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# Quality in organizations: Its capacity for transformation to create sustainable value

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## Abstract

This paper shows the growing importance of the commitment of people and organizations to continuous personal, institutional and social improvement in order to generate sustainable value. It analyzes the evolution of the concept of quality in the different development stages of the organizations and specifies the main systems of recognition of quality and excellence at a global level, obtaining the results of the recognitions with the systems of the International Organization for Standardization (ISO) and European Foundation Quality Management (EFQM) both by sectors and by countries in the last years. The progress has been significant and there is still a long way to go to achieve, as far as possible, the Sustainable Development Goals proposed by the United Nations for 2030. The proposal for the new EFQM Model will undoubtedly contribute to achieving the SDGs. Because the model offers a framework and methodology to help with the changes, transformation and disruption that people and organizations face every day by measuring where they are on the path to sustainable value creation.

*Keywords*: quality; excellence; SDGs; EFQM; ISO
*JEL Classification Codes*: D23, L15, L23, M14, Q01

## 1. Introduction

Both individuals and organizations seek success (Johnson and Leavitt, 2001; Chrusciel and Field, 2006), an apparently simple expression but one that can involve multiple difficulties. Achieving success may depend on multiple factors such as its own definition, which may mean success for each of the agents or the process for achieving it.

According to the RAE[1] (2019) the word "success" means:

1. Happy result of a business, performance, etc.
2. Good acceptance that has someone or something.

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[1] Acronym for Royal Spanish Academy in Spanish language.

3. End or completion of a business or matter.

At the level of an organization, it can be considered successful when: it meets its objectives, meets its social goals, balances its accounts, endures as an organization over time - it is sustainable - among others. At the level of people, a person is successful when they earn enough to live, have a good work and family environment, feel valued and recognized, see a professional future in the organization, among others. At the level of social success, it is obtained when the available resources are taken care of, the corresponding social responsibility is assumed, its commitment to the future of the environment is visualized, people get involved with others in their social and economic environment, and so on. In other words, the commitment to the Sustainable Development Goals (SDGs) established by the United Nations (United Nations, 2015) is visualized in organizations, people and society. Setting achievable goals (motivation) and challenging targets (hope), and showing that they are achieved after the effort (security), is the beginning of the future for success (Macías, 2017).

This work highlights the importance of individual and organizational commitment to constant personal, institutional and social improvement in order to generate sustainable value, i.e., to achieve success.

The research methodology is qualitative, and through a descriptive exploratory method the findings are outlined. The main objective of this study is to provide tools and management models that facilitate decision-making in organizations and, in turn, allow the necessary transformation to meet the challenges of an uncertain future that has opened up to us, both from a social and economic point of view.

In order to achieve this objective, firstly, the evolution of the concept of quality in the different stages of organisational development is analysed. Secondly, the main systems for the recognition of quality and excellence at world level are specified (Lasrado and Uzbeck, 2017), presenting the results of the recognitions with the ISO[2] 9001 (ISO 9001:2015, 2015) and EFQM systems, as the most representative of our environment, both by sector and by country in recent years. These systems, especially in their latest versions, are considering organizations with a more holistic sense included within a more global ecosystem, where stakeholders are becoming increasingly relevant.

In addition, the new EFQM[3] Model (EFQM 2020) is analysed in order to provide a framework and methodology that can help the changes, transformation and disruption that people and organisations face every day (Burnard and Bhamra, 2018; Liebowitz, 2019) by measuring where they are on the path to creating sustainable value in a VUCA (*Volatilily, Uncertainty, Complexity and Ambiguity*) environment such as the current one, and which will undoubtedly contribute to achieving the aforementioned SDGs. There are few studies that analyze this new model (Dam and Siang, 2019; Fábregas, 2019; San Nicolás and del Castillo, 2020) so this paper contributes to provide ideas for its integration into the management of organizations.

