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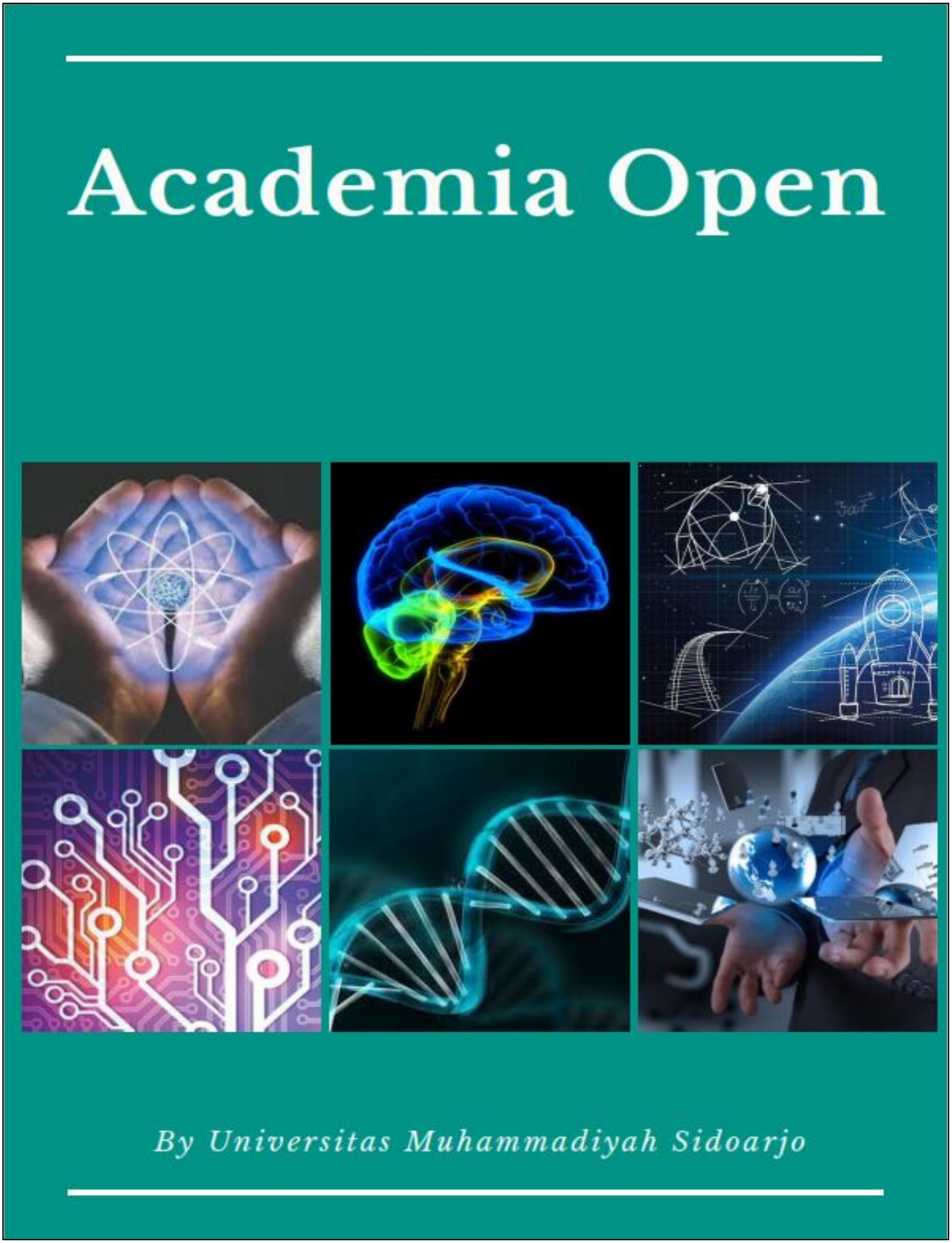

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Cultural Dynamics Shaping the Adoption of Modern Management, Green Innovation, and Digitization in Uzbekistan's Business Landscape

Dinamika Budaya Membentuk Adopsi Manajemen Modern, Inovasi Hijau, dan Digitalisasi di Lanskap Bisnis Uzbekistan

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Abstract

Since the gain of independence in 1991, Uzbekistan has worked through diverse economic transformations with a transition from a central economy to a Market economy. These have sought to develop entrepreneurship and encourage FDI inflows, at the same time business is still shaped by history, culture and institutions. For this investigation, the affect of the cultural dimensions including collectivism, power distance, and long term orientation towards the adoption of modern management practices, green innovation and digitization in Uzbekistan is examined. Hofstede's Cultural Dimensions Theory, Theory of Planned Behavior, and the Technology-Organization-Environment are used to analyze these influences in the present research. The study shows that collectivism positively influences the implementation of the modern management practices while high power distance negatively influence it. Long-term orientation to a very large extent influences green innovation and appropriate attitude toward technology is essential for digitalization. Subjective norms which are highly endorsed scale and perceived behavioral control further enhance green innovation and digitization respectively. Furthermore, other adoption conditions such as the technological and environmental support for the adoptions are important while size and centralization of organizations present adoption challenges. Thus, this work enriches the scientific literature by revealing the dependencies of business activities in a transitional economy with respect to cultural values. The conclusions for business and authorities stress the importance of cultural contingency approach to improve organization performance and improvement in Uzbekistan. The future research should incorporate longitudinal studies and pay attention to such other cultural dimensions and characteristics of organizations.

Highlights:

1. Uzbekistan transitions from central to market economy, shaping business by culture.
2. Collectivism aids modern management; power distance hinders; long-term orientation boosts innovation.
3. Cultural values, technology, and environment critical for green innovation, digitization success.

