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DIGITAL ADMINISTRATION IN THE INFORMATION TECHNOLOGY LANDSCAPE – A REVIEW: INSIGHTS FROM MOUNTAIN ECONOMY

The research explores the challenges and advancements in global digital administration, focusing on IoT-driven internet administration. The study proposes hypotheses on digital administration performance and offers insights of IT administration.

The scholarly contribution introduces a comprehensive framework with five interconnected indicators for measuring digital administration. These indicators, aligned with hypotheses, assess the socio-economic impact of IT, incorporating complex mathematical formulations. The study utilizes empirical data from reliable sources and employs rigorous statistical analysis, combining qualitative and quantitative approaches to enhance understanding within the IT administration realm.

The study examines IT governance in EU, BRICS, and MENA countries through tangible assets. Findings highlight varied resilience levels and advocate for strategic investments, emphasizing the pivotal role of IT in economic development and governance across different intervals. The analysis extends to e-IT governance, digital governance technology, and digital corporate governance technology, demonstrating their impact on socio-economic environments, business performance, and IT development in mountain areas.

Within this contextual framework, the authors posit several hypotheses concerning digital administration performance:

H1. A robust quality of public and private administration correlates with a strong national economy; additionally, heightened IT administration strength augments general administration – as indicated by the Value Added of IT administration tangible assets from a country (A).

H2. Development influences administration in the Research-Development-Innovation (RDI) sector, with the IT part paramount importance – as indicated by the Value Added of IT administration tangible assets from a country (A).

H3. Digital administration within an electronic context should foster resilience in the socio-economic environment of a country – as indicated by the Value Added of e-IT administration from a country (B).

H4. Public and private administration, particularly in IT administration, operates under the auspices of technical development – as indicated by the Value Added of digital administration technology from a country (C).

H5. IT administration and the overall digital administration environment exert influence on business performance – as indicated by the Value Added of digital corporate administration technology from a country (D), and additionally, the Value Added of digital corporate administration technology in the mountain area (E).

Results underscore the interconnectedness of governance quality, development, resilience, and technical advancement in the evolving landscape of digital administration.

Keywords: *global digital administration; IoT-driven internet administration; mountain IT administration and resilience; socio-economic impact of IT*

JEL classification: *F63, H79, M15, M16, O57*

Дослідження вивчає проблеми та досягнення в глобальному цифровому адмініструванні, зосереджуючись на інтернет-адмініструванні, керованому IoT. Дослідження висуває гіпотези щодо ефективності цифрового адміністрування та пропонує розуміння IT-адміністрування.

Науковий внесок представляє комплексну структуру з п'ятьма взаємопов'язаними показниками для вимірювання цифрового адміністрування. Ці показники, узгоджені з гіпотезами, оцінюють соціально-економічний вплив IT, включаючи складні математичні формулювання. Дослідження використовує емпіричні дані з надійних джерел і застосовує ретельний статистичний аналіз, поєднуючи якісні та кількісні підходи для покращення розуміння сфери IT-адміністрування.

Дослідження розглядає управління IT у країнах ЄС, БРІКС і Близького Сходу і Близького Сходу через матеріальні активи. Результати підкреслюють різні рівні стійкості та виступають за стратегічні інвестиції, підкреслюючи ключову роль IT в економічному розвитку та управлінні в різних інтервалах. Аналіз поширюється на електронні IT-управління, цифрові технології управління та цифрові технології корпоративного управління, демонструючи їхній вплив на соціально-економічне середовище, ефективність бізнесу та розвиток IT-технологій у гірських районах.

У цій контекстуальній структурі автори висувають кілька гіпотез щодо ефективності цифрового адміністрування:

H1. Надійна якість державного та приватного управління корелює з сильною національною економікою; крім того, посилення IT-адміністрування посилює загальне адміністрування – як вказує додана вартість матеріальних активів IT-адміністрування в країні (A).

