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The Impact of Culture and National Leadership on Operational Excellence Maturity: Case Study of the Automotive Sector in Morocco

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Abstract

The geopolitical position and expertise position Morocco as the top producer of passenger cars in Africa, ranking 25th globally in 2022 and 8th in terms of growth by 15%. This achievement deserves an in-depth analysis of the sector, both from a statistical perspective and in terms of integration of Operational Excellence (OpEx) philosophy. Many studies have confirmed that cultural values have a direct impact on the success of organizational strategies and managerial actions. Similarly, success in integrating OpEx practices requires more than just using its toolbox. Although many organizations worldwide implement OpEx practices, the dimensions of national culture and leadership can significantly influence the expected outcomes. Based on theoretical and practical knowledge of leadership and cultural data, this research presents the results of an exploratory study on the moderation of leadership effectiveness by dimensions of national cultural values. The study focused on evaluating Leadership practices and national culture within all Moroccan automotive companies. A questionnaire was developed, validated, and distributed to 264 individuals in various managerial positions, with a response rate of 81%. The results of this study will be used to identify perspectives for developing an effective OpEx model tailored to the Moroccan socio-cultural context. Until now, no large-scale study has examined the adoption and integration of the OpEx approach within Moroccan automotive companies. This study makes a significant contribution to academics, practitioners of the OpEx philosophy, and researchers dedicated to performance optimization.

Keywords

Operational Excellence, Industrial performance, Leadership, national culture, automotive industry, automotive ecosystem, Morocco.

1. Introduction

In the early 1980s, the concept of excellence made a discreet entrance into the industrial milieu amid economic crisis and concerns about Japan's performance. In 1982, **Thomas Peters and Robert Waterman (1982)** published a work titled "*In Search of Excellence*," an American bestseller celebrating the cult of performance, translated into French as "Le Prix de l'Excellence" (The Price of Excellence). As consultants for McKinsey, based on a survey of forty-three major companies, Peters and Waterman defined excellence as an efficiency horizon founded on eight normative principles. These principles aimed to distance organizations from Taylorism and Fordism, with their method promoting initiative, innovation, and entrepreneurial spirit seen as essential for the success and excellence of any organization.

However, in 1990, a counterargument emerged in the form of the book "*Le Coût de l'Excellence*" (*The Cost of Excellence*) by two French researchers, **Nicole Aubert and Vincent De Gaulejac (1990)**. They emphasized the damages caused by the pursuit of economic ideal, with the rise of stress being one of its manifestations.

In the 2000s, operational excellence programs emerged across various companies, including Johnson & Johnson, Air Products, Maytag, Honeywell, Ford, BMW, and others. In 2001, a seminal work in this field was published, titled "The Toyota Way," authored by **Jeffrey K. Liker** (2004). Liker, a co-founder and director of the Japan Technology Management Program at the University of Michigan, where he also serves as a professor of industrial and operations engineering, is a four-time recipient of the Shingo Prize for Excellence. He has extensively written about Toyota in various management journals.

1.1 Objectives

Our research is centered around a large-scale in-depth investigation into the integration and development of operational excellence practices in the Moroccan automotive industry, a sector marked by intense competition and continuous evolution. Building upon prior foundational works (**Hamoumi et al., 2023**), our exploration primarily seeks to confirm the hypothesis regarding the role of the Moroccan socio-cultural context in the flourishing of the "ExOp culture."

2. Literature Review

2.1 The global automotive sector

The chart below illustrates global automobile production from 2000 to 2022. In 2022, approximately 85.1 million cars were manufactured worldwide, compared to 80.1 million in 2021 and 58.4 million vehicles in 2000, reflecting a 6% increase. However, the COVID-19 pandemic had a significant impact on the automotive industry. In addition to short-term negative effects such as supply chain disruptions and production slowdowns, the pandemic also brought about long-term transformations and positive changes in the process of developing new products in the automotive industry (Figure 1).

