

The Role of Ethical Leadership in Supporting E-Business Challenges: Evidence from The Pharmaceutical Sector in Jordan

Sanaa Suliman

PHD of Business Administration, Concordia University, USA

Sana.hiary@yahoo.com

Abstract. This study investigated how ethical leadership supports electronic business (e-business) challenges in the pharmaceutical sector in Jordan. A survey of 298 leaders examined the relationships between ethical leadership dimensions (integrity, accountability, social responsibility, decision-making, communication, compliance) and e-business challenges. The results demonstrated ethical leadership significantly aids organizations in addressing e-business challenges. Communication and decision-making exhibited the strongest impacts. The findings suggest ethical communication and ethical decision-making principles can help organizations effectively confront e-business issues like security, privacy, and adoption resistance. This study contributes timely empirical evidence on the intersection of ethical leadership and e-business in Jordan's under-researched pharmaceutical context. For practice, it provides guidance for leadership training and development to integrate ethics for enabling successful e-business transformation and competitiveness. Further research with broader samples and qualitative data could enrich understanding of this phenomenon. Overall, the study advances knowledge on how ethical leaders can leverage communication, principled-decision making and other dimensions to support digitalization, competitiveness and reputation in the pharmaceutical sector

Keywords: Ethical Leadership, Integrity, Accountability, Social Responsibility, Ethical Decision-Making, Ethical Communication, Ethical Compliance, Electronic business, Challenges, Technology Resistance

1. Introduction

Ethics constituted one of the most important aspects that would influence the business environment. It contributed to the formation of values and principles related to business exchange and making various decisions within the business environment, and through its presence, the ethical aspect was formed in the business context (Obeidat et al., 2021; Hawi et al., 2015; Saif & Hashem, 2013).

Ethics imposed itself at all levels, and its importance appeared in terms of the organization's duty to deal ethically towards the individuals working in it, customers and consumers, in addition to the organizations' awareness of the effective role of ethics in influencing the sustainable success of the organization (Borgerson, 2023; Hashem & Alhumeisat, 2023).

Over time, ethics has proven its ability to achieve outstanding performance for organizations by building a good reputation for the organization, creating positive relationships, the ability to respond to various changes in the business environment and achieving sustainability. In addition, many studies have proven that the presence of ethics as one of the main elements in organizations has contributed significantly to attracting and retaining talent and making the organization a model of success and effective ethical leadership (De Bakker et al., 2019).

A study by Anggraini et al. (2023) aimed to explain the role of e-business ethics in building moral awareness and ethical decisions related to professional ethics. The quantitative approach was adopted by distributing an electronic questionnaire to a sample of students enrolled in e-business courses. The study reached the conclusion that there were differences in ethical awareness and ethical decision-making between students who used e-business ethics learning and those who did not use e-business. Ethical decision-making was higher for them compared to others.

Saha et al. (2020), the researchers aimed to conduct a systematic review of the various concepts in ethical leadership and social responsibility and their impact on the performance of organizations. (114) research papers were analyzed for the years (1958-2016). The study reached the conclusion that ethical leadership is able to enhance the level of social responsibility in organizations by strengthening the foundations of integrity, accountability and compliance. On the one hand, the study found that financial conditions are the only obstacle to organizations being more socially responsible.

Lin et al. (2020) aimed in their study to shed the light on ethical leadership and its role in strengthening the foundations of business technology application and its impact on organizational performance. The study was applied to a sample of (465) organizations that introduced business technology into their internal operations. The study reached the conclusion that there is an impact of ethical leadership on the foundations of business technology applications in organizations, starting from variables that included ethical communication, ethical compliance and ethical decision-making. The study confirmed that the results of business technology applications are greatly affected by ethical leadership depending on the nature of the working individuals and their degree of involvement in the leadership style followed in the organization.

It was noted through the presented previous literature that ethical leadership has the ability to influence every aspect in the organization. This influence may be intact with organizational performance, reputation and overall market share as according to Taherdoost (2023). Going deeper into perspective, ethical leadership may influence individuals' performance, level of their job satisfaction and their ability to be creative and innovative in their job as mentioned by Tamunomiebi and Orianzi (2019). However, there was a lack in studies that took into perspective the concept of e-business and built a correlation with ethical leadership; in other words, there wasn't studies that took ethical leadership as an independent variable and tried to connect to e-business operations in order to examine how ethical leadership can influence outcomes of e-business.

Given that operators of e-business are basically individuals who are working within the organization, then it can be said that any element that influences operators of e-business is most probably going to have an influence on e-business itself and its outcomes within the organization.

Based on the previous argument, we chose to carry out the current research as an approach to shed the light on the role of ethical leadership in facing e-business challenges within pharmaceutical sector in Jordan. Reaching the aim of study encouraged us to answer the following question:

What is the role of ethical leadership in facing e-business related challenges within the Jordanian pharmaceutical sector?

