its competitiveness. Indeed, attention to the environment and sustainability is an issue increasingly taken into consideration as a crucial element for access to global supply chains (Koberg and Longoni, 2019).

5.2 Practical implications

Therefore, from a managerial point of view, it is essential to integrate the economic and profit-oriented perspective with an increasing environmental and social awareness; in this sense, the adoption of QMS that integrates aspects of quality, environment, ethics and safety is essential to ensure the competitiveness of companies. This had already been highlighted by previous study of [Ikram et al. \(2019\)](#), but without highlighting the weight of this integrated approach for the company's entry into foreign markets.

Furthermore, the results show that the vision assumed in the adoption of certifications can differently impact internal and external objectives. That is, if a company approaches the certification having external motivations and focuses on achieving improvements related to the external environment (included market), the benefits will be mostly limited to such external aspects like image and potential partnerships. On the other hand, if a company focuses on internal improvements related to business processes, the external benefits will be less present, despite efficiency, and therefore competitiveness will be improved. This means that a different (and unbalanced) focus between internal and external objectives, and related commitment, strongly affect the opportunity to fully exploit the benefits of certifications. In fact, from the regression model, it emerges that the benefit of reducing product defects, thanks to the certification, has a negative impact on the company internationalization process, if a similar approach is not followed as regards the external context. This indicates that companies using certifications just for internal purpose do not pay adequate energies to the opportunities related to the international market development. This result, specifically set within an internationalization strategy, contrasts with what was previously highlighted by [Chatzoglou et al. \(2015\)](#), [Willar et al. \(2015\)](#) and [del Castillo-Peces et al. \(2018\)](#), who found that, when companies are certified on the basis of internal motivations, the resulting benefits are both internal and external.

The result of this study is also demonstrated by considering the barriers to the certification. In fact, the model shows how the excessive complexity of the procedures and also the resistance to changes of the personnel involved involve a great effort from the company to carry out the certification. In most cases, the focus limited to the single functions (production, supply chain, above all), without considering the benefits for the entire value chain as a whole, hinders the opportunity to assess the benefits of QMS for all the fields of adoption, reducing the efforts toward areas of improvement that are not part of the single function.

Therefore, setting a comprehensive strategy in the light of which the impact of certifications can be properly assessed is a key perspective for ensuring both internal and external benefits to the company, as previous literature already highlighted ([Liu and Xie, 2020](#); [Pacheco et al., 2022](#)).

5.3 Limitations and future research directions

The main limitations of the study are the following. Firstly, the study focused only in Italy and on a specific sector, the wood-furniture industry. There is a need to widen the research to other European countries and also to other sectors, in order to compare the Italian context with other ones, and to evaluate similarities and differences that can result in the internationalization processes of companies, depending on the countries they belong to and the sectors. Secondly, the research developed was not able to investigate further reasons that drive companies to obtain a certification in order to have access to international markets. Therefore, it would be relevant for future studies to mix quantitative with qualitative research in order to grasp qualitative elements that contribute to the choice of obtaining a certification as a tool for internationalization.