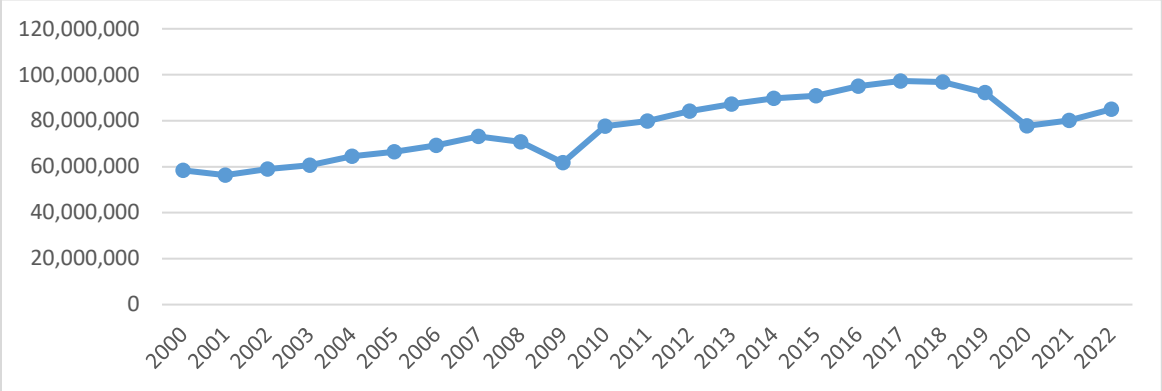

Figure 1: Global Automobile Production 2000-2022

Source: OICA (International Organization of Motor Vehicle Manufacturers), adapted by the author.

In this international context, Morocco ranks 25th with 464,864 vehicles produced in 2022, and it holds the 8th position globally in terms of growth with a 15% increase compared to 2021 (see Table 1).

Table 1: Global Ranking of Morocco in Automobile Production

Year	Production	Ranking
2022	464864	25
2021	403007	25
2020	248430	30
2019	394652	26
2018	402085	27
2017	376826	27

Source: OICA (International Organization of Motor Vehicle Manufacturers), adapted by the author.

2.2 Overview of the Automotive Industry in Morocco

The significant stages of development in the Moroccan automotive industry have been thoroughly documented in the literature (Bachirat 2006, Lung and Layan 2008, Jaidi and Msadfa 2017, Hahn T. et al. 2017 , Aarab K. 2019, Piveteau 2020, Hakam 2020, Benaini 2020, Moumen 2023, El Affaki et al. 2023, Hamoumi M. et al. 2023) this is illustrated in Figure 2.

