Capítulo 5

Business performance through quality management: Identifying the critical success factors

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Introduction

1.1 Quality management

Fulfilling characteristics and requirements in products and services that provide quality, is one of the most important features that business pursuit in an adequate manner to accomplish customer satisfaction. In this sense, achieving quality in a product or service is the reason why Quality Management (QM) have been applied and improved to ensure this feature and, at the same time, succeed customer satisfaction. Many QM systems, models and practices have been created and adapted to help business to manage, assure and improve quality such the ISO 9001 standard, Total Quality Management (TQM), Six Sigma (SS), Lean Manufacturing (LM), Lean Six Sigma (LSS), The Malcolm Baldrige National Award (MBNQA), European Foundation for Quality Management (EFQM), Good Manufacture Practices among others. Literature suggests that QM practice is essential to support business performance (Al Kurdi et al., 2020; Claire Waithera & Lawrence, 2024; Flynn et al., 1995; Fonseca et al., 2021; Gallego & Gutiérrez, 2017; Ismail Salaheldin, 2009; Keinan & Karugu, 2018; Mahajan et al., 2024; Parvadavardini et al., 2016; Phan et al., 2011; Pozzi et al., 2023; Sadikoglu & Olcay, 2014; Tornjanski et al., 2017; Vashishth et al., 2024; Wessel & Burcher, 2004), providing a range of benefits for improvement; consequently, it has a positive effect on organizations (Garza-Reyes et al., 2015).

QM practices create advantages in essential operational factors such quality, productivity, logistics, customer satisfaction, work environment among others related to business performance. For example, Flynn et al., (1994) defined QM as an integrated approach to achieving a sustainable high-quality output, focusing on the maintenance and continuous improvement of processes and defect prevention in order to meet or exceed customer expectations. For Kumar & Antony (2008), a suitable QM system in a business increases customer satisfaction, quality products, productivity and employee satisfaction; whereas Claire Waithera & Lawrence (2024) and Luning & Marcelis (2006), defines QM as an execution of activities and decisions to produce and maintain an optimal

quality level that meet clients and regulatory requirements with a continuously improvement in processes efficiency and effectiveness at the lowest cost, which subsequently results in an improved organizational performance. In the same matter, Parvadavardini et al., (2016) and Wessel & Burcher (2004) mentioned that a QM system is responsible for permanently redirecting a company's operations towards customer needs. QM emphasizes improvement reducing resources used in operational processes, operational time, operational costs, customer satisfaction, decreasing errors, and improving operational performance, leading to environmental and financial sustainability (Barbaritano et al., 2019; Fonseca et al., 2021). According to Priyono et al., (2019) (cited by Ong et al., 2020) and Pham (2020), the implementation of a QM system seeks to improve the quality and customer satisfaction, both internal and external of an organization. Generally, organizations adopt and implement QM to direct all the attention and effort towards quality and error-free processes which reduces costs, increases productivity, customer satisfaction and ultimately the general performance of any given organization (Claire Waithera & Lawrence, 2024; Mahajan et al., 2024). Finally, Vashishth et al., (2024), describe that many authors related the implementation of a QM with improvement of process and operational efficiency.

Therefore, QM systems/practices/models empowered business to improve key processes in purpose to fulfill company's objectives. Furthermore, implementing a QM through a sophisticated and adapted system into processes and capabilities of the company, will allow a continuous improvement of the system itself, to have greater competitive advantages and an increased performance outcomes.

1.2 Business performance

Knowing the Business Performance (BP) or effectiveness of a business makes it possible to recognize how well the company's resources are used. Recognizing the level of BP, allows to improve the usage of these resources in a continuously manner; therefore, the business effectiveness increase. BP is also known as output or outcome of the firm’s operations or achievements of firm’s goals (Maqsood et al., 2019). For Ariyachandra

& Frolick, (2008), business performance management achieve strategic objectives by providing directions and motivation to all its members to engage in tasks and activities that lead companies in the right direction. Likewise, Cetindere et al., (2015) defined performance as the evaluation of all the efforts in pursuit of the realization of management goals. Also, the concept of performance contains a wide range of constructs like financial and market performances, quality performances, operational performances, inventory management performance or any operator results in an evaluated period (Cetindere et al., 2015).