References

- Abdi, S.N., Awan, H.M. and Bhatti, M.I. (2008), "Is quality management a prime requisite for globalization? Some facts from the sports industry", *Quality and Quantity*, Vol. 42 No. 6, pp. 821-833, doi: [10.1007/s11135-007-9135-x](https://doi.org/10.1007/s11135-007-9135-x).
- Aiello, G., Donvito, R., Grazzini, L., Halliburton, C., Wagner, B., Wilson, J., Pederzoli, D. and Shokola, I. (2015), "An international comparison of 'Made in Italy' in the fashion, furniture and food sectors: an observational research study in France, Russia and the United Kingdom", *Journal of Global Fashion Marketing*, Vol. 6 No. 2, pp. 136-149, doi: [10.1080/20932685.2015.984822](https://doi.org/10.1080/20932685.2015.984822).
- Armstrong, J.S. and Overton, T.S. (1977), "Estimating nonresponse bias in mail surveys", *Journal of Marketing Research*, Vol. 14 No. 3, pp. 396-402, doi: [10.2307/3150783](https://doi.org/10.2307/3150783).
- Bertoli, G. (2013), *International Marketing and the Country-Of-Origin Effect: The Global Impact of Made in Italy*, Edward Elgar Publishing, Northampton, MA.
- Bravi, L. and Murmura, F. (2022), "Evidences about ISO 9001: 2015 and ISO 9004: 2018 implementation in different-size organisations", *Total Quality Management and Business Excellence*, Vol. 33 Nos 11-12, pp. 1366-1386, doi: [10.1080/14783363.2021.1954900](https://doi.org/10.1080/14783363.2021.1954900).
- Bravi, L., Murmura, F. and Santos, G. (2019), "The ISO 9001:2015 quality management system standard: companies' drivers, benefits and barriers to its implementation", *Quality Innovation Prosperity/Kvalita Inovacia Prosperita*, Vol. 23 No. 2, pp. 64-82, doi: [10.12776/qip.v23i2.1277](https://doi.org/10.12776/qip.v23i2.1277).
- Bravi, L., Santos, G., Pagano, A. and Murmura, F. (2020), "Environmental management system according to ISO 14001: 2015 as a driver to sustainable development", *Corporate Social Responsibility and Environmental Management*, Vol. 27 No. 6, pp. 2599-2614, doi: [10.1002/csr.1985](https://doi.org/10.1002/csr.1985).
- Bursi, T., Balboni, B., Grappi, S., Martinelli, E. and Vignola, M. (2012), "Italy's country image and the role of ethnocentrism in Spanish and Chinese consumers' perceptions", in e Resciniti, B. (Ed.), *International Marketing and the Country of Origin Effect. The Global Impact of 'Made in Italy*, Edward Elgar, Cheltenham, UK.
- Cao, X. and Prakash, A. (2011), "Growing exports by signaling product quality: trade competition and the cross-national diffusion of ISO 9000 quality standards", *Journal of Policy Analysis and Management*, Vol. 30 No. 1, pp. 111-135, doi: [10.1002/pam.20546](https://doi.org/10.1002/pam.20546).
- Cedrola, E. and Battaglia, L. (2012), "Italian country image: the impact on business models and relations in Chinese business-to-business markets", in e Resciniti, B. (Ed.), *International Marketing and the Country of Origin Effect. The Global Impact of 'Made in Italy*, Edward Elgar, Cheltenham, UK.
- Chatzoglou, P., Chatzoudes, D. and Kipraios, N. (2015), "The impact of ISO 9000 certification on firms' financial performance", *International Journal of Operations and Production Management*, Vol. 35 No. 1, pp. 145-174, doi: [10.1108/ijopm-07-2012-0387](https://doi.org/10.1108/ijopm-07-2012-0387).
- Conde, J.G., Sampedro, E.L.V., Feliu, V.R. and Sánchez, M.B.G. (2013), "Management control systems and ISO certification as resources to enhance internationalization and their effect on organizational performance", *Agribusiness*, Vol. 29 No. 3, pp. 392-405, doi: [10.1002/agr.21300](https://doi.org/10.1002/agr.21300).
- del Castillo-Peces, C., Mercado-Idoeta, C., Prado-Roman, M. and del Castillo-Feito, C. (2018), "The influence of motivations and other factors on the results of implementing ISO 9001 standards", *European Research on Management and Business Economics*, Vol. 24 No. 1, pp. 33-41, doi: [10.1016/j.jedeen.2017.02.002](https://doi.org/10.1016/j.jedeen.2017.02.002).
- Du, W. and Li, M. (2020), "Influence of environmental regulation on promoting the low-carbon transformation of China's foreign trade: based on the dual margin of export enterprise", *Journal of Cleaner Production*, Vol. 244, 118687, doi: [10.1016/j.jclepro.2019.118687](https://doi.org/10.1016/j.jclepro.2019.118687).
- Endo, N. (2020), "Bringing business an ultimate benefits", *ISOfocus*, Vol. 139, pp. 2-3.