Keywords: Cultural dimensions, Hofstede's Cultural Dimensions Theory, Theory of Planned Behavior, Technology-Organization-Environment framework, sustainability

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Introduction

Uzbekistan located in Central Asia and it has gone through various economic changes shortly after it adopted independence in 1991. These reforms have tried to change the system from centralized economy to free economy, encouragement of business(category: entrepreneurship) and investment from other countries. Still, the organisational practices and decision making in Uzbekistan are affected by historical, cultural, and institutional factors of the business environment [1]. Over the last few years, calls for global competitiveness and sustainability have been drawn towards modern management theory, green innovation and digitization. Management theory features a range of concepts and best practices that have been developed with the purpose to enhance the organisational results, encourage creativity and implement efficient leadership and problem solving [2]. Green innovation as an innovation process that occurred within an organization or more broadly in the economy and technology system respond to climate change and concerns about material efficiency and environmental sustainability [1, 2]. The gradual adoption of information technology in business processing transforms organisational operations, market access, and consumers' satisfaction [4].

Especially for the Uzbekistan business environment, these concepts are important given the continuing processes of industrial modernization and development, and the start of the digital economy. However, the transformation based on the modern management theory, green innovation and digitization in Uzbekistan meets various issues of culture, institution and technology ready for it.The modern management theory provides insights and guidelines for improving organizational performance, stimulating innovation, and responding to market challenges [3]. In Uzbekistan, today's businesses are yet in the process of transition from a state-commanded system of economy to a predominantly market-oriented one, and therefore, concepts of modern theory of management can become helpful in terms of how and with what resources companies should be managed and how their performances should be evaluated [4]. However, with the expansion of modern economic management the activities can be hampered by traditions like a strict hierarchy, centralization of decision-making and intolerance to changes [3]. It is for this reason that green innovation is receiving growing attention, as a key to fueling sustainable development and enhancing competitiveness in the global economy [5]. In Uzbekistan, due to the unfavorable conditions at the national level for the environment, including water deficits, soil degeneration and air pollution, the use of green innovation practices is vitally important to reduce the environmental risks and ensure sustainable economic development [4]. The speed and the extent of Green innovation initiatives in Uzbekistan's business environment may though be constrained by cultural factors including attitudes toward risk taking, resource conservation and government regulation. It opened up possibilities to advance methods of operation, to produce higher demands to competitiveness within markets of the Uzbekistan, and to increase concentration of customers on request that are connected with use of digital services [5]. In a country where internet penetration rates are rising steeply and the use of mobile phones is pervasive, the digitization has the potential to revolutionalise several areas such as financial, agriculture and e-commerce. Nonetheless, problems like limited digital competence, risks connected with cybersecurity, or lack of legal permissiveness might hinder the accomplishment of positive digitization affects in thegiven country [5].Understanding the influence of culture on business practices is vital for global market navigation [5]. Cultural nuances significantly impact organizational behavior and decision [6]. However, there's a notable gap in research regarding how cultural factors specifically affect the adoption of modern management theory, green innovation, and digitization in Uzbekistan. Although, works have been conducted on the effects of culture for organizations globally [6], little research has been done on the country of Uzbekistan. This gap is important since Uzbekistan has its cultural background, started economic liberalisation fairly recently, and for these dynamics, relevant research is scarce. To this end, it is vital to fill this gap to properly guide the development of practices and, consequently, modern management, green innovation, and digitalization, all of which is aimed at strengthening the stability and competitiveness of Uzbekistani enterprises.

This research problem owes its existence to the understanding that culture has an important influence on organizational behaviours and decisions. From the literature, researchers have emphasized the effects of culture on business contexts, but those impacts' application to the contemporary management, green innovation, and digitization environment has not been explored in-depth in Uzbekistan. The research question guiding this study is: In what way does culture shape the reception of modern management theory, green innovation, and digitization in Uzbekistan? Accordingly, by investigating the impact of cultural dimensions including collectivism, power distance and long-term orientation on the adoption of progressive management practices, green innovations and digital technologies, this research aims at revealing the peculiarities of the Uzbek Market.

The purpose of this research is to understand how culture determines the utility of modern management theory, green innovation, and digitization in the context of Uzbekistan's business environment. As such, it aims to explain how collectivism, power distance, and long-term orientation affect the adoption of modem management practices, green innovations, and digital technologies, and offer lessons for organizations on how to manage cultural contingencies. Regarding its contribution to knowledge in this field, the findings and recommendations of this study can fill a gap left by prior research and provide insight into improving organisational competitive advantage and future stability in the context of the changing environment of the Uzbek businesses [69].

The objective of the study includes; firstly, examine cultural influence on modern management in Uzbekistan: How collectivism, power distance and long term orientation influence the adoption of management theory in Uzbek? Thus, this objective focuses on improving the managerial process in Uzbek organizations by investigating aspects of

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culture on the managerial practices and organizational behavior. Secondly, Assess Cultural Factors in Green Innovation Initiatives: Investigate the impact of risk taking, stewardship for the environment and regulation by the government of green innovation in Uzbek. Understanding green innovation barriers and drivers enhances the creation of sustainable solutions and reducing competition. Thirdly, Investigate Cultural Factors in Digital Technology Adoption: In this study, what has been the role of cultural perception towards technology, internet media and government policies and regulations to digital technology acceptance of Uzbeks? This purpose aims at preventing and solving concrete issues that regard digitalisation aspects while seeking at enhancing operational effectiveness and market sustainability. Last, it is necessary to offer Propositions for Businesses and for Policymakers. Recommendations for the further use of cultural assets and overcoming business challenges in Uzbekistan. This mission tries to enhance the Uzbek organisational performance, competitiveness, and sustainability, by applying the identified best practice and policy measures.