Effectiveness is defined as an organization's ability to achieve determined goals for preserving profit, acquire competitive advantages, increase market share and preserving long term survival, which depends on using appropriate organizational strategies and practical plans (Oyemomi et al., 2019). In the same manner, Moradi et al., (2021) described that performance is the results of work because the results have the strongest relationship with the organization strategic goals, customer satisfaction, and economic roles. BP is a general structure that is related to the way of performing organizational operations; consequently, organizational performance refers to the way of doing missions, tasks, and organizational activities and the results of them (Mahmoodzadeh & Sedaghat, 2013) cited by Moradi et al., (2021). Finally, Barbu et al., (2021) mentioned that a few authors consider the effectiveness as a sustainable multidimensional concept, which is based on the relationship between several interconnected factors.

Consequently, BP or effectiveness can be defined as a level of use and functionality of resources for an effective fulfillment of objectives. Likewise, it can be said that performance of companies is related to daily activities to obtain certain benefits. However, it should be mentioned that business effectiveness is a multidimensional concept that integrates everything from financial aspects that involve investors and sales, to productivity that involves top management and control systems. Thus, the performance of an organization can be seen as a globalized concept, which pursues several dimensions into account related to company's stakeholders such as customers, suppliers, sales; and internal management such as top management, employees, work processes, resources management (Barbu et al., 2021).

1.3 Critical success factors

Organizations attempting to implement QM, continually seek to identify factors that are considered key or critical to a successful implementation; these factors are often referred to as Critical Success Factors (CSFs) in literature. There are several CSFs that, when aligned, will result in a successful implementation of the QM in an organization. Otherwise, organizations that do not understand and minimize/eliminate these CSFs may have difficulty implementing QM and may not achieve their goal of improving their performance (Garza-Reyes et al., 2015). The theory of CSFs is well established in the literature, examining different industries (Ariyachandra & Frolick, 2008; Barbu et al., 2021; Dewi et al., 2018; Dinter, 2013; Flynn et al., 1995; Ismail Salaheldin, 2009; Mandhachitara & Allapach, 2017; Moktadir et al., 2020; Mübeyyen & Recep, 2015; Pham, 2020; Wang et al., 2012; Zhang et al., 2020). The definition of CSFs can be explained as the areas in which the results if they are satisfactory, will ensure successful competitive performance for the firms and, the CSFs may be able to ensure and improve organizational performance (Dewi et al., 2018; Dinter, 2013). For this reason, organizations must develop the following CSFs to ensure an effective implementation of the QM since the lack of these could act as implementation barriers.

Similarly, Rockart (1979) cited by Kumar et al., (2009), defines CSFs as factors for organizations to achieve success; hence, if these factors are not considered as essential, completed or fulfilled, the failure of a project or activity is highly probable. Even for Ariyachandra & Frolick, (2008), identifying the CSFs that influence the implementation of a business performance management, helps an organization to focus on the contextual variables that positively affect implementation; while Sikki et al., (2024), described the CSFs as determinant key for a new business to success. Thus, the CSFs can be viewed as those things that must go right in order to ensure the successful of a QM implementation. Also, Banuelas Coronado & Antony, (2002); Jeyaraman & Kee Teo, (2010) and Lande et al., (2016), stated that the CSFs are the components that organization pursues to identify and apply into its processes toward recognize which areas of the organization will produce the greatest competitive advan-

tages. Finally, Sanchez-Lizarraga et al., (2021) define that the CSFs are the characteristics or elements that organizations need to develop and fulfill in an optimal level to accomplish its objectives.

Based on literature reviewed, it could be mentioned that Business Performance (BP) is related to a Quality Management (QM) practices/ systems/models; it is even related to the efficient manner of managing resources to meet business objectives. Nonetheless, it is worth mention that to acquire performance through QM, business should first identify the critical factors (CSFs) to a successfully implementation of a QM into its processes. In this context, the objective of this article is to carry out a literature exploration to systematically identify the critical success factors in order to measure business performance through quality management.