Reaching an answer to this question was done through our set of objectives:

- A) Identify the meaning and characteristics of ethical leadership.
- B) Correlate between ethics in business and the concept of e-business
- C) Shed the light on the challenges of e-business strategies
- D) Combine between ethical leadership and e-business challenges from sample perspective

2. Literature Review

2.1. Ethical Leadership

According to Banks et al. (2021), ethical leadership is a leadership style that takes into perspective aspects of ethics, morals, and values to guide the behavior of employees towards making decisions that are in the interest of the organization as a whole. Saha et al. (2020) confirm that ethical leadership is the basis for building a successful and sustainable organization, and that establishing an ethical culture in the organization will enhance trust and cooperation among individuals. Schwepker and Dimitriou (2021) pointed out that ethical leadership is a concept that has existed long time ago, but since organizations realized the importance of ethics in building a sustainable organization, they have become largely focused on business ethics and the human element in it, so many studies have provided clear specifications for what ethical leadership can represent.

Sharma et al. (2019) and Sarwar et al. (2020) pointed out that honest and transparent leadership, in which the leader is honest in dealing with others and refrains from manipulating the facts, characterizes ethical leadership. As for Ahmad et al. (2021); Singh et al. (2019), it was found that ethical leadership must be the beginning of the organization's social responsibility. An ethical organization usually considers that its actions have a significant impact on society and individuals and are capable of changing the results of the public interest.

On the other hand, Shafique et al. (2020) and Ferrell and Fraedrich (2021) presented specifications for the ethical leader, which is considered an important part of ethical leadership. As Ren et al. (2021) stressed that the ethical leader must have characteristics that qualify them to be ethical leader, such as empathy, respect, positive influence, and the ability to direct individuals' behaviors to what It is in their interest and the interest of the organization together.

There wasn't an agreed-on group of characteristics that describe what an ethical leadership is. No specific academic, researcher or entity have emerged to state that these specific set of dimensions are able to formulate ethical leadership. This is attributed to the fact that ethics and morals in general are influenced by the culture, region and background they are formed in (Qing et al., 2020). However, many previous studies mentioned frequently dimensions related to ethical leadership that included Taştan and Davoudi (2019); Rendtorff (2019); Leicht-Deobald et al. (2022); Sharma et al. (2019); and Ferrell and Ferrell (2021):

Integrity

Integrity is one of the basic aspects of ethical leadership and revolves around honesty and transparency in various individual decisions, emotions and actions. It also refers to the moral principles present in the leader, which are the basic component of the leader's personality and the way they interact in the environment surrounding them. Integrity has an effective role in e-business as it enhances the principles of trust in e-business, and adherence to ethics help the organization maintain its reputation by acting in

an ethical manner and committed to various societal values.

Accountability

There is no doubt that the use of electronic tools and programs in the organization's internal and external operations is based on accountability. Therefore, accountability is important when it comes to e-business. Accountability in its general sense is responsible behavior in the context of work and within the organization. Accountability is very important in the context of e-business as it is by nature dynamic and fast, so individuals need to have this quality. In ethical leadership, accountability is the leader's ability to bear the consequences of the decisions and actions they take, and to be accountable to stakeholders and employees for any results of their decisions, whether satisfactory or unsatisfactory.

Social Responsibility

Social responsibility in ethical leadership refer to the degree leaders understand the social responsibility of their organization. From that point, an ethical leadership is a parson who makes sure that the ream members understand the consequences of their actions on the society, and how they have a role in increasing the social responsibility of their organization based on their actions, attitudes and decisions. In an e-business environment, social responsibility is of great sensitivity as it can have a direct impact on how the society view the organization.

Ethical Decision-Making

Ethical decision-making refers to the process of studying, evaluating, and choosing between different courses of action and adopting those based on principles and values that are beneficial to individuals and the organization as a whole. In addition, making an ethical decision is based on realizing and understanding the consequences resulting from this decision and demonstrating the ability to bear these consequences and deal with them if they arise, whether negative or positive. In the field of e-business, the ethical decision is very important, given that the adoption of technology in the business environment usually has a rapidly spreading impact, and any decision taken by the organization in this regard quickly emerges from its internal environment to its external environment, which includes society, consumers, and customers.

Ethical Communication

E-business is all about easing the process of communication between internal operators and the external environment. Ethical communication is the process of conveying information and ideas in an ethical manner based on transparency and honesty and in a respectful manner free of procrastination or evasion. Ethical communication is based on commitment to respectable principles and values and is applied to all forms of communication, whether written, visual or audio.

Ethical Compliance

Ethical compliance refers to the state of adherence to ethical principles and guiding standards within the organization. Where ethical compliance ensures that individuals and entities within the organization are committed to the ethical values recognized in the organizational culture, and that decision-making processes are based on ethical guiding principles that guarantee the interests of all individuals, whether working within the organization or those who benefit from it in the external environment.

2.2. E-Business

E-business is the practice of commercial and manufacturing activities in all their forms, relying on technological tools and programs and through the Internet (Setyowati et al., 2021). The meaning of a business being an e-business means that all the activities of this business take place through the Internet, including buying, selling, exchanging goods and services, marketing, and making decisions (Nasr et al., 2020). Rosas et al. (2023) confirm that employing digital technologies is considered one of the forms of e-business, where organizations are managed through the automation of internal and external

processes, including marketing, sales, supply chain management, and customer support.