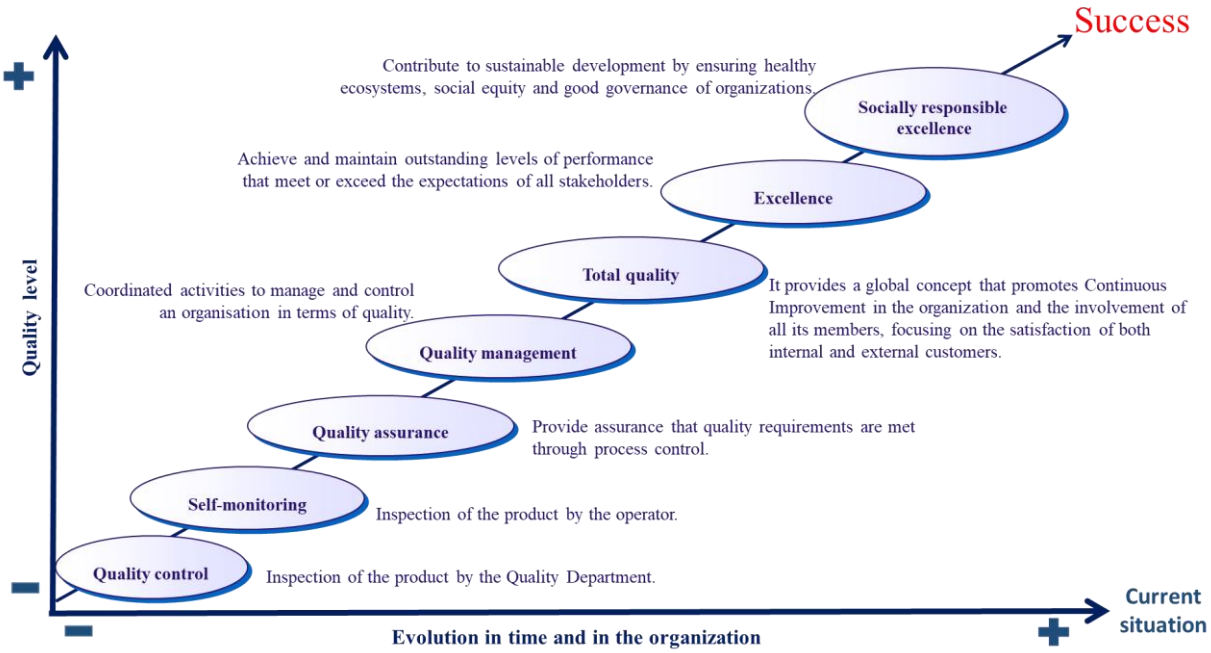
The work ends with the contribution of some conclusions derived from the analysis carried out on the evolution of quality and systems of recognition of quality and excellence in organizations.

## 2. The quality in organizations: Evolution and recognition systems

The concept of what can be understood by quality in organizations is not static, as might be derived from a dictionary, but it has evolved over time. If we go back in time, there has always been a concern for things done well. The evolution of the concept of quality since the post-industrial revolution at the beginning of the last century can be seen in Figure 1.

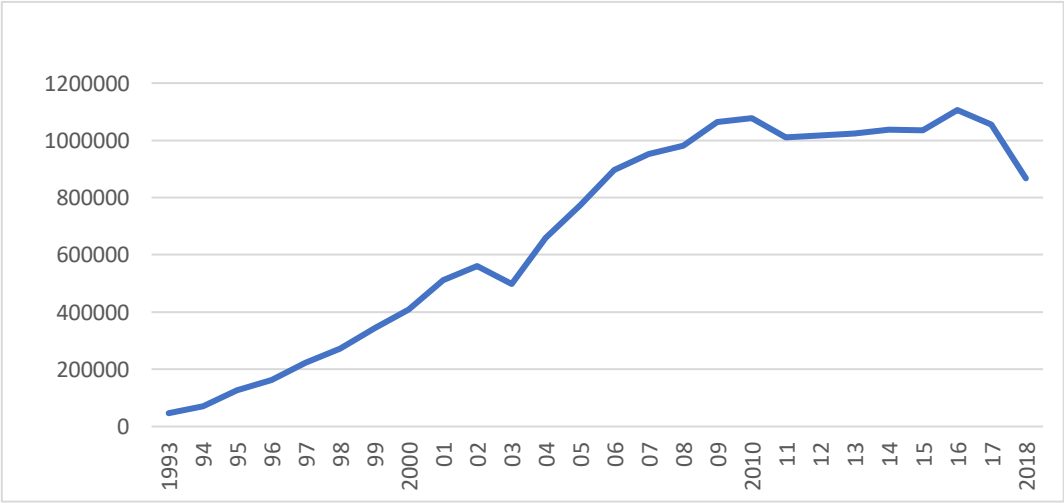
[2] Acronym for International Organization for Standardization.
[3] Acronym for European Foundation Quality Management.

*Figure 1*. From quality to Social Responsibility.




*Source*: Author compilation based on the literature review.