H2. Розвиток впливає на адміністрування в секторі досліджень, розробок та інновацій (RDI), причому IT-частина має першорядне значення, як вказує додана вартість матеріальних активів IT-адміністрування в країні (A).

H3. Цифрове адміністрування в електронному контексті має сприяти стійкості соціально-економічного середовища країни – як вказує додана вартість адміністрування електронних IT у країні (B).

H4. Державне та приватне адміністрування, зокрема IT-адміністрування, працює під егідою технічного розвитку – як вказує додана вартість цифрових адмініструючих технологій у країні (C).

H5. IT-адміністрування та загальне середовище цифрового адміністрування впливають на ефективність бізнесу, як вказує додана вартість цифрових технологій корпоративного адміністрування в країні (D) і, крім того, додана вартість цифрових технологій корпоративного адміністрування в гірській місцевості (E).

Результати підкреслюють взаємозв'язок якості управління, розвитку, стійкості та технічного прогресу в еволюції цифрового адміністрування.

Ключові слова: *глобальне цифрове управління; Інтернет-адміністрування на основі IoT; гірське IT-адміністрування та стійкість; соціально-економічний вплив IT*

JEL classification: *F63, H79, M15, M16, O57*

Introduction

The research endeavors to examine global administration within the digital administration framework, specifically emphasizing global internet administration catalyzed by the Internet of Things (IoT). This study reviews a related unpublished paper, Digital Governance in the Internet

of Things Context: Evidence from the EU, MENA, and BRICS [1], authored by the same researchers. The aim is to emphasize the significance of digital administration within the framework of IT development. The conceptualization of global internet administration poses a formidable challenge for both private and public administration

entities [2]. A well-organized information technology (IT) administration emerges as a potent managerial instrument, facilitating creativity and fostering the development of diverse administrative skills and positions, thereby advancing production and advertising beyond its role in communication-oriented IT administration contexts, which are more extensively developed with it than without it.

The Internet of Things (IoT), surpassing the realms of industry, the internet, or their derivatives, has significantly influenced human and socio-economic life by seamlessly integrating the physical world with the digital realm [3]. The IoT, in this context, pledges support for administration sustainability, encompassing cost reduction, energy efficiency, and mitigation of air pollution, as well as the realization of IoT-based smart cities [4]. In this novel paradigm, challenges related to smart business and technological matters are identified, and IoT emerges as a solution for diverse economic tasks [5].

E-administration, cloud computing, and IoT collectively undergo a transformative process, particularly impacting public services in healthcare, cultural heritage, telecommunications, and creative industries [6-7]. The context of this paper is intricately interlinked by various roadmaps forged among the European Union (EU), Middle East and North Africa (MENA), and BRICS (Brazil, Russia, India, China, South Africa) countries, including the notable RoadMap 2025, which focalizes on the roadmap for the EU and India.

Administration enhancements positively impact both the public sector and, concomitantly, the private industry through the efficient implementation of e-government initiatives [8-13].

IT administration offers a realm where desiderata such as the division of labor, praxeological theory of good work, and other crucial human paradigms can be applied [14].

Author L. Welchman contends that digital administration is pivotal as the primary support for decision-making, shared responsibilities, and the implementation of financial-accounting systems for public and private socio-economic environments [15].

In a similar vein, L. Faur, the author of the Oxford Administration Handbook, deems digital administration as transcending the barriers set by current public government policies. Bureaucracy is identified as the key impediment within the Research-Development-Innovation (RDI) domain [16].

The significance of public administration, particularly within the realm of private administration, is underscored in the context of renowned corporate failures such as Blockbuster, Enron, Hitachi, Kodak, Motorola, Nokia, Polaroid, Toshiba, Xerox, and Worldcom [17].

