

Original Research Article

The impact of Customer Behavior on E-business during of the covid - 19 crisis in Jordan

.Abstract

Aims: This study was conducted to study the impact of customer behavior on e-business in Jordan in light of the increasing spread of the virus.

Study design: a quantitative research

Place and Duration of Study: Jordan, between January - September 2020

Methodology: The statistical analysis software (SPSS) software is used by the researcher. The survey questionnaires framed by the researcher are helping the researcher in representing the data appropriately

Results: The results showed that online purchase was acceptable and high during the Corona pandemic period despite the complete paralysis of movement Before the customer so that there is an alternative in emergency and necessary cases such as the Corona pandemic and the need to take into account the terms and behavior of the consumer when advertising, selling or promoting the commodity on electronic sales platforms.

Conclusion: Through the foregoing according to the data analysis carried out above shows the negative impact on e-business in Jordan due to the Coronavirus (COVID-19) the negative impact created affects sales as well as the purchasing behavior of customers. The business environment in Jordan is seen as weak due to COVID-19. The challenges that retailers in the e-commerce business face is declining customer buying behavior. Also, lower buying behavior reduces bids and shipping as per the surveys carried out this will lead to the deterioration of the e-business as well as huge losses that the e-business will incur. Research questions as well as research objectives set by the researcher a greater impact has been made on the current e-business in the Jordanian market. Buy food products from food stock for this reason. And the hypothesis of the research papers he developed lies a change in food contamination. For this reason, human-to-human contact is restricted which leads to the deterioration of e-commerce sales. Thus the presented analysis supports for this reason a greater impact has been created on the existing e-business in the Jordanian market since there is a concern of the buyer that with Delivery of food products through the electronic company

Keywords: Coronavirus (Covid-19), E-Business, Consumer Behavior, Jordan

1. INTRODUCTION

Coronavirus (COVID-19) is having a broad impact on technology, business and e-commerce. Every country follows closure methods as a means of preventive measures, and

Jordan has followed a closure method to prevent the spread of Covid-19. Operational activities of both private and public enterprises have been marred by this virus. The negative impact of Covid-19 is clear and inevitable worldwide. The novel coronavirus has had a significant impact on society, the economy and the country's financial well-being. The growing threat of the novel coronavirus is a public health catastrophe and crippling the overall financial system as a whole. The supply chain of companies is greatly affected by Covid-19. The plant and producers are expected to suffer extraordinary losses and delays in deliveries [1].

Online companies face complexities and problems in order to promote their goods online in addition to facing huge problems at the time of importing their products due to the wide impact of the Corona virus (Covid-19) and it has a wide impact on various sectors through the restrictions imposed by this virus. In addition, the countries of the world have taken preventive measures to limit the spread of the virus, as each country has suspended travel and used closing measures of all kinds as a means to limit the spread of the virus, as was the case in the Middle East countries. Of the countries that have adopted these measures. It appears that the impact of the Corona virus (Covid-19) has caused chaos within countries, affecting the existing sectors within these countries, which in turn led to a significant impact on the economy and obstruction of international trade. With the increasing threat of the Corona virus, countries have become closed, which has cut off supply and production chains and harms private and public interests. However, the growing threat of a public health crisis in most countries has shaped economic instability as a whole [2].

E-business means electronic commerce and is concerned with the exchange of goods, services, and data over the Internet. The business ends simply with shopping for commercial products online. It includes the complete online method of developing, marketing, selling, delivering and paying for products and services. It includes any endeavor that occurs directly between a company or its partners or customers through technology transfer and digital scientific discipline. E-commerce may be a modern business methodology that meets the requirements of organizations, merchants and shoppers to reduce prices while raising the level of products and services and increasing the speed of service delivery [3].

Middle Eastern countries, especially Jordan, have shown tremendous growth in the e-business sector. E-business has become a vital tool for small and large businesses around the world. Although the transition from old fashioned to online purchasing has been very slow in the Jordanian market and is attributed to the culture of local consumers. However, the situation has now been adjusted and thus the e-commerce business is growing rapidly in our country.

In the past, consumer behavior was taking undefined trends in business and e-commerce, even today, some consumers and companies in some countries still use traditional methods of e-business. However, these traditional methods have become useless in the current circumstances that the world is witnessing due to the great impact of the Corona virus and the restrictions imposed due to this epidemic, which must be dealt with in modern technological ways.