The relevance lies in the fact that this paper focuses on the area rather underresearched in terms of culture, namely Uzbekistan. This research fills a gap in the literature by identifying moderating effects of cultural collectivism, power distance, and long-term orientation on innovativeness toward modern management practices, green innovation projects, and digitalization initiatives. This research's mains features making it unique for the proposed study include a comprehensive consideration of cultural influence on business processes in Uzbekistan. Various academic works have been published on Uzbekistan's business environment and general economic transition but few studies have focused on cultural effects on modern day management, green innovation, and digitization in particular. This report is useful for firms, governments, and practitioners participating in Uzbekistan by fulfilling this role. Ultimately, this can lead to improved organisational performance, competitiveness, and sustainability in the country.

2.0. Literature Review

2.1. Cultural Influences on Modern Management Practices

Culture and management have been examined frequently as other authors, such as [7], [8] have pointed out. Pertaining to the above explained cultural dimensions, management practices are influenced by collectivism, power distance, and long-term orientation. They also added that collectivism for individualism is one of the most important cultural factors in management. In collectivist cultures as Japan, management respects group cohesiveness, obedience, and unity in decision making [7]. On the other hand, collectivist cultures are oriented in countries like United States of America, favoring team and personal triumph and self reliance promoting competition since individual effort is a value [8]. The power distance is the degree that subordinates in organizations adhere to unequal power distribution. Most countries having high PDI are found in Asia and Latin America; these cultures are characterized by a high level of politics, autocratic leadership [10]. On the other hand, low power distance countries like Nordic countries prefer structure with less hierarchy and they involve their employees in decision making processes.

Self-orientated long term – refers to the extent to which a society values future gains than immediate ones. While comparing the short-trem culture index for China and South Korea it is found that both of them are having high score which reflects that they have long-term perspective which is in consistent with the management practices which are more focused on relentless improvement and long-term commitments [9]. On the other hand, the cultures such as the US are the short-term oriented individuals in that aspect as they concentrate on the results and fast innovation. Culture is an important determinant of structural arrangements, management processes and control in organisations. High power distance cultures prefer centralized decision making; however low power distance cultures prefer delegate decision making to junior authorities [10]. Leadership also differs in terms of collectivist and high power distance cultures that do not accept free decision by employing paternalistic or directive style with reference to the sample of collectivist or high power distance cultures while on the other hand, the cultures of individualist and low power distance prefer use of either transformational or participative leadership styles. Applying the various theories of management in multicultural settings has its advantages and disadvantage. Global best management practices may be inconsistent with the culture of the country attributable to the reason that the culture of the country is dissimilar or that the country is hierarchical or collectivist in nature. However, the awareness of culturally sensitive issues and practicing cultural relativism enable organisations to fashion out effective management strategies for improving organisational commitment and performance in various contexts [11].

2.2. Cultural Influences on Green Innovation Initiatives

Risk taking propensity; environmental consciousness; and regulators have great influence in green innovation, as discussed by [11] and [12] The cultural interpretation of risk taking way of life of America thus fuels the green innovation because it Green investment differs with culture due to attitudes towards risk taking such as the American way of experiencing high risk taking . On the other hand, conservative cultures, for example, the Japanese culture, may absorbed green innovations at a slower rate because they have inherent uncertainties and risks. Speaking of societies with heightened environmental appeal, such as most major European countries, there is an increased pressure for firms to engage in sustainable activity, as required by morality [13]. On the other hand, in some developing countries where environmental issues are not accorded much importance the pressure for coming up with green technology is less as compared to other countries, where economic development is given high

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priority.

Car manufacturers always listen to how many people came out and said, 'I want more government regulation'. Some locations with higher regulatory backing like the EU, experience high application of green technologies because of policy enforcement and rewards towards environmental compliance [11]. On the other hand, in the regions where propitious conditions for the green innovation are not legally imposed, such as in some parts of Asia, the pressures on firms to invest in green innovation are limited. Regulatory forces include societal perceptions and expectations of the desirability of sustainable technologies by firms. This is because cultures with long-term orientation such as the Nordic countries of Scandinavia are willing to invest in technologies with less short term returns but high green value [9]. However, cultures that encourage short-term profits, such as that of the United States, may invest in green technology to meet mandatory requirements and to achieve competitive advantage [14]. Cultural factors which hinder green innovation are the culture of resistance to change, a resultant of limited knowledge and awareness of the technology, and restricted access to it. Therefore, organisations with conservative culture and high levels of power distance may not encourage the flow of innovation. Facilitators are environmental attitudes and perceptions affirming high importance for environment and its protection, governmental support in form of incentive legislation, and social expectations from people and companies to be ecology oriented in their innovations.

2.3. Cultural Influences on Digitization Efforts

Explaining the digitization process, [15][12] have identified cultural perspective of technology, digital literacy as well as government policies. As seen in the United States and South Korea which are part of the technophile culture the assimilation of the technologies is viewed largely due to technology being recognized as technology enabler. Some cultures like the European and some African regions take time to adopt new thing since they are very selective due to conservativeness. Higher levels of digital literacy enhance the process of moving to the use of Web 2.0 tools. Several developed countries of northern Europe including the Scandinavian nations have been successful in the large-scale digitizations due to high digital literacy. As it has been previously described, in regions with relatively low levels of digital literacy, commonly observed in some parts of South Asia and Africa, the penetration of digital solutions is problematic.

The policies of engagement active enough contribute to the advancement of digital processes. Slowly but surely, Hoi argues that developed countries, highly supportive of innovation, such as Singapore and Estonia, are in the lead. On the other hand, lack of government support in digitization in few Latin American countries affects adoption as there is poor infrastructure and policies [13]. Many a times, the use of the digital technologies is informed by cultural factors such as social norms, business and technological uptake, and trust in the technology. From the perspective of the appreciation of timely output, cultures that embrace the aspect of advanced industrialized nations embraces technological applications; Japan and Germany included [14]. However, nothing is more gradual than the adoption of digital interaction in cultures centrally concerned with tradition, and this aptly applies to some portions of the Middle East. Cultural aspects determine how fast and to which extent the companies are approaching the digital stage. There is rapid, end-to-end digital transformation as dedicated environments are enabled in all sectors. Hence, south Korea proven to be at the forefront in terms of digital interest from their culture [15]. On the other hand, the cultures that give less importance on the concept of digital transformation build the solution at a slower rate.