Literature review

The principal challenge inherent in the domain of Information Technology (IT) administration manifests in its structural composition, transcending the realm of technical impediments. Governments on a global scale, spanning from the United States of America and the EU to the MENA, BRICS nations, Japan, Singapore, South Korea, the United Kingdom, Ukraine, and others, ardently advocate for Artificial Intelligence, Big Data, the Internet of Things (IoT), and various digital imperatives, strategically integrating them into the fabric of both public and private administration [18].

Digital administration within the EU is underpinned by the democratic philosophy of community foundations. Within the EU, the digital society serves as a conduit for the restoration of freedom across all member states [19-21].

A consortium of Spanish researchers posits that notwithstanding the well-established nature of administration worldwide, encompassing diverse facets of human existence, digital administration, specifically RDI administration, is in its nascent stage [22].

Academics from France suggest that decision-making and RDI in isolation are insufficient for optimal public administration [23-24].

In accordance with the Organisation for Economic Cooperation and Development, as cited by researchers from Germany, Belgium, and Luxembourg, administration necessitates

the establishment of a framework guided by the generation and sharing of ideas, empowerment of the workforce, review of organizational layouts, formulation of process navigation rules, among other considerations [25].

A coalition of Finnish and British researchers asserts that public administration evolves across five dimensions, namely socio-political, public policy, administrative, contractual, and networking [26].

A scholarly work pertaining to MENA countries illuminates that sustainable development in public and private administration materializes through the incorporation of regulatory principles and regulations [27].

The Arab world emerges as the burgeoning frontier of contemporary digital administration [15]. A study conducted by the Division of Public Economics & Public Administration of the United Nations, involving 60 relevant participants and focusing on Arab countries, establishes a nexus between e-administration and two subsequent indicators: the Online Service Index (OSI) and E-participation Index (EPI) [28].

Scholars and experts from BRICS countries, including South Africa, India, and China, posit that the institutional and political system constitutes a crucial determinant in the implementation of IT administration [29].

In other BRICS countries, such as Brazil, South Africa, and India, the evolution of IT administration occurred under the auspices of a decolonization mentality [30] Other authors substantiate the positive correlation between the administration of a country within BRICS and the intensity of RDI, correlated with dividend payments [31]. The construction of digital administration in Brazil is overseen by authorities through telecentres, receiving financial backing at both technological and socio-economic strata [32].

Situated as one of the most advanced countries in Africa, South Africa directs substantial investments into the domain of IT administration. [33]

A cohort of Indian researcher's underscores, in alignment with a study

conducted by the PWC corporation and their independent research [34], that the E7 economies could potentially constitute half of the world GDP by the year 2050. Chinese and Indian governments demonstrate adept control over cybercrimes and security concerns, providing a sense of assurance in data storage practices [17].

Methodology

The scholarly contribution posits a framework comprising five distinct indicators designed for the measurement of digital administration. These indicators exhibit interconnectivity and elucidate the augmented worth of the socio-economic milieu within the realm of Information Technology (IT).

Indicator A, denoted as the Value Added of IT administration Tangible Assets within a country, aligns with hypotheses H1 and H2. This metric encapsulates the aggregate value of tangible assets within a country, signifying their potential contribution to technology employed in either public or private administration. The quantification of Value Added of IT administration Tangible Assets (A) is explicated as the summation of the value added to the index of IT internal products (α), coupled with the value added to the index of IT imports (δ), and concurrently diminished by the value added of the index of IT exports (μ). In essence, this encapsulates the net value attributed to the utilization of IT devices within a given country.

$$A = \sum_n (\alpha_1 + \alpha_2 + \dots + \alpha_n) + \sum_n (\delta_1 + \delta_2 + \dots + \delta_n) - \sum_n (\mu_1 + \dots + \mu_n) \quad (1)$$

In the context of this analysis, denoted by 'n' representing a yearly series, the computation involves the determination of the value-added pertaining to the index of IT internal production (α). This value (α) is computed as the quotient of the number of IT internal production (β) divided by the entirety of internal production (γ), subsequently multiplied by 100 to yield a percentage.