Based on the study problem, the following questions were formulated:

1. Is e-business facing the impact of Coronavirus (COVID-19) in Jordan?
2. Is there any difference in the average opinions of the respondents toward the impact of Customer Behavior on E-business during of the covid - 19 crisis in Jordan due to the general information of the respondents?

2. Objectives of the study

Based on the problem statement, the researcher identified the following objectives.

1. Studying the impact of customer behavior on e-business during the coronavirus crisis in Jordan.

2. Investigate any difference in the average opinions of the respondents toward the impact of Customer Behavior on E-business during of the covid - 19 crisis in Jordan due to the general information of the respondents.

3. Literature review

Researchers all round the world documented their bigger considerations regarding the dramatic impact of COVID-19 on the world economies. Like, Hiroyasu & Yasuyuki [4] observed how firms in Tokyo shutting down, resulted in output loss. Bullard [5] Examined the potential impact on the US economy and argued that half the economy would suffer due to the rapid emergence of COVID-19 in the US. However, a survey-based study by Baldwin & Mauro [6] within the last week of March calculable that 65 p.c of the French economy is at its traditional level. While Muellbauer [7] examined COVID-19 impact on GDP in the loss. Likewise, Jean-Noel, Basile, & Julien [8] pointed out the essential list of the affected industry due to virus, such as the closure of schools, and working from home. While McKibbin [9] argued that shortage of labor supply is because of morbidity due to infection. Similar results were reported by many previous researchers Bartik & Bertrand [10]; Cajner [11] . Although the relationship between technology and trade has been around for a long time, in recent decades, progress and development in information and communication technology has led to the development of global trade, which is the process involved in many fields such as, economy, commerce, customs, banking, etc. Rahayu & Day [12]). Jai, Burns, and King [13] argued that traditional commerce no longer could respond to the needed component of consumer's lives. Further added by Apăvăloaie [14] , the internet has been greatly admired by people of all over the world and it plays an important and significant role in over life Hajl [15], this has resulted in revolutionary changes in commerce and business Chen [16]. Information communication technology advancement has impacted economy and society Fang [17], Hajl [15], considered to be the greatest innovative application related to economic and commercial processes Abebe [18], which led the creation to referred to as electronic commerce with an important assigned role in economic affairs globally (Feizollahi, Shirmohammadi, Kahreh, & Kaherh [19]). Sebor, Lee, & Sukasame [20] Suggested that business firms can get benefit from the novel & modern methods of doing online business such as electronic commerce, and through their effective commercial process, it may play a key role in the success of the firms. Digital connectivity dramatically has changed people's lifestyles in many countries MacGregor & Vrazalic ([21]). However, According to Tarhini, Shammout, & Al-Badi [21] and Al-Bad [22] , although it provides opportunities for small businesses to compete in developing economies, e-commerce adoption in developing economies still faces barriers due to the relatively new phenomena. However, for economic purposes e-commerce is considered the best instance in which ICT (information communication technology) are applied to enhance commercial efficiency and support economic development and growth particularly in developing countries Hollenbeck & Kaikat [23]. Business organizations have to welcome, adapt and apply new technologies to get benefit from competitive advantage and to stop using traditional commercial methods Borges, Hoppen, & Luce[24]. Nevertheless, trust is important, especially in e-commerce transactions Grabner-Kräuter & Kaluscha [25]. Jahng, Krug, & Zhang [26] Argued although the internet is a key facilitator in business and communication activities; however, it has still ways to attain true e-commerce potential. Some researchers believe that due to the lack of trust in the system which facilitates the exchange, slow speed to grow and its potential yet has to be realized Dinev & Hart [27].

4. Theoretical framework

4.1. Corona virus (COVID-19):

The COVID-19 started in Wuhan city in December 2019. In a short span of time, this virus reached to almost all countries of the globe from Wuhan city. Almost 200,000 cases have been recorded worldwide in the first report. Currently, the number of affected people with Covid-19 194 million and more than 4.16 million have lost their lives. The number of new cases reported on daily basis is increasing. Now the cases in China started falling after reaching to the peak of this pandemic. Europe and America had severe impact of Covid19 and the number of infected people increasing drastically. WHO declared the health emergency all over the world. For sustaining the economy, governments are preparing the emergency plan and relief packages for the businesses. China imposed sever lockdown and this led to stoppage of production and reduced the supply of the products globally. Functioning of the global supply chain has been disrupted. Millions of people are losing their jobs and more are predicted to lose their jobs in the coming months. Additionally, disturbing news are coming every day regarding number of companies closing their operations, changing financial estimates, or declaring layoffs. Customers also changed their consumption patterns, resulting in shortage of many goods in supermarkets worldwide. Global financial markets have

