

The effect of adopting automation on the performance of Jordanian customs from the point of view of customs officials

¹Dr. Attallah Hassan Mohamed Al-Taani, ²Dr. Taha Hamad Jaradat, ³Dr. Einad Taani

¹Jadara university Department of Customs and Tax Sciences ata_has@yahoo.com

²Part-time Lecturer, Jadara University tahajaradat123@yahoo.com

³Assistant Director General of Jordanian Customs einad67@yahoo.com

Abstract

This study dealt with the extent of the ability of the Jordanian Customs Department to harmonize between government policies, the policy of openness and the removal of customs barriers to foreign trade and the basic objectives of the Customs Department, (revenue preservation, security, and social objectives, ...) from the point of view of the Jordanian Customs employees. Customs decided to use the latest computerized systems and the latest devices and equipment to bridge this gap, and this policy adopted by the customs was positive, as the result of the study was that the automation represented by (the computerized system - ASYCUDA - and modern devices and equipment) has a positive impact with the performance of the Jordanian Customs Department. Customs revenue, combating smuggling, and speed of delivery. by (customs revenues, anti-smuggling, and speed of completion).

Keywords: Jordanian Customs, automation, ASYCUDA.

I. INTRODUCTION

1.1 Jordanian Customs (Establishment and History)

The first customs administration was established in Jordan in 1922 AD, and its objective was statistics, inspection, and collection of revenues imposed on goods imported into the country, it was collected at that time (as a census fee) and later became an inspection fee, and it is now called customs duties.

Regarding legislation, the first law regulating customs work was issued in 1926, called the Customs and Excise Law, which has been amended several times to follow up with the continuous developments at the local and global levels.

As a result of the developments that Jordan is experiencing and in preparation for joining the

World Trade Organization, a new Law No. (20) of 1998 was issued, which meets the requirements of the policy of trade liberalization and facilitation of procedures.

The first customs border administration was established in 1930, the Allenby Customs Center (currently King Hussein Customs), located on the Jordan River to facilitate the passage of goods to and from Palestine, the Ramtha Customs with Syria, and the Amman Customs Center located in the Ain Ghazal area. The establishment of customs centers has continued to the present time. Where it became more than thirty centers (the annual reports of the Customs Department).

1.2 the study Problem

The problem of the study lies in heading towards globalization at the global level, liberalizing global trade and removing barriers

and customs restrictions between the countries of the world, which might clash with the basic principles of customs departments. Developing its approach and policy by adopting the best practices and technological means available at the global level in the field of customs work, such as (the global ASYCUDA system, x-ray devices, electronic gates, tracking systems, monitoring systems, communication systems, decision support systems) in order to achieve its objectives and enhance its role at the level Local and regional, balancing security, social, environmental and economic requirements with trade facilitation requirements and the removal of customs restrictions.

1.3 Objectives of the study

1.3.1 General Objective: The study aims to show the impact of automation on the performance of Jordan Customs

1.3.2 Specific objectives

* Statement of the impact of the introduction of the ASYCUDA system on the performance of the Customs Department (anti-smuggling, financial performance, completion time)

* Statement of the impact of introducing modern devices and equipment on the performance of the Customs Department (anti-smuggling, financial performance, completion time).

1.4 Justification for the study

After the government adopted the policy of openness to the economy, which imposed additional burdens on the Jordanian customs, to harmonize the requirements of economic openness in terms of facilitating the movement of foreign trade, supporting exports, reducing costs for the private sector, and speeding up the completion of customs data, and between maintaining the customs objectives of (revenue generation and combating smuggling). Therefore, it was necessary to review these policies and indicate the extent to which they achieve their goal.

2. Theoretical framework

Revenue collection has become an integral part of any society, and governments have relied on revenue collection from the early beginnings of human civilization to finance and maintain their operations for the common good (Brody, 2012), and tax revenue collection must be in accordance with best practices (fairness, affordability, and economic efficiency, relevance, and certainty) (Visser & Erasmus, 2005).

And that governments are always trying to improve their efficiency in collecting revenues, in addition to that they always make their efforts to increase spending efficiency. In fact, these basics play a key role in determining the strategic goals of governments, the most important of which are aspirations towards an increase in revenue collection, and that governments' introduction of technological solutions in business is a crucial step. The automation that usually uses technology enhancement in terms of hardware and software upgrades to reduce the inherent risks (reducing revenues, increasing expenditures) (Ireland PN, 1994), and the automation of processes at revenue collection points has an impact Positive in shortening customs clearance time (Haughton & Demoulas, 2001).

2.1 Automation and reforms in customs administrations

It has also been noted that most African customs administrations are taking initiatives to reform and modernize customs processes through automation as countries realize the need to create a conducive business environment and the need to reduce business costs to promote investment for economic growth (World Customs Journal 2014), and customs authorities are striving to promote the use of systems Information Technology In order to obtain maximum benefits and improve the reliability of electronic self-help services, it is necessary for customs authorities to utilize IT functions to support their overall operational and institutional activities (Crandall & Kidd 2016), according to Sokol (2015), enhancing information and communication technologies

and modernizing customs can help customs administrations improve efficiency, security and transparency.