Methodology

Methodology used in this research have a qualitative focus with a systematic-exploratory scope developed in three main stages: (1) Information research, (2) Identify and classify information and, (3) Categorize the CSFs. In the information search, databases from scientific journals that publish topics related to the focus of this research were used. Among databases consulted, these were Elsevier, Emerald, Taylor & Francis, Google Scholar, Springer, Dialnet, Redalyc to mention a few. Also, words such as QUALITY MANAGEMENT, BUSINESS PERFORMANCE, BUSINESS EFFECTIVENESS, QUALITY MANAGEMENT and PERFORMANCE, BUSINESS EFFECTIVENESS and QUALITY MANAGEMENT, CRITICAL SUCCESS FACTORS and PERFROMANCE, QUALITY MANAGEMENT and CRITICAL SUCCESS FACTORS were used, to remark some combinations used in database searching. Likewise, information no more than 10 years old, at the time of publication of this article, was selected due to the relevance and current context of the information; however, it is worth mentioning that, there are few references used in this article that do not meet this criterion; nonetheless, it was decided to use these references due to the simple and concrete smartness that authors used explaining concepts, models and/or factors in

their work. With these search criteria applied, 75 articles were collected related to the main focus of the research.

In the second stage, the abstract of each article was explored looking for key words that would allow identifying the relevant information to the present study. Therefore, of 75 articles consulted only 54 were used, which denotes a 72% of valid information to explore the critical success factors. Finally in the third sage, the selected articles were analyzed to identify and categorize the factors that allow measuring BUSINESS PERFORMANCE-EFFECTIVENESS and QUALITY MANAGEMENT, as well as an identification and compilation of performance BENEFITS through QM.

Findings

3.1. Quality management critical success factors

Literature suggests that companies that have a well-structured and developed a QM outperform their competitors as it bene?ts organization performance (Chen, 2024) (Casadesu´s & de Castro, 2005; McTeer & Dale, 1996; Gutierrez, et al., 2010; van der Wiele et al., 2005; Dale et al., 2007) (cited by Garza-Reyes et al., 2015). Literature also shows that QM benefits in innovation performance, financial performance and business competitiveness (Franco et al., 2020; Parvadavardini et al., 2016; Wang et al., 2012; Zeng et al., 2015). Also, there is a signi?cant relationship between operational and organizational performance implementing a Total Quality Management in Small and Medium Enterprises (SMEs) (Ismail Salaheldin, 2009). Concerning the CSFs for QM, Flynn et al., (1994) and Kumar et al., (2018), mentioned that top management support (leadership), quality information, process management, product design, strategic planning, workforce management, quality data, supplier involvement and customer involvement, are the factors to measure QM and acquire a significant business performance. Likewise, Garza-Reyes et al., (2015) stated that: (1) a strong committed leadership and good decision-making, (2) motivated, committed, and participative labor force,

(3) processes-oriented focus, (4) an organizational culture that supports, (5) continuous improvement and, (6) effective communication; are factors related with an effective QM to lead the business to an improve performance. Thus, a business needs to strive to continuously improve its QM, as well as other critical aspects of management to increase performance (Flynn et al., 1994). Likewise, variables such as a relationship management, leadership, quality standards and process approach can be used to appreciate that QM is appropriately implemented (Claire Waithera & Lawrence, 2024).

Besides, there are various principles that govern a QM system, including improvement, customer focus, engagement of people, relationship management, process approach and leadership (Keinan & Karugu, 2018). Furthermore, it is fundamental to establish good leadership for quality assurance and customer satisfaction since effective leaders empower and motivate employees to work towards organizational quality objectives (Keinan & Karugu, 2018). In this manner, employee involvement and training, top management commitment, process management, continuous improvement, quality information, customer focus and supplier management are factors related to performance (Keinan & Karugu, 2018; Pham, 2020). Even the International Organization for Standardization (2015), in the ISO 9001:2015 requirements manual, describes seven quality principles to ensure companies to accomplish quality goals: (1) Leadership, (2) Customer Focus, (3) Engagement of People, (4) Process Approach, (5) Improvement, (6) Evidence-based decision making and, (7) Relationship management. As Abbas, (2020) and Chaithanapat et al., (2022) stated, Knowledge-oriented leadership, customer knowledge management and innovation quality are factors related to QM systems that impact company performance. The implementation of a QM system on company performance can be approached with factors such context of the QM used, leadership in the QM, planning QM, support QM, operation of QM and improvement of QM (Ong et al., 2020). Finally, Savov et al., (2017), assumed that using the MBNQA model, the level of adoption of QM is measured; therefore, leadership, strategic planning, customer and market focus, measurement, analyses and knowledge management, human resource focus, process management and business performance are related factors to a QM implementation.