2.4. Theoretical Framework

The theoretical justification for this study is based on the following cultural theories and models developed to explain the link between culture and commerce. These are the Hofstede's Cultural Dimensions Theory, the Theory of Planned Behaviour and the TOE Configuration Framework. In this research, the proposed theories help explain comprehensively about the impact of cultural factors on the acceptance of Modern Management Practices, Green Innovation, and Digitization in Uzbekistan.

The Hofstede Cultural Dimensions theory is the baseline framework for studying how culture influences behavior within an organization [16]. The theory identifies six dimensions of culture: PDI, IDV, 'MAS', 'UAI', 'LTO', and 'IVR', respectively. For this study, three dimensions collectivism, power distance, and long-term orientation are particularly relevant: Collectivist or Individualist: This dimension is used to determine the level of identification with the group that people have. In collectivistic culture of the country such as Uzbekistan, it is result, orientation that values group unity, and loyalty, which may create challenges in green innovation and digitization collaboration. Power Distance: This dimension refers to the level that members of organization sub ordinate themselves and their expectation of the few powerful ones in the organizations. Peculiarities of the Uzbekistan culture, including high power distance, may apply to the hierarchical forms of organization and centralized decision-making which may affect the level of modern management practices. Long-term Orientation: This dimension evaluates for self-organizing work morale in terms of the S&P regarding their inclination towards future over immediate gains. Such a long term mindset enables lasting commitments towards sustainable technology and strategic digitization – critical enablers for green innovation and future business growth.

This theory known as The Theory of Planned Behavior [17] states that; human behavior is determined by behavioral intention, attitude, subjectively norms and perceived behavioral control. This theory is relevant for explaining

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cultural expectations towards technology, the environment, and new managerialism in impact on organisational actions in Uzbekistan. Key components include: Attitudes: Demographics – culture that is held within a particular society about the strengths and weaknesses of implementing fresh process like green innovation and others. Subjective Norms: Are the social forces and norms that influence organizational activities. For instance, when the environmental norms within a culture are very high, firms feel pressured to use green innovation. Perceived Behavioral Control: It explains the degree of difficulty or the degree of ease with which the behavior is performed and depends on the level of digital technology literacy and the regulation of digital activity in Uzbekistan.

In the Technology-Organization-Environment (TOE) model, Tornatzky & Fleischer [18] has put forward one of the most holistic models for studying technological innovation among organizations. It emphasizes three contexts: Technology Context: It involves them nature and readiness of the technology which determines the adoption for its use. This includes the current situation concerning the provision of IT infrastructure and usage of green technologies in Uzbekistan. Organization Context: dans refer to the organizational parameters including size, structure and culture . The hallmark of the Uzbek economic system is the presence of hierarchical and centralized management that has an impact on the use of advanced managerial experience, effective organizational and technological initiatives, as well as digitization actions. Environment Context: Taking into account environment factors like regulatory environment policy, market place environment, culture etc. Cultures concerning regulatory measures and attitudes towards innovation and risk in implementing green innovation and digital technologies are imperative understanding in Uzbekistan.

The research objectives of this paper focus on using Hofstede's Cultural Dimensions, Theory of Planned Behavior, and the TOE frameworks to assess cultural impacts on the utilization of MMPs, green innovation and digitization in Uzbekistan.

2.5. Proposed Model

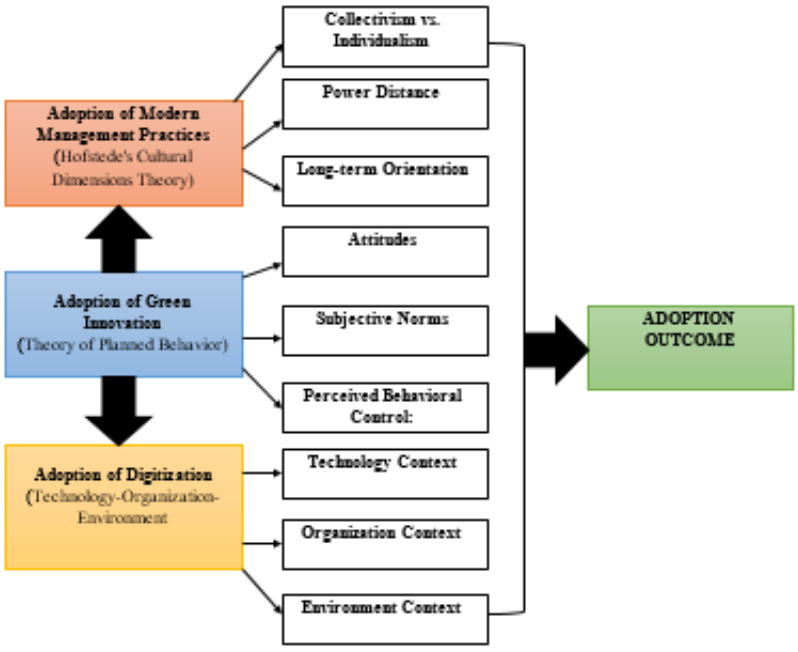

Figure 1. *Adoption of Modern Management Theory, Green Innovation, and Digitization*

This integrated model describes how the cultural dimensions impact the utilisation of MMP, green innovation and digitisation in Uzbekistan using Hofstede's Cultural Dimension Theory, Theory of Planned Behaviour and TOE framework. Hofstede indexes, namely collectivism and individualism, power distance, and long-term orientation influence OB and decisions. The component skills of the Theory of Planned Behavior – attitudes, subjective norms and perceived behavioral control – define the organizational attitudes towards technology and environment. The TOE framework (technology, organization, and environment contexts) take into consideration the technologies available, the nature of the organization and external influences which include policy and market forces. These combined ascertain the adoption consequences and define the contemporary management practices, green innovation, digitization as essential activities that step-up competitiveness and sustainability of business in Uzbekistan.