Wolf (2016) also noted that ICT for customs administration is not a solution or an end in itself, but when properly managed and implemented can be a formidable tool in achieving effective customs administrations, however, the benefits of ICT can be undermined By continuing to use outdated manual procedures along with ICT practices and failing to simplify customs procedures (Wulf et al. 2015), automation helps facilitate trade and leads to increased efficiency, increased productivity, improved assessments, reduced corruption and smuggling, and increased Revenue streams (Yasui & Engman, 2017).

Successful implementation of customs automation systems according to Wagner (2015), requires meeting a number of conditions from the outset: strong political support for reforms and modernization processes by the government and the customs administration and a collaborative approach by project management to generate support from employees and external users, including intermediaries and agents (cooperation between the public and private sectors), for the phased implementation of automation systems; Implement international conventions, standards and other instruments, comprehensively review and amend customs law and other relevant legal tools to ensure compatibility with new procedures.

2.2 Automation at Jordan Customs

2.2.1 Objectives of introducing automation in customs administration

- * Increasing customs revenues, which in most cases is an important source of the state budget in most countries.
- * Improving the efficiency of the customs clearance process and shortening the time for completing customs transactions.
- * Control provisions and limit customs smuggling.

- * Assisting in matters related to simplifying customs documents and procedures.

- * Improving the degree and level of time in providing foreign trade data.

- * Increasing the accuracy of statistics and information sharing.

In this research, we will focus on the impact of using the ASYCUDA system and modern means and devices in customs work on the most important goals of customs departments (revenue, combating customs smuggling, processing time of transactions) in Jordanian customs.

2.2.2 The most important developments and updates that have taken place in the Jordanian customs work in recent years, for example, but not exclusively (the annual reports of the Jordanian customs):

- * Using and adopting the risk management system in customs work and at all administrative levels, where the Directorate of Risk Management and the Directorate of Customs Intelligence were created in order to focus efforts by targeting, auditing and inspection on dangerous persons, and on high-risk means of transport and consignments, and the selectivity system was activated by setting certain standards To target dangerous consignments using the computerized system for customs transactions (International ESYCUDA).

- * Electronic Gates Project: It is a control system for the entry and release of trucks at the customs centers by installing these gates on the doors of the customs centers, where the truck is registered the moment it enters the center, and a bar code with information is placed on the body of the car and on the inspection card, and when the truck's transaction is completed, it goes to the exit gate The door employee reads the information on the portable PDA device, which indicates whether the transaction is ready or not. The gate is opened electronically if the truck transaction is ready.

- * Electronic tracking project: This system is based on tracking the movement of transit trucks passing through Jordan and the

movement of trucks between customs centers, using the latest communication technologies, satellites, digital maps and control stations distributed throughout the Kingdom to follow up on trucks and notice any deviations from the specified routes or any tampering with customs locks. The truck is released as soon as its procedures are completed, and it does not wait for it to leave in convoys at the end of each working day.

* Using X-Ray devices to inspect and inspect containers, trucks, and bags, instead of unloading, inspecting, and inspecting the cargo by the customs officer.

* The Single Window Project: It is a collection of selectivity criteria for all government departments working in customs centers through the global ASYCUDA system to facilitate, simplify and expedite the completion of the customs declaration from all relevant government agencies and institutions, including customs, through a single window, with the presence of all agencies in one office.

* Customs Encyclopedia: It is a web-based publishing system (for customs officials only), where circulars and notifications are published electronically. staff and social events are posted on them.

* The Golden List: It is a list of companies that voluntarily adhere to customs regulations and instructions. They are given a lot of facilities in customs procedures such as bypassing inspection and guarantees and speeding up the release of their goods.

- * Television monitoring systems: Customs has been using television surveillance systems since 2000 to monitor employee offices, customs centers, yards and doors, through a television surveillance system, where there is a central follow-up and control room, and there is a screen, control and control at the management of the concerned center to follow up on work.

3. Computerization of customs procedures in Jordan

3.1 History of computerization of procedures

Jordan Customs adopted the computerization of customs procedures since 1989 by introducing computers to the customs work. A group of specialists was also appointed to work on the computerization of customs procedures, and the programmers at the department made (databases and programs for customs procedures), but they were separate programs from each other. The programming was conducted in each customs center separately, and it was using old software that had no information security and was easy to hack. The development and use of automation in customs work continued in 1997, where a qualitative leap occurred in this direction, after the government went towards globalization, joining the World Trade Organization and financial and tax reform. The government's priority was to develop customs procedures to encourage investment, facilitate international trade, increase exports, increase revenues, and raise the efficiency of the sector. In private, the government signed an agreement with the United Nations Development Program (UNDP) to develop customs procedures (annual report 1998), and the United Nations Trade and Development Authority (UNCTAD), as part of its technical cooperation activities, had developed the ASYCUDA system (the automated system for data processing, customs duty).

To achieve better fiscal management for governments by strengthening the institutionalization of customs administrations, it was agreed to finance the introduction of the ASYCUDA system into customs work in Jordan with assistance from the United Nations Development Program and the German Agency for Technical Assistance (GTZ), in addition to self-financing from the Customs Department. Building the latest versions (versions) of the global ASYCUDA system, as well as using the latest equipment and means available at the global level used in customs work.

3.2 SYCUDA SYSTEM

3.2.1 ASYCUDA Objectives

- * Accelerate customs clearance by introducing computerization and simplifying procedures