3.2 Business performance critical success factors

Although quality itself has a consistently positive relationship with better performance, there are commonalities of how performance is measured (Keinan & Karugu, 2018). Literature consulted shows several factors for performance measurement; for example, Rangone, (1997) mentioned that ?ve factors are considered as critical for the effectiveness of the companies: (1) Technological competence, (2) Corporate image, (3) Sales force effectiveness, (4) Speed of new product development and, (5) Operations ef?ciency. Even for Claire Waithera & Lawrence (2024), organizational performance will be measured by cost of operations, revenue collection and customer satisfaction. As detailed in Pham (2020), The Malcolm Baldrige Quality Award in the US proposed a framework for calculating performance based on product and process results, customer-focused results, workforce-focus results, leadership and governance results and financial and market results. According to Dermibag et al. (2006) cited by Pham (2020), firm performance has been measured with two factors: one is financial indicators represented by profit, market share, earnings, and growth rate, which called "past performance"; and another is non-financial performance, which represented for overcome potential shortcomings of traditional organizational performance. Similarly, for Flynn et al., (1995) performance outcome is measure with perceived quality market outcomes, percent of items that pass final inspection without requirement rework and competitive advantage.

Performance generally involved three parts of the business outcomes: (1) Financial performance representing by profits, return on assets, return on investment, (2) Product market performance representing by sales, market share and, (3) Shareholder return representing by total shareholder return and economic value-added (Pham, 2020; Richard et al., 2009); along with Barbu et al., (2021); Latifi et al., (2021); Mübeyyen & Recep (2015) and Zhang et al., (2020), describes that firm performance is related to profitability, market share, revenue growth, efficiency growth, stakeholders satisfaction and organizational capabilities such quality service, customer satisfaction, employee satisfaction and processes operational effectivity-efficiency; while Chaithanapat et al., (2022), mentions that

marketing, financial and operational performance are related to business performance measurement. Similarly, firm performance is analyzed with market share, sales growth, product development, cost-saving, new product and service projects introduced and return on sales (profit/total sales) (Yasmin et al., 2020). Besides, Cetindere et al., (2015) mentioned that organizational performance is defined with its 7 dimensions: (1) Effectiveness, (2) Efficiency and utilization of resources, (3) Productivity, (4) Quality, (5) Quality of work life, (6) Innovation and, (7) Profitability and budget compliance. Factors such as employee satisfaction, firm performance, product quality, and efficiency and business results are linked to firms' performance measurement (Madu et al., 1999; Feng et al., 2007) cited by Keinan & Karugu, (2018).

Consistent with Garrido-Moreno et al., (2024) and Sadikoglu & Olcay (2014), organizational performance can be measure by two critical factors; operational performance related to process, inventory, innovation and employee performance, social responsibility and customer results; and market and financial performance related to sale growth, market share growth, Return of Investment (ROI), Return of Assets (ROA), Return of Sales (ROS), Return on Equity (ROE), firm's size (number of employees) and economic activity-affinity. Finally, Ariyachandra & Frolick (2008) describes as CSFs for business performance management implementation a (1) Project champion to support the improvement project, (2) Management of resistance to achieve true transparency through implementation , (3) Management support from the upper management team, (4) Sufficient resources such monetary, people and time, (5) Team skills related to technical and process skills to measure and developing Key Performance Indicators (KPIs), (6) User support to ensure user requirements, (7) Effective communication for an effective understanding of organization strategic direction goals, (8) Clear link to business strategy to effectively formulate, modify and execute strategy in a continuous cycle, (9) Data management infrastructure to ensure a data repository that can be used as a trusted and audited source of business' truth and, (10) Evolutionary development methodology to influence the effectiveness of a system development effort.

Discussion

The literature analyzed shows that the variables studied have many factors that allow their measurement; therefore, BP and QM can be considered as multidimensional variables related to a large number of latent elements for their effective measurement. Regarding BP, the factors shown in the literature have great resemblance in performance of top senior management, work systems, business capabilities, financial performance and market behavior of products and services offered. On the other hand, to measure QM, the factors found have an affinity with top management commitment, work processes management, quality features management and customer involvement in products or services requirements. Even literature mentions different benefits that business acquire through QM; consequently, it can be mentioned that factors found have similar names and/or approaches that are related with the effective measurement of each variable. For that reason, two tables are presented to summarize the related factors for each of the variables, as well as a third table showing the performance benefits through QM. Tables shows the CSFs grouped by dimensions considering their name and approach, as well the literature source resembling with the findings; likewise, the same was done regarding the benefits.