Declined dramatically and fluctuations are at or above the level of the 2008/9 financial crisis [28] the disease in particular has developed an epidemic due to the public health crisis. The COVID-19 epidemic is accelerating the change in need, demand, and process flow of regular business scheme to electronic commerce. Governments and businesses now understand the importance of online business set up and infrastructure. Consumers are expected to bridge the social gap. Because of this virus, all people and businesses are facing a higher level of restrictions and this virus is also affecting the economy. COVID-19 is used as an independent variable in this study and welfare of the population has relied on this pandemic to greater extent [29].

4.2. E-Business:

E-Business refers to the network, Internet, intranet, extranet, or any of its components for running a business. E-business and e-commerce are very similar, but they are far from buying and selling products and services online. E-commerce as a whole covers a wide range of corporate supply chain strategies, transaction control, digital order processing, and user relationships. As e-commerce countries are able to handle the pressure of the infectious disease COVID-19, that is why consumers are turning to e-commerce. It is considered the only reason why the country's population survived this epidemiological situation. The situation is getting worse day by day and people are trying to make use of digital E-Business facilities [30].

4.3. Customer Behavior:

The significant negative impact of the restrictions and special measures imposed by the current pandemic institute that governments are taking and that people have to follow and act accordingly as agents. In this way, customer behavior influences, to a large extent, the demand for business activities. On the other hand, buying behavior is affected by the closing of companies around it A world that suffers from a shortage of products and services. Thus, customers will mainly rely on online platforms for their needs [31]. Ultimately, customer engagement becomes consequences and precedents in the shared value creation process that reflects customer behavior, emotion and perception [32], while customer engagement affects the value of co-creation [33]. This is reinforced by the argument of Storbacka, Brodie, Nenonen, Böhmman, & Maglio [34] that "actor participation [is] a small core value [for] co-creation".

Information sources play a major role in consumer behavior during the COVID-19 pandemic [35] . Miri [36] Note panic buying all the time epidemic. However, in some countries, individuals have bought Products such as canned food, paracetamol and hand sanitizer to prepare for coronavirus symptoms such as nausea. Diarrhea and vomiting [36] Other

reasons for unusual purchase may include Social pressure for 'people afraid to be left without Necessary products unless purchased immediately As a result of the significant increase in food purchases [37] with the environment having a significant impact on Consumer Behavior [38] In addition, the Perceived risks to consumers refer to decision-making Consumer behaviors due to the uncertainty that causes negative consequences. Produced negative results by perceived risk compounded by poor branding [39] Perceived risk is derived from uncertain and unexpected consequences of the resulting unpleasant nature from purchasing the product [40] and the observed uncertainty is associated with Perceived risk [41].

