

# How to succeed in the digital age? Monitor the organizational context, identify risks and opportunities, and manage change effectively

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**Abstract.** *Due to the dynamic and inter-connected internal and external environments of the present digital age, organizations are faced with increased challenges to achieve enduring success. After reviewing the major management theories with an organizational focus, and the changes brought with the new ISO 9001:2015 Quality Management Systems International Standard Edition, the hypotheses that to succeed in the digital age organizations must monitor the organizational context, identify risks and opportunities, and manage change effectively, are presented. A worldwide survey was carried out among IRCA registered auditors concerning ISO 9001:2015 certified organizations, and by using a quantitative methodology (sample normality was confirmed through Kolmogorov-Smirnov test and the hypothesis were tested by using Pearson correlation coefficient). The results of this research highlight the need to properly monitor the organizational (internal and external) context and identify the key issues that affect the organizations ability to deliver quality products and satisfy their customers and key stakeholders, and to plan, design, implement and control change in an effective and timely manner. These results support the notion that organizations should adopt appropriate organizational models for the present digital age, with emphasis on knowledge management and horizontal customer perspectives, willing to scan the environment, identify risk and opportunities and take timely and suitable actions.*

**Keywords:** management theories, management systems; ISO 9001:2015; change management; knowledge management; performance improvement.

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## Introduction

The global interconnected and dynamic market economy of the 21st century, presents a challenge to organizations, as they aim to create, deliver, and capture value. Dimensions such as the external global environment (e.g., assessed by SWOT – strengths, weakness, opportunities and threats - and PESTEL – political, economic, social, technological, environmental and legal - Analysis), the external industry environment (e.g., assessed by SWOT and Porter competitive force model), the strategy of each organization (e.g., framed on Porter industry theory and/or on the resource based view theory) and random (luck) events that cannot be foreseen, are

considered as the main factors that contribute to a sustained organizational performance (Grant, 2010).

On a worldwide basis, more than 1 million organizations have adopted ISO 9001 Quality Management Systems (QMS), across all activity sectors, to help them operate efficiently and address the customer and key stakeholder requirements (Domingues et al., 2016).

The mainstream academic research studies support the view that QMSs can bring significant benefits for organizations competitiveness and success. With the aim of keeping ISO 9001 updated, and simultaneously reliable, and flexible, ISO revised and issued the ISO 9001:2015 edition on September 2015 (Fonseca, 2015a).

This research aims at assessing if there is a relationship between the process adopted by the organizations to identify their external and internal contexts, manage change processes, and effectively improve performance and results, considering the challenges of the digital age.

Considering that the new ISO 9001:2015 QMS International Standard, specifically requires organizations to address the internal and external context and to manage the change processes in a consistent and effective way, a study of the organizations that have already implemented and were independently audited against ISO 9001:2015 was performed by means of an online survey among IRCA (International Register of Certificated Auditors) ISO 9001:2015 registered auditors, all over the world. The selected target population (independent auditors or assessors) instead of managers is likely to minimize risk bias, as reported in previous studies.

By adopting a quantitative research method, the results highlight the need of properly monitor the organizational (internal and external) context and to identify the key issues that impact on the ability to deliver quality products and comply with customer and key stakeholders' requirements, and to plan, design, implement and control change in an effective and timely manner. They also support the need for the adoption of organizational models that are appropriate for the present digital age, with emphasis on Knowledge Management (KM) and horizontal customer focused perspectives, willingness to scan the environment, identify risk and opportunities and take timely, proper and suitable actions.

## **Literature review**

### ***Management Theories, Systems, and Organizational Culture in the 21<sup>st</sup> Century world***

In the present digital age, organizations are faced with highly global, interconnected, and dynamic environments. The increased mobility, easiness of access to information, and economic and financial interdependence generates a range of global issues that affect both the organizations and their stakeholders (Fonseca *et al.*, 2016).

Management theories pointed out the relevance of the organizational context (both internal and external) (Grant, 2010), organizational stakeholders (Freeman, 1986) and of the organizational culture (Fonseca, 2015b) as critical success factors (Table 1).