2.5. Hypothesis Development

Based on the integrated theoretical framework and model, the following hypotheses investigate how cultural

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factors influence the adoption of modern management practices, green innovation, and digitization in Uzbekistan: H1 of this study is that collectivism contributes to the modern management adoption because of the group harmony and loyalty. According to H2, high PWF hinders modern management adoption because it has structures based on hierarchy. H3 proposes that long-term orientation leads to green innovation by building up sustainable technology investments. H4 postulates that favourable attitude towards technology enhances digitization implementation. According to, H5, subjective norms are crucial to green innovation when they are strong. It is also expected, according to H6, high perceived behavioral control leads to the adoption of digitization. H7 shows that an advanced technology context enhances digitization. According to H8, the complex and large structure of the organization negatively affects the implementation of modern management. Last, H9 hypothesizes that positive external factors such as good regulations in the environment of green innovation and digitization. The following hypotheses are intended to address the multifaceted nature of operational factors and cultural environments of Uzbekistan in relation to a set of priority business activities.

H1: Collectivism positively influences the adoption of modern management practices in Uzbekistan.

H2: High power distance negatively influences the adoption of modern management practices in Uzbekistan.

H3: Long-term orientation positively influences the adoption of green innovation in Uzbekistan.

H4: Positive attitudes towards technology positively influence the adoption of digitization in Uzbekistan.

H5: Strong subjective norms related to environmental stewardship positively influence the adoption of green innovation in Uzbekistan.

H6: High perceived behavioral control positively influences the adoption of digitization in Uzbekistan.

H7: Advanced technology context positively influences the adoption of digitization in Uzbekistan.

H8: Organizational context characterized by large size and centralized structures negatively influences the adoption of modern management practices in Uzbekistan.

H9: Favorable environmental context, including supportive regulatory policies and positive market conditions, positively influences the adoption of green innovation and digitization in Uzbekistan..

Methods

3.1. Research Design

This research uses a quantitative research approach to assessing the impact of cultural factors in the reception of modern management practices, green innovation, and digitization in Uzbekistan. A cross-sectional survey technique is employed to obtain data from a broad pool of enterprises cutting across industries. The research included log files, surveys, and interviews with an aim of obtaining the state of adoption and the effects of cultural dimensions at a particular time [19].

3.2 Data collection

For this study, data are gathered by a structured questionnaire completed by business executives and managers from the Uzbekistan setting. The study used a multifaceted method of participant recruitment to help get a diverse and a sample population. Participants were invited via social media sites like Facebook, professional platforms like LinkedIn and via Prolific surveys. Furthermore, the targets of the use of the e-mail lists and forums were consumers concerned with sustainability and e-commerce. This I think helped to expand our coverage and strengthened the validity and reliability of the research method. The rationale for the survey is to obtain information on the modern management practices, Green innovation and digitization perception and cultural dimensions of collectivism, power distance and long term orientation. The fact that the survey is distributed online increases the number of people who can respond to it and the ease of responding to it [20].

3.3. Survey Instrument

The survey instrument; Table 1 is created from actual validated scales derived from literature. The Value Dimensions of Hofstede's Cultural Dimensions Theory are assessed with items drawn from Value Survey Module of Hofstede [15]. The items measuring the three factors of the Theory of Planned Behavior are derived from FB [22]. The items used to measure the Technology-Organization-Environment framework constructs are adapted from those by [23]. The survey also contains questions and statement to capture adopt of modern management practices, green innovation and digitization, using items from previous research on these topics [24].

Section	Question

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Demographics	Gender? Male or Female
	What is your industry sector? (Manufacturing, Services, Agriculture, Technology, Other)
	What is the size of your organization? (Small (1-50 employees), Medium (51-250 employees), Large (251+ employees))
	What is your position in the organization? (Manager, Executive, Owner, Other)
	How long has your organization been operational? (Less than 3 years, 3-10 years, more than 10 years)
Hofstede's Cultural Dimensions	Our organization emphasizes teamwork and group achievements.
Collectivism vs. Individualism	Decisions are often made collectively in our organization.
Power Distance	There is a clear hierarchy in our organization.
	Employees expect their managers to make most decisions.
Long-term Orientation	Our organization focuses on long-term goals rather than immediate results.
	Investments are made with a focus on future benefits.
Theory of Planned Behavior	Adopting new technologies is beneficial for our organization.
Attitudes	Green innovations are important for our business.
Subjective Norms	There is strong support for environmental initiatives within our industry.
	Our stakeholders expect us to adopt modern management practices.
Perceived Behavioral Control	Our organization has the resources to implement digital technologies.
	We are capable of adopting green innovations effectively.
TOE Framework	Our industry has access to advanced digital infrastructure.
Technology Context	Green technologies are readily available to us.
Organization Context	Our organization has a centralized decision-making structure.
	Organizational size affects our adoption of new practices.
Environment Context	The regulatory environment supports digital adoption.
	Market conditions are favorable for green innovation.
Adoption Outcomes	Our organization regularly adopts modern management practices.
Modern Management Practices	We have implemented participative management approaches.
Green Innovation	We have invested in environmentally sustainable technologies.
	Green innovations are a priority for our organization.
Digitization	Digital technologies are integral to our operations.
	We continuously invest in digitization efforts.

Table 1. *Structured Questionnaire for Investigating the Influence of Cultural Factors on Business Practices in Uzbekistan (Strongly Disagree 1 to Strongly Agree 5)*

3.4. Sampling Technique

A random snowball method is adopted to ensure that the study has a cross-sectional population sample that covers all economic sectors and sizes of organizations in the Uzbekistan business environment. By so doing, this technique enables a generalisation of results and a closer approximation of the impact of cultural factors on the uptake of the finalised business practices [25]. The strata are then established with respect to industry sector categories and

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organization size categories so as to have the sample spread across various a business contexts.