*Figure 2.* Analysis of worldwide certification results of ISO 9001 (1993-2018).




*Source:* Adapted from the ISO survey elaborated by the ISO Organization (ISO, 2019).

This evolution has been reflected in the different standards and management models that have been developed around the world.

The Quality Control focused on the inspection of the product by the quality department is based on a statistical sampling collected in the Military Standards (Executive Services Directorate, 2019).

The quality assurance seeks to give confidence in the fulfilment of quality requirements, initially through process control. It is based on ISO 9000 standards, and more specifically on ISO 9001 (it has had different versions in 1987, 1994, 2000, 2008 and the last one in 2015 Quality Management Systems. Requirements). For quality management, ISO 9004 has been developed (versions 1987, 2000 and 2009 Management for the sustained success of an organization. Quality management approach).

*Table 1.* Analysis of worldwide certification results of ISO 9001: 2015 by countries (Certificates in 2018).

| Countries | No. Certificates | % Certificates | % Accumulated |
|---|---|---|---|
| China | 365,751 | 42.15 | 42.15 |
| Italy | 90,409 | 10.42 | 52.56 |
| Germany | 47,911 | 5.52 | 58.09 |
| Japan | 35,584 | 4.10 | 62.19 |
| Spain | 28,710 | 3.31 | 65.49 |
| India | 25,752 | 2.97 | 68.46 |
| United Kingdom | 16,024 | 1.85 | 70.31 |
| USA | 14,646 | 1.69 | 72.00 |
| Brazil | 13,573 | 1.56 | 73.56 |
| Poland | 11,881 | 1.37 | 74.93 |
| All other countries (175) | 217,561 | 25.07 | |
| **Total certificates** | 867,802 | | |

*Source:* Adapted from the ISO survey elaborated by the ISO Organization (ISO, 2019).

Figure 2 shows the sustained growth from 1993 to 2010 and the stagnation between 2011 and 2015, with a new upturn due to the update of the ISO 9001:2015 standard. The decrease in certifications (-20%) in 2018 is significant, so caution must be taken if it is due to a temporary problem or to the exhaustion of the standard as a quality management model for organizations around the world.

Table 1 shows the high relevance of China in obtaining certificates (42.15%) and also of Spain (3.31%) worldwide in 2018. On the other hand, the low level of implementation in the United Kingdom and the USA should be noted.

As can be seen in Table 2, the sectors with the greatest application of the standard at the global level are those directly or indirectly linked to the automotive industry, such as the metal components sector and the electrical equipment sector, the vehicle repair sector, the rubber (for the manufacture of wheels) and plastic products sector, engineering services, among others. This is due to the fact that automotive multinationals demand quality products and services in their production processes to their suppliers, given the length and complexity of the supply and assembly chains. Other sectors with shorter and simpler production chains have not resorted to developing their management under the ISO 9001 standard. In Spain, it is also noteworthy the high number of certificates granted in the construction sector.

Other standards related to quality in organizations in specific areas are: ISO IEC 27001:2013 Information technology, Security techniques, Information security management systems – Requirements (ISO IEC 27001:2013, 2013), ISO 14001:2015 Environmental Management Systems - Requirements (ISO 14001:2015, 2015), ISO 37001:2016 Anti-bribery management systems (ISO 37001:2016, 2016) and ISO 45001:2018 Occupational health and safety management systems - Requirements (ISO 45001:2018, 2018).

The Total Quality approach (Figure 1) provides a global concept that encourages continuous improvement and the involvement of all stakeholders, focusing on the satisfaction of internal and external customers. This approach was initially developed in the different models related to quality in organizations (Choi et al., 2014). Mohammad et al. (2011) identified that there are 94 National Quality Awards (NQAs). The Table 3 refers to the most relevant ones, indicating the year of the first and last version where Total Quality has evolved towards excellence models.

