The Role of Dynamic Managerial Qualities in Building a Proactive Top Manager in the Fourth Industrial Revolution in Egyptian Business Firms
An Agile Transformational Approach

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Abstract:

In today's ever-changing business environment, the Fourth Industrial Revolution is the current and developing milieu in which disruptive technologies and trends such as the Internet of Things (IoT), artificial intelligence (A.I.), robotics, virtual reality (V.R.), and 3D printing are changing the way we live, work, and interact. This paradigm forces companies to become more agile and efficient by automating processes, streamlining operations, and providing better customer service. It will also create new opportunities for businesses to develop innovative products and services. Consequently, these radical changes have proven the essential role of proactive top managers to rescue organizations during risky disasters and to hunt hidden opportunities even in chaotic times. Therefore, this research aimed to define Dynamic Managerial Qualities (DMQ) 's essential role in building a Proactive Manager (PM) in Egyptian business companies in the Fourth Industrial Revolution era. For this, the researcher used the quantitative analysis method and presented several hypotheses tested on a sample of 500 managers in industrial companies in Egypt. Statistically, the researcher received 390 usable responses and used descriptive analysis, correlation analysis, and other statistical tools to confirm the research hypotheses. Accordingly, the researchers concluded that there are two main results. The first is that eight sets of managerial qualities are required for senior Egyptian managers to be proactive in the face of massive change in the dynamic global business environment. Secondly, there is an association between (DMQ) and building a proactive manager in Egyptian commercial firms. Finally, the study suggested an agile transformational model equips senior managers in Egypt with (DMQ) to build a proactive and efficient manager and thus enhance organizational performance.

Keywords: Agile Approach, Fourth Industrial Revolution, Dynamic Managerial Capabilities, Top Managers, Proactive Manager
JEL: M10

1. Introduction

In today's ever-changing business environment, the Fourth Industrial Revolution is the current and developing milieu in which disruptive technologies and trends such as the Internet of Things (IoT), artificial intelligence (A.I.), robotics, virtual reality (V.R.), and 3D printing are changing the way we live, work, and interact. This paradigm forces companies to become more agile and efficient by automating processes, streamlining operations, and providing better customer service. It will also create new opportunities for businesses to develop innovative products and services. Consequently, these radical changes have proven the essential role of proactive top managers to rescue organizations during risky disasters and to hunt hidden opportunities even in chaotic times. As a result, there are many dynamic changes in global production and logistics networks via continuous intelligent computerization of traditional industries and business management approaches. For instance, this era observes many changes (e.g., the spreading of the utilization of the internet of things (IoT), large-scale machine-to-machine communication (M2M), and self-monitoring machines that can detect and solve problems without any human involvement (Lee et al., 2018).

It also demonstrated a sociocultural, socio-economic, and political transformation from the classic era to the Omni-channels usage of Artificial Intelligence, augmented reality, and automated decision-making (Mamphiswana & Bekele, 2020). This blue ocean strategy allows first-mover firms to create a new business milieu to establish sustainable competitive business capabilities far from their rivals (Kim & Mauborgne, 2017). Business firms are likely to lead those who successfully restructure their business model to obtain maximum customer satisfaction through fully utilizing cyber-physical technologies (Mamphiswana & Bekele, 2020). This new model requires skilled managers proficient in adopting dynamic managerial capabilities, transforming firms into innovation factories for self-sustainability and creating a new roadmap for strategic choices (Hassanin & Hamada, 2022) and (Kevill et al., 2021). Managerial Capabilities (MC) are defined as “the capabilities With which managers build, integrate, and reconfigure organizational resources and competencies" (Adner and Helfat, 2015). Therefore, (MC) is essential to enhance organizational performance, change strategies, reload the firm replenishments and build a proactive manager (Altintas, Gulsun; Veronique 2019).

Egypt has the potential capabilities to be one of the most accelerated economies in the Middle East and Africa. Its youth population represents 60% out of the 110 million citizens who are viewed as possible power horses. The 4IR is regarded as a promising era that drives socio-economic development through advanced access to technological innovation and increased efficiency and effectiveness of resource utilization (Hassanin 2017). The Egyptian government has started a holistic digital transformation strategy toward digitizing society. Although many optimistic goals have been achieved, many challenges are associated with applying this radical innovation. One of these massive barriers is to equip Egyptian managers with DMQ that permits them to deal with the emerged advanced technologies, unpredictable situations, risky decisions, and the customers' preferences shift. Unfortunately, rare studies have explored the required DMQ for Egyptian managers. While the qualities of future managers are a growing field, the effectiveness of DMQ and its added value for Egyptian firms still need to be accurately stated. Thus, there is a need to discover the required traits that advance the managerial role in Egyptian business organizations. Consequently, the goal of this study is to answer the following question:

Q1: What are the Dynamic Managerial Qualities (DMQ) required for Egyptian business top managers in the fourth industrial revolution?
Q2: What are the essential roles of (DMQ) in building a (PM) at industrial business corporations in Egypt?

By answering these questions, this study could be a guideline for Egyptian managers to adopt the up-to-date competencies to face the future mentioned challenges. Furthermore, business companies can depend on this study to hire or train proactive leaders capable of managing change and controlling performance during regular times. Meanwhile, this tactic is to draw a road map for Egyptian managers to protect the organizational assets and to hunt for hidden opportunities in unpredictable crisis times. Therefore, this research consisted of a literature review, research methodology, research analysis, discussion and recommendations for Egyptian firms on how to equip themselves with advanced competencies.

1. Literature Review

The literature review conducted in related aspects introduced a clear vision of the study gap. Many studies have explored managerial qualities that vary from industry to industry. Limited studies have investigated the importance of updating these qualities in the fourth industrial revolution. Administrative

Capabilities (MC) have attracted the attention of many authors because of their crucial effect on organizational performance. The excellence of any business corporation is a function of its effective leadership in facing severe competition and a high degree of uncertainty (Samra Khan 2016). In the strategic management field, the essential role of managers has attracted early attention for authors (McNally 2018). Several authors have followed with additional efforts to articulate the organizational capabilities and related managerial traits (Penrose 1960), (Mintzberg 1978), (Pettigrew 1973), mentioned in (Kor, Y. ; Mahoney 2000)and the Strategy-as-Practice viewpoint (Johnson, Langley, Melin, & Whittington, 2007), reviewed in (C. . Helfat and Martin 2003). The literature review showed that many studies had investigated MC from different perspectives (e.g., definition, categories, and role in different organizational structures). Henceforth, behavioural leadership theory suggests that specific capabilities are more applicable in shaping leadership effectiveness than others in various tasks and situations (G. Yukl 1989); (Kramar and Steane 2012). Many scholars have agreed with this viewpoint (Derue et al. 2011). Consequently, behavioural leadership theory is the basis of the current study,