**Table 1. Management Theories: a summary**

Theory	Summary
Porter Market Industry and Generic Strategies (Porter, 1980, 1985)	<p>The external environment has the key influence on organizations strategies and performance results (emphasis on the external environment) and there are 3 generic strategies for success:</p> <ul style="list-style-type: none"> <li>• Volume: high volumes bring low costs competitive advantages, due to economy of scale and learning effects;</li> <li>• Differentiation: higher selling prices by offering products or services more attractive than those of competitors, e.g. with improved features, functionality, durability, support, brand image and customer value. This strategy requires an effective and agile product development and a superior brand image;</li> <li>• Focalization/value for money; concentration on niche markets and their unique customer needs, by developing unique low-cost or well-specified products for the market, generating strong customer loyalty and obstacles to competitors.</li> </ul>
The Resource-Based View of the Firm (Barney, 2001)	<p>If the organizational resources and capabilities of a firm are valuable, rare, inimitable, and not substitutable (VRIN), they will translate into competitive advantages that can, in turn, generate operational results and generate sustainable value (emphasis on the internal environment). This approach usually requires superior intangible organizational resources such as people competency, brand equity, processes, knowledge, or intellectual property.</p>
Stakeholder Theory (Freeman, 1984)	<p>The relationships of the organization with the relevant stakeholders (those that influence or are impacted by the organization) are critical to its performance and enduring success, <i>i.e.</i>, organizations that integrate business and societal considerations create value for their stakeholders.</p>

Source: Authors' own research.

Considering that a superior organizational performance can be explained by firm effects (resource based view), by industry effects (market/industry) and by other factors such as the political, economic, legal, technological environments plus unexplained variance (random effects), the best strategic approach is to consider both the external and the internal environments and combine both views to achieve and sustain competitive advantage (Rothaermel, 2012). Rather than stating that one strategy is better than other, it is the peculiar external and internal environments and the inherent specific capabilities of the organizations that can make the difference, requiring vertical (alignment) and horizontal (coherence) integration of each functional strategy (Ghinea and Moroianu, 2016).

Additionally, the satisfaction of the organization stakeholders is relevant for its enduring success (Freeman, 1984; Fonseca *et al.*, 2016). Whereas organizational strategy (including marketing strategy) is a crucial determinant of successful firm performance, a good strategic planning, on its own, does not assure success. Successful strategies also require robust and effective implementation, evaluation, and control mechanisms. Although there is a certain degree of ambiguity concerning the definition of organizational culture, most scholars (Hofstede, 2001; Schein, 2004; Cameron and Quinn, 1999) suggest that organizational culture is a pattern of shared values and assumptions within an organization which enables this to operate. The most common argument is that a strong organizational culture contributes to shared goals and increases the commitment to the organization and aligns individual and organizational goals, which positively contributes to increased productivity and

organizational performance. However, in highly dynamic environments a strong organizational culture can prevent it from changing as quickly as it would be required and desirable, losing competitive edge to more agile and innovative competitors (Brown, 1995) and attention should be paid to organizational culture dynamics (Ghinea, 2015).

The McKinsey's 2016 survey of global executives identified shortcomings in organizational culture as one of the key obstacles to firm success in the present digital age, namely the existence of functional and departmental silos, a fear of taking risks and poor customer focus (Goran and Srinivasan, 2017). The lack of a proper risk management approach can generate fear to invest and benefit from new opportunities. In addition, a timely reaction to changing customer or market demands seems to be a critical success factor in the turbulent days we live in. Organizational silos can also slow down the response to act comprehensively on evolving customer needs and when an organization misses a common understanding of its customers' needs and expectation, it is hard to be successful in a digital context that broadens customer choice and their speed to act.

In addition to the strategy and culture dimensions, the achievement of an enduring success requires from organizations a well-designed and successfully implemented business model that creates value for the organizations and its relevant stakeholders. Therefore, the business model attempts to explain how resources, capabilities, and activities are combined to provide a customer value proposition representing the benefits offered to customers through its products and services.