Table 1
Critical success factors for Business Performance

Business Performance CSFs		
Dimension name	**Factor**	**Bibliographic Source**
Top senior management performance	Leadership and governance	Pham (2020); Ariyachandra & Frolick (2008); Cetindere et al., (2015); Rangone (1997); Madu et al., (1999); Feng et al., (2007); Chaithanapat et al., (2022).
	Project champion	
	Management resistance	
	Management support	
	Sufficient resources	
	Effective communication	

Business Performance CSFs		
Dimension name	**Factor**	**Bibliographic Source**
	Profitability and budget compliance	
	Quality of work life	
	Clear link to business strategy in a continuous cycle	
	Data management infrastructure	
	Overcome potential shortcomings	
	Evolutionary development methodology	
Work systems performance	Technological competence	Rangone (1997); Claire Waithera & Lawrance (2024); Flynn et al., (1995); Cetindere et al., (2015); Garrido-Moreno et al., (2024); Sadikoglu & Olcay (2014); Pham (2020); Ariyachandra & Frolick (2008); Madu et al., (1999); Feng et al., (2007); Chaithanapat et al., (2022).
	Customer satisfaction	
	Process efficiency	
	Percent of items that pass final inspection without requirement rework	
	Efficiency and utilization of resources	
	Product quality	
	Inventory efficiency	
	Cost of operations	
	Product and process results	
	Customer focused results	
	Workforce focused results	
	User support/user requirements	
	Work system effectiveness	

Business Performance CSFs		
Dimension name	**Factor**	**Bibliographic Source**
Business capabilities performance	Quality service	Barbu et al., (2021); Latifi et al., (2021); Mübeyyen & Recep (2015) and Zhang et al., (2020); Yasmin et al., (2020); Cetindere et al., (2015); Madu et al., (1999); Feng et al., (2007); Ariyachandra & Frolick (2008)
	Customer satisfaction	
	Product development	
	Cost saving	
	New product and services introduced	
	Innovation	
	Social responsibility	
	Overcome potential shortcomings	
	Employee satisfaction	
	Technical and process team skills to develop Key Performance Indicators (KPI)	
Financial performance	Sales force effectiveness	Rangone (1997); Claire Waithera & Lawrance (2024); Pham (2020); Dermibag et al., (2006); Richard et al., (2009); Barbu et al., (2021); Latifi et al., (2021); Mübeyyen & Recep (2015) and Zhang et al., (2020); Garrido-Moreno et al., (2024); Sadikoglu & Olcay (2014); Yasmin et al., (2020); Chaithanapat et al., (2022).
	Cost management	
	Revenue collection	
	Economic value-added	
	Profitability	
	Revenue growth	
	Growth rate	
	Stakeholders' satisfaction	
	Economic activity	
	Firm size	
	Return of investment	
	Return of sales (Profit/total sales)	

Business Performance CSFs		
Dimension name	**Factor**	**Bibliographic Source**
Market behavior	Corporate image	Rangone (1997); Yasmin et al., (2020); Garrido-Moreno et al., (2024); Sadikoglu & Olcay (2014); Flynn et al., (1995); Pham (2020); Richard et al., (2009); Barbu et al., (2021); Latifi et al., (2021); Mübeyyen & Recep (2015) and Zhang et al., (2020); Chaithanapat et al., (2022).
	Sales growth	
	Return of Assets	
	Perceived quality market outcomes	
	Competitive advantage	
	Sales	
	Firm size	
	Market share	