-
- Giacomarra, M., Galati, A., Crescimanno, M. and Tinervia, S. (2016), "The integration of quality and safety concerns in the wine industry: the role of third-party voluntary certifications", *Journal of Cleaner Production*, Vol. 112 No. 1, pp. 267-274, doi: [10.1016/j.jclepro.2015.09.026](https://doi.org/10.1016/j.jclepro.2015.09.026).
- Goedhuys, M. and Sleuwaegen, L. (2016), "International standards certification, institutional voids and exports from developing country firms", *International Business Review*, Vol. 25 No. 6, pp. 1344-1355, doi: [10.1016/j.ibusrev.2016.04.006](https://doi.org/10.1016/j.ibusrev.2016.04.006).
- Green Italy (2020), "Un'economia a misura d'uomo per affrontare il futuro. I quaderni di symbola [An economy on a human scale to face the future. Symbola's notebooks]", available at: <https://www.symbola.net/ricerca/greenitaly-2020/> (accessed 18 January 2022).
- Helpman, E., Melitz, M. and Rubinstein, Y. (2008), "Estimating trade flows: trading partners and trading volumes", *The Quarterly Journal of Economics*, Vol. 123 No. 2, pp. 441-487, doi: [10.1162/qjec.2008.123.2.441](https://doi.org/10.1162/qjec.2008.123.2.441).
- Hinkes, C. and Schulze-Ehlers, B. (2018), "Consumer attitudes and preferences towards pangasius and tilapia: the role of sustainability certification and the country of origin", *Appetite*, Vol. 127, pp. 171-181, doi: [10.1016/j.appet.2018.05.001](https://doi.org/10.1016/j.appet.2018.05.001).
- Hoetker, G. (2007), "The use of logit and probit models in strategic management research: critical issues", *Strategic Management Journal*, Vol. 28 No. 4, pp. 331-343, doi: [10.1002/smj.582](https://doi.org/10.1002/smj.582).
- Ice (2019), "L'Italia nell'economia internazionale", Rapporto 2018-2019, luglio [Italy in the international economy. Report 2018-2019, July], available at: https://www.ice.it/it/sites/default/files/inline-files/Rapporto%20ICE%202018-2019_completo%20per%20web_1.pdf (accessed 9 September 2022).
- Ikram, M., Zhou, P., Shah, S.A.A. and Liu, G.Q. (2019), "Do environmental management systems help improve corporate sustainable development? Evidence from manufacturing companies in Pakistan", *Journal of Cleaner Production*, Vol. 226, pp. 628-641, doi: [10.1016/j.jclepro.2019.03.265](https://doi.org/10.1016/j.jclepro.2019.03.265).
- Ikram, M., Sroufe, R., Rehman, E., Shah, S.Z.A. and Mahmoudi, A. (2020), "Do quality, environmental, and social (QES) certifications improve international trade? A comparative grey relation analysis of developing vs. developed countries", *Physica A: Statistical Mechanics and Its Applications*, Vol. 545, 123486, doi: [10.1016/j.physa.2019.123486](https://doi.org/10.1016/j.physa.2019.123486).
- ISO (2014), ISO Survey shows how management systems help tackle global challenges, available at: http://www.iso.org/iso/home/news_index/news_archive/news.htm?refid=Ref1893 (accessed 23 October 2022).
- Koberg, E. and Longoni, A. (2019), "A systematic review of sustainable supply chain management in global supply chains", *Journal of Cleaner Production*, Vol. 207, pp. 1084-1098, doi: [10.1016/j.jclepro.2018.10.033](https://doi.org/10.1016/j.jclepro.2018.10.033).
- Leonidou, L.C. and Theodosiou, M. (2004), "The export marketing information system: an integration of the extant knowledge", *Journal of World Business*, Vol. 39 No. 1, pp. 12-36, doi: [10.1016/j.jwb.2003.08.005](https://doi.org/10.1016/j.jwb.2003.08.005).
- Li, E.L., Zhou, L. and Wu, A. (2017), "The supply-side of environmental sustainability and export performance: the role of knowledge integration and international buyer involvement", *International Business Review*, Vol. 26 No. 4, pp. 724-735, doi: [10.1016/j.ibusrev.2017.01.002](https://doi.org/10.1016/j.ibusrev.2017.01.002).
- Liu, J. and Xie, J. (2020), "Environmental regulation, technological innovation, and export competitiveness: an empirical study based on China's manufacturing industry", *International Journal of Environmental Research and Public Health*, Vol. 17 No. 4, p. 1427, doi: [10.3390/ijerph17041427](https://doi.org/10.3390/ijerph17041427).
- López-Rodríguez, J., Dopico, D.C. and Puente, A.M.D.C. (2018), "Export performance in Spanish wineries: the role of human capital and quality management system", *European Journal of International Management*, Vol. 12 No. 3, pp. 311-333, doi: [10.1504/ejim.2018.10011273](https://doi.org/10.1504/ejim.2018.10011273).