### ***ISO 9001:2015 Quality Management Systems – requirements***

As presented in Figure 1, more than 1 million organizations have adopted ISO 9001 QMSs and were independently audited and certified by a recognized Certification Body, on a worldwide basis, across all activity sectors (ISO, 2015).

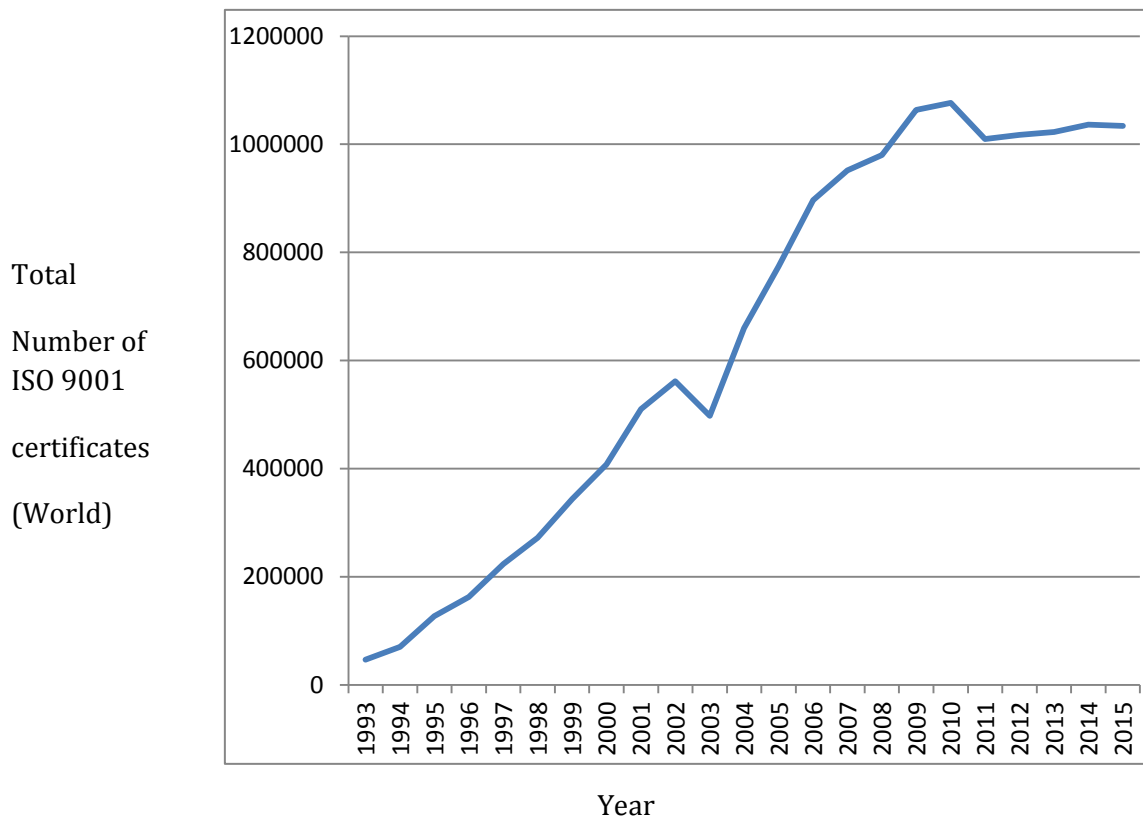


Figure 1. Evolution of total number of certificates (World)

Source: Authors elaboration based on ISO (2015).

With the purpose of keeping ISO 9001 simultaneously reliable and flexible, ISO revised and edited ISO 9001:2015 in September 2015, accordingly to the seven Quality Management principles: Customer focus (consistent with an adequate marketing approach), Leadership, Engagement of people, Process Approach, Evidence-based decision making, Improvement (successful organizations are improvement focused) and Relationship management (stronger stakeholder approach). The ISO 9001 2015 edition, requires managers to demonstrate their leadership at all levels of the organization; is strongly integrated with the organizations business and other management system components (Domingues *et al.*, 2016); takes into consideration the organizations context (including its internal culture, external factors, and the needs and expectations of relevant stakeholders); reinforces the adoption of process approach; addresses the application of risk-based-thinking to identify and manage risks and opportunities; applies the “Plan-Do-Check-Act” cycle and the new concepts of organizational knowledge and change management. This has led to the standard having more pragmatic non-prescriptive requirements with greater emphasis on achieving results and less on documentation (Fonseca, 2015a).