Table 2
Critical success factors for Quality Management

Quality Management CSFs		
Dimension name	**Factor**	**Bibliographic Source**
Top Management commitment	Top management support	Flynn et al., (1994); Kumar et al., (2018); Garza-Reyes et al., (2015); Salaheldin, (2009); Chen, (2024); Keinan & Karugu, (2018); Pham, (2020); Abbas, (2020); Chaithanapat et al., (2022); ISO (2015); Ong et al., (2020); Savov et al (2017).
	Good decision making	
	Commitment	
	Knowledge oriented leadership (type of leadership)	
	Evidence-base decision making	
	Strategic planning	
	Continuous improvement effective communication	
	Measurement, analyses and knowledge management	
	Organizational culture that supports	
Process Management	Workforce management	Flynn et al., (1994); Kumar et al., (2018); Garza-Reyes et al., (2015); Salaheldin, (2009); Chen, (2024); Keinan & Karugu, (2018); Pham, (2020); ISO (2015); Savov et al (2017); Ong et al., (2020).
	Process approach	
	Continuous improvement	
	Engagement of people	
	Measurement, analyses and knowledge management	

	Employee involvement and training	
	Process management	
	motivated, committed, and participative labor force	
Quality Management	Quality information	Flynn et al., (1994); Kumar et al., (2018); Keinan & Karugu, (2018); Pham, (2020); Abbas, (2020); Chaithanapat et al., (2022); Ong et al., (2020); ISO (2015); Savov et al (2017)
	Innovation quality	
	Quality management system used	
	Quality improvement	
	Measurement, analyses and knowledge management	
	Customer focus	
Customer involvement/ Product requirements	Product design	Flynn et al., (1994); Kumar et al., (2018); Keinan & Karugu, (2018); Savov et al (2017); Abbas, (2020); Chaithanapat et al., (2022); Ong et al., (2020).
	Supplier involvement	
	Relationship management	
	Market focus	
	Customer knowledge management	
	Customer focus	
	Supplier management	

Table 3
Performance benefits through quality management

	Benefits	
Dimension name	**Factor**	**Bibliographic Source**
Process benefits	High quality output	Flynn et al., (1994); Kumar & Marcelis (2006); Barbaritano et al., (2019); Fonseca et al., (2021); Claire Waithera & Lawrence, (2024); Mahajan et al., (2024); Vashishth et al., (2024).
	Continuous improvement	
	Enhancing processes efficiency	
	Employee satisfaction	
	Defect prevention	
	Reducing resources	
	Reduce operational time	
	Decreasing errors	
Quality benefits	Exceed customer satisfaction	Flynn et al., (1994); Kumar & Marcelis (2006); Claire Waithera & Lawrence
	Customer satisfaction	

	Meet clients' requirements	(2024) and Luning & Marcelis (2006); arvadavardini et al., (2016) and Wessel & Burcher (2004).
	Customer needs	
Financial benefits	Reduce operational costs	Barbaritano et al., (2019); Fonseca et al., (2021); Claire Waithera & Lawrence, (2024); Mahajan et al., (2024).
	Revenue growth	
	Return of investment	
	Sales	

Table 1 shows five dimensions where all CSFs can be grouped with the same approach; this means that 55 factors found in literature can be grouped into five dimensions, each defined by a particular approach to measure BP. On the other hand, Table 2 shows four dimensions to group 30 CSFs related to their main focus that allow to effectively measure QM. In the same manner, Table 3 shows the arrangement of the benefits grouped in three dimensions where 16 benefits are related to business' performance. It should be noted that there could be some repeated factor among dimensions due to the relationship between its approaches or definition; however, the authors decided to leave them out of consideration since each of the factors could act differently in each dimension. Removing or combining them would be up to the consideration of those who use these factors to measure the variable.

Conclusion

The objective of this research was to systematically explore the literature to identify the Critical Success Factors (CSFs) for Business Performance (BP) through Quality Management (QM). The acknowledge in this research made possible to recognize a variety of CSFs to accomplish the objective. It should be mentioned that each success factor found in the literature allows top management or business owners to recognize the essential characteristics that should be resolved or given absolute awareness in their achievement, and with this, enable some benefits to acquire a competitive differences in organizational performance and, at the same time, develop a commitment of all members of the business to

meet quality objectives with the purpose of compelling their products and services to exceed expectations and meet customer requirements.

Regarding recommendations for future work based on these results, it would be important to build a measurement instrument to realize the effectiveness of the CSFs when measuring the variables. Likewise, it would be important to evaluate the reproducibility and validity of the instrument by applying a factor analysis and obtain a theoretical model to recognize the factor loadings of each dimension and their significance in the measurement of the variables in the context of the reality studied.

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