E-business appears in many forms, including selling through the Internet or what is called electronic commerce, electronic banking services, electronic auctions, booking tickets through the Internet, advertising, electronic marketing, and many others (Emami et al., 2023; Haikal et al., 2020). Naab and Bans-Akutey (2021) emphasized that e-business has transformed the way organizations work by opening new opportunities, reducing time, enhancing customer experiences and reaching the global level.

2.2.1. Challenges of E-business in Pharmaceutical Sector

Although, e-business has provided many opportunities for organizations to achieve outstanding performance and has facilitated many organizational practices for them, adopting e-business involves many different challenges, which are summarized by Xu et al. (2021) and Chang and Chen (2021) as follow:

First challenge: Security and privacy

The security of information and data is vital in any organization. Organizations must be careful with sensitive information and data, such as customer information and payment data, from any attempts to breach privacy. This challenge requires precautionary measures such as encryption and the development of reliable security standards.

The second challenge: Transformation and acceptance

Here the management of resistance to change appears, as the organization may face resistance from individual employees towards the shift towards digital, or even resistance from customers and consumers towards adopting electronic procedures instead of the traditional ones they are accustomed to. In order to manage this resistance, organizations need to educate individuals and consumers about the importance of technology in developing services and educate them about the potential benefits of accepting this change.

The third challenge Infrastructure:

The most important point that the organization must take into consideration is the presence of a developed and strong infrastructure capable of providing the organization with all electronic services and support. These services include Internet connectivity, advanced technologies, fast servers, and ensuring smooth completion of operations.

The Fourth challenge: Competition:

Today, most organizations compete with each other over the type of electronic services provided, their efficiency and speed, and the level of their service to consumers and clients. Organizations enter into a great cycle of continuous improvement and development in order to keep pace with continuous development and ensure that the organization is at the forefront of other organizations that provide their services electronically.

The Fifth challenge: Legislation and Laws:

There are many different challenges facing organizations during the process of developing various electronic services and processes, and they are usually required to comply with laws and regulations related to adopting technology in business, which leads to a slow pace of work. Legislation and laws may vary from one country to another, so companies must check and adhere to local laws to avoid legal problems and legal consequences.

The Sixth challenge Sustainability:

Specifically environmental sustainability, which is required of all organizations in order to ensure a good reputation in the market and among consumers. Environmental sustainability includes ensuring that organizations' electronic practices do not affect the environment and that their adoption of

technological development is based on sustainable practices that include reducing paper consumption, recycling, and using renewable energy.

Launching from the previously presented argument, and in accordance with the hypothesis's development formulated, researcher was able to build a model that highlighted the relationship between adopted variables and from which hypotheses were extracted:

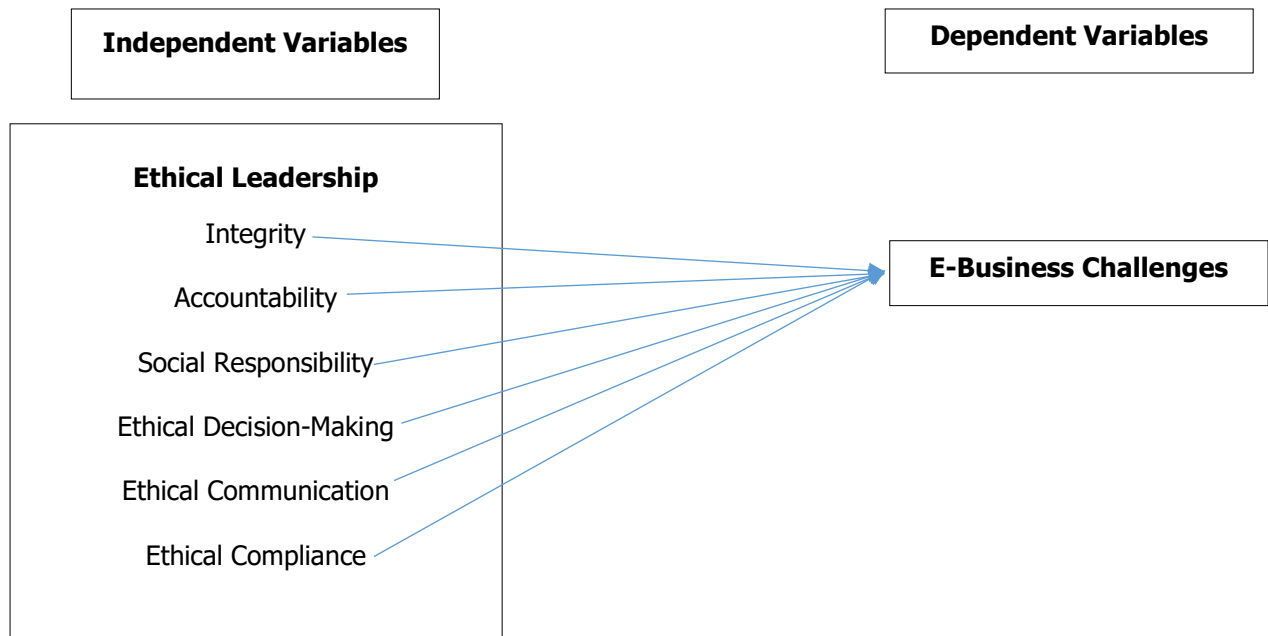


Fig.1: Study Model

Hence, the study's hypotheses appeared as follows:

Main Hypothesis:

H: Ethical leadership has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

Sub-Hypotheses:

H1: Integrity has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

H2: Accountability has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

H3: Social responsibility has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

H4: Ethical decision-making has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

H5: Ethical communication has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

H6: Ethical compliance has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector

3. Research Methodology

Current study adopted the quantitative approach in order to reach its aim and answer the presented questions. Quantitative approach was chosen due to its ability to be applied on a larger sample size. This may increase the possibility of reaching results from more individuals and be able to give coherent answers that are related to main aim.

Researcher utilized a questionnaire to be the main tool of study and gather the primary data. The questionnaire was built by researcher through the aid of previous studies including (Anggraini et al. (2023); Saha et al. (2020); Lin et al. (2020)) and consisted statements related to variables of study presented earlier in figure 1. The questionnaire appeared in two main sections, the first took into perspective demographic of study’s sample (gender, age, qualification and experience), while the other section presented statements related to sub-variables (Integrity, Accountability, Social Responsibility, Ethical Decision-Making, Ethical Communication, Ethical Compliance). It is worth mentioning here that the questionnaire was built on Likert 5 point scale that ranged between 1 totally disagree to 5 totally agree.

The questionnaire then was uploaded online through Google Forms for application purposes. Then the link was sent to participants in order for them to fill it according to their view points. See table 1:

Table 1. Distribution of Statements on Study Variables

Variable	# of Statements
Ethical Leadership	
Integrity	5
Accountability	5
Social Responsibility	5
Ethical Decision-Making	5
Ethical Communication	5
Ethical Compliance	5
E-Business Challenges	5
Total	35

Population of study consisted of leaders and managers within pharmaceutical sector in Jordan. Distribution of the study population appeared as in the following table 2:

Table 2. Distribution of Study Population

Source	Frequency
Factories	27
Pharmacies	3500
Medical Warehouse	567

Total of (352) leaders and managers within the sector responded to the self-administered questionnaire. After application process researcher was able to retrieve (298) properly filled questionnaire which indicated to a response rate of (84.6%) as statistically accepted.

Statistical package for social sciences (SPSS) was chosen screen and analyze gathered primary data. Cronbach’s Alpha was used in order to check the reliability and consistency of study tool and results indicated that all variables scored an alpha value that was higher than 0.70 meaning that the tool was reliable and consistence as in the table 3:

Table 3. Cronbach’s Alpha

	Alpha value
Integrity	0.850
Accountability	0.706
Social Responsibility	0.729

Ethical Decision-Making	0.797
Ethical Communication	0.852
Ethical Compliance	0.789
E-Business Challenges	0.808

Other statistical tests employed in the study included frequency and percentage, mean and standard deviation, multiple and linear regression, in addition to multicollinearity test.

It is worth mentioning here that the current study was launched and adapted through “Social Learning Theory”. This theory was developed by Albert Bandura back in 1970s, it focuses on the idea that individuals often achieve knowledge and adopt specific behaviors by observing others, learning from them, and imitating them, and this is natural in the human element (Bai et al., 2019). In the context of the current study, adopting the theory comes by focusing on the idea that individuals working in organizations usually imitate the behaviors and adopt the ideas and beliefs of their leaders in order to make decisions. If leadership has positive ethics, it will often be able to influence individuals, which leads to more efficient decision-making processes. This will influence the challenges associated with e-business and facilitate their confrontation by individuals, leaders and managers.

4. Results and Discussion

Frequency and percentage were calculated for study sample. Table below indicated that majority of respondents were above 44 years old forming 52.3% of total sample which indicated the active role of age and experience in the field of e-business ethics. In addition, study indicated that majority of respondents held BA degree forming 64.8% of total sample who had an experience of 11-16 years in the field forming 26.8% of total sample.

Table 4. Demographics

	<i>f</i>	%
Age		
22-32	46	15.4
33-43	96	32.2
44+	156	52.3
Educational Level		
BA	193	64.8
Post Graduate studies	105	35.2
Experience		
Less than 5 years	48	16.1
5-10	79	26.5
11-16	80	26.8
17-22	63	21.1
23+	28	9.4
Total	298	100.0

Mean $\{\bar{x}\}$ and standard deviation $\{\sigma\}$ were employed in order to analyze responses to questionnaire statements. Results indicated that all variables and statements were positively received by respondents as they all scored higher than mean of scale 3.00. The highest variable (integrity) scored 4.00/5.00 compared to the least variable (Ethical communication) scoring 3.42/5.00 but still positive as it was higher than mean of scale.