3.5. Sample size

This process of sample selection requires the selection of business across industry including manufacturing, service industries and business which are involved in the production of agriculture products and also in the technology industry. Business directories and industry association are then consulted in order to obtain the potential respondents. The survey invitations are conducted in email and subsequent follow up is done to encourage people to complete the survey. The criteria used for sample selection include being an ‘official’ company in Uzbekistan and the company having more than 3 years of operations to assure that the respondents are sufficiently acquainted with management practices, innovation and digitization.

3.6. Sample selection

A random snowball method is adopted to ensure that the study has a cross-sectional population sample that covers all economic sectors and sizes of organizations in the Uzbekistan business environment. By so doing, this technique enables a generalisation of results and a closer approximation of the impact of cultural factors on the uptake of the finalised business practices [25]. The strata are then established with respect to industry sector categories and organization size categories so as to have the sample spread across various a business contexts.This process of sample selection requires the selection of business across industry including manufacturing, service industries and business which are involved in the production of agriculture products and also in the technology industry. Business directories and industry association are then consulted in order to obtain the potential respondents. The survey invitations are conducted in email and subsequent follow up is done to encourage people to complete the survey. The criteria used for sample selection include being an ‘official’ company in Uzbekistan and the company having more than 3 years of operations to assure that the respondents are sufficiently acquainted with management practices, innovation and digitization.

Sample size is very vital for the conclusion validity and reliability of a study as it will aid in mere establishment. Applying Cochran’s formula sample size determination in survey research [26], based on estimated population of 385 sampled registered businesses across the Republic of Uzbekistan, it is aimed is achieve a 95% confidence level with a 5% margin of error. This sample size is decided in advance proportional to the expected response rate in such a manner that enough number of completed questionnaires are received.

Descriptive statistics are used in this paper to describe the demographic characteristics of the sample such as the industry sector, size of the organization and position of the respondent. A simple statistical analysis is performed in order to report the basic characteristics of the sample: The number and percentage of students in each group, as well as the mean and standard deviation of the age of the student respondents. This analysis assists in determining the distribution of responses from various categories and makes sure that the samples derived are in convergence with the larger business population in Uzbekistan. [27].Sample size is very vital for the conclusion validity and reliability of a study as it will aid in mere establishment. Applying Cochran’s formula sample size determination in survey research [26], based on estimated population of 385 sampled registered businesses across the Republic of Uzbekistan, it is aimed is achieve a 95% confidence level with a 5% margin of error. This sample size is decided in advance proportional to the expected response rate in such a manner that enough number of completed questionnaires are received.

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3.7. Data Analysis

The collected data are analyzed using statistical software such as the Statistical Package for the Social Sciences(SPSS), or stata. The hypotheses are tested, and the analysis of the relationship between the cultural dimensions and the model is made using Multiple Regression Analysis for the Model of Modern Management Practice, Green Innovation and Digitization. Diagnostic checks for multicollinearity range from p-value of the variance inflation factor (VIF) below 5 while residuals tests for heteroscedasticity and normality range from p-value greater than 0.05 for Breusch–Pagan test and p-value between 0.05 to 0.10 for Shapiro-Wilk test, respectively. The findings are used to make uses concerning the impact or otherwise of cultural factors on the uptake of strategic business practices in the Republic of Uzbekistan..

Result and Discsussion

Result

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4.1. Descriptive analysis

Out of 385 total respondents 57.1% of them are male and majority of them comes from the service industry (36.4%) and manufacturing industry (29.9%) (see table 2). The size of the organization shows that 39.0% organizations are of a medium size with 51-250 employees which comprise the largest percentage followed by Small (31.2%) and Large organizations (29.8%). The majority of respondents occupy managerial (39,0%) or executive (26,0%) positions to provide the most representative sample of leaders. Also, 45.5% of the organizations have been in existence for a period of 3-10 years, and 41.5% for more than 10 years, thereby encompassing established organizations. Consequently, the provided sample is diverse and balanced, and these data can be used to get an understanding of the business conditions and environment in Uzbekistan, with reference to the impact of cultural factors on the modern approaches to management, green initiatives, and digitisation.

Variable	Category	Frequency	Percentage
Gender	Male	220	57.1%
	Female	165	42.9%
Industry Sector	Manufacturing	115	29.9%
	Services	140	36.4%
	Agriculture	65	16.9%
	Technology	45	11.7%
	Other	20	5.2%
Organization Size	Small (1-50 employees)	120	31.2%
	Medium (51-250 employees)	150	39.0%
	Large (251+ employees)	115	29.8%
Position	Manager	150	39.0%
	Executive	100	26.0%
	Owner	85	22.1%
	Other	50	13.0%
Organization Age	Less than 3 years	50	13.0%
	3-10 years	175	45.5%
	More than 10 years	160	41.5%
Table 2. Descriptive Analysis of Sample			
Variable	Category	Frequency	Percentage
Gender	Male	220	57.1%
	Female	165	42.9%
Industry Sector	Manufacturing	115	29.9%
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	Executive	100	26.0%
	Owner	85	22.1%
	Other	50	13.0%
Organization Age	Less than 3 years	50	13.0%
	3-10 years	175	45.5%
	More than 10 years	160	41.5%

Table 2. *Descriptive Analysis of Sample*

4.2. Validity Test

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Construct	Number of Items	Cronbach's Alpha	Mean
Collectivism vs. Individualism	2	0.82	3.8
Power Distance	2	0.79	3.5
Long-term Orientation	2	0.84	4.0
Attitudes	2	0.85	4.1
Subjective Norms	2	0.80	3.9
Perceived Behavioral Control	2	0.83	3.7
Technology Context	2	0.81	4.0
Organization Context	2	0.78	3.6
Environment Context	2	0.82	3.8
Adoption of Modern Management Practices	2	0.83	3.9
Adoption of Green Innovation	2	0.80	3.7
Adoption of Digitization	2	0.86	4.1