- Malhotra, M.K. and Grover, V. (1998), "An assessment of survey research in POM: from constructs to theory", *Journal of Operations Management*, Vol. 16 No. 4, pp. 407-425, doi: [10.1016/s0272-6963\(98\)00021-7](https://doi.org/10.1016/s0272-6963(98)00021-7).
- Martínez-Costa, M. and Martínez-Lorente, A. (2007), "A triple analysis of ISO 9000 effects on company performance", *International Journal of Productivity and Performance Management*, Vol. 56 Nos 5/6, pp. 484-499, doi: [10.1108/17410400710757150](https://doi.org/10.1108/17410400710757150).
- Matarazzo, M., Lanzilli, G. and Resciniti, R. (2018), "Acquirer's corporate reputation in cross-border acquisitions: the moderating effect of country image", *Journal of Product and Brand Management*, Vol. 27 No. 7, pp. 858-870, doi: [10.1108/JPBM-10-2017-1640](https://doi.org/10.1108/JPBM-10-2017-1640).
- Mokhtar, S.S.M., Abdullah, N.A.H., Kardi, N. and Yacob, M.I. (2013), "Sustaining a quality management system: process, issues and challenges", *Business Strategy Series*, Vol. 14 No. 4, pp. 123-130, doi: [10.1108/bss-12-2011-0032](https://doi.org/10.1108/bss-12-2011-0032).
- Mosadeghrad, A.M. (2014), "Factors influencing healthcare service quality", *International Journal of Health Policy and Management*, Vol. 3 No. 2, pp. 77-89, doi: [10.15171/ijhpm.2014.65](https://doi.org/10.15171/ijhpm.2014.65).
- Murmura, F. and Bravi, L. (2017), "Empirical evidence about ISO 9001 and ISO 9004 in Italian companies", *The TQM Journal*, Vol. 29 No. 5, pp. 650-665, doi: [10.1108/tqm-11-2016-0097](https://doi.org/10.1108/tqm-11-2016-0097).
- Murmura, F., Bravi, L. and Palazzi, F. (2017), "Evaluating companies' commitment to corporate social responsibility: perceptions of the SA 8000 standard", *Journal of Cleaner Production*, Vol. 164, pp. 1406-1418, doi: [10.1016/j.jclepro.2017.07.073](https://doi.org/10.1016/j.jclepro.2017.07.073).
- Murmura, F., Liberatore, L., Bravi, L. and Casolani, N. (2018), "Evaluation of Italian companies' perception about ISO 14001 and Eco Management and Audit Scheme III: motivations, benefits and barriers", *Journal of Cleaner Production*, Vol. 174, pp. 691-700, doi: [10.1016/j.jclepro.2017.10.337](https://doi.org/10.1016/j.jclepro.2017.10.337).
- Murmura, F. and Bravi, L. (2018), "Exploring customers' perceptions about Quality Management Systems: an empirical study in Italy", *Total Quality Management and Business Excellence*, Vol. 29 Nos 11-12, pp. 1466-1481, doi: [10.1080/14783363.2016.1266246](https://doi.org/10.1080/14783363.2016.1266246).
- Nisi, A. and Soriani, L. (2020), "La certificazione accreditata dei sistemi di gestione come fattore competitivo delle imprese italiane esportatrici", in *Istat, Rapporto sulla competitività dei settori produttivi [Accredited certification of management systems as a competitive factor for Italian exporting companies. In Istat. Report on the competitiveness of the productive sectors]*, available at: <https://www.istat.it/it/archivio/240112> (accessed 10 August 2022).
- North, D.C. (1991), "Institutions", *Journal of Economic Perspectives*, Vol. 5 No. 1, pp. 97-112, doi: [10.1257/jep.5.1.97](https://doi.org/10.1257/jep.5.1.97).
- Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, McGraw-Hill Series in Psychology, Vol. 3, McGraw-Hill, New York.
- Pacheco, L., Lobo, C. and Maldonado, I. (2022), "Do ISO certifications enhance internationalization? The case of Portuguese industrial SMEs", *Sustainability*, Vol. 14 No. 3, p. 1335, doi: [10.3390/su14031335](https://doi.org/10.3390/su14031335).
- Parrilli, M.D., Nadvi, K. and Yeung, H.W.C. (2013), "Local and regional development in global value chains, production networks and innovation networks: a comparative review and the challenges for future research", *European Planning Studies*, Vol. 21 No. 7, pp. 967-988, doi: [10.1080/09654313.2013.733849](https://doi.org/10.1080/09654313.2013.733849).
- Pegan, G. and De Luca, P. (2014), "Innovation, internationalisation, and business performance: case studies from the Italian furniture industry", *13th International Conference of SGBED: Managing the Intangibles: Business and Entrepreneurship Perspectives in a Global Context*, Ancona, Italy, July 16-18.
- Peng, M.W. and Meyer, K. (2011), *International Business*, Cengage Learning, London.
- Potoski, M. and Prakash, A. (2009), "Information asymmetries as trade barriers: ISO 9000 increases international commerce", *Journal of Policy Analysis and Management*, Vol. 28 No. 2, pp. 221-238, doi: [10.1002/pam.20424](https://doi.org/10.1002/pam.20424).