Table 5. Questionnaire Analysis

	\bar{x}	σ
Ethical leaders present strong integrity	3.6074	1.31945
Being an ethical leader means to adhere to moral principles	4.3490	.54342

Ethical leaders are aware of ethical standards and code of conduct	4.2282	.63161
Ethical leaders act with honesty, transparency, and trustworthiness	3.7148	1.27228
Being an ethical leaders means to be aware of fairness requirement	4.1107	.86329
Integrity	4.0020	.77407
Ethical leaders are responsible of their actions	3.9564	1.19262
Being an ethical leader means to use e-business for good means	4.1242	1.00906
Ethical leaders make decisions in e-business that are for the benefit of the organization	3.6007	1.31743
Ethical standards are a must in e-business for leaders	3.8725	1.21599
Ethical leaders hold themselves responsible when it comes to e-business solutions	4.0302	1.01955
Accountability	3.9168	.78439
Ethical leaders recognize the role of e-business on organizational performance	4.5000	.52705
They make sure that their actions do not harm the society	3.6980	1.19034
They consider environmental, social and economic wellbeing of their surroundings	4.0436	.96475
Ethical leaders prioritize social responsibility in their actions	3.6242	1.12203
Social and environmental responsibility are taken into consideration when it comes to – business adoption	4.0940	.79850
Social Responsibility	3.9919	.65869
Ethical leaders are normally able to make sound decisions	4.1477	1.25194
Ethical leaders are always aware of the impact of their choices	3.8188	1.35862
They take into perspective different opinions and ideas before making a decision	3.6980	1.43410
Ethical leaders prefer long term ethics over short term ethics	3.6913	1.35785
Decision are made in ethical and moral approach	3.6477	1.30784
Ethical Decision-Making	3.8007	.99784
Ethical leaders always prefer direct communications	3.3826	1.23145
Their communications are based on respecting privacy	3.3826	1.41943
Ethical leaders are good listeners	3.6074	1.25404
They communicate confidently and protect data	3.6409	1.32393
Communications take place regularly and according to needs	3.1007	1.25661
Ethical communication	3.4228	1.02954
Ethical leaders comply with regulations all the time	3.7819	1.51849
They understand the regulations of e-business	3.4597	1.54834
They follow all the needed procedures as according to required results	3.3758	1.60796
They are against unethical conduct when it comes to e-business	3.3691	1.53894
They address unethical practices promptly	3.6577	1.29111
Ethical Compliance	3.5289	1.10769
Individuals' attitudes are among the most apparent challenges of e-business	3.4262	1.43885
Not attending the challenges of e-business can complicate them and weaken e-business results	3.5336	1.54197
Adopting e-business require a team that is aware of e-business challenges and their solutions	3.9631	1.24532
e-business challenges can hinder performance development	3.7752	1.37551
E-Business Challenges	3.6745	1.11924

To see if there was multicollinearity, VIF and Tolerance tests were done on the independent variables. Table 6 presented conclusions that can be drawn from these calculations. The absence of multicollinearity in the data was supported by the fact that all Variance Inflation Factor (VIF) values were below 10 and all Tolerance values were above 0.10.

Table 6. Multicollinearity Test

variable	Tolerance	VIF
Integrity	.449	2.229
Accountability	.540	1.851
Social Responsibility	.357	2.805
Ethical Decision-Making	.291	3.438
Ethical Communication	.257	3.889

Ethical Compliance	.378	2.648
--------------------	------	-------

Main Hypothesis Testing

The main hypothesis indicated “Ethical leadership has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector” was examined using multiple regression analysis. F value of 65.744 demonstrated statistical significance at the 0.05 level. This suggested the full acceptance of the min hypothesis. The observed correlation coefficient of 0.759 indicated a strong positive relationship between the independent and dependent variables. Furthermore, this correlation reveals that about 75.5% of the variability in the dependent variable can be accounted for by the independent variables.

Table 7. Testing Main Hypothesis

Model	Unstandardized Coefficients		Coefficients		Sig.	R	R Square
	B	Std. Error	Beta	t			
1 (Constant)	1.229	.312		3.936	.000	.759	.575
Integrity	-.046	.082	-.032	-.559	.577		
Accountability	.013	.074	.009	.172	.863		
Social Responsibility	-.225	.109	-.132	-2.070	.039		
Ethical Decision-Making	.116	.079	.104	1.466	.144		
Ethical Communication	.744	.082	.684	9.079	.000		
Ethical Compliance	.139	.063	.138	2.215	.028		

Testing Sub-Hypotheses

Testing sub-hypotheses of study was done depending on linear regression. Table 8 below presented the reached results:

H1: F value of 81.999 demonstrated statistical significance at the 0.05 significance level. The hypothesis was accepted and it appeared that “Integrity has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”. Correlation coefficient of 0.466 indicated a **medium positive relationship** between the independent and dependent variables with **21.7%** of the variability in the dependent variable can be accounted for by the independent variable.

H2: F value of 38.567 demonstrated statistical significance at the 0.05 significance level, “accountability has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”. The observed correlation coefficient of 0.34 indicated a **medium positive relationship** with **11.5%** of the variability in the dependent variable can be accounted for by the independent variable.