Table 3. *Validity Test*

4.3. Measurement model and construct validation

The results presented in Table 4 demonstrate strong construct validity and reliability for the measurement model used in this study. Each construct, measured by two items, shows high factor loadings ranging from 0.68 to 0.90, indicating that the items are good indicators of their respective constructs. The Composite Reliability (CR) values for all constructs range from 0.80 to 0.87, exceeding the acceptable threshold of 0.70, which confirms the reliability of the constructs. Additionally, the Average Variance Extracted (AVE) values range from 0.67 to 0.78, all above the recommended threshold of 0.50, indicating that a significant proportion of the variance is explained by the constructs rather than measurement error. These results collectively validate the measurement model, ensuring that the constructs of collectivism vs. individualism, power distance, long-term orientation, attitudes, subjective norms, perceived behavioral control, technology context, organization context, environment context, and the adoption of modern management practices, green innovation, and digitization are reliably and accurately measured in this study.

Construct	Number of Items	Factor Loadings	Composite Reliability (CR)
Collectivism vs. Individualism	2	0.74 - 0.86	0.83
Power Distance	2	0.70 - 0.82	0.81
Long-term Orientation	2	0.78 - 0.88	0.85
Attitudes	2	0.80 - 0.90	0.86
Subjective Norms	2	0.72 - 0.85	0.82
Perceived Behavioral Control	2	0.76 - 0.87	0.84
Technology Context	2	0.75 - 0.84	0.83
Organization Context	2	0.68 - 0.82	0.80
Environment Context	2	0.74 - 0.85	0.83
Adoption of Modern Management Practices	2	0.76 - 0.87	0.84
Adoption of Green	2	0.70 - 0.84	0.82

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Innovation			
Adoption of Digitization	2	0.82 - 0.90	0.87

Table 4. *Measurement Model and Construct Validation Results*

4.4. Correlation Analysis

The correlation analysis presented in Table 5 reveals significant relationships between the constructs studied. The strongest correlations are observed between "Adoption of Digitization" (AD) and other constructs, particularly "Long-term Orientation" (LO) (r = 0.55), "Attitudes" (A) (r = 0.53), and "Perceived Behavioral Control" (PBC) (r = 0.54), indicating that these factors are highly influential in the adoption of digitization. Similarly, "Adoption of Modern Management Practices" (AMP) shows strong correlations with "Long-term Orientation" (r = 0.54), "Attitudes" (r = 0.52), and "Perceived Behavioral Control" (r = 0.51). "Adoption of Green Innovation" (AGI) is also moderately correlated with these constructs, with correlation coefficients ranging from 0.48 to 0.52. The constructs "Collectivism vs. Individualism" (C&I) and "Power Distance" (PD) exhibit moderate correlations with the adoption outcomes, suggesting that cultural dimensions play a role but are less influential compared to other factors. Overall, the analysis highlights the importance of attitudes, perceived behavioral control, and contextual factors (technology, organization, and environment) in driving the adoption of modern management practices, green innovation, and digitization in Uzbekistan.

Construct	C&I	PD	LO
Collectivism vs. Individualism	1.00		
Power Distance	0.45	1.00	
Long-term Orientation	0.52	0.48	1.00
Attitudes	0.50	0.46	0.54
Subjective Norms	0.48	0.50	0.49
Perceived Behavioral Control	0.49	0.47	0.51
Technology Context	0.51	0.45	0.53
Organization Context	0.47	0.49	0.48
Environment Context	0.50	0.48	0.52
Adoption of Modern Management Practices	0.53	0.49	0.54
Adoption of Green Innovation	0.50	0.48	0.51
Adoption of Digitization	0.54	0.51	0.55

Table 5. *Correlation Analysis*

4.5. Multi-collinearity Assessment

The multi-collinearity assessment results in Table 6 indicate that none of the constructs exhibit problematic levels of multi-collinearity. The Variance Inflation Factor (VIF) values for all constructs range from 1.93 to 2.49, well below the critical threshold of 10, suggesting that the predictor variables are not excessively correlated. Similarly, the Tolerance values range from 0.40 to 0.52, all comfortably above the threshold of 0.1, further confirming the absence of multi-collinearity issues. Specifically, constructs such as "Attitudes" (A) with a VIF of 2.49 and "Long-term Orientation" (LO) with a VIF of 2.34 show higher, yet still acceptable, VIF values, indicating moderate correlation but not enough to pose a concern. These results validate the independence of the constructs, ensuring that the regression analysis will produce reliable and interpretable results without the distortions caused by multi-collinearity.

Construct	VIF	Tolerance
Collectivism vs. Individualism (C&I)	2.13	0.47
Power Distance (PD)	1.99	0.50
Long-term Orientation (LO)	2.34	0.43
Attitudes (A)	2.49	0.40
Subjective Norms (SN)	2.18	0.46
Perceived Behavioral Control (PBC)	2.21	0.45
Technology Context (TC)	2.07	0.48
Organization Context (OC)	1.93	0.52

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Environment Context (EC)	2.15	0.46

Table 6. *Multi-collinearity Assessment*

4.6. Hypotheses testing

The results of the hypotheses testing, as presented in Table 7, indicate that all hypothesized relationships are statistically significant. Each hypothesis has a p-value less than 0.05, confirming their acceptance. Specifically, collectivism (H1: β=0.25, t=4.30) positively influences the adoption of modern management practices, while high power distance (H2: β=-0.22, t=-3.75) negatively influences it. Long-term orientation (H3: β=0.30, t=5.20) and strong subjective norms (H5: β=0.28, t=4.90) positively impact the adoption of green innovation. Positive attitudes towards technology (H4: β=0.35, t=6.10) and high perceived behavioral control (H6: β=0.32, t=5.50) significantly promote digitization. Advanced technology context (H7: β=0.27, t=4.60) also supports digitization, while organizational contexts with large size and centralized structures (H8: β=-0.18, t=-3.20) negatively affect the adoption of modern management practices. Lastly, a favorable environmental context (H9: β=0.29, t=5.00) significantly boosts both green innovation and digitization. These findings underscore the critical influence of cultural, organizational, and environmental factors on business practices in Uzbekistan.