An analysis of the mainstream research addressing the ISO 9001 motivations and benefits (Tarí *et al.* 2012; Fonseca, 2015a; Zimon, 2016) supports the assumption that QMSs can bring significant benefits for organizations competitiveness and

success, and that the motivations for its application can be both internal (to change and improve), and external (comply with customer demands, marketing visibility). ISO 9001:2015 is consistent with market driven principles, delivering customer value, differentiating from competitors, and properly segmenting, targeting, and positioning:

- Know your markets, since business are now in customer focused markets (competitive, global), know what your customers want, how your competitors are likely to react, try to find a way to deliver customer value better than the competition;
- Customers have the final word and are going to choose what they want, organizations should be agile and deliver total quality to guarantee customer satisfaction;
- ISO 9001 certification provides trust in the organizations and their products and services, which is highly important in an uncertainty and volatile, economic environment.

The International Standard 2015 edition is aligned with modern business, and quality management concepts (and closer to TQM - Total Quality Management) to ensure it delivers value to the certified organizations, their customers, and their relevant stakeholders (Fonseca and Domingues, 2017a, 2017b).

With the introduction of the concepts of change and KM, ISO 9001:2015 requires that changes should be managed both at the strategic and the operational level, across the organization, and those that are necessary to ensure that products or services continue to meet their specified requirements need to be controlled. The objectives to be achieved with the changes must be defined, the positive (and negative) implications identified, and the impacts should be assessed. It should be confirmed that the necessary resources and organizational knowledge are available and that the QMS integrity is checked and assured. This is in line with previous published results that highlight a reciprocal relationship between TQM and KM, and a positive association between TQM and KM, with a process and product innovation (Honarpour *et al.*, 2017). KM plays an important role in TQM implementation and at the same time, KM should have an increased chance of success through a TQM focus and the effective use of knowledge towards innovation. In addition, researchers such as Bolisani and Bratianu (2017), have also focused their attention on the need for knowledge strategy planning as hinted by ISO 9001:2015, which is consistent with previous research stressing the importance of modelling organizational knowledge dynamics (OKD) in developing knowledge strategies within the framework of strategic management (Bratianu and Orzea, 2011).

Organizational culture should be dynamic and renewable (Jacobs *et al.*, 2013), but organizational change is risky and multifaceted, and its success is dependable in the external environment and the internal dynamics of organizations (Jacobs *et al.*, 2013). ISO 9001:2015 is in line with this approach (Fonseca, 2015b), by adding a stronger open systems perspective (influence of the environment, dynamic environment, need for survival) when compared with the International Standard 2008 edition, more based on natural systems views (follow rules and processes).

It is also required that change management is addressed in a systemic way (Maes and Hootegeem, 2011) and in a controlled process (Burke, 2008), as ISO 9001:2015 prescribes it, through the effective application of the Quality Management

System, including processes for improvement of the system, and the assurance of conformity to customer and applicable statutory and regulatory requirements (ISO, 2015).

## Methodology

Approximately 5000 auditors' contacts worldwide were retrieved from IRCA website and emails were sent asking those auditors to answer an online survey. The online survey is a suitable survey technique to reach a restricted population, used to on line activity and dispersed worldwide, when resources are limited and fast response times are demanded. However, on line web surveys pose some challenges such as overload of unsolicited emails that could generate low response rates when compared to other survey methods.