H3: F value of 95.561 demonstrated statistical significance at the 0.05 significance level and accepted that “Social responsibility has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”. The observed correlation coefficient of 0.494 indicated a **medium positive relationship** with **24.4%** of the variability in the dependent variable can be accounted for by the independent variable.

H4: F value of 190.51 demonstrated statistical significance at the 0.05 significance level and accepted the hypothesis “Ethical decision-making has a statistical impact on e-business challenges from

perspective of managers and leaders within pharmaceutical sector”. With observed correlation coefficient of 0.626, it was seen that there was a **strong positive** relationship between with **39.2%** of the variability in the dependent variable can be accounted for by the independent variable.

H5: F value of 356.176 demonstrated statistical significance at the 0.05 significance level and accepted the hypothesis “Ethical communication has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”. The observed correlation coefficient of 0.739 indicated a **strong positive relationship** with **54.6%** of the variability in the dependent variable can be accounted for by the independent variable.

H6: F value of 164.679 demonstrated statistical significance at the 0.05 significance level and the hypothesis was accepted that “Ethical compliance has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”. The observed correlation coefficient of 0.598 indicated a **medium positive relationship** between the independent and dependent variables. This implies that about **35.7%** of the variability in the dependent variable can be accounted for by the independent variable.

Table 8. Testing Sub-Hypotheses

		Coefficients					
		Unstandardized	Standardized				
		Coefficients	Coefficients				
Model		B	Beta	t	Sig.	R	R Square
1	(Constant)	.979		3.231	.001	.466 ^a	.217
	Integrity	.673	.466	9.055	.000		
H1: Integrity has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector							
		Coefficients					
		Unstandardized	Standardized				
		Coefficients	Coefficients				
Model		B	Beta	t	Sig.	R	R Square
1	(Constant)	1.777		5.703	.000	.340 ^a	.115
	Accountability	.484	.340	6.210	.000		
H2: Accountability has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector							
		Coefficients					
		Unstandardized	Standardized				
		Coefficients	Coefficients				
Model		B	Beta	t	Sig.	R	R Square
1	(Constant)	.324		.931	.352	.494 ^a	.244
	Social responsibility	.839	.494	9.776	.000		
H3: Social responsibility has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector							
		Coefficients					
		Unstandardized	Standardized				
		Coefficients	Coefficients				
Model		B	Beta	t	Sig.	R	R Square
1	(Constant)	1.007		5.039	.000	.626 ^a	.392
	Ethical decision-making	.702	.626	13.803	.000		
H4: Ethical decision-making has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector							

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square
		B	Std. Error	Beta				
1	(Constant)	.925	.152		6.078	.000	.739 ^a	.546
	Ethical communication	.803	.043	.739	18.873	.000		
H5: Ethical communication has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square
		B	Std. Error	Beta				
1	(Constant)	1.543	.174		8.861	.000	.598 ^a	.357
	Ethical compliance	.604	.047	.598	12.833	.000		
H6: Ethical compliance has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector								

4.1. Discussion

Current study aimed to shed the light on the role of ethical leadership in facing e-business challenges within pharmaceutical sector in Jordan. Quantitative methodology was chosen through utilizing a questionnaire. Variables of ethical leadership included (Integrity, Accountability, Social Responsibility, Ethical Decision-Making, Ethical Communication, Ethical Compliance) as controllers and (298) individuals from the pharmaceutical sector in Jordan responded to the questionnaire. SPSS was employed to tackle the primary data. Results of study indicated the acceptance of the main hypothesis which argued “Ethical leadership has a statistical impact on e-business challenges from perspective of managers and leaders within pharmaceutical sector”.

Going through the analysis, it was found as in table 8 that all sub-hypotheses were also accepted with variant degrees of influence, but it was confirmed that all sub-variables of ethical leadership had an influence in supporting the organizational efforts to face challenges of e-business. The highest in influence appeared to be ethical communication scoring an F value of 356.176 and proving a **strong positive relationship** with **54.6%** of the variability. This proved that ethical communication has the ability to face e-business challenges within business environment.

The results demonstrated that ethical leadership contributes significantly to helping the organization face the challenges related to employing electronic tools in the business environment. This agreed with Lin et al. (2020) and Anggraini et al. (2023) who argued that in the digital age, organizations have begun to face many challenges associated with employing electronic applications, such as security, privacy, competitiveness, and continuous communication.

It was also found that ethical decision making was influential in facing the challenges of e-business as it scored an F value of 190.51 with correlation coefficient of a **strong positive** relationship between with **39.2%** of the variability in the dependent variable can be accounted for by the independent variable.

The rest of the sub-variables including ethical compliance (35.7%), social responsibility (24.4%), integrity (21.07%) and accountability (11.5%) were seen to be also influential with a medium positive relationship of the variability in the dependent variable can be accounted for by the independent variable. It was found that ethics, specifically ethics in communication and decision-making, have an effective role in supporting organizational efforts to meet challenges. This agreed earlier with Anggraini et al. (2023) and Saha et al. (2020) who argued that this role included enhancing communication with transparency and integrity, dealing with electronic problems in an honest manner, and educating working individuals about the importance of the security and privacy of organizational data. Through communication based on ethics, it produces decisions based on ethics, which in turn directs the

organization towards adopting the best and most successful ways in order to reach the results of sound decisions, organizationally and ethically.