1.1.Managerial Capabilities Definition

According to (Anzengruber et al. 2017), behavioural leadership theory explains capabilities as actions “that differentiate organizations based on the efficiency and the effectiveness of their managers’ capabilities that continue motives, beliefs, and values, and are generally representative of the tasks and activities used to achieve a precise job” (Mclagan 1997). Managerial traits are explained as manager’s behavioural capabilities “to manage and form people and resources” (Welter, Bosse, and Alvarez 2013). However, (David Teece and Pisano 1994) expanded the dynamic capabilities concept to be a method for companies to achieve sustainable competitive advantage. This notion can be applied either to dynamic industries or less-dynamic industries (Ambrosini, Bowman, and Collier 2009); (Eisenhardt and Martin 2000) and has been extended to the individual and group level in the form of MC (Adner and Helfat 2015); (Oliver Schilke, Hu, and Helfat 2018). Also, MC is defined as "the capabilities with which managers build, integrate, and reconfigure organizational resources and competencies" (Adner and Helfat 2015). Several definitions have followed this mentioned description. Many authors considered MC a skill (e.g., (D. J. Teece 2014); (D. J. Teece, Pisano, and Shuen 2009); (Zahra, Sapienza, and Davidsson 2006); (Augier and Teece 2008)). Others defined MC as a capacity (C. . Helfat and Peteraf 2009); (Cruz

et al. 2021). Many authors have defined MC as competence or an organizational routine (e.g., (Kevill et al. 2021); (Eisenhardt and Martin 2000) and (Winter 2003). These different definitions raised the fundamental question about the nature of MC, either a routine or a managerial action that occurred from a personal administrative act (Ambrosini and Altintas 2021). (Eisenhardt and Martin 2000) described the importance of a routine perspective: MC thus are the organizational and strategic routines by which corporations accomplish some resource alignments based on the market life cycle (Zollo and Winter 2002); (Schijven and Gates 2016); (O.; Schilke and Goerzen 2010).

1.2.Managerial Capabilities Dimensions

It is highly required for all organizational managers to identify the source of the MC. Many researchers have categorized the components of MC into three sets of skills (e.g., Managerial human capital, managerial social capital, and managerial cognition). These three dimensions are interconnected cohesively and explain leadership behaviour in different situations. Because managers have different levels of the mentioned capabilities, consequently, their performance differs (Adner and Helfat 2015); (Martin, G., Gollan, P.J. and Grigg 2011) (Adner and Helfat 2015)). These three categories supported the three phases of the MC: detecting, grabbing, and transforming business opportunities into an organizational add-value (D. J. Teece 2012). (Gary Yukl 2008) suggested three behavioural measurements: task-oriented behaviours concentrate on efficiency and productivity task accomplishment (Asija and Ringov 2020), relations-oriented behaviours aim at people connections and cooperation (Anzengruber et al. 2017), and change-oriented behaviours target innovative developments and adaption (Kramar and Steane 2012). Task-oriented behaviours offered the necessary structure and guidelines to coworkers. It comprises planning, scheduling, clarifying, directing, organizing, and observing allocated activities (Gary Yukl, 2008)). Meanwhile, the primary purpose of relations-oriented behaviours is evolving human resources and creating well and commonly productive relations among subordinates, managers, and other related individuals inside or outside the organization (Yukl, Gary Lepsinger 2005). Additionally, change-oriented behaviour goals enhance a corporation's innovativeness and adaption to environmental changes (Yukl, Gary Lepsinger 2005). However, task, relations, and change elements are significant in supporting leaders in achieving potential outcomes and control processes at all hierarchal levels (Liu and Mcmurray 2004). Generally, behavioural leadership theory emphasizes the importance of recognizing managerial behaviour dimensions

that successfully permit the manager to exploit different tasks (Anzengruber et al. 2017).

1.3.Managerial Capabilities Role

Additionally, many studies have explored the managerial role in an organization. For example, (David Teece, Peteraf, and Leih 2016) stated that managers are the cornerstone of MC. Specifically, managers have three roles in dynamic organizations (e.g., traditional operational role, entrepreneurial role, and leadership role). The fast and continuous changes in the business environment obligate managers to equip themselves with up-to-date capabilities to confirm the accomplishment of organizational goals. Maximizing top managers' effectiveness is a crucial concern for all organizations. Also, organizational success is considered a reflection of the efficiency of corporate leadership (Liu and Mcmurray 2004). Furthermore, MC is essential to enhance the organizational performance, change strategies, replenish the firm advancement and build a proactive manager (Altintas, Gulsun; Veronique 2019). Many studies have defined MC as an executive intention action, ((Anzengruber et al. 2017); (Kor and Mesko 2013), and (C. E. Helfat and Martin 2015). This definition highlighted the essential effect of managerial qualities on organizational performance. (Tripsas, M.; Gavetti 2000); (C. . Helfat and Martin 2003); (C. E. Helfat and Martin 2015); (Cruz et al. 2021); (Andrew A. King 2002); (D. Teece 2007), (D. J. Teece 2012)). Meanwhile, many researchers have explained MC as the ability of the firm to expressly generate, enrich, or adapt its resource pool (Augier and Teece 2008); (Jeffrey A. Martin 2011). Additionally, (D. J. Teece 2012) has stressed that although several components of MC are contained in organizational routine, managers are essential in developing and enhancing these capabilities. A manager's mission includes detecting and grabbing opportunities and transforming them into an organizational add-value (D. Teece 2007), (Augier and Teece 2008)). Managers should depend on an organizational routine to interpret information, sense and seize opportunities, and make accurate decisions. Therefore, (Peteraf and Di Stefano (2013) have combined routines and managerial action to work together consecutively and instantaneously to enhance organizational performance. MC, which creates a sustainable competitive advantage, emerged through managerial activities (Helfat, C. and Winter 2011). To identify the matured MC embedded in the organizational practices and be a part of its routine, they should have three main characteristics (e.g., have a decisive strategic and economic importance, direct to repeatable change, and have both routine and non-routine components),

(Helfat, C. and Winter 2011); (D. Teece 2007); (C. . Helfat and Peteraf 2009); (D. Teece 2007); (D. J. Teece 2012).

1.4.Managerial Capabilities across an organizational level

MC is essential for all managerial levels in any organizational structure but more essential at the top management level (Rosenbloom 2000); (Tripsas, M.; Gavetti 2000); (Jeffrey A. Martin 2011); (Kor and Mesko 2013);(David Teece, Peteraf, and Leih 2016). A critical senior executive job is to develop the overarching strategic missions of the organization. Top Managers should prepare long-term plans covering three to ten years and then disseminate this information to middle managers to be translated into operational programs implemented by first-line managers (Dechurch et al. 2010). As a result, relations and change-oriented capabilities are more crucial for a top manager's effectiveness than task-oriented capabilities. Top management must align the desired goal of multiple functional teams, business units, and individuals to avoid harmful political authority applications. In addition, top managers establish a sense of cohesion for the overriding good of the organization (Gary Yukl, 2008). Such dynamic communication between key players proposes that high degrees of relations-oriented capabilities are essential for managerial effectiveness at the top management level. A key accountability of top leaders is to have a clear vision and definition of the company's future (Dechurch et al. 2010). However, the business environment changes rapidly, and a solid receptiveness to change is necessary. Change-oriented capabilities have been frequently described as crucial characteristics of successful top managers. Different roles along the hierarchy have other requirements and demands ((Nealey, S. M., & Fiedler 1968).