5. CONCEPTUAL FRAMEWORK

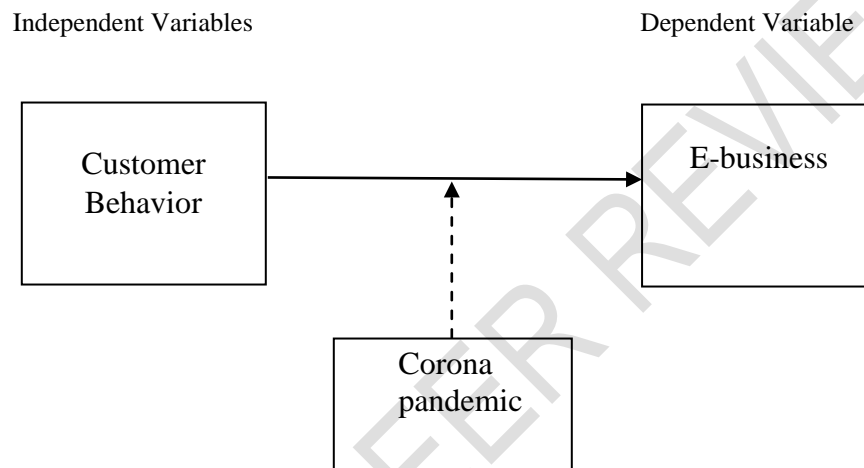


Figure 1: Conceptual

6. Materials and method

6.1. **Sampling Design:** The sampling design is identified as a framework that is used by the researcher for the selection of the survey sample. The sample size selected by the researcher for executing the survey process is 145 respondents. These respondents are helping the researcher in gathering the data related to the impact of coronavirus (COVID-19) established on the ecommerce business in Jordan. For designing the survey questionnaire, the 5 points Likert scale is being used by the researcher, if the answer mentioned to the very large degree, this is an indicator that the degree of acceptance is very large to what was stated in the mentioned paragraphs, and gradually decreasing. It is helping the researcher in gathering the survey data from the selected respondents. The random sampling process is also used by the researcher for gathering the data responses provided by the respondents. This process of gathering data is seen to be carried out by the researcher for accomplishing the research objectives.

6.2. **Research Procedure:** The two types of research methods are quantitative and qualitative. Qualitative research is concerned with lived experiences and people's

Customer Behavior during of the covid - 19 crisis	8	57.2	0.63–0.81	0.798	2.912	0	0.81	0.48–0.67
E-business during of the covid - 19 crisis	8	72.04	0.79–0.90	0.888	3.562	0	0.91	0.68–0.83

It is clear from **Table 1** that Cronbach's alpha values for the questionnaire sections were found to be higher than 0.81 for Likert questions, and these values are acceptable in SPSS reliability statistics. Due to this reason, the selection of the positive hypothesis prepared by the researcher is being made with rejecting the null hypothesis.

8.2. Analysis of section: demographic analysis of respondents

In this section, the general characteristics of the respondents is presented beginning from their gender range down to Use of online purchase and these comprised of five items. The demographic variables selected by the researcher are representing the demographic details such as gender, age group, income and the qualification of the selected respondents. It is enlisting the detailed information of the respondents selected by the researcher. The researcher is enabled of enlisting the frequency as well as the individual percentage of the male and female respondents. Table (2) below shows the general characteristics of the respondents.

Table 2: Demographic Characteristics

VARIABLE	FREQUENCY	%
GENDER		
Male	112	77.2
Female	33	22.8
AGE		
less than 25	19	13.1
25 - less than 35	40	27.6
35- less than 45	55	37.9
higher than 45	31	21.4
QUALIFICATION		
Intermediate diploma or less	39	26.9
Bachelor	93	64.1
Master	10	6.9

VARIABLE	FREQUENCY	%
PhD	3	2.1
INCOME		
Much lower than most other households	42	29.0
Slightly lower than most other households	47	32.4
About the same as most other households	38	26.2
Slightly higher than other households	9	6.2
Much higher than other households	9	6.2
USE OF ONLINE PURCHASE		
I don't buy online	49	33.8
I buy online when necessary	49	33.8
I buy online every month	20	13.8
I buy online every week	21	14.5
I buy online daily	6	4.1

8.3. Analysis Customer Behavior during of the covid - 19 crisis

This field consists of eight paragraphs related to customer behavior during of the covid-19 crisis. The researcher calculated the descriptive statistics, i.e. Means, Standard Deviations (SD), Relative Important Index (RII), and P- values.

Table 3: Mean, SD, RII and P-Value Results for customer behavior during of the covid-19 crisis

Items	Mean	SD	RII (%)	p-value
My tendency to buy food increased during the Corona crisis.	4.01	0.14	80.14	0.000
I bought non-essential things I was used to before the Corona crisis.	4.40	0.49	88.00	0.000
I look at the products I buy on quality even if their prices are high.	4.01	0.08	80.14	0.000
I became my expenses during the Corona crisis.	4.01	0.12	80.28	0.000

I saved a sum of money during the Corona crisis.	4.01	0.63	80.28	0.000
Take care of the purchases that people buy and buy.	3.98	0.14	79.59	0.000
High debt accumulated during the Corona crisis.	4.41	0.79	88.14	0.000
The Corona crisis didn't affect my life much.	2.21	0.41	44.20	0.000

As it can be seen from Table 3 that the item "High debt accumulated during the Corona crisis", has the highest RII with 88.14%, this is evidence that there is great agreement by respondents about this paragraph. Followed by the item "I bought non-essential things I was used to before the Corona crisis" with a RII 88.0%. While the lowest RII was found for the item "The Corona crisis didn't affect my life much" with 44.20%. Also, it can be noticed from the table that all the p-values are 0.000, which indicate that a significant difference does exist, which means that there is general agreement on all the paragraphs of customer behavior during of the covid-19 crisis, except the paragraph which stated that "The Corona crisis didn't affect my life much".