From the above results, it can be said that ethical leadership has the ability to increase organizational efforts to face e-business challenges through running ethical communications and adopting ethical decision making that would help in uncovering the possible pitfalls that may face the organization through the adoption of e-business solutions.

5. Conclusion

Current study was carried out as an approach to focus on ethical challenges that accompany the adoption of e-business and how they can be faced by the organization. There is no doubt that there is a clear relationship between e-business and ethics, specifically business ethics. Today, ethics has become a vital matter in the business sector because it is the ability to draw the complete picture of organizations and show it to consumers and competitors in its general form, thus influencing the organization's reputation and market share.

Through the results presented by the study, we see that despite the different opportunities that technology has provided to the business sector, and the different prospects for success and excellence that it has guaranteed to organizations, there are different challenges associated with employing a tool such as technology in the business sector, which are ethical challenges. Technology has facilitated many of the organization's work and commercial activities, and there is no doubt that it has facilitated many negative practices and devious methods in order to achieve the interest and reach the organizational excellence that many organizations seek.

Here, ethics is of great importance in educating working individuals about the importance of recognizing the various effects of organizational practices that are far from ethics and their negative impact on the organization and society as a whole.

Current study launches its aim from practical and theoretical implications. From a practical perspective, current study focused on the dimensions of ethical leadership as it was found out that ethics aren't only traits that are found in a leader. They are more of application of these traits that include the way a leader deals with the team and how the team view leadership as their gate to the best performance.

From a theoretical perspective, current study would form and approach for managers and leaders to identify the best and most accurate field in which they may enhance in order to gain the best from ethics. In this research, it was found that the ethical communication and decision-making are the best approaches to deal with challenges.

Based on results, conclusion and implications presented above, researcher recommended the following:

- Increase employees' awareness of ethical as a part of business environment through continuous seminars, workshops and courses
- Focus on ethical and ethical standard when recruiting and selecting and this can take place through the efforts of HR management strategies
- Connect between social and environmental responsibility as an ethics not an organizational necessity
- Appreciate and appraise any ethical considerations that are presented and carried on by employees

The current study suggested the following to be the future studies:

- Examine the intensity of ethical mindset in different leadership styles including transformational leadership, transactional leadership and other leadership styles
- Explore if ethical leadership is acquainted or learned, whether an ethical leader is ethical by instinct or a leader normally learns how to be ethical

References

- Ahmad, S., Islam, T., Sadiq, M., & Kaleem, A. (2021). Promoting green behavior through ethical leadership: a model of green human resource management and environmental knowledge. *Leadership & Organization Development Journal*, 42(4), 531-547.
- Anggraini, F., Karsa, Y., & Siswanto, F. (2023). E-Business Ethics Learning Effectiveness to Build Ethical Awareness, Moral Courage, and Ethical Decisions. *International Journal of Social Science and Education Research Studies*, 3, 553-559.
- Banks, G. C., Fischer, T., Gooty, J., & Stock, G. (2021). Ethical leadership: Mapping the terrain for concept cleanup and a future research agenda. *The Leadership Quarterly*, 32(2), 101471.
- Borgerson, J. L. (2023). On the harmony of feminist ethics and business ethics. In *Leadership, Gender, and Organization* (pp. 37-62). Cham: Springer International Publishing.
- Chang, S., & Chen, D. (2021). Research on the existing challenges and countermeasures in e-business education among universities' upgraded talents from colleges: a case study of beijing union university. *Journal of Contemporary Educational Research*, 5(6), 76-80.
- De Bakker, F. G., Rasche, A., & Ponte, S. (2019). Multi-stakeholder initiatives on sustainability: A cross-disciplinary review and research agenda for business ethics. *Business Ethics Quarterly*, 29(3), 343-383.
- Emami, A., Farshad Bakhshayesh, E., & Rexhepi, G. (2023). Iranian communities e-business challenges and value proposition design. *Journal of Enterprising Communities: People and Places in the Global Economy*, 17(2), 479-497.
- Ferrell, O. C., & Ferrell, L. (2021). New directions for marketing ethics and social responsibility research. *Journal of Marketing Theory and Practice*, 29(1), 13-22.
- Ferrell, O. C., & Fraedrich, J. (2021). *Business ethics: Ethical decision making and cases*. Cengage learning.
- Haikal, E. K., Freihat, S. M., Adnan, M., Joudeh, J. M. M., & Hashem, T. N. (2020). The role of supply chain strategy and affiliate marketing in increasing the demand for e-commerce. *Social media POV, Int. J Sup. Chain. Mgt*, 9(1), 832-844
- Hashem, T. & Alhumeisat, E. (2023). Examining the Moderating Role of e-marketing: Creative Leadership as a Source of Intrapreneurship within Marketing Department. *Journal of System and Management Sciences*, 13(2), 83-100.
- Hawi, R., Hashem, T. & Alkhodary, D. (2015). The Relationship between Transformational Leadership and Organizational Performance in Jordan Universities from Middle Managers Perspective. *International Journal of Management & Business Studies*, 5(4), 39-46
- Leicht-Deobald, U., Busch, T., Schank, C., Weibel, A., Schafheitle, S., Wildhaber, I., & Kasper, G. (2022). The challenges of algorithm-based HR decision-making for personal integrity. In *Business and the Ethical Implications of Technology* (pp. 71-86). Cham: Springer Nature Switzerland.
- Lin, W. L., Yip, N., Ho, J. A., & Sambasivan, M. (2020). The adoption of technological innovations in a B2B context and its impact on firm performance: An ethical leadership perspective. *Industrial Marketing Management*, 89, 61-71.
- Naab, R., & Bans-Akutey, A. (2021). Assessing the use of e-business strategies by SMEs in Ghana during the Covid-19 pandemic. *Annals of Management and Organization Research*, 2(3), 145-160.