*Table 2.* Analysis of worldwide certification results of ISO 9001: 2015 by sectors (Certificates in 2018).

| Sector | World | | | Spain | | |
|---|---|---|---|---|---|---|
| | No. Certificates | % Certificates | % Accumulated | No. Certificates | % Certificates | % Accumulated |
| Basic metal and fabricated metal products | 98,996 | 11.41 | 11.41 | 1,904 | 6.63 | 6.63 |
| Wholesale and retail trade, repairs of motor vehicles, motorcycles and personal and household goods | 78,721 | 9.07 | 20.48 | 2,802 | 9.76 | 16.39 |
| Electrical and optical equipment | 75,368 | 8.68 | 29.16 | 1,125 | 3.92 | 20.31 |
| Construction | 75,073 | 8.65 | 37.81 | 4,034 | 14.05 | 34.36 |
| Machinery and equipment | 59,041 | 6.8 | 44.62 | 1,426 | 4.97 | 39.33 |
| Other Services | 47,019 | 5.42 | 50.04 | 2,591 | 9.02 | 48.35 |
| Rubber and plastic products | 42,018 | 4.84 | 54.88 | 720 | 2.51 | 50.86 |
| Engineering services | 41,919 | 4.83 | 59.71 | 800 | 2.79 | 53.65 |
| Information technology | 35,734 | 4.12 | 63.83 | 675 | 2.35 | 56 |
| Chemicals, chemical products and fibres | 27,864 | 3.21 | 67.04 | 749 | 2.61 | 58.61 |
| Transport, storage and communication | 24,186 | 2.79 | 69.82 | 1,977 | 6.89 | 65.49 |
| Food products, beverage and tobacco | 23,173 | 2.67 | 72.49 | 952 | 3.32 | 68.81 |
| Health and social work | 15,555 | 1.79 | 74.29 | 1,946 | 6.78 | 75.59 |
| Education | 13,437 | 1.55 | 75.84 | 1,699 | 5.92 | 81.5 |
| Manufacturing not elsewhere classified | 11,237 | 1.29 | 77.13 | 191 | 0.67 | 82.17 |
| Concrete, cement, lime, plaster etc. | 10,897 | 1.26 | 78.39 | 648 | 2.26 | 84.43 |
| All other sectors | 365,281 | | | 9,177 | 31.96 | |
| **Total** | 867,802 | | | 28,710 | | |

*Source:* Adapted from the ISO survey elaborated by the ISO Organization ISO, 2019).

*Table 3.* The most relevant NQAs.

| National Quality Awards | First version | Last version | Place |
|---|---|---|---|
| The Deming Pize[4] (JUSE, 2019) | 1951 | 2019 | Japan |
| The Malcolm Baldrige National Quality Award (MBNQA)[5] (NIST,2019) | 1987 | 2019-2020 | USA |
| EFQM Model[6] (EFQM, 2019) | 1991 | 2020 | Europe |
| Ibero-American Model of Excellence in Management[7] (FUNDIBEQ, 2019) | 1999 | 2019 | Latin America |

[4] Accessed at https://www.juse.or.jp/deming_en/award/
[5] Accessed at https://www.nist.gov/baldrige/products-services/baldrige-excellence-framework
[6] Accessed at https://www.efqm.org/index.php/efqm-model
[7] Accessed at https://www.fundibeq.org/modelo-excelencia

*Table 4.* Recognition of EFQM Model 2013 levels of excellence by categories (2015-2019).

| CATEGORY MODEL 2013 | 2015 | 2016 | 2017 | 2018 | 2019 | Total |
|---|---|---|---|---|---|---|
| Recognised for Excellence 3 stars | 115 | 87 | 82 | 77 | 44 | 405 |
| Recognised for Excellence 4 stars | 195 | 128 | 148 | 116 | 88 | 675 |
| Recognised for Excellence 5 stars | 101 | 104 | 107 | 117 | 95 | 524 |
| Total general | 411 | 319 | 337 | 310 | 227 | 1,604 |

*Source:* Adapted from the EFQM Model. *Notes:* The data collected are until 2019, 15 November.

*Table 5.* Recognition of EFQM Model 2013 levels of excellence by countries (2015-2019).