1.5.Proactive Manager

Many authors defined the manager as "a person who supports, activates, and is responsible for the work of others" (Bushuyev and Jaroshenko 2013). Such leaders and managers need unique competencies and qualities to act effectively and perform their roles. Proactive behaviour, characterized as self-initiated efforts to bring about change to the environment and oneself (Parker, Williams, and Turner 2006), is among the critical and desirable behaviours in the current business situation. The benefits of proactive behaviour have been widely proven. For example, (Fuller, B. & Marler 2009) executed a meta-analysis that showed that persons with assertive personalities achieved higher career success and effective performance. Explicit, active behaviours have been explored as reasons for success and positively related to individuals' performance (e.g., taking personal initiative, making a voice, building

networks, taking charge, and championing innovation) (Bledow and Frese 2009); (Grant, A. M., Parker, S., & Collins 2009);(Howell and Shea 2001); (Thompson 2005); (Bozdogan 2021)). Many researchers have studied employee proactivity (Sharon K. Parker, Uta K. Bindl 2010).

Meanwhile, (Wu and Wang 2011) have examined the capability of organizations to observe and evaluate their leaders' proactivity in different positions, levels, and situations; together, proactive personality and proactive behaviour have been associated with successful leaders' capabilities (Deluga 1998). In a nutshell, analysis of the literature review proved that there is a vital need to investigate the Dynamic Managerial Qualities required of top Egyptian managers. Furthermore, it is essential to provide a guideline for those managers to enhance their productivity and efficiency to be proactive in facing future challenges.

2. Research Design and Methodology

Based on the literature review, top Egyptian managers need a plan to support them in being proactive. Consequently, this research aims to investigate the required (DMQ) to build a proactive top manager in Egyptian firms. This aim can be accomplished by exploring these capabilities and their effects on building the proactive manager. Therefore, the author performed a quantitative analysis to collect in-depth information to understand the required skills for the proactive manager (Dovaliene, Masiulyte, and Piligrimiene 2015).

2.1.Research Model

The diagram below shows the required (DMQ) to transform the Egyptian top manager from a traditional practice to a proactive top manager capable of adapting and responding to the massive changes in the global business milieu. The research framework suggests that (DMQ) – as an independent variable- is essential for Egyptian organizations to build a proactive manager – as a dependent variable- to handle the uncertainties. (DMQ) as proposed in this research, consisted of eight dimensions (e.g., Open Innovation, Adaptability, Networking, Emotional Intelligence, Strategic orientation, Intellectual and decision-making skills, digital technical knowledge, cultural diversity, and change management). Every single category serves as a part of the proactive managerial role.

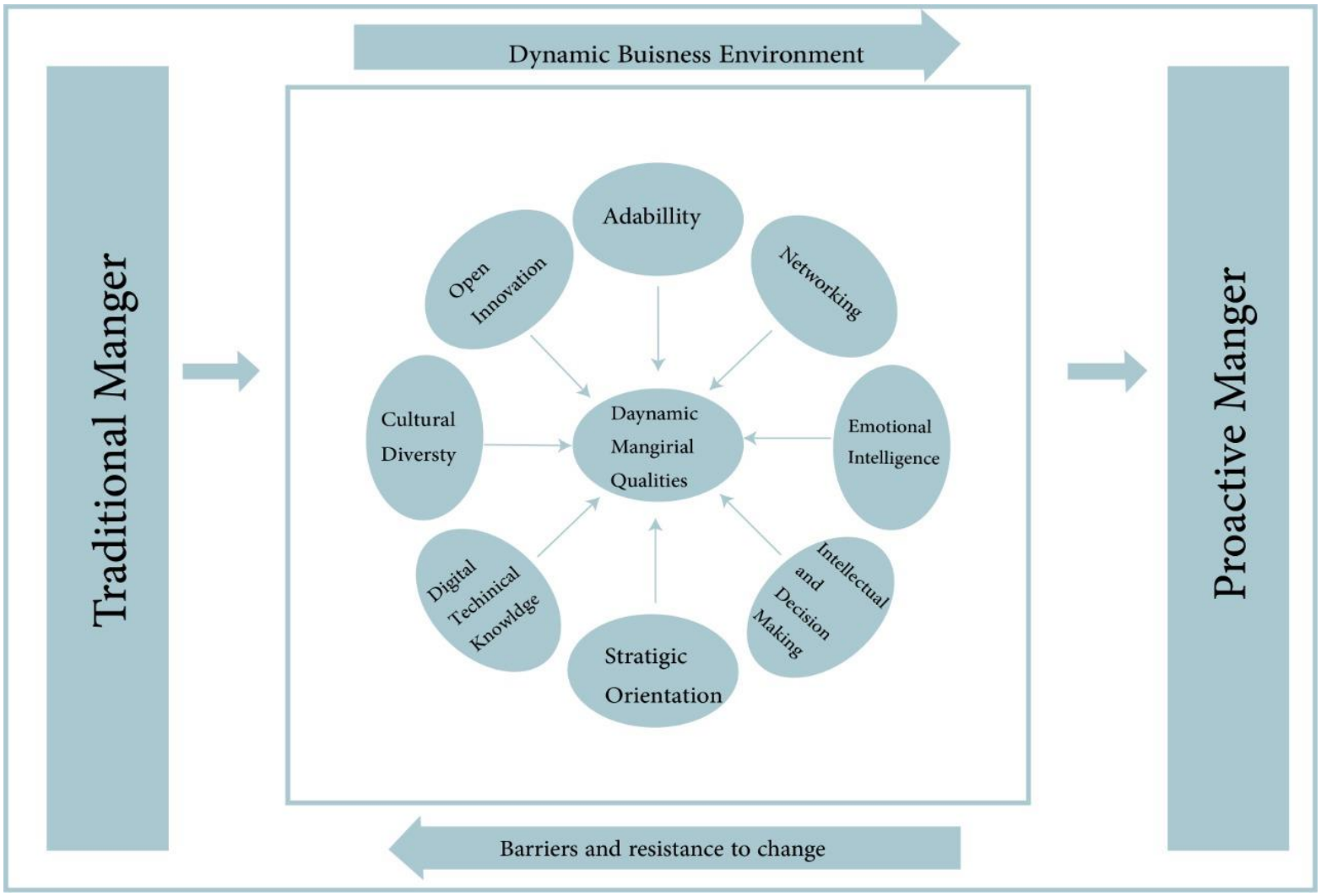

Figure 1: The proposed Conceptual Model of (DMQ)
Source 1: Author's work

2.2.Research Hypotheses

The following hypotheses were developed to test if there is a significant correlation between DMQ and building a (PM).

H1: Managers' DMQ (Open innovation) has no significant effect on creating a (PM) at the business corporations in Egypt.

H2: There is no statistically significant relationship between DMQ (Adoptability) and establishing a (PM) at the business corporations in Egypt.

H3: DMQ (Networking) does not impact creating a (PM) at the business corporations in Egypt.

H4: DMQ (Emotional Intelligence) has no significant effect on advancing a (PM) role at the business corporations in Egypt.

H5: DMQ (Strategic Orientation) has no statistically significant relationship in creating a (PM) at the business corporations in Egypt.

H6: DMQ (Intellectual and Decision-making) does not impact proactive managers at the business corporations in Egypt.

H7: There is no statistically significant relationship between DMQ (Digital Technical Knowledge) and supporting a (PM) at the business corporations in Egypt.

H8: Managers' DMQ (cultural diversity and change management) has no significant effect on building a (PM) at the business corporations in Egypt.