IRCA Registered QMS Auditors certification requires auditors to meet a qualification criterion based on work and auditing experience, and successful completion of IRCA Certified Training Course (<http://www.irca.org>). By exploring and using a worldwide reliable database, we expected to overcome the limitations evidenced in many research fields (e.g., Corporate Social Responsibility and Social Entrepreneurship) were most published research belonging to UK and US institutions affiliated researchers (Hadad and Cantaragiu, 2017) and bring a worldwide research perspective. The selection of independent and external auditors minimizes the possible bias of studies using perceptual data based on managers' opinions. Supported in the literature review, the following research questions were proposed:

- H1: Is there a positive correlation between the capability of organizations to understand the context and their ability to change?
- H2: Is there a positive correlation between the capability of organizations to understand the context and their ability to achieve improved performance and results?
- H3: Is there a positive correlation between the organizations' ability to change (plan, design, implement and control change) and the achievement of improved performance and results?

After the initial questions designed to characterize the respondents, the questions, presented in table 2, were adopted to assess auditors' agreement with a five-point Likert scale (Do not agree at all (1), ..., Totally agree (5)):

**Table 2.** *Survey questionnaire*

Question
Q1: Based on your ISO 9001:2015 audit experience, do you agree that "Understanding the organization and its context" has been successfully implemented by the auditee organizations?
Q2: Based on your ISO 9001:2015 audit experience, do you agree that "Change management" has been successfully implemented by the auditee organizations?
Q3: Based on your ISO 9001:2015 audit experience, do you agree that "Improvement" has been successfully implemented by the auditee organizations?

Source: Authors' own research-

Likert-type scales are adopted widely and regularly, and their properties have been extensively reviewed, being scales using 5 or 7 scale points the most common. A 5-point scale was adopted to allow comparability with previous research studies on ISO 9001:2015 application. Statistical Package for Social Sciences 20 (SPSS) was used

for the statistical treatment of data. The sample normality was confirmed through Kolmogorov-Smirnov test and the research questions were tested with descriptive statistics and Pearson correlation analysis. Pearson correlation coefficient measures the intensity of the relationship between ordinal variables and vary between -1 and 1. As near the values are from these extremes the stronger is the linear association between the variables, with the sign indicating the direction of the association between X (the independent variable) and Y (the dependent variable). If Y tends to increase when X increases, the correlation coefficient is positive. If Y tends to decrease when X increases, the correlation coefficient is negative. If the value is zero, there is not a linear relationship between the variables.

## Results and discussion

The responses, in line with previous similar studies (Fonseca and Domingues, 2017b, 2017c), accounted for 7% of the population and the sample profile matched the population suggesting the sample is representative of the population. With almost 100% valid responses and electronic data treatment, data collection and processing errors were minimized. Approximately 65% of the respondents developed auditing activities over the last 10 years (Figure 2) and had conducted at least one audit against the ISO 9001:2015 requirements (Figure 3).

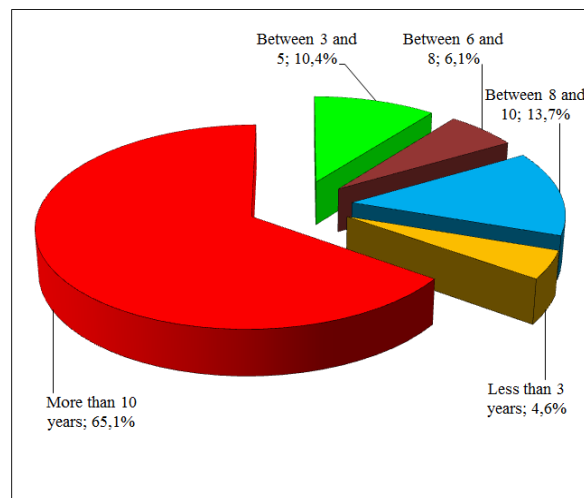
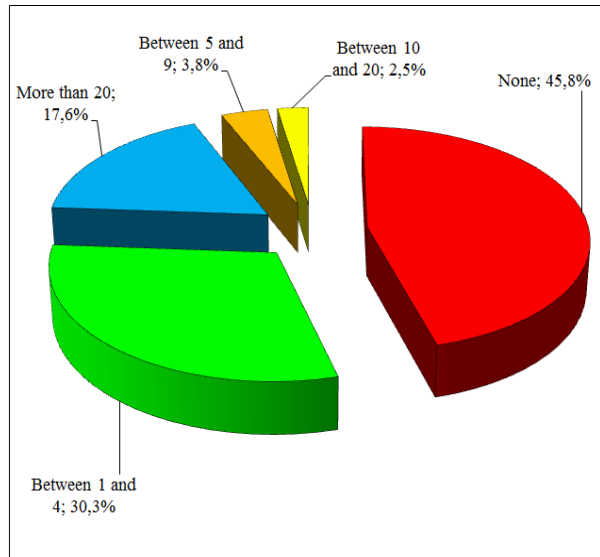