| COUNTRY | 3 stars | 4 stars | 5 stars | Total | % | % Accumulated |
|---|---|---|---|---|---|---|
| Total general | 405 | 675 | 524 | 1,604 | | |
| Spain | 166 | 351 | 226 | 743 | 46.32 | 46.32 |
| United Kingdom | 21 | 42 | 71 | 134 | 8.35 | 54.68 |
| Colombia | 65 | 47 | 4 | 116 | 7.23 | 61.91 |
| Germany | 30 | 33 | 24 | 87 | 5.42 | 67.33 |
| Switzerland | 30 | 37 | 9 | 76 | 4.74 | 72.07 |
| Austria | 16 | 29 | 56 | 101 | 6.3 | 78.37 |
| Turkey | 22 | 30 | 27 | 79 | 4.93 | 83.29 |
| Ecuador | 11 | 7 | 5 | 23 | 1.43 | 84.73 |
| Czech Republic | 1 | 11 | 5 | 17 | 1.06 | 85.79 |
| Greece | 7 | 6 | 7 | 20 | 1.25 | 87.03 |
| France | 1 | 9 | 9 | 19 | 1.18 | 88.22 |
| Belgium | 3 | 4 | 5 | 12 | 0.75 | 88.97 |
| Finland | 3 | 12 | 5 | 20 | 1.25 | 90.21 |
| Russian Fed. | 1 | 3 | 24 | 28 | 1.75 | 91.96 |
| Ireland | 2 | 6 | 7 | 15 | 0.94 | 92.89 |
| Italy | 4 | 3 | 5 | 12 | 0.75 | 93.64 |
| Slovenia | 5 | 10 | 2 | 17 | 1.06 | 94.7 |
| All other countries | 17 | 35 | 33 | 83 | 5.17 | |

*Source:* Adapted from the EFQM Model.

As can be seen, without having generalized the concepts of total quality, many organizations have moved to work with models of excellence where excellence is defined as achieving and maintaining outstanding results that meet or exceed the expectations of all stakeholders (EFQM, 2013).

The data in Table 4 shows a certain exhaustion in the recognition systems due to the decrease observed in the last two years, as has also occurred with the ISO 9001 certifications. In spite of this, Spain (Table 5) continues to be the country in which this recognition is most widespread with 46.3% of recognitions in the period 2015-2019, followed by the United Kingdom (8.4%).

In contrast to ISO certifications, the EFQM Model is more common in the following sectors: Education, Non-Profit Organizations, Health Services and Public Sector (Table 6).

An important change in the quality of organizations and therefore in their management models occurs from 2010, with the development of ISO 26000: 2010 Social Responsibility Management that includes new elements to be considered in management. Organizations must contribute to sustainable development by ensuring healthy ecosystems, social equity and good governance, which has culminated in the establishment of the Agenda 2030 on Sustainable Development that includes the 17 SDGs of the United Nations (Figure 3). The EFQM model recognizes the role that organizations can play in supporting the goals of the United Nations Global Compact and the SDGs, goals that have also contributed to shaping the New EFQM Model. It is assumed and expected that any organisation using the EFQM Model will respect and comply with the essence of its messages and seek to incorporate them into the way it operates, regardless of whether it is forced to do so (EFQM, 2019).

Table 7 lists the principles linked to Total Quality and Social Responsibility.

*Figure 3.* Sustainable Development Goals.


*Source:* United Nations (2019).

*Table 6.* Recognition of EFQM Model 2013 levels of excellence by sectors (2015-2019).

| º | Recognised for Excellence | | | |
|---|---|---|---|---|
| **SECTOR** | **3 stars** | **4 stars** | **5 stars** | **Total** |
| Total general | 405 | 675 | 524 | 1,604 |
| Education / Educational Services | 181 | 281 | 144 | 606 |
| Not for profit | 44 | 39 | 25 | 108 |
| Healthcare Services | 35 | 96 | 88 | 219 |
| Public sector | 23 | 39 | 28 | 90 |
| Association | 14 | 14 | 11 | 39 |
| Other / Not Classified | 11 | 20 | 21 | 52 |
| Services | 8 | 17 | 14 | 39 |
| Government / Local authorities | 12 | 16 | 9 | 37 |
| All other sectors | 77 | 153 | 184 | 414 |

*Source:* Adapted from the EFQM Model.

Although the content and presentation of the EFQM Model have evolved over time, the principles on which they are based have not changed. Regardless of the size of the organization or whether it is public, private or third sector, the importance of the principles has not changed. The principles are adding value for customers, creating a sustainable future, developing the organization's capacity, leveraging creativity and innovation, leading with vision, inspiration and integrity, managing with agility, achieving success through people's talent and maintaining outstanding results over time.