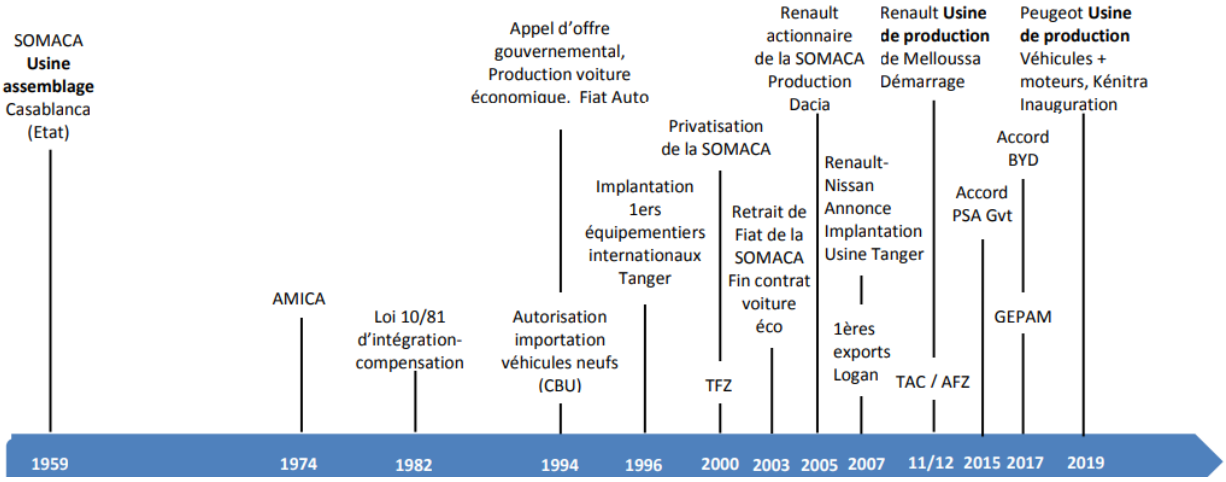

Figure 2: Evolution of the Automotive Industry in Morocco

2.3 Study of the Moroccan Automotive Sector

Over the past decade, the Moroccan automotive sector has witnessed significant and notable growth. This is primarily attributed to its strategic geographical location, a skilled workforce, and robust industrial ecosystems. Several programs have been implemented over the years, enhancing its integration into the Global Value Chains (GVCs) of the automotive industry (Ait Ali et al. 2019, AL Khatir 2021, Benomar et al. 2022), improving its competitive position, and attracting global investments (Belqasmi et al. 2017, Bakkali et al. 2022). Indeed, aiming to bolster its competitive stance, Morocco has adopted various strategies, ranging from the National Industrial Emergence Pact (PNEI) launched in 2005 to the Industrial Acceleration Plan 2014-2020, and most recently, the industrial recovery plan for 2021-2023, which aims to mitigate the impact of the COVID-19 pandemic.

The automotive value chain in Morocco consists of:

- Over 250 national and international stakeholders.
- Three automotive manufacturers: Renault, PSA, and the Chinese company BYD (ongoing project).
- Over 220 automotive suppliers.
- Over 50 Tier 1 supplier plants under construction.

- 10 ecosystems: Wiring, vehicle interiors and seats, metal stamping, batteries, PSA, engines & transmission, RENAULT, APTIV, LEONI, and VALEO.
- 3 newly created ecosystems: Engineering, spare parts, and vehicle exteriors.

The objective of the study is to delve into the composition of the Moroccan automotive sector by analyzing the data of each company. We have taken the time to scrutinize the information of each automotive company in Morocco in terms of their business, origin, location, and ecosystem. The list is updated until the end of November 2023 and includes data from AMICA (Association Marocaine de l'Industrie et du Commerce Automobile). As of November 2023, we have identified 265 automotive companies in Morocco.
The initial statistics indicate that the Moroccan automotive sector comprises 86 purely Moroccan automotive companies, accounting for 32%. Additionally, 179 companies are foreign enterprises established in Morocco, making up the remaining 68%.

3. Experimental Study: Field Study

3.1 Research Framework and Data Analysis

The empirical research took place during the year 2023. A survey questionnaire was developed and adapted, taking into account the research instruments, and sent to the 265 automotive companies in Morocco identified in the statistical study.

It is worth noting that 214 responses were received out of the 265 distributed questionnaires, resulting in a response rate of 81%. Subsequently, the sample selection was thoroughly completed, and the number of obtained responses can be considered representative of all national and multinational automotive companies operating in Morocco. Finally, the survey provided sufficient data for an initial and comprehensive exploratory analysis of the adoption status of the ExOp philosophy in the automotive sector in Morocco.

As mentioned earlier, we contacted all Moroccan automotive companies. A questionnaire was developed and sent via email and LinkedIn to collect the desired information. The survey questionnaire's structure was based on the technical and organizational background of Operational Excellence. It allowed us to assess:

- Various perceptions regarding Operational Excellence management,
- The impact of national culture and leadership on the maturity of OpEx.