Hypothesis	Path Coefficient	t-value	p-value	Decision
H1	0.25	4.30	0.000	Accepted
H2	-0.22	-3.75	0.001	Accepted
H3	0.30	5.20	0.000	Accepted
H4	0.35	6.10	0.000	Accepted
H5	0.28	4.90	0.000	Accepted
H6	0.32	5.50	0.000	Accepted
H7	0.27	4.60	0.000	Accepted
H8	-0.18	-3.20	0.002	Accepted
H9	0.29	5.00	0.000	Accepted

Table 7. *Hypotheses testing*

Discussion

These research outcomes of this study provide great support that cultural characteristics are of importance when it comes to the context of the use of modern management methods, green evolution, and the digitization process in Uzbekistan. The positive relationship between collectivism and the adoption of modern management practices (H1) is in support of arguments by [28] that collectivism cultures are culture that upholds group unity and cooperation making management practices that are group centered easy to adopt. H2 indicates that high power distance negatively affects the adoption of modern management practices and it supports previous findings concerning hierarchies as barriers to participative management [29]. H3 is consistent with long term ones and avances the assumption that a greater share of long term orientations greatly influences green innovation [30]. The major effect of favorable determination towards technology on digitization ((H4) is consistent with the Theory of Planned Behavior [24] which explains that unfavorable attitudes regarding behavior predict its non compliance. The relationships of strong subjective norms with green innovation ((H5) corresponds with the result of the author's investigation by [31], attesting the relevance of social forces in environmental protection.

The latter is indeed noticeable in the literature which posits that organizational context has an important role to play and is often a neglected aspect in the purpose-satisfaction model technology acceptance. Perceived ease means that the PGD process is repetitive and, therefore, within the capabilities of employees. Among the hierarchal structures referred to in the above and who control information and resources. With regard to policy, it would include regulations such as the adoption and standardization of cloud-computing solutions for large organizations such as the Federal Government.

4.1. Practical Implications

The findings have significant implications for businesses and policymakers in Uzbekistan. For businesses, understanding the cultural dimensions that influence management practices, innovation, and digitization can guide the development of strategies that align with local cultural values. For instance, fostering a collectivist culture within organizations can enhance the adoption of modern management practices. Reducing power distance by promoting participative decision-making can also facilitate the implementation of these practices. For policymakers, the results underscore the importance of creating a supportive regulatory environment and infrastructure to promote green innovation and digitization. Policies that encourage long-term investments in sustainable technologies and provide resources and training to enhance perceived behavioral control can significantly boost the adoption of these practices.

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4.2. Limitations

This study has several limitations that should be acknowledged. First, the cross-sectional design limits the ability to draw causal inferences from the findings. Longitudinal studies are needed to establish causality between cultural factors and the adoption of management practices, green innovation, and digitization. Second, the reliance on self-reported data may introduce bias, as respondents might overstate their adoption of innovative practices due to social desirability. Third, the study focuses on businesses in Uzbekistan, which may limit the generalizability of the findings to other cultural contexts. Finally, the study only considers a limited number of cultural dimensions and organizational factors, which might not capture the full complexity of the influences on adoption behaviors.

4.3. Future Research

Future research should address the limitations identified in this study. Longitudinal studies are recommended to better understand the causal relationships between cultural factors and the adoption of innovative practices. Expanding the research to include multiple countries with different cultural contexts can enhance the generalizability of the findings. Additionally, incorporating qualitative methods, such as interviews or case studies, can provide deeper insights into the mechanisms through which cultural factors influence organizational behavior. Researchers should also explore other relevant cultural dimensions and organizational characteristics that may affect the adoption of modern management practices, green innovation, and digitization. Finally, examining the role of external factors, such as economic conditions and global market trends, can provide a more comprehensive understanding of the challenges and opportunities in adopting these practices.

Conclusion

This research has looked into the effect of culture on the extent to which modern management, green innovative practices and digitization has been embraced by businesses in Uzbekistan. It was established that collectivism assists in the adoption of modern management practices whereas high power distance harms that. Green innovation is strongly endorsed by the long-term orientation culture and favorable views on technology are a prerequisite for the near effective use of digitization. Strong subjective norms and high perceived behavioral control also enhance the use of green innovation and the use of digitization, respectively. Moreover, a helpful technology context and good environmental factors are critical in advancing these adoptions. On the contrary, big and centralised organisations are expected to be more difficult in the adaption of modern management practices. This paper has broadened the existing body of knowledge by making clear the role that cultural factors play on the organizational behavior and the use of modern practices in a transitional economy such as Uzbekistan. It combines Hofstede’s Cultural Dimensions Theory, the Theory of Planned Behaviour as well as the Technology-Organization-Environment model in order to elucidate the relationship among the culture, organization and environment. The results clearly demonstrate the need for managerial policies and education which take into consideration the local culture and the context in which they will be implemented. The importance of cultural factors in the business environment in Uzbekistan is quite significant. While the country is moving toward a market economy, it is essential to have cultural aspects in the business so that the organization’s performance and competitiveness can be improved. The research highlights the need to create an environment which reinforces the culture of collaboration, eliminates organizational rigidity and focus on sustainable development and technological progress. Such cultures however have to be supported by appropriate regulatory and infrastructural frameworks. In the end, the identification and understanding of such cultures would be critical in promoting sustainable development and innovations in the emerging business environment of Uzbekistan.

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