## 3. The transformation of organizations: Relevance of the EFQM 2020 Model.

The next-to-last contribution to quality in organizations can be found in the recent presentation of the new EFQM 2020 Model built through design thinking techniques (Dam and Siang, 2019). The Model offers a framework and methodology to help the changes, transformation and disruption that people and organisations face every day. This model allow measuring where they are on the path to sustainable value creation, identifying and understanding gaps and looking for possible available solutions, which will enable organisations to progress and

*Table 7.* Comparison of fundamental elements. Standards and models.

| 2015 ISO 9000 | 2013 EFQM Model | 2010 ISO 26000 | |
|---|---|---|---|
| **Principles of quality management** | **Fundamental concepts of excellence** | **Principles of Social Responsibility** | **Fundamentals of Social Responsibility** |
| Focus on the client | Add value for customers | Accountability | Governance of the organization |
| Leadership | Creating a sustainable future | Transparency | Human rights |
| Staff Involvement | Develop the organization's capacity | Ethical behaviour | Labor Practices |
| Process-driven approach | Harnessing creativity and innovation | Respect for the interests of stakeholders | The environment |
| Continuous improvement | Leading with vision, inspiration and integrity | Respect for the principle of legality | Fair trading practices |
| Fact-based approach to decision making | Manage with agility | Respect for international standards of behaviour | Consumer Affairs |
| Mutually beneficial supplier relationships | Achieving success through people's talent | Respect for human rights | Active participation and community development |
| | Maintain outstanding results over time | | |

*Source:* Author compilation based on the literature review.

significantly improve their performance (CEG[8], 2019). The Model's guideline shows the logical connection between an organisation's purpose and strategy and how it is used to help create sustainable value for its key stakeholders and generate outstanding results.

In addition, the latest update (Figure 4) recognizes the organizations' commitment to: The Charter of Fundamental Rights of the European Union and the European Social Charter, the United Nations Global Compact and the 17 SDGs.

In order to achieve and maintain outstanding results that meet or exceed the expectations of its stakeholders, in relation to the management group, an organization must: define an inspiring purpose, create a vision of what it is trying to achieve in the future, develop a strategy focused on sustainable value creation, foster a culture that leads to success.

In relation to implementation, it is necessary to apply the strategy effectively and efficiently, ensuring that: stakeholders in the ecosystem know each other and there is a full commitment to those who are key to success, sustainable value is created and the competence levels needed to achieve success today are enhanced, while at the same time the improvement and transformation needed to achieve future success are encouraged.

What the organization achieves as a result of what is done in management and execution is reflected in measurement and data on: stakeholder perception (customers, people, investors and controllers, society, partners and suppliers, among others), sustainable value creation and operation and transformation management.

In order to visualize the progress in obtaining excellent results achieved by the organization, an evaluation tool should be used to detect its strengths and opportunities for improvement, as well as to improve the management of its current way of working. The EFQM model has

[8] Acronym for Excellence Management Club in Spanish language.

*Figure 4.* EFQM 2020 Model Diagram


*Source:* EFQM, 2020.

opted for the RADAR logic (*Results, Approaches, Development, Assessment and Refinement*) because every organization needs to:

- Determine the *Results* it intends to achieve as part of its strategy (evaluating its relevance and usefulness, as well as its performance: with trends, with objectives by comparing and analyzing its predictive nature).
- Have a series of *Approaches* that will enable it to achieve the expected results now and in the future (for this it must be solidly established and, in the case of execution aspects: aligned).
- *Develop* (implement) these approaches appropriately.
- *Assess and Refine* the implemented approaches in order to learn and improve.

## 4. Conclusions

As a result of the analysis carried out on the evolution of quality in organizations, the following conclusions are reached:

1- People and organizations seek to achieve success, which has become more meaningful when it is achieved at a global level of the society at large. In organizations, success has been achieved through processes of continuous improvement that allow them to stand out not only in their immediate surroundings but also in society, the territory and the natural environment.

2- The analysis carried out shows the high level of use of management models in most sectors and countries worldwide.

3- The systems of certification and recognition of the ISO 9001 quality and the EFQM excellence have contributed to the continuous improvement of the organizations, since the requirements of each revision have been stricter and have been incorporating new criteria and

results.

4- The sectors linked to the automotive industry, metal products, electrical equipment and construction are the ones that have made the greatest commitment to ISO 9001 certifications. While the education, non-profit organization and health services sectors are leaning towards the recognition of excellence through the EFQM Model.
5- The EFQM 2020 Model provides management tools and methods that facilitate decision-making in organizations to enable the transformation needed to create sustainable value in the face of future challenges.
6- The effort of all the organizations and people with their commitment and the search for references and good practices will allow the achievement of the 2030 Sustainable Development Goals proposed by the United Nations.

The result of this work can have its practical implication in the management of the organizations, since it provides necessary information and a reference framework for the analysis of the organizations (SWOT analysis) and for evidencing their capacity of transformation to face the challenges of the uncertain future that has opened up, both from the economic and social point of view.

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