$$\alpha = \sum_n ((\beta_1/\gamma_1 + \beta_2/\gamma_2 + \dots + \beta_n/\gamma_n) \times 100) \quad (2)$$

In the given context, the calculation involves the determination of the value added associated with the index of the number of IT imports (δ). This value (δ) is formulated as the ratio of the number of IT imports (ε) to the aggregate of all imports (θ), further multiplied by 100 to express the result in percentage terms.

$$\delta = \sum_n ((\varepsilon_1/\theta_1 + \varepsilon_2/\theta_2 + \dots + \varepsilon_n/\theta_n) \times 100) \quad (3)$$

In the analytical framework delineated herein, the computation involves ascertaining the value added corresponding to the index of the number of IT exports (μ). This value (μ) is defined as the quotient obtained by dividing the number of IT exports (ρ) by the aggregate of all exports (σ), further multiplied by 100 to denote the outcome as a percentage.

$$\mu = \sum_n ((\rho_1/\sigma_1 + \rho_2/\sigma_2 + \dots + \rho_n/\sigma_n) \times 100) \quad (4)$$

The metric denoted as Value added of the e-IT administration from a country (B) (H3) encapsulates the application of IT administration within an electronic milieu, notably the internet, encompassing both public and private administration. It is defined as the product of the Value added of the IT administration tangible assets from a country (A) and the value added of the index of internet access (τ). The calculation of τ involves determining the percentage of the population with internet access, expressed as a unitary index obtained by dividing the said percentage by 100.

$$B = A \times \sum_n ((\tau_1 + \tau_2 + \dots + \tau_n)/100) \quad (5)$$

The metric designated as Value added of the digital administration technology from a country (C) (H4) signifies the aggregate of devices and connections catering to both public and private administration within a given nation. It is articulated as the product of the Value added of the e-IT administration from a country (B) and the Internet of Things (IoT) metric from the same country (φ), the latter expressed as a unitary value, i.e., divided

by 100. This conveys the interconnected impact of electronic IT administration and IoT on the overall digital administration technology value.

$$C = B \times \sum_n ((\varphi_1 + \varphi_2 + \dots + \varphi_n)/100) \quad (6)$$

The parameter denoted as Value added of the digital corporate administration technology from a country (D) (H5) embodies the collective presence of devices and connections devoted to corporate administration within a specific nation. This metric is formulated as the result of multiplying (weighting) the Value added of the digital administration technology from a country (C) by the value added of the index of the IT active enterprises from the same country (ω), with the latter expressed as a unitary value, i.e., divided by 100. This formulation elucidates the compounded influence of digital administration technology and the activity of IT enterprises on the overall value within the realm of digital corporate administration technology.

$$D = C \times \sum_n ((\omega_1 + \omega_2 + \dots + \omega_n)/100) \quad (7)$$

The parameter denoted as Value added of the index of the IT active enterprises from a country (ω) is formulated as the quotient resulting from dividing the count of IT active enterprises within a country (ϵ) by the aggregate count of all active enterprises within the same country (ϑ). This result is then multiplied by 100, expressed as a percentage, providing a standardized index that represents the proportional contribution of IT active enterprises to the entire spectrum of active enterprises in the given country.

$$\omega = \sum_n ((\epsilon_1/\vartheta_1 + \epsilon_2/\vartheta_2 + \dots + \epsilon_n/\vartheta_n) \times 100) \quad (8)$$

The quantitative measure denoted as the Value added of digital corporate administration technology within the mountain area (E) (H5) signifies the comprehensive sum of devices and connections dedicated to corporate administration within the mountainous

region. This metric is articulated as the product of the Value added of digital administration technology from a country (C) and the weighted Value added of the index of IT active mountain enterprises from the same country (Ω), presented as a unitary value denoting division by 100.