8.4. Analysis E-business during of the covid - 19 crisis.

This field consists of eight paragraphs related to E-business during of the covid - 19 crisis. The researcher calculated the descriptive statistics, i.e. Means, Standard Deviations (SD), Relative Important Index (RII), and P- values.

Table 4: Mean, SD, RII and P-Value Results for customer behavior during of the covid-19 crisis

Items	Mean	SD	RII (%)	p-value
There is a major trend towards the use of E-business sites after the Corona crisis	4.21	0.75	84.20	0.000
I find that everything I need in my life is available on E-business sites.	4.60	0.41	92.00	0.000
During the Corona crisis ,e-business sites protested significantly.	4.20	0.44	84.00	0.000
I am concerned when I buy from websites that the image does not match the product sometimes received.	4.39	0.48	87.80	0.000
Check out e- business sites for daily consumption.	4.41	0.52	88.20	0.000
Check out e- business sites for entertainment only.	3.40	0.60	68.00	0.000
Check out e- business sites for price comparison.	4.40	0.49	88.00	0.000
I find the use of e- business sites very easy.	4.19	0.40	83.80	0.000

As it can be seen from Table 4 that the item "I find that everything I need in my life is available on E-business sites", has the highest RII with 92.00%, this is evidence that there is

great agreement by respondents about this paragraph. Followed by the item “Check out e-business sites for daily consumption” with a RII 88.20%. While the lowest RII was found for the item “Check out e-business sites for entertainment only” with 68.00%. Also, it can be noticed from the table that all the p-values are 0.000, which indicate that a significant difference does exist, which means that there is general agreement on all the paragraphs of E-business during of the covid - 19 crisis.

8.5. Hypotheses Testing:

H1: *Customer Behavior has a significant impact on E-business during of the covid - 19 crisis.* To test this hypothesis, the research used simple liner regression and results shown in table 5.

Through the results presented in Table (5), it was found that the independent variable (Customer Behavior) has a significant impact on E-business during of the covid - 19 crisis, ($P\text{-Value} < 0.05$), and the coefficient of determination is equal to 0.721, which means that 72.1% of the change in E-business during of the covid - 19 crisis can be explained by the change in the customer behavior.

Table (5)

Simple Linear Regression Results - Customer Behavior

Dependent variable	independent variable	Unstandardized Coefficients		t	p-value (Sig.)
		B	Std. Error		
E-business during of the covid - 19 crisis	Constant	1.957	0.321	6.087	*0.000
	Customer Behavior	1.515	0.079	19.242	*0.000
F= 370.247 Sig=0.000 R²=72.1%					

In conclusion, Customer Behavior has a significant impact on E-business during of the covid - 19 crisis.

H2: *There is a statistically significant difference in the average opinions of the respondents toward the impact of Customer Behavior on E-business during of the covid - 19 crisis in Jordan due to personal characteristics of the respondents.*

To verify the validity of this hypothesis, the independent sample T test was used to test the differences attributable to the variable (Gender), and one-way ANOVA to test the differences attributable to the variables (age, qualification, income, and use of online purchase), and Table (6) shows this.

Table 6: Impact of Customer Behavior on E-business during of the covid - 19 crisis in Jordan attributed to the demographic variables.

Demographic variables	Test statistic	Sig	Result
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Demographic variables		Test statistic	Sig	Result
Gender	Male	T=0.755	0.451	No differences
	Female			
Education Level	Intermediate diploma or less	F=0.683	0.564	No differences
	Bachelor			
	Master			
	PhD			
Age	Less than 25 years	F=0.229	0.876	No differences
	25-less than 35 years			
	35-less than 45 years			
	45 years or more			
Income	Much lower than most other households	F=1.068	0.375	No differences
	Slightly lower than most other households			
	About the same as most other households			
	Slightly higher than other households			
	Much higher than other households			
Use of online purchase	I don't buy online	F=4.382	0.002*	Differences
	I buy online when necessary			
	I buy online every month			
	I buy online every week			
	I buy online daily			

According to the results of the test as shown in Table (6), the P-value are not significant (P-value > 0.05). Thus, there are no statistically significant differences due to the demographic variables at the level of $\alpha \leq 0.05$ between the means of their views on Customer Behavior on

E-business during of the covid - 19 crisis, except the variable (use of online purchase), which $p\text{-value} < 0.05$, that mean there is statistically significant differences due to use of online purchase at the level of $\alpha \leq 0.05$ in favor of buy online every week.