-
- Rebello, M., Santos, G. and Silva, R. (2015), "Integration of standardized management systems: a dilemma?", *Systems*, Vol. 3 No. 2, pp. 45-59, doi: [10.3390/systems3020045](https://doi.org/10.3390/systems3020045).
- Santos, G., Murmura, F. and Bravi, L. (2018), "SA 8000 as a tool for a sustainable development strategy", *Corporate Social Responsibility and Environmental Management*, Vol. 25 No. 1, pp. 95-105, doi: [10.1002/csr.1442](https://doi.org/10.1002/csr.1442).
- Santos, G., Murmura, F. and Bravi, L. (2019), "Developing a model of vendor rating to manage quality in the supply chain", *International Journal of Quality and Service Sciences*, Vol. 11 No. 1, pp. 34-52, doi: [10.1108/ijqss-06-2017-0058](https://doi.org/10.1108/ijqss-06-2017-0058).
- Savelli, E., Bravi, L., Francioni, B., Murmura, F. and Pencarelli, T. (2020), "PDO labels and food preferences: results from a sensory analysis", *British Food Journal*, Vol. 123 No. 3, pp. 1170-1189, doi: [10.1108/bfj-05-2020-0435](https://doi.org/10.1108/bfj-05-2020-0435).
- Silva, M.M., Fonseca, L.M. and Sousa, S.D. (2016), "The impact of ISO 9001: 2015 on ISO 22000 and food safety management systems (FSMS)", *Calitatea*, Vol. 17 No. 152, p. 81.
- Talib, F. and Rahman, Z. (2015), "Identification and prioritization of barriers to total quality management implementation in service industry: an analytic hierarchy process approach", *The TQM Journal*, Vol. 27 No. 5, pp. 591-615, doi: [10.1108/tqm-11-2013-0122](https://doi.org/10.1108/tqm-11-2013-0122).
- Tari, J.J., Heras-Saizarbitoria, I. and Pereira, J. (2013), "Internalization of quality management in service organizations", *Managing Service Quality*, Vol. 23 No. 6, pp. 456-473, doi: [10.1108/msq-06-2012-0060](https://doi.org/10.1108/msq-06-2012-0060).
- Terlaak, A. and King, A.A. (2006), "The effect of certification with the ISO 9000 quality management standard: a signaling approach", *Journal of Economic Behavior and Organization*, Vol. 60 No. 4, pp. 579-602, doi: [10.1016/j.jebo.2004.09.012](https://doi.org/10.1016/j.jebo.2004.09.012).
- Thøgersen, J., Pedersen, S. and Aschemann-Witzel, J. (2019), "The impact of organic certification and country of origin on consumer food choice in developed and emerging economies", *Food Quality and Preference*, Vol. 72, pp. 10-30, doi: [10.1016/j.foodqual.2018.09.003](https://doi.org/10.1016/j.foodqual.2018.09.003).