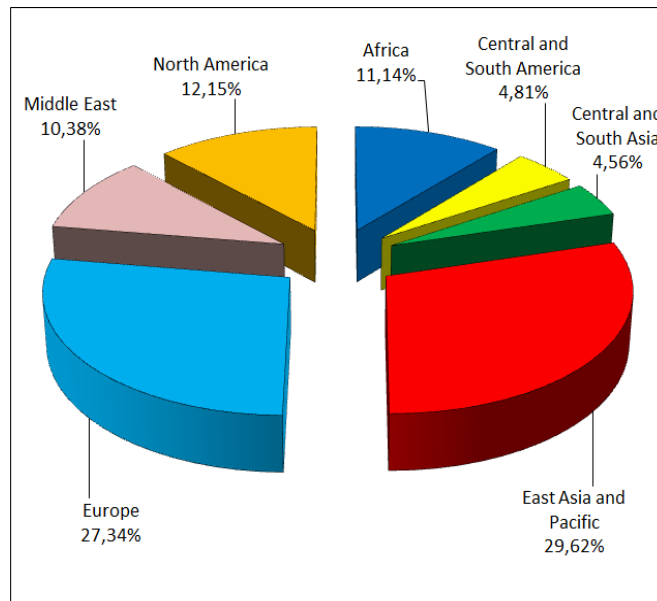
Figure 2. Auditors' segmentation by experience (number of years)

Source: Authors' own research.



*Figure 3. Auditors' segmentation by the number of ISO 9001:2015 audits conducted so far*  
Source: Authors' own research.

Geographically, Europe, East Asia and Pacific macro-regions yielded 57% of total response, as shown in Figure 4 presented below:



*Figure 4. Macro regions- breakdown by auditors' responses*

Source: Authors' own research.

USA, UK, France, Australia, and Republic of Korea were the top five countries in the number of responses. The analysis of the sample profile indicates it matches the population and the results of the survey questionnaire yielded the following descriptive statistics (Table 3).

**Table 3.** *Descriptive statistics*

Statistics	Q1 (context)	Q2 (change)	Q3 (improvement)
Valid N	299	298	299
Mean	3,1706	3,0268	3,1371
Median	3,0000	3,0000	3,0000
Mode	3,0000	3,0000	3,0000
Standard Deviation	0,91281	0,89100	1,01561

Source: Authors' own research

These results suggest that, according to the QMS ISO 9001 certified IRCA Auditors, organizations have implemented successfully the ISO 9001:2015 requirements, namely, those requirements related to the organizational context, change processes, and improving performance.

The normality of the samples was confirmed with Kolmogorov-Smirnov Test as presented in Table 4.

**Table 4.** *One-Sample Kolmogorov-Smirnov Test*

Statistics	Q1 (context)	Q2 (change)	Q3 (improvement)
N	299	298	299
Normal Parameters <sup>a,b</sup> Mean	3,1706	3,0268	3,1371
Normal Parameters <sup>a,b</sup> Std. Deviation	0,91281	0,89100	1,01561
Most Extreme Differences Absolute	0,233	0,227	0,203
Most Extreme Differences Positive	0,233	0,227	0,203
Most Extreme Differences Negative	-0,229	-0,233	-0,192
Test Statistic	0,223	0,227	0,203
Asymp. Sig. (2-tailed)	0,000 <sup>c</sup>	0,000 <sup>c</sup>	0,000 <sup>c</sup>
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			

Source: Authors' own research.