$$E = C \times \sum_n ((\Omega_1 + \Omega_2 + \dots + \Omega_n)/100) \quad (9)$$

The Value added of the index denoting the activity of IT enterprises within mountainous regions from a given country (Ω) is formulated as the quotient of the quantity of IT active mountain enterprises (χ) within the country, divided by the aggregate of all active enterprises within the mountainous region (ψ). This expression is then multiplied by 100 to yield a percentage representation.

$$\Omega = \sum_n ((\chi_1/\psi_1 + \chi_2/\psi_2 + \dots + \chi_n/\psi_n) \times 100) \quad (10)$$

The empirical data presented in this research, derived from authoritative sources such as the United Nations [35] & TradeMap [36] (indicator A), World Bank [37] (indicator B), Eurostat [38] (indicators C, D & E), and various international databases, underwent rigorous analysis employing statistical tools such as SPSS or Excel. Valid quantitative results for the European Union (EU), Middle East and North Africa (MENA), and BRICS nations were obtained. The study adopts a qualitative research approach within the realm of IT administration.

The quantitative dataset, sourced from reputable entities including the United Nations, World Bank, Eurostat, TradeMap, and other international databases, underwent thorough analysis and simulation using statistical software such as SPSS and Excel. Descriptive statistics, frequency analyses (ANOVA), and forecasting techniques were systematically applied. Concurrently, qualitative data were subject to observation and thematic analysis. It is pertinent to note that some data exhibit incompleteness, prompting the authors to resort to forecasting techniques for model calibration.

Results and Discussion

Results

The value added of tangible IT assets in countries (A), based on data and forecasts from the United Nations, TradeMap, and IBIS World [39], exhibits distinct values within the analyzed EU, BRICS, and MENA countries, stratified by intervals. Nations falling within the 0-5 first interval, including Austria (4.69), Bulgaria (4.96), Croatia (3.66), France (3.39), Italy (3.95), Jordan (0.45), and Spain (4.10), necessitate substantial enhancement of resilience in IT administration. Investment in IT tangible assets emerges as pivotal for value-added development in this category. Countries within the 5-10 second intervals, such as Brazil (7.83), China (9.33), Egypt (5.51), India (5.71), Poland (7.20), Portugal (5.96), Romania (6.77), and Russia (8.77), are characterized as emergent in IT administration, with tangible asset investments potentially at lower levels for the development of the general administration chain. The third-interval countries with values exceeding 10, including Czechia (14.81), Slovakia (12.68), South Africa (13.36), and Saudi Arabia (10.33), demonstrate high resilience and value-added IT administration, marked by significant investments in IT production and export. Notably, the comparative advantage of China and Czechia reveals favorable values, with Czechia standing out as the most emergent among the analyzed nations.

Table 1 underscores that countries within the third interval place a higher value on their IT administration. The value added in IT administration depends on how a country leverages IT tangible assets in daily activities, even if imports are higher or IT production and exports are comparatively lower.

The value added of e-IT administration in a country (B), based on World Bank data (2022), hinges on the value added of the internet access index (τ). This index signifies the expression of IT used in electronic access, presenting decreased values for countries like Austria (20.51), Bulgaria (16.79), Croatia (13.82), Egypt (17.15), France (14.15), India (9.07), Italy (13.98), Jordan (1.53), Portugal

Table 1

Value added to the indexes for IT production (α), imports (δ), and exports (μ)

Countries	Value added to the index of the number of IT intern production (α)	Value added to the index of the number of IT imports (δ)	Value added to the index of the number of IT exports (μ)
Austria	2.74	4.71	2.76
Brazil	2.66	9.27	4.10
Bulgaria	0.99	4.52	0.56
China	13.93	18.11	22.71
Croatia	0.70	4.01	1.05
Czechia	4.80	16.63	6.62
Egypt	0.09	5.79	0.38
France	2.96	5.45	5.01
India	2.25	8.85	5.39
Italy	1.13	4.45	1.64
Jordan	0.23	4.73	4.51
Poland	1.42	6.85	1.07
Portugal	0.44	5.65	0.13
Romania	2.10	6.71	2.05
Russia	2.53	8.51	2.27
Saudi Arabia	0.09	10.31	0.07
Slovakia	0.91	12.62	0.85
South Africa	11.52	2.04	0.20
Spain	0.47	4.25	0.61

Source: Authors according to the [35, 36, 39]

(22.70), Romania (25.01), and Spain (18.49). Conversely, increased values are observed for Brazil (29.60), China (30.23), Czechia (59.77), Poland (29.04), Russia (36.18), Saudi Arabia (49.46), Slovakia (53.88), and South Africa (44.31). The success of indicator B depends not only on internet access or indicator A but is profoundly influenced by the potential valorization of e-administration.

It is imperative to acknowledge that high internet access alone does not guarantee greater success in electronic administration. Countries with increased values effectively capitalize on their IT potential in the electronic environment for superior administration development.

Within the domain of IT administration, an additional pivotal indicator, posited as

the value added of digital administration technology from a country (C), draws attention to the potential application of the Internet of Things (IoT) index (φ) in electronic administration. Eurostat data (2022) and the authors' computations reveal substantial variations in the IoT index, with notable highs for Austria (0.32), Croatia (0.2), Czechia (0.44), Italy (0.23), Portugal (0.2), and Spain (0.2), contrasted by lower values for Bulgaria (0.12), France (0.1), Poland (0.17), Romania (0.07), and Slovakia (0.17). Countries within the EU, as per φ , showcase Czechia at the pinnacle with a value added of 26.30, trailed by Slovakia (9.16), Austria (6.56), Croatia (2.76), Poland (4.94), Portugal (4.54), Spain (3.70), Italy (3.22), Bulgaria (2.01), Romania (1.75), and

France (1.41). Nations with values below 5 necessitate heightened resilience in IoT for effective administration.

Value added of digital corporate administration technology from a country (D), based on Eurostat data and contingent upon the value added of the index of IT active enterprises from a country (ω), assumes significance across the analyzed nations. Countries with lower ω , specifically Bulgaria (3.66), Italy (2.44), Portugal (1.74), and Spain (2.07), must fortify their resilience in developing the IT population of active enterprises. Conversely, nations like Austria (4.93), Croatia (5.09), Czechia (4.33), France (4.05), Romania (4.86), and Slovakia (4.64) should bolster the activity of IT economic entities. The digital corporate administration (D) in these nations is appraised within the IT environment, with certain countries, such as Austria (32.38), Czechia (113.90), and Slovakia (42.46), placing heightened value on their IT corporate administration. On the other hand, countries like Bulgaria (7.38), Croatia (14.07), France (5.73), Italy (7.86), Portugal (7.89), Romania (8.51), and Spain (7.67) should advocate for increased resilience in IT corporate administration and the augmented valorization of digital activities.

The mountain area, beset by natural handicaps, assumes significance in IT activities, making the value added of digital corporate administration technology in the mountain area (E) a crucial indicator for regional development. Contingent upon the value added of the index of IT active mountain enterprises from a country (Ω), this indicator exhibits substantial fluctuations among the presented countries. Countries with lower Ω , such as Croatia (2.70), Czechia (3.02), France (2.76), Italy (2.22), Portugal

(1.01), and Spain (1.85), are urged to invest more in the IT environment of the mountain area. Conversely, nations like Austria (3.67), Bulgaria (4.47), Poland (3.57), Romania (4.29), and Slovakia (3.54) should sustain their preeminent position in IT development for the mountain area. Countries displaying high resilience to digital corporate administration (E), including Austria (24.11), Czechia (79.35), and Slovakia (32.44), serve as exemplars for others, such as Bulgaria (9.01), Croatia (7.46), France (3.91), Italy (7.15), Portugal (4.61), Romania (7.52), and Spain (6.83).

A comprehensive analysis of IT corporate administration in the mountain enterprises' environment adopts a multivariate approach, utilizing the Eurostat meta-index of IT Business Demography statistics comprising 26 indicators (with active mountain enterprises, representative indicator I1). Employing SPSS ANOVA for 2008-2018, along with forecasting for 2019-2028, countries like Austria, France, Italy, and Spain emerge at the forefront of IT mountain Business Demography statistics, while Bulgaria, Croatia, Czechia, Poland, Portugal, Romania, and Slovakia are encouraged to fortify resilience in IT mountain corporate administration ([annex 1](#);¹ [annex 2](#))². The societal responsibility of the IT mountain business environment is well-established in certain countries, including Austria, Bulgaria, France, Italy, Romania, and Spain. The IT sector in the analyzed countries holds significance as a dimension of the mountain area, with a growing number of businesses and individuals participating in mountain administration.

Projections for 2028 ([annex 3](#))³ indicate that specific indicators will enhance resilience

¹ annex 1



² annex 2



³ annex 3



in IT corporate administration in the mountain area of discussed countries, including I1, I2, I4-I7, I11, I14, I16, I18, I20-I22, and I25. Conversely, other indicators, namely I3, I8-I10, I15, I17, I19, and I23-I24, may diminish the resistance of IT administration, potentially impeding IT Business Demography development. Forecasts for the most pivotal indicator, the fluctuation of the population of active enterprises between 2021-2028 (%), underscore Bulgaria's expected increase by 33.39%, Czechia by 41.58%, Poland by 43.38%, Portugal by 44.33%, Romania by 33.52%, and Slovakia by 33.67%. These projections position these countries favorably for sustaining competitiveness in the EU and global mountain IT corporate administration. In parallel, Austria is anticipated to rise moderately by 10.40%, Croatia by 14.42%, France by 28.77%, Italy by 20.22%, and Spain by 19.81, ensuring the continuation of the current development in the European mountain background.

Discussion

The quantitative data presented in this study converge towards pivotal narrative findings and discussions, substantiating the hypotheses posited in the paper:

Result 1: Confirms H1, signifying that a robust quality of public and private administration correlates with the economic strength of a country. Furthermore, it underscores the positive impact of enhanced IT administration strength on the overall administration, as indicated by the Value Added of the IT administration tangible assets from a country (A).

These findings align with corroborative evidence from analogous studies examining 134 countries across Africa, Asia, and Arab regions. Administration, when coupled with supportive elements like aiding mechanisms and robust corruption supervision, manifests a positive influence. Inadequate standards in these aspects lead to administrative shortcomings. Notably, MENA and BRICS countries exhibit substantial potential due to their excess human capital, constituting 42% of the world population [40-41].

Result 2: Affirms H2, indicating that development significantly impacts

administration in the Research, Development, and Innovation (RDI) sector, with the IT segment playing a crucial role. This is evident in the Indicator Value Added of the IT administration tangible assets from a country (A).

Similar research underscores the importance of investments in RDI, exemplified by a study on 22,073 firms from BRICS. The study emphasizes the role of investor protection, revealing that countries facilitating high-level dividend payments attract more interest from investors [42].

Result 3: Validates H3, indicating that digital administration in an electronic context contributes to the resilience of a country's socio-economic environment, as reflected in the Indicator Value Added of the e-IT administration from a country (B).

Corroborating studies on BRICS digital administration underscore the imperative of socio-economic resilience. Initiatives such as India's Aadhaar program, the establishment of a complex economic support network in bilateral trade between China and South Africa, improvements in school administration through Smart School examples in South Africa, and the expansion of IT administration in Africa through Tech Hubs and Maker Spaces highlight the significance of socio-economic resilience [43].

Result 4: Affirms H4, emphasizing that public and private administration, particularly IT administration, is influenced by technical development, such as the Indicator Value Added of the digital administration technology from a country (C).

This is substantiated by research emphasizing the pillars of IT development, including digital skills, goodwill, and entities' resilience in the electronics sector. A study conducted in China utilizing SPSS regression analysis underscores crucial factors for implementing public administration, such as technical skills, background support, anticipated gain, goodwill, and people's achievements [44].

Result 5: Validates H5, indicating that IT administration and the broader digital administration environment exert influence

on business performance, observed through the Indicators Value Added of the digital corporate administration technology from a country (D) and Value Added of the digital corporate administration technology in the mountain area (E).

These indicators are reinforced by research conducted by EU researchers on 881 global companies, demonstrating that IT capability positively impacts business performance through IT administration. Digital administration emerges as a vital dimension of the digital economy, with IT administration playing a pivotal role in enhancing business performance [45].

Conclusion

In conclusion, this research navigates the complexities of global digital administration, spotlighting IoT-driven internet governance. It underscores the transformative impact on diverse sectors, urging strategic collaborations for a sustainable and innovative future.

The scholarly contribution introduces a comprehensive framework with five interconnected indicators for measuring digital administration's socio-economic impact in Information Technology (IT). The

study employs rigorous quantitative analysis and qualitative research, presenting validated results for EU, MENA, and BRICS nations.

The study unveils distinct values in IT administration across EU, BRICS, and MENA countries, emphasizing the pivotal role of tangible IT assets, digital administration, and IoT in socio-economic resilience. Comprehensive analyses underscore the necessity for strategic investments to fortify IT capabilities and propel digital administration advancements.

The paper validates the pivotal role of digital administration in EU, BRICS, and MENA nations. The proposed indicators affirm enhanced general administration performance, particularly in sustainable IT administration. While confined to existing data, the study calls for expanded validation of indicators and dataset cultivation in MENA and BRICS regions. The transformative impact of IT underscores its preeminent role in reshaping global public and private administration, addressing socio-economic challenges and posing new concerns in information security and privacy.

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DIGITAL ADMINISTRATION IN THE INFORMATION TECHNOLOGY LANDSCAPE – A REVIEW: INSIGHTS FROM MOUNTAIN ECONOMY

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The research explores the challenges and advancements in global digital administration, focusing on IoT-driven internet administration. The study proposes hypotheses on digital administration performance and offers insights of IT administration.

The scholarly contribution introduces a comprehensive framework with five interconnected indicators for measuring digital administration. These indicators, aligned with hypotheses, assess the socio-economic impact of IT, incorporating complex mathematical formulations. The study utilizes empirical data from reliable sources and employs rigorous statistical analysis, combining qualitative and quantitative approaches to enhance understanding within the IT administration realm.

The study examines IT governance in EU, BRICS, and MENA countries through tangible assets. Findings highlight varied resilience levels and advocate for strategic investments, emphasizing the pivotal role of IT in economic development and governance across different intervals. The analysis extends to e-IT governance, digital governance technology, and digital corporate governance technology, demonstrating their impact on socio-economic environments, business performance, and IT development in mountain areas.

Within this contextual framework, the authors posit several hypotheses concerning digital administration performance:

H1. A robust quality of public and private administration correlates with a strong national economy; additionally, heightened IT administration strength augments general administration – as indicated by the Value Added of IT administration tangible assets from a country (A).

H2. Development influences administration in the Research-Development-Innovation (RDI) sector, with the IT part paramount importance – as indicated by the Value Added of IT administration tangible assets from a country (A).

H3. Digital administration within an electronic context should foster resilience in the socio-economic environment of a country – as indicated by the Value Added of e-IT administration from a country (B).

H4. Public and private administration, particularly in IT administration, operates under the auspices of technical development – as indicated by the Value Added of digital administration technology from a country (C).

H5. IT administration and the overall digital administration environment exert influence on business performance – as indicated by the Value Added of digital corporate administration technology from a country (D), and additionally, the Value Added of digital corporate administration technology in the mountain area (E).

Results underscore the interconnectedness of governance quality, development, resilience, and technical advancement in the evolving landscape of digital administration.

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