Nasr, M. H., Farrag, M. H., & Nasr, M. (2020). E-payment systems risks, opportunities, and challenges for improved results in e-business. *International Journal of Intelligent Computing and Information Sciences*, 20(1), 16-27.

Obeidat, O., Al Shboul, M. K., & Ahmad, S. (2021). The Impact of Adopting Professional Information Ethics on Business Performance in Jordanian Banks.

Qing, M., Asif, M., Hussain, A., & Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: The mediating role of psychological empowerment. *Review of Managerial Science*, 14, 1405-1432.

Ren, S., Tang, G., & Jackson, S. E. (2021). Effects of Green HRM and CEO ethical leadership on organizations' environmental performance. *International Journal of Manpower*, 42(6), 961-983.

Rendtorff, J. D. (2019). Sustainability and business ethics in a global society. In *Philosophy of Management and Sustainability: Rethinking Business Ethics and Social Responsibility in Sustainable Development* (pp. 19-28). Emerald Publishing Limited.

Rosas, N. G. T., Paredes, S. A. V., Gonzales, J. L. R., Kaviska, R. S., Cano, A. A. C., & Taherdoost, H. (2023, April). Business Intelligence as a Key Driver of E-business Enterprises; Prospects and Challenges. In *2023 International Conference on Inventive Computation Technologies (ICICT)* (pp. 1000-1006). IEEE.

Saha, R., Shashi, Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corporate Social Responsibility and Environmental Management*, 27(2), 409-429.

Saif N.I, Hashim T.N. (2013). Physicians' Interest Measurement towards Islamic Document for Medicine and Health Ethics in Jordanian Public Hospitals. *EUR J BUS MAN*. 5(11):127-37

Sarwar, H., Ishaq, M. I., Amin, A., & Ahmed, R. (2020). Ethical leadership, work engagement, employees' well-being, and performance: a cross-cultural comparison. *Journal of Sustainable Tourism*, 28(12), 2008-2026.

Schwepker Jr, C. H., & Dimitriou, C. K. (2021). Using ethical leadership to reduce job stress and improve performance quality in the hospitality industry. *International Journal of Hospitality Management*, 94, 102860.

Setyowati, W., Widayanti, R., & Supriyanti, D. (2021). Implementation Of E-Business Information System In Indonesia: Prospects And Challenges. *International Journal of Cyber and IT Service Management*, 1(2), 180-188.

Shafique, I., Ahmad, B., & Kalyar, M. N. (2020). How ethical leadership influences creativity and organizational innovation: Examining the underlying mechanisms. *European Journal of Innovation Management*, 23(1), 114-133.

Sharma, A., Agrawal, R., & Khandelwal, U. (2019). Developing ethical leadership for business organizations: A conceptual model of its antecedents and consequences. *Leadership & Organization Development Journal*, 40(6), 712-734.

Singh, S. K., Chen, J., Del Giudice, M., & El-Kassar, A. N. (2019). Environmental ethics, environmental performance, and competitive advantage: Role of environmental training. *Technological Forecasting and Social Change*, 146, 203-211. Ferrell, O. C., & Fraedrich, J. (2021). *Business ethics: Ethical decision making and cases*. Cengage learning.

Taherdoost, H. (2023). Legal, Regulatory, and Ethical Considerations in E-Business. In *E-Business Essentials: Building a Successful Online Enterprise* (pp. 379-402). Cham: Springer Nature Switzerland.

Tamunomiebi, M. D., & Orianzi, R. (2019). Ethical leadership: Implications for organizational reputation.(2019). *The Strategic Journal of Business & Change Management*, 6(1), 121-134.

Taştan, S. B., & Davoudi, S. M. M. (2019). The relationship between socially responsible leadership and organisational ethical climate: in search for the role of leader's relational transparency. *International Journal of Business Governance and Ethics*, 13(3), 275-299.

Ullah, I., Hameed, R. M., Kayani, N. Z., & Fazal, Y. (2022). CEO ethical leadership and corporate social responsibility: Examining the mediating role of organizational ethical culture and intellectual capital. *Journal of Management & Organization*, 28(1), 99-119.

Xu, J., & Gao, X. Z. (2021). *E-Business in the 21st Century: Essential topics and studies* (Vol. 7). World Scientific.