9. Results and Discussion:

On the basis of the gathered data, the Cronbach's Alpha is found to be less than and near to 1.00. The results of Reliability test (Cronbach's alpha) are illustrated in Table (1), it is clear from Table (1) that Cronbach's alpha values for the questionnaire sections were found to be higher than 0.7 for Likert questions, and these values are acceptable in SPSS reliability statistics. Due to this reason, the selection of the positive hypothesis prepared by the researcher is being made with rejecting the null hypothesis. As it can be seen from Table (3) that the item "High debt accumulated during the Corona crisis", has the highest RII with 88.14%, this is evidence that there is great agreement by respondents about this paragraph. Followed by the item "I bought non-essential things I was used to before the Corona crisis" with a RII 88.0%. While the lowest RII was found for the item "The Corona crisis didn't affect my life much" with 44.20%. Also, it can be noticed from the table that all the p-values are 0.000, which indicate that a significant difference does exist, which means that there is general agreement on all the paragraphs of customer behavior during of the covid-19 crisis, except the paragraph which stated that "The Corona crisis didn't affect my life much". As it can be seen from Table (4) that the item "I find that everything I need in my life is available on E-business sites", has the highest RII with 92.00%, this is evidence that there is great agreement by respondents about this paragraph. Followed by the item "Check out e-business sites for daily consumption" with a RII 88.20%. While the lowest RII was found for the item "Check out e- business sites for entertainment only" with 68.00%. Also, it can be noticed from the table that all the p-values are 0.000, which indicate that a significant difference does exist, which means that there is general agreement on all the paragraphs of E-business during of the covid - 19 crisis. Through the results presented in Table (5), it was found that the independent variable (Customer Behavior) has a significant impact on E-business during of the covid - 19 crisis, ($P\text{-Value} < 0.05$), and the coefficient of determination is equal to 0.721, which means that 72.1% of the change in E-business during of the covid - 19 crisis can be explained by the change in the customer behavior. According to the results of the test as shown in Table (6), the P-value are not significant ($P\text{-value} > 0.05$). Thus, there are no statistically significant differences due to the demographic variables at the level of $\alpha \leq 0.05$ between the means of their views on Customer Behavior on E-business during of the covid - 19 crisis, except the variable (use of online purchase), which $p\text{-value} < 0.05$, that mean there is statistically significant differences due to use of online purchase at the level of $\alpha \leq 0.05$ in favor of buy online every week.

Thus, through the foregoing, we see that online purchasing was acceptable and high during the Corona pandemic period, despite the complete paralysis of movement and movement. Before the customer so that there is an alternative in emergency and necessary cases, such as the Corona pandemic And the need to take into account the terms and behavior of the consumer when advertising, selling or promoting the commodity on the electronic selling platforms in terms of confidence in the product and conforming to the specifications that are in the advertisement and in the event that the product reaches the customer because there are always problems that were the mismatch of the commodity displayed on the electronic selling platforms with the commodity itself When it reaches the customer

10. Conclusion and Recommendation:

Through the foregoing according to the data analysis carried out above shows the negative impact on e-business in Jordan due to the Coronavirus (COVID-19) the negative impact created affects sales as well as the purchasing behavior of customers. The business environment in Jordan is seen as weak due to COVID-19. The challenges that retailers in the e-commerce business face is declining customer buying behavior. Also, lower buying

behavior reduces bids and shipping as per the surveys carried out this will lead to the deterioration of the e-business as well as huge losses that the e-business will incur. Research questions as well as research objectives set by the researcher a greater impact has been made on the current e-business in the Jordanian market. Buy food products from food stock for this reason. And the hypothesis of the research papers he developed lies a change in food contamination. For this reason, human-to-human contact is restricted which leads to the deterioration of e-commerce sales. Thus the presented analysis supports for this reason a greater impact has been created on the existing e-business in the Jordanian market since there is a concern of the buyer that with Delivery of food products through the electronic company

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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