Since the data follows a normal distribution, Pearson correlation coefficient was adopted to assess the relationship between the variables (Table 5).

**Table 5.** *Pearson correlation*

Statistics	Q1 (context)	Q2 (change)	Q3 (improvement)
Q1 (context) Pearson Correlation	1	0,585**	0,558**
Q2 (change) Pearson Correlation	0,585**	1	0,617**
Q3 (improvement) Pearson Correlation	0,558**	0,617**	1
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Authors' own research

As is illustrated in Table 5, all the results show a positive strong correlation between the analyzed variables since all correlations are significant at ( $p < .001$ ) (2-tailed). Therefore, it is possible to statistically validate the hypothesis that there are

positive linear relationships between Q1 (context) and Q2 (change), between Q1 (context) and Q3 (improvement) and between Q2 (change) and Q3 (improvement), *i.e.*, if one variable increases, the other variable also increases.

## Conclusion

Due to the dynamic and inter-connected internal and external environments, there is an increased organizational challenge, to consistently meet customers and statutory/regulatory requirements, and simultaneously addressing the actual and future needs and expectations of relevant stakeholders (those that influence and impact on the quality of their products and services). The results collected suggest the existence of a positive correlation between a) the capability to understanding the context and both the ability to change and the achievement of improved performance and results; b) the ability to change (plan, design, implement and control change) and the achievement of improved performance and results, validating Hypothesis 1, 2 and 3. The organizations that show a higher level of success in monitoring the environment and in managing change are those that also show a higher level of improvement, and the ability to change is the variable with the higher relationship with the achievement of organizational improvement. This confirms the need for the adoption of organizational models that are appropriate for the present digital age, with emphasis on Knowledge Management and horizontal customer focused perspectives, ability to scan the environment, identify risk and opportunities and take timely and appropriate action.

The selection of IRCA QMS ISO 9001:2015 certified auditors, on a worldwide basis, assures the respondents are properly qualified and independent from the organizations that have implemented ISO 9001:2015, minimizing the possible bias of other studies based on managers' opinions. However, there are limitations of this research that need to be acknowledge: the sampling frame was restricted to QMS certified auditors on IRCA public database and the response rate is lower than those reported in other studies using web based surveys. Future more in-depth and continuous studies should be performed, to ascertain the validity of these research results.

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## References

- Barney, J. (2001), "Is the Resource-Based "View" a useful perspective for strategic management research? Yes", *The Academy of Management Review*, Vol. 26, No. 1, pp. 41-56.