3.2 Perception of the Objective Behind the Deployment of Operational Excellence

We analyzed respondents' perception regarding the objective of implementing such an approach (see Figure 3). Indeed, 58% are convinced that the goal is to increase productivity. Additionally, the results indicate a low intensity in communicating objectives by the strategic levels responsible for cascading the vision to tactical and operational levels. In fact, only 33% of respondents consider it to be a group policy to deploy. Unfortunately, a structured communication process can enhance their sense of involvement in achieving performance.

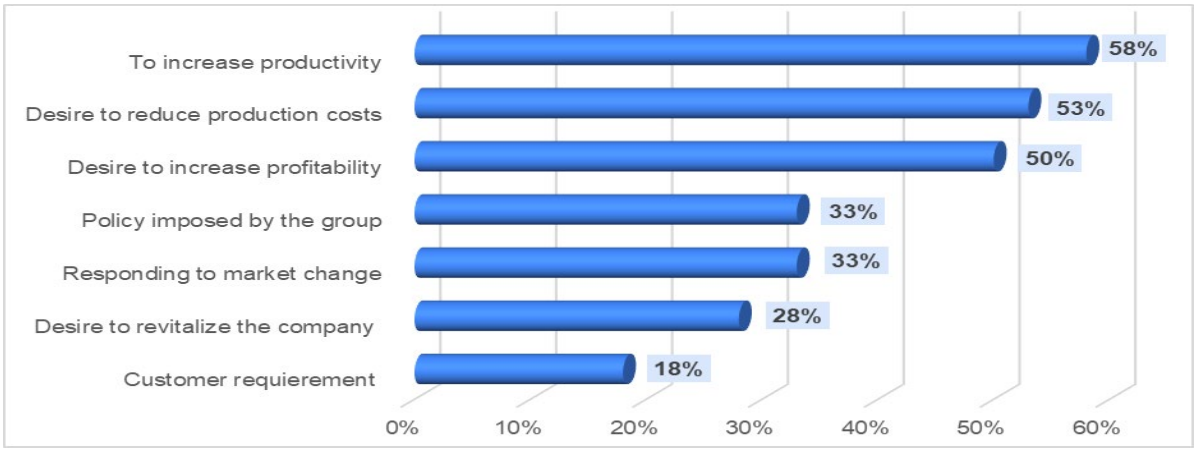

Figure 3: Understanding the purpose behind implementing Operational Excellence

3.3 The impact of national culture and leadership on the maturity of OpEx.

The study results highlight that the cultural aspect is considered one of the risk factors for the success of lean practices (see Figure 4), as indicated by 27% of the participating companies, which constitute the majority of the Moroccan automotive sector. Culture serves as the invisible bond that unites members of a community. When it comes to improvements, companies should transform into a cultural framework where everyone is involved. The trait of the involvement culture comprises three main indicators that differentiate it from other cultural traits; these indicators include empowerment, team orientation, and capacity development.

Secondly, the pursuit of quick gains is identified by 25%, aligning with the perception of Operational Excellence, where participating companies indicated that the goal is to increase productivity.

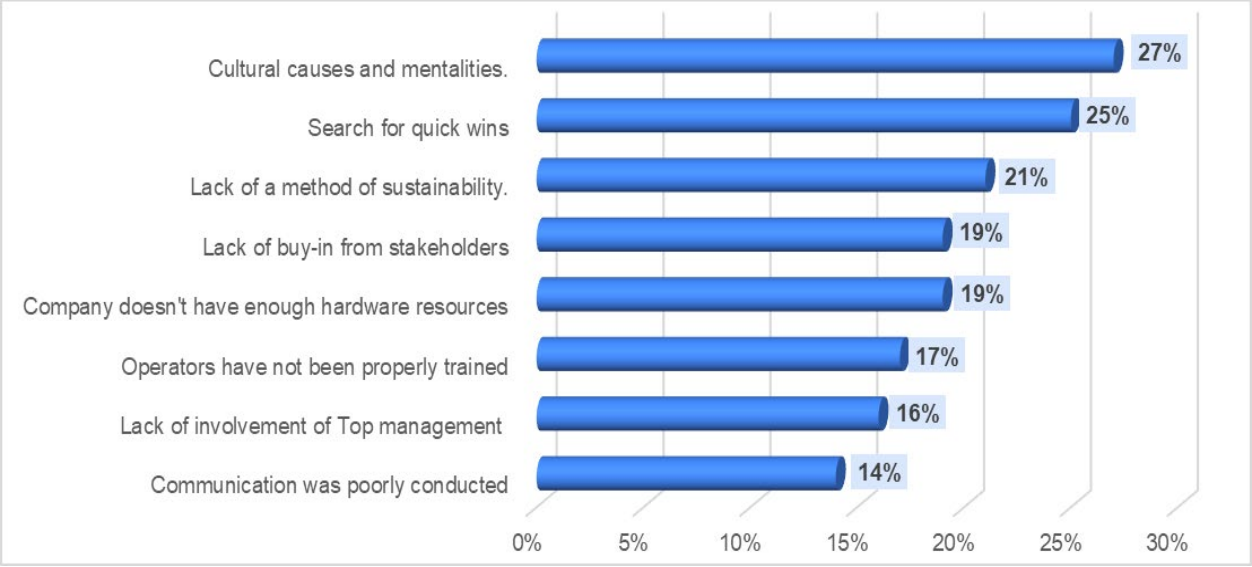

Figure 4. The impact of national culture and leadership on the maturity of OpEx.

4. Conclusion

For these reasons and others, the Moroccan automotive industry remains aligned with the global automotive industry's evolution, demonstrating significant development qualities. In other words, it has a clear automotive strategy and a structured ecosystem of suppliers that has proven to be highly effective both locally and in export markets.

In 2023, the first Moroccan automaker emerged with the introduction of the first 100% Moroccan car brand, NEO. The company, Neo Motors, with Moroccan capital, established an industrial unit in Ain Aouda (in the Rabat-Salé-Kénitra region) to manufacture automobiles for the local and export markets, with a projected annual capacity of 27,000 units and a local integration rate of 65%. According to its founder, Nassim Belkhayat, the company's CEO, the company aims for an annual production of 15,000 vehicles within three years, along with the introduction of new electric models.

Finally, the findings of the study underscore the crucial role of tool training in the effective implementation of Operational Excellence, as acknowledged by nearly all companies. The next three key success factors identified include training in change management, awareness sessions, and effective communication of vision and strategy. Conversely, the study results highlight those cultural aspects, the pursuit of quick gains, and the absence of a sustainability method stand out as the primary risk factors for the successful adoption of this concept.

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Biographies

Mohammed Hamoumi is the founder and president of the HiQuality Management association, enabling him to organize and conduct 68 seminars in faculties and higher education schools in Morocco as a speaker. Furthermore, visiting most automotive equipment manufacturers' factories in Morocco as a trainer or auditor has allowed him to consolidate his knowledge and build a network in the Moroccan automotive industry. He is a graduate of Polytech Lille, the leading public engineering school of the University of Lille in France and holds an MBA from EHTP/ENPC - School of International Management Paris. With 17 years of experience in the automotive sector in Morocco, he has held various management positions at ST Microelectronics, LEONI, and PSA, where he managed the startup of the KENITRA plant as Director of Quality and Engineering. He has had the opportunity to visit major PSA factories worldwide (France: Poissy, Velizy, Mulhouse, Sochaux, Valencienne; Spain: Vigo, Madrid; Portugal: Mangualde; China: Shaingdu, Wuhan 1, 2, and 3). Having gained extensive and sufficient experience with a desire to continue his studies, Mohammed HAMOUMI started his doctoral project in October 2018 in industrial engineering at the LM2I Laboratory with the Industrial Management Team and Technology of Plastics and Composites at ENSEM Casablanca. Mohammed HAMOUMI is certified in IRCA ISO 9001, ISO 45001, ISO 50001, IATF 16949 V2016, APSAD standard, NEBOSH, and other certifications.

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