2.3.Population and Sample

The study population included top and middle managers working at different business companies in Egyptian governorates (e.g., Alexandria, Cairo, Mansoura, and Zagazig). The author targeted 500 managers in selected areas. The total responses were 425. The researcher omitted 35 incomplete responses. The final reactions were 390 respondents, with %78. The number and industrial distribution of samples obtained by 390 managers are presented in the following table:

Table 1: Distribution of the Sample Size based on Industrial types

Industry types	Sample Size	Percentage
Pharmaceutical	**102**	**26.2%**
Engineering	**71**	**18.2%**
Private Education	46	11.8%
Constructions	**24**	**6.2%**
Telecommunications	22	5.6%
Petrochemicals	20	5.1%
Commercial Business	18	4.6%
Cement	15	3.8%
Private Higher Education	14	3.6%
Public Sector	13	3.3%
Food and Beverage	10	2.6%
Financial Sector	9	2.3%
Architecture	6	1.5%
Health Care	6	1.5%
Insurance	5	1.3%
Non-for-Profit	5	1.3%
Electricity	4	1.0%
Total	**390**	**100.0**

Source 2: Author's Statistical Analysis work

(Table 2) showed the characteristics of the sample (e.g., Gender, Age, and Educational Level):

Table 2: Characteristics of the Sample

	Category	Number	Percentage
1. Gender	Male	300	76.9%
	Female	90	23.1%
	Total	**390**	**100%**
2. Age	From 20 to 30	46	11.5%
	From 31 to 40	144	37.2%
	From 40 to 50	195	50.0%
	More than 50	5	1.3%
	Total	**390**	**100%**
3. Educational Level	Bachelor's degree	55	14.1%
	Master's degree	275	70.5%
	Ph.D. degree	60	15.4%
	Total	**390**	**100%**

Source 3: Author's Statistical Analysis work

2.4.Procedure

This study aimed to identify the (DMQ) eight dimensions and their significant roles in building a (PM). Therefore, it was necessary to explore the eight building blocks of DMQ (e.g., Open Innovation, Adaptability, Networking, Emotional Intelligence, Strategic orientation, Intellectual and decision-making skills, digital technical knowledge, cultural diversity, and change management) and its effect on creating a PM at Egyptian business companies. Thus, a survey research method was used to collect data. The questionnaire consisted of three sections. The first part included the biographical information of responded managers. The second section was related to (DMQ), and the third part was about PM measurements. Data collection took approximately four months. The author designed the survey via Google form and sent it to the target population via emails and social media tools (what is app., Twitter, and Messenger). The researcher sent the required questionnaire to approximately 500 managers and got 390 complete responses with % 78 response rates.

2.5.Research Variables and Methods of Measurement

This research studied the association between (DMQ) and creating a PM. The fifty-four items scale (DMQ) measures the effect of the eight dimensions on the creation of a (PM). These items are divided into the following: Five items measure open innovation capabilities, six measure adaptability qualities, and five measure networking abilities. Meanwhile, there are six items to measure emotional intelligence capabilities, ten to measure strategic orientation, and seven to measure intellectual and decision-making competencies. Also, there are three items to scale digital technical knowledge and five to scale cultural diversity and change management skills. Finally, the last seven items scale PM performance based on (Wu and Wang 2011) work on the association between DMC and building proactive leadership. Responses to all items' scales were anchored on a five (5) point Likert scale for each statement which ranges from (5) "full agreement," (4) "agree," (3) "neutral," (2) "disagree," and (1) for "full disagreement."

2.6.Methods of Data Analysis and Testing Hypotheses

The researcher has employed the following methods that could be found in SPSS: (1) The Alpha Correlation Coefficient (ACC), (2) Multiple Regression Analysis (MRA), and (3) the statistical testing of hypotheses which includes F- test and T-test.

2.7.Hypotheses Testing

Before testing the hypotheses and research questions, descriptive statistics were performed to determine the means and standard deviations of DMQ and PM.
Table 3) displays the mean and standard deviations of DMQ and PM.

Table 3: Mean and Standard Deviation among DMQ Dimensions

Variables	The Dimension	Mean	Standard Deviation
Dynamic Managerial Qualities	Digital technical knowledge	4.6385	.35379
	Open innovation	4.6097	.31256
	Networking	4.6056	.28297
	Strategic orientation	4.5921	.31795
	Cultural Diversity management	4.5462	.26105
	Emotional intelligence	4.5068	.24772
	Adaptability	4.4885	.25979
	Intellectual and decision making	4.4505	.38030
	Total Measurement	**4.5547**	**0.22194**
Proactive Manager	**Total Measurement**	**4.5828**	**0.23853**

Source 4: Author's Statistical Analysis work

Table 3) sorted the mean and standard deviation among variables. The mean of each variable is more than 3, indicating that the study subjects have a higher level of DMQ and PM. The different facets of DMQ are examined. Most respondents identified the presence of digital technical knowledge competencies (M=4.638, SD=0.3537). This was followed by Open innovation capabilities (M=4.61, SD=0.3125), networking (M=4.605, SD=0.2829), and strategic orientation abilities (M=4.59, SD=0.3279). Additionally, Cultural diversity management was presented by (M=4.546, SD =0.26105) and emotional intelligence skills (M=4.5068, SD=0.2477). Adaptability was presented with (M=4.4885, M=0.2597), and intelligence and decision-making were presented with (M=4.4505, SD=0.3803). The different facets of PM are examined and represented with (M=4.5828, SD=0.2385).

2.8.Evaluating Validity and Reliability

ACC was used to evaluate the degree of internal consistency among the contents of the scale under testing. It was decided to exclude variables with a correlation coefficient of less than 0.30 when the acceptable limits of ACC range from 0.60 to 0.80, following levels of reliability analysis in social sciences (Nunnally & Bernstein, 1994). the Cronbach alpha test was conducted to assess the reliability of the data. (Table 4) displayed the reliability results for DMQ and PM. The 47 items of (DMQ) are reliable because the Alpha Correlation Coefficient (ACC) is 0.901 and the seven items of (PM) are reliable because (ACC) equals 0.760. (Table 4) represented the ACC of the DMQ dimensions.

Table 4: The Validity and Reliability of DMQ Dimensions

Variables	The Dimension	No. of Statement	ACC
Dynamic Managerial Qualities (DMQ)	Emotional intelligence	3	0.905
	Adaptability	5	0.901
	Cultural Diversity and change management	5	0.900
	Networking	10	0.890
	Digital Technical knowledge	5	0.890
	Intellectual and decision-making skills	6	0.889
	Open innovation	6	0.880
	Strategic orientation	7	0.876
	Total Measurement	**47**	**0.901**
Proactive Manager (PM)	**Total Measurement**	**7**	**0.760**

Source 5: Author's Statistical Analysis work

3. Analysis

3.1.Descriptive Analysis of Demographic Data and DMQ

3.1.1. Age and DMQ

The following (

Table 5) displayed the selection of DMQ based on age categories.

Table 5: The descriptive Analysis between Age and Eight Dimensions

	Age							
	20 to 30		31 to 40		41 to 50		more than 50	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Open innovation	4.40	.16	4.65	.30	4.62	.33	5.00	0.33
Adaptability	4.48	.19	4.52	.28	4.47	.26	4.27	.029
Networking	4.56	.19	4.61	.30	4.61	.29	4.60	0.31
Emotional intelligence	4.46	.23	4.53	.20	4.50	.28	4.63	.035
Strategic orientation	4.42	.24	4.67	.30	4.57	.33	4.84	.29
Intellectual and decision-making skills	4.41	.20	4.52	.37	4.39	.41	5.00	0.27
Digital Technical Knowledge	4.41	.38	4.61	.35	4.70	.32	5.00	0.29
Cultural Diversity and Change Management	4.44	.25	4.59	.28	4.53	.24	4.76	.27

Source 6: Author's Statistical Analysis work

Table 5) shows the mean and standard division for all age category choices of the eight dimensions. Again, all numbers are above four on (Likert Scale). These results indicated that all participants of age categories agreed that the proposed types are essential to building a PM. However, there are slight differences between each age category selection. For instance, age (from 20 to 30) has prioritized networking, adaptability, emotional intelligence and cultural diversity, and change management as the priority competencies to build the PM. These choices are made based on their need to overcome business problems occurred from (e.g., cultural diversity and communications barriers).

Meanwhile, the second age category (31 to 40) and the third age category (from 41-50) –which represented the experienced managers- have similarly agreed that competencies such as strategic orientation, open innovation, digital technical knowledge, and networking should be ranked at the top of the required dynamic competencies to be a PM. These choices are based on their understanding of the unstable global environment and the business choices' risk. The researcher suggested three reasons that may explain these choices. The first is the need for strategic decision-making capabilities to guide the organization's future. Secondly, the organization should open its boundaries to build a large innovation pool to enrich its operations with a sustainable competitive advantage. Thirdly, digital technical knowledge is essential to a PM to deal with the advanced technologies required to shorten decision-making processes. Lastly, networking could be critical to gaining emerging opportunities and avoiding unwelcome threats. Senior managers –age category (more than 50) have agreed with the previous choices except for replacing networking with intellectual and decision-making. This choice indicates the requirement of decision-making capabilities as a core dimension of any PM.

3.1.2. Gender and DMQ

(**Error! Not a valid bookmark self-reference.**) demonstrated that there was a minor difference between gender groups' choices. The male category has focused on digital technical knowledge, strategic orientation, networking, and open innovation as essential capabilities to be at the top rank for PM. Similarly, the female category has agreed on the same qualities, except they replaced strategic orientation to be ranked fifth in the list and emotional intelligence ranked fourth.

Table 6: Gender and DMQ

	Gender			
	Male		Female	
	Mean	Standard Deviation	Mean	Standard Deviation
Open innovation	4.62	0.31	4.59	0.33
Adaptability	4.51	0.26	4.42	0.25
Networking	4.64	0.27	4.49	0.29
Emotional intelligence	4.53	0.23	4.43	0.29
Strategic orientation	4.64	0.29	4.44	0.36
Intellectual and decision-making skills	4.48	0.35	4.34	0.46
Digital Technical Knowledge	4.65	0.34	4.61	0.39
Cultural Diversity and Change Management	4.54	0.27	4.55	0.21

Source 7: Author's Statistical Analysis work

3.1.3. Education and DMQ

Table 7: Educational Level and DMQ

	Education					
	Bachelor		Master		PhD	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Open innovation	4.56	.33	4.63	.31	4.57	.28
Adaptability	4.43	.25	4.51	.26	4.43	.26
Networking	4.63	.31	4.61	.27	4.59	.32
Emotional intelligence	4.53	.22	4.48	.25	4.60	.24
Strategic orientation	4.57	.34	4.63	.29	4.45	.38
Intellectual and decision-making skills	4.44	.31	4.47	.37	4.36	.47
Digital Technical Knowledge	4.61	.37	4.63	.35	4.72	.36
Cultural Diversity and Change Management	4.46	.22	4.56	.28	4.58	.21

Source 8: Author's Statistical Analysis work

(Table 7) represented that educational level has a different effect on designated sample choices. For example, bachelor's and master's holders have similar answers. They mentioned that networking, digital technical knowledge, strategic orientation, open innovation, cultural diversity, and change management are the most critical competencies to building a PM. There was a minor difference in the last three dimensions—meanwhile, PhD holders have a different list. They focused on digital technical knowledge, emotional intelligence, networking, cultural diversity, and change management as essential capabilities. The variance is due to the level of experience and the scientific background of PhD holders.

3.2.Regression Analysis

To define the relationship between the DMQ (Eight dimensions) and building a Proactive manager, a Multiple Linear Regression model was used in which (*Open Innovation, Adaptability, Networking, Emotional Intelligence, Strategic orientation, Intellectual and decision-making skills, digital technical knowledge, cultural diversity, and change management*) were considered as the independent variables and *PM* as the dependent variable, (Lehman and Rourke 2005). The author demonstrated the results of the regression model as the following:

3.2.1. The Relationship between DMQ (Open Innovation) and PM

The result in (Table 8) showed (MCC = 0.420). It means a significant relationship between PM and the explanatory variable (open innovation); because of (Beta = 0.074), the relationship is positive, but the relationship's strength is weak because (R^2= 0.174). Thus, the explanatory variable (open innovation) explained %17.4 of building the PM. Because the calculated F (83.037) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. So, there is a positive relationship between DMQ (open innovation) and PM.

Table 8: The Relationship between DMQ (Open Innovation) and PM

The Variables of DMQ (Open Innovation)	Beta	R	R2
Encourage total innovation management to solve business problems	0.068	0.068	0.005
Accept innovation from different sources either internal or external organizational ecosystem	0.253	0.262	0.069
Adopt and update the innovative business model to discover new sustainable competitive advantages	0.403	0.456	0.208
Create an innovative organizational culture	0.230	0.495	0.245
Hunt talented employees	0.162	0.514	0.264
• Multiple correlation coefficient	0.420 **		
• R square of Open Innovation	0.174		
• F value	83.037		
• F significance	0.000		
• Beta of Open Innovation	0.074		
• indexed F	2.80		

Source 9: Author's Statistical Analysis work

3.2.2. The Relationship between DMQ (Adaptability) and PM

(Table 9) presented a significant relationship between PM and the explanatory variable (Adaptability) because (MCC = 0.597). Additionally, (Beta =0.428) reflects a positive relationship. However, the relationship's strength is weak because (R^2= 0.384). Therefore, the explanatory variable (Adaptability) explained %38.4 of building the PM. Because the calculated F (122.439) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (adaptability) and PM.

Table 9: The Relationship between DMQ (Adaptability) and PM

The Variables of DMQ (Adaptability)	Beta	R	R2
Maintain credibility among colleagues, peers, and subordinates	0.103	0.103	0.110
Listen effectively to the stakeholders' constructive criticism	0.400	0.410	0.168
Express high flexibility to organizational change specifically during a crisis	0.143	0.434	0.188
Be proactive in volatile, uncertain, complex, and ambiguous situations	0.011	0.436	0.190
Depend more on temporary jobs	0.113	0.447	0.200
Have time management skills	0.825	0.901	0.813
• Multiple correlation coefficient	0.597 **		
• R square of Adaptability	0.384		
• F value	122.439		
• F significance	0.000		
• Beta of Adaptability	0.428		
• Indexed F	2.80		
** P < .01			

Source 10: Author's Statistical Analysis work

3.2.3. The Relationship between DMQ (Networking) and PM

(Table 10) presented (MCC = 0.466). It means a significant relationship between PM and the explanatory variable (Networking). In the meantime, the relationship is positive because (Beta= 0.170), but its strength is moderate as (R^2= 0.430). Accordingly, the explanatory variable (Networking) explained %43 of building the PM. Because the calculated F (98.768) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (networking) and PM.

Table 10: The relationship between DMQ (Networking) and PM

The Variables of DMQ (Networking)	Beta	R	R2
Assure of structured and effective communication system all the time.	0.027	0.027	0.001
Consider the multidisciplinary interrelationship impact on business activities	0.444	0.445	0.194
Construct an effective network with the different components of the ecosystem.	0.141	0.462	0.208
Master negotiation and conflict management skills	0.238	0.506	0.248
Scan the business environment either internally or externally comprehensively	0.086	0.512	0.253
• Multiple correlation coefficient	0.466 **		
• R square of Adaptability	0.430		
• F value	98.768		
• F significance	0.000		
• Beta of Adaptability	0.170		
• Indexed F	2.80		
** P < .01			

Source 11: Author's Statistical Analysis work

3.2.4. The Relationship between DMQ (Emotional Intelligence) and PM

(Table 11) presented (MCC = 0.294). Accordingly, it means a significant relationship between PM and the explanatory variable (Emotional intelligence). However, it is a positive relationship because (Beta=0.009) and a moderate one because (R^2= 0.429). Thus, the explanatory variable (Emotional intelligence) explained approximately %42.9 of the building of the PM. Because the calculated F = (73.976) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (Emotional Intelligence) and PM.

Table 11: The Relationship between DMQ (Emotional Intelligence) and PM

The Variables of DMQ (**Emotional intelligence**)	Beta	R	R2
Master presentation skills; structure, design, and performance	0.065	0.102	0.010
Practice and encourage work-life balance	0.016	0.102	0.010
Build trust and rapport with all ecosystem components	0.205	0.255	0.065
Motivate workers in chaotic and uncertain situations	0.098	0.288	0.083
Believe that success is depending on others' performance	0.127	0.353	0.125
Play the role of a facilitator more than a directive manager in challenging tasks.	0.337	0.479	0.230
• Multiple correlation coefficient	0.294 **		
• R square of Emotional Intelligence	0.429		
• F value	73.976		
• F significance	0.000		
• Beta of Emotional Intelligence	0.009		
• Indexed F	2.80		
** P < .01			

Source 12: Author's Statistical Analysis work

3.2.5. The Relationship between DMQ (Strategic orientation) and PM

(Table 10) showed that (MCC = 0.527). It means a significant relationship between PM and the explanatory variable (Strategic Orientation). However, the relationship is positive because Beta = 0.041); meanwhile, it is moderate because (R^2= 0.458). Accordingly, the explanatory variable (Strategic Orientation) explained nearly %45.8 of building the PM. Because the calculated F (66.716) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (Strategic Orientation) and PM.

Table 12: The Relationship between DMQ (Strategic Orientation) and PM

The Variables of DMQ (**Strategic orientation**)	Beta	R	R2
Build a learning organization that can learn from its mistakes and correct itself continuously	0.017	0.242	0.59
Be proactive in risk management and security threats	0.180	0.423	0.179
Master data management; data screening and assessment	0.089	0.420	0.176
Monitor the dynamic business environment changes just in time.	0.255	0.502	0.252
Optimize resources' utilization and competitiveness.	0.087	0.504	0.254
Discover opportunities for creating business distinctive competencies	0.182	0.528	0.279
Master decision-making capabilities.	0.043	0.525	0.277
Contribute to the advancement of the corporate vision, mission, and departmental objectives	0.206	0.566	0.321
Divide strategic plans into smaller projects	0.180	0.586	0.344
Master strategic planning techniques	0.248	0.520	0.270
• Multiple correlation coefficient	0.527 **		
• R square of Strategic Orientation	0.458		
• F value	66.716		
• F significance	0.000		
• Beta of Strategic Orientation	0.041		
• Indexed F	2.80		
** P < .01			

Source 13: Author's Statistical Work

3.2.6. The Relationship between DMQ (Intellectual and decision-making) and PM

(MCC = 0.606) in (Table 13) reflects a significant relationship between PM and the explanatory variable (Intellectual and Decision-Making). However, (Beat = 0.424), therefore, the relationship is positive. At the same time, it is a strong relationship because (R^2= 0.540). Consequently, the explanatory variable (Intellectual and Decision-Making) explained %54 of building the PM. Because the calculated F (66.716) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (Intellectual and Decision-Making) and PM.

Table 13: The Relationship between DMQ (Intellectual and Decision Making) and PM

The Variables of DMQ (**Intellectual and decision-making**)	Beta	R	R2
Delegate tasks in a professional mode	0.176	0.375	0.141
Evaluate employees on performance and result orientation	0.291	0.516	0.266
Master different knowledge of many specialties - Being a Multidisciplinary person	0.036	0.519	0.270
Have professional Negotiation skills	0.011	0.523	0.273
Review operations and take necessary corrective actions.	0.092	0.569	0.324
Set and maintain performance standards	0.278	0.641	0.410
Set priorities for resources' optimization and plans execution	0.215	0.667	0.445
• Multiple correlation coefficient	0.606 **		
• R square of Intellectual and decision-making	0.540		
• F value	74.926		
• F significance	0.000		
• A beta of Intellectual and decision-making	0.424		
• Indexed F	2.80		
** P < .01			

Source 14: Author's Statistical Work

The Relationship between DMQ (Digital technical knowledge) and PMError! Not a valid bookmark self-reference.) demonstrated (MCC = 0.332). It means a significant relationship between PM and the explanatory variable (Digital Technical Knowledge). Additionally, (Beta = 0.057) and (R^2= 0.542) are positive and robust relationships. Thus, the explanatory variable (Digital Technical Technology) explained %54.2 of building the PM. Because the calculated F (64.543) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (Digital Technical Knowledge) and PM.

Table 14: The Relationship between DMQ (Digital Technical Technology) and PM

The Variables of DMQ (**Digital technical knowledge**)	Beta	R	R2
Divide work assignments based on Team orientation	0.354	0.375	0.140
Advance organizational digital capabilities	0.041	0.376	0.141
Master advanced Business technologies (Artificial Intelligence, big data, Internet of Things)	0.125	0.394	0.149
• Multiple correlation coefficient	0.332 **		
• R square of Digital Technical Knowledge	0.542		
• F value	64.543		
• F significance	0.000		
• A beta of Digital Technical Knowledge	0.057		
• Indexed F	2.80		
** P < .01			

Source 15: Author's Statistical Analysis Work

3.2.7. The Relationship between DMQ (Cultural Diversity and change management) and PM

The following (**Error! Not a valid bookmark self-reference.**) showed (MCC = 0.290). It means a significant relationship between PM and the explanatory variable (Cultural Diversity and Change Management). However, (Beta =0.056), there is a positive but strong relationship because (R^2= 0.544). Consequently, the explanatory variable (Cultural Diversity and Change Management) explained %54 of building the PM. Because the calculated F (56.855) is more than the indexed F (2.80) at the statistical significance level of 0.01, the null hypothesis is rejected. Therefore, there is a positive relationship between DMQ (Cultural Diversity and Change Management) and PM.

Table 15: The Relationship between (Cultural Diversity and Change Management) and PM

The Variables of DMQ (**Cultural Diversity and change management)**	Beta	R	R2
Value diversity of the workforce	0.001	0.033	0.001
Redefine organizational culture to be crisis-oriented.	0.101	0.161	0.026
Establish organizational culture based on self-commitment instead of responsibility	0.316	0.444	0.197
Manage change, handle resistance, and discover effective conflict solutions	0.252	0.502	0.252
Blend knowledge, skills, ambitions, and experience of a diverse work group successfully	0.380	0.504	0.254
• Multiple correlation coefficient	0.290 **		
• R square of Cultural Diversity and change management	0.544		
• F value	56.855		
• F significance	0.000		
• A beta of Cultural Diversity and change management	0.056		
• Indexed F	2.80		
** P < .01			

Source 16: Author's Statistical Analysis Work

4. Discussion and Results

The results' analysis supported the research's hypotheses that the eight dimensions of DMQ were positively correlated to the building of the PM. The research's outcomes maintained the idea of the role of top managers to encourage other organizational managers to obtain these dynamic qualities to optimize organizational performance, discover future opportunities, and address workflow mistakes. The research's findings ensured that DMQ could be essential in expanding the corporate life cycle and creating self-sustainability, specifically during uncertain and risky periods. Moreover, mastering these DMQs will allow the organization to maximize profits and gain new competitive advantages. Meanwhile, many managers need a self-evaluation roadmap to advance with these DMQs.

Consequently, the author suggested the following Agile Managerial Transformation Strategy permit companies to periodically asses their top managers' skills, then plan and execute this approach to obtain the necessary competencies to prepare for the unpredictable future. This strategy includes five main stages (**Scan, Compare, Customize, Execute, and Review**) (Hassanin and Hamada, 2022). This agile approach ensures continuous improvement and just-in-time corrective action. The starting point is to have a complete organizational board of directors support and desire to change and development. Then, the top management should form a change management team responsible for the execution of this strategic approach. The following figure represents this (SCCER) strategy's phases.

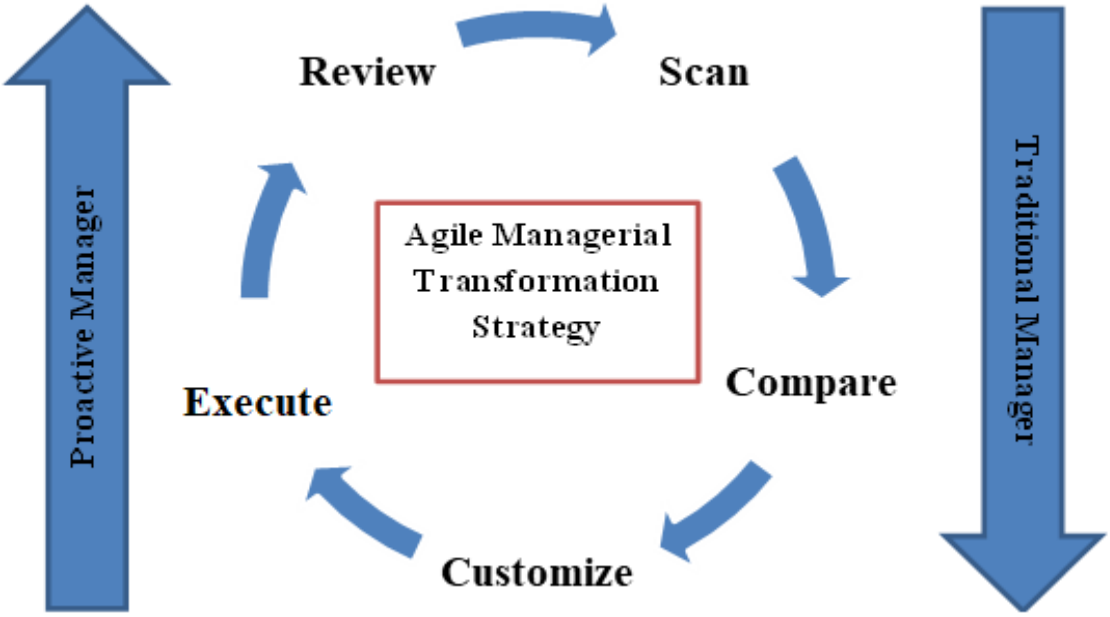

Figure 2: The Agile Managerial Transformational Strategy
Source 17: Author's Work

The first phase is to ***Scanning*** of the current managerial qualities maturity level. This phase creates a detailed map of key DMQ to identify the current situation from the action point of view (Hassanin and Hamada, 2022). Therefore, the author suggested that the adopted Organizational Managers Maturity Model (OMMM) allows the evaluation of managerial capabilities. The original model was for analyzing and evaluating the development of software projects and other related systems, such as digital transformation, human resources management, and I.T. governance (Ahmed and Capretz, 2010) (Nolan, 1979; Issa et al., 2018). The adopted model (OMMM) specifies the gap between your team's DMQ in implementing the organizational strategic choices and an appropriate benchmark. A precise scenario is applicable to manage the transformation processes, control

the designed plan effectively, and manage resistance. This adopted model consists of eight building blocks (e.g., Open Innovation, Adaptability, Networking, Emotional Intelligence, Strategic orientation, Intellectual and decision-making skills, digital technical knowledge, cultural diversity, and change management). However, this agile managerial transformational strategy requests a holistic mapping of the manager's capabilities and careful change. Therefore, the team creates a clear picture to analyze the current managerial capabilities, relationships, and interdependencies between these eight components. Then, it is essential to test the effect of changing one element on organizational performance and how to strengthen these managerial capabilities. This process of scanning the impact of any change aims to reduce trade-offs and improve the strategy design's effectiveness (Hassanin 2012).

The second phase is ***comparing***. There is a need to identify up-to-date DMQ as a standard. Once the team has specified the managerial maturity level, they choose a benchmark corresponding to the current situation with an accurate standard model to realize a manager’s competency gap. The aim is not to duplicate the rival's talents but to explore the organizational and managerial qualities shortage. The crucial goal is to differentiate itself by creating (P.M.s) capable of generating self-sustainable competitive advantages (Hassanin 2012). Next, the team forms a complete managerial profile comprising eight component measurements compared with the standard model to discover the gap analysis for every top manager (Hassanin 2012). (Figure 3) shows an example of using (OMMM) in analyzing a top manager’s maturity level.

DMQ Dimensions	Maturity Level of a Top Manager									
Open Innovation	1	2	3	4	5	6	7	8	9	10
Adaptability	1	2	3	4	5	6	7	8	9	10
Networking	1	2	3	4	5	6	7	8	9	10
Emotional intelligence	1	2	3	4	5	6	7	8	9	10
Strategic orientation	1	2	3	4	5	6	7	8	9	10
Intellectual and decision-making skills	1	2	3	4	5	6	7	8	9	10
digital technical knowledge	1	2	3	4	5	6	7	8	9	10
cultural diversity and change management	1	2	3	4	5	6	7	8	9	10

Figure 3: Organizational Managerial Maturity Model
Source 18: Author's Work

Based on the earlier ***Scanning*** and ***comparing*** phases, the team prepares OMMM to specify the gap as a foundation to build an effective managerial transformational strategy to mitigate the discovered shortages. The third phase is ***Customizing***. The team forms a complete plan to alleviate the explored gap and advance the utilization of DMQ. This approach involves active tools to handle the deficiency simultaneously in every category. However, the transformational managerial process is a process obligation rather than an H.R. problem. Thus, this strategy needs the full support of the corporate board; else, this progressive change will never exist. Additionally, the firms' departments need full cooperation to accumulate tangible and intangible resources. Building a PM is a strategic orientation that demands a clear vision and intelligent execution in the short or long term.

The fourth phase is ***Executing***. According to (Chanias, Myers, and Hess 2019), there are several approaches to implementing a transformational plan. The first one is the hierarchal approach. In this method, top directors apply cultural modification and support the new strategy, which could ensure the successful implementation of this strategy. This method demands competitive reformation of the firm's hierarchy and authorities, gaining new competencies, and resolving the conflicts caused by this fundamental change. The second approach is "Asses the River's Water" (Hassanin and Hamada, 2022). Frequently, the conversion plan is not apparent, and there need to be more experts combined with the top managers' worry about failure threats. So, the team will split the training project into small pieces and start

execution with careful evaluation of the results. The third method is divisional change. Usually, companies utilize this approach when changing the entire business is expensive and timewasting. Finally, the fourth approach is Downside-Up Culture Change. Developed businesses approve of contracting brilliant, self-managed employees who disseminate knowledge with their peers and have unique managerial skills. The authors suggested that local Egyptian companies customize their execution phase to merge the two approaches. The hierarchal approach guarantees the full support of top management and the divisional change to avoid failure due to change resistance and to minimize costs. The fifth phase is ***Reviewing.*** As stated earlier, this agile technique permits the staff to measure every stage and take prompt corrective action.

5. Recommendations

The author recommended that Egyptian business firms can enhance their managers' competencies by approving the following suggestions:

1. Invest in professional development: invest in training and progress programs that emphasize innovative administrative talents, such as strategic planning, decision-making, problem-solving, communication, and leadership.
2. Exploit virtual education platforms: to offer directors admission to the latest managerial abilities and systems.
3. Accumulate Educational Resources: to inspire executives to be present in conferences, seminars, training sessions and workshops that concentrate on advanced managerial competencies.
4. Provide mentorship opportunities: to form a mentoring system that links managerial experts with less knowledgeable ones to disseminate knowledge and best practices.
5. Cultivate an innovative culture: to encourage continuous learning by equipping managers with access to advanced educational resources (e.g., books, articles, and other resources related to advanced managerial skills).
6. Leverage advanced technology: to facilitate collaboration between managers across different departments or locations through virtual meetings or video conferencing tools.
7. Foster an open communication environment: Creating a two-ways communication environment where managers feel comfortable expressing their ideas and opinions can help foster creativity and innovation within the organization.
8. Implement performance reviews: regularly conducting performance reviews with managers can help identify areas of improvement and provide feedback on how they are doing in their roles.

6. Egyptian Governmental Contribution

The Egyptian government launched the presidential leadership program in 2015 to equip young managers with political and administrative competencies and skills essential for the development strategy. The program provided a mix of theoretical and practical training for youth managers to solve inherited problems in the Egyptian state. The program aims to create young leaders with the knowledge and experience of the homeland's challenges and opportunities capable of handling them. Therefore, the essential role of this program is nonnegotiable for the future of the Egyptian state. This program is based on the cooperation between five governmental entities to accomplish the promised agenda. The program consists of three levels (e.g., Young leaders, Middle managers, and advanced managers). The public program serves the Egyptian government in hiring qualified employees and managers. However, business corporations require a strategic approach that permits the evaluation of their H.R. capabilities and to effectively fill the gap.

Conclusion

This study investigated the relationship between DMC and the building of PM in industrial organizations. This research provided a clear guideline for Organizational owners, policymakers, and top managers to understand better the meaning of dynamic managerial capabilities and their effect on building PM. This study depended on a descriptive analysis – mainly a survey with 390 members of Egyptian companies to answer the research questions. Consequently, the researcher tested several hypotheses on a sample of 500 managers at industrial companies in Egypt. Statistically, the researcher received 390 usable responses and used descriptive analysis, correlation analysis, and other methods to confirm the research hypotheses. There were two main findings from this research. The first is that there are eight managerial qualities required for top Egyptian managers to be proactive in facing the massive change in the global business dynamic environment (e.g., Open Innovation, Adaptability, Networking, Emotional Intelligence, Strategic orientation, Intellectual and decision-making skills, Digital technical knowledge, Cultural Diversity, and change management). Secondly, there is an association between (DMQ) and the building of a proactive manager in Egyptian business corporations. The study suggested that equipping top managers in Egyptian business companies with (DMQ) can positively build a PM and enhance organizational performance. Finally, this study comprehensively clarified the (DMQ) and its role in building a PM to face the enormous change in the global business environment.

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الملخص:

في بيئة الأعمال الدائمة التغيير، تعد الثورة الصناعية الرابعة هي الاداة المحركة والمتطورة التي يتم فيها استخدام التقنيات ذات التأثيرات الجذرية مثل إنترنت الأشياء والذكاء الاصطناعي والروبوتات والواقع الافتراضي والطابعات ثلاثية الابعاد. هذا النموذج سيؤدي الي تغييرفي طريقة المعيشة والعمل و التفاعل بين افراد المجتمع . أيضا يفرض هذا النموذج على الشركات أن تصبح أكثر مرونة وكفاءة من خلال أتمتة وتبسيط العمليات وكذلك تقديم خدمة أفضل للعملاء.كما سيخلق فرصًا جديدة للشركات لتطوير منتجات وخدمات أكثر ابتكارا. وبالتالي ، فقد أثبتت هذه التغييرات الجذرية الدور الأساسي لكبار المديرين الاستباقيين ليس فقط لإنقاذ المؤسسات أثناء الكوارث المحفوفة بالمخاطر ولكن أيضًا للبحث عن الفرص الخفية حتى في أوقات الفوضى. نتيجة لذلك، كان الهدف من هذا البحث تحديد الدور الأساسي للصفات الإدارية الديناميكية لبناء مدير استباقي في عصر الثورة الصناعية الرابعة في شركات الأعمال المصرية. من اجل ذلك، استخدم الباحث اسلوب التحليل الكمي وقدم عدة فرضيات حيث تم اختبارها على عينة قوامها 500 مدير في الشركات الصناعية في مصر. إحصائياً تلقى الباحث 390 إجابة قابلة للاستخدام واستخدم التحليل الوصفي وتحليل الارتباط وطرق احصائية أخرى لتأكيد فرضيات البحث. بناء علي ذلك توصل البحث الي أن هناك نوعان من النتائج الرئيسية. الأول هو أن هناك ثمانية مجموعات من الصفات الإدارية المطلوبة لكبار المديرين المصريين ليكونوا سباقين في مواجهة التغيير الهائل في بيئة الأعمال الديناميكية العالمية. ثانياً ، هناك ارتباط بين وبناء مدير استباقي في الشركات التجارية المصرية. أيضا اقترحت الدراسة نموذج تحويلي رشيق لتجهيز كبار المديرين في الشركات التجارية المصرية بكيفية بناء المدير الاستباقي الكفء وبالتالي تعزيز الأداء للمنظمة.

الكلمات الدالة: نموذج رشيق ، الثورة الصناعية الرابعة ، القدرات الإدارية الديناميكية ، كبار المديرين ، المدير الاستباقي