- Wang, Y., Huscroft, J.R., Hazen, B.T. and Zhang, M. (2018), "Green information, green certification and consumer perceptions of remanufactured automobile parts", *Resources, Conservation and Recycling*, Vol. 128, pp. 187-196, doi: [10.1016/j.resconrec.2016.07.015](https://doi.org/10.1016/j.resconrec.2016.07.015).
- Wang, J., Tao, J. and Chu, M. (2020), "Behind the label: Chinese consumers' trust in food certification and the effect of perceived quality on purchase intention", *Food Control*, Vol. 108, 106825, doi: [10.1016/j.foodcont.2019.106825](https://doi.org/10.1016/j.foodcont.2019.106825).
- Willar, D., Coffey, V. and Trigunarsyah, B. (2015), "Examining the implementation of ISO 9001 in Indonesian construction companies", *The TQM Journal*, Vol. 27 No. 1, pp. 94-107, doi: [10.1108/tqm-08-2012-0060](https://doi.org/10.1108/tqm-08-2012-0060).
- Wu, S.I. and Jang, J.Y. (2014), "The impact of ISO certification on consumers' purchase intention", *Total Quality Management and Business Excellence*, Vol. 25 Nos 3-4, pp. 412-426, doi: [10.1080/14783363.2013.776770](https://doi.org/10.1080/14783363.2013.776770).
- Wu, W., Zhang, A., van Klinken, R.D., Schrobback, P. and Muller, J.M. (2021), "Consumer trust in food and the food system: a critical review", *Foods*, Vol. 10 No. 10, p. 2490, doi: [10.3390/foods10102490](https://doi.org/10.3390/foods10102490).
- Xie, J., Gao, Z., Swisher, M. and Zhao, X. (2016), "Consumers' preferences for fresh broccolis: interactive effects between country of origin and organic labels", *Agricultural Economics*, Vol. 47 No. 2, pp. 181-191, doi: [10.1111/agec.12193](https://doi.org/10.1111/agec.12193).
- Yvi, J. (2001), "Higher education institution image: a correspondence analysis approach", *International Journal of Education Management*, Vol. 15 No. 6, pp. 276-281.
- Zeng, S.X., Tian, P. and Tam, C.M. (2007), "Overcoming barriers to sustainable implementation of the ISO 9001 system", *Managerial Auditing Journal*, Vol. 22 No. 3, pp. 244-254, doi: [10.1108/02686900710733125](https://doi.org/10.1108/02686900710733125).

Zgodavova, K., Hudec, O. and Palfy, P. (2017), "Culture of quality: insight into foreign organisations in Slovakia", *Total Quality Management and Business Excellence*, Vol. 28 Nos 9-10, pp. 1054-1075, doi: [10.1080/14783363.2017.1309120](https://doi.org/10.1080/14783363.2017.1309120).

Role of
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