- Bolisani, E. and Bratianu, C. (2017), "Knowledge strategy planning: an integrated approach to manage uncertainty, turbulence, and dynamics", *Journal of Knowledge Management*, Vol. 21, Issue 2, pp. 233-253. DOI: 10.1108/JKM-02-2016-0071.
- Bratianu, C. and Orzea, I. (2011), "Organizational knowledge dynamics", *Management & Marketing. Challenges for the Knowledge Society*, Vol.5, No. 3, pp. 41-62.
- Brown, A. (1995), *Organizational Culture*, Pitman Publishing: London.
- Burke, W. W. (2008). *Organization Change Theory and Practice*. Sage. ISBN-13: 978-1412926706.
- Cameron, K.S. and Quinn, R.E. (1999), *Diagnosing and Changing Organizational Culture*, Addison-Wesley: Reading, MA.
- Domingues, P., Sampaio, P. and Arezes, P.M. (2016), "Integrated management systems assessment: a maturity model proposal", *Journal of Cleaner Production*, Vol. 124, pp. 164-174.
- Fonseca, L. (2015a), "From Quality gurus and TQM to ISO 9001:2015: a review of several quality paths", *International Journal for Quality Research*, Vol. 9, No. 1, pp. 167-180.
- Fonseca, L.M. (2015b), "ISO 9001 quality management systems through the lens of organizational culture", *Quality - Access to Success*, Vol. 16, No. 148, pp. 54-59.
- Fonseca, L., Ramos, A., Rosa, A., Braga, A.C., Sampaio, P. (2016), "Stakeholders satisfaction and sustainable success", *International Journal of Industrial and Systems Engineering*, Vol. 24, No. 2, pp. 144-157.
- Fonseca, L. and Domingues, J.P., (2017a). ISO 9001:2015 – Quality, Management, and Value. *International Journal for Quality Research*, 11(1), 149-158.
- Fonseca L. and Domingues, J.P. (2017b). Listen to ISO 9001:2015 for organizational competitiveness: Correlation between change management and improvement. *ICBE 2017 - Strategy, Complexity and Energy in changing times*, International Conference-Bucharest.
- Fonseca, L. and Domingues, J.P. (2017c). "Reliable and flexible Quality Management Systems in the automotive industry: monitor the context and change effectively", *Procedia Manufacturing*, Vol. 11, No. C, pp. 1200-1206.
- Freeman, R.E., (1984), *Strategic Management: A Stakeholder Approach*, Pitman: Boston, MA.
- Ghinea, V.M. (2015), "Organizational Culture Dynamics. A Critical Overview of the Organizational Culture". *Quality - Access to Success*, Vol. 16, No. 145, pp. 72-78.
- Ghinea, V.M. and Moroianu, M. (2016), "HR strategy – necessity or fad for business sustainability?", *Management & Marketing. Challenges for the Knowledge Society*, Vol. 11, No. 2, pp. 458-469. DOI: 10.1515/mmcks-2016-0009.
- Grant, R.M. (2010), *Contemporary Strategy Analysis*, John Wiley: New York.
- Goran, J. and Srinivasan, R. *Mckinsey Quarterly*, July 2017, available at: <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/culture-for-a-digital-age> (accessed August, 20, 2017).
- Hadad, S. and Cantaragiu, R. (2017), "Corporate social entrepreneurship vs. social intrapreneurship: same idea, different trajectories?", *Management & Marketing. Challenges for the Knowledge Society*, Vol. 12, No. 2, pp. 252-276. DOI: 10.1515/mmcks-2017-0016.

- Hofstede, G. (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations*, Sage Publications, Thousand Oaks: CA.
- Honarpour, A., Jusoh, A. and Nor, K. (2017), "Total quality management, knowledge management, and innovation: an empirical study in R&D units", *Total Quality Management & Business Excellence*, <http://dx.doi.org/10.1080/14783363.2016.1238760>
- International Organization for Standardization, (2015). *ISO 9001:2015 - Quality management systems - Requirements*.
- International Organization for Standardization. (2016). *ISO Survey 2015*(<http://www.iso.org>, accessed 2016.12.05).
- Jacobs, G., van Witteloostuijn, A. & Christe-Zeyse, J. (2013), "A theoretical framework of organizational change. *Journal of Organizational Change Management*", Vol. 26, No. 5, pp. 772-792.
- Maes, G. & Hootegem, G. (2011), "Toward a dynamic description of the attributes of organizational change", *Research in Organizational Change and Development*. 19, 121-231.
- Porter, M.E. (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, The Free Press: New York.
- Porter, M.E. (1985), *Competitive Advantage*, The Free Press: New York.
- Rothaermel, F. T. (2012), *Strategic Management: Concepts and Cases*. McGraw-Hill/Irwin: New York.
- Schein, E.H. (2004), *Organizational Culture and Leadership*, Jossey-Bass Publishers: San Francisco, CA.
- Tarí, J.J., Molina-Azorín, J.F. & Heras, I. (2012), "Benefits of the ISO 9001 and ISO 14001 standards: A literature review", *Journal of Industrial Engineering and Management*, Vol. 5, No. 2, pp. 297-322.
- Zimon, D. (2016), "Influence of Quality Management System on Improving Process in Small and Medium--Sized Organizations", *Quality - Access to Success*, Vol. 17, No. 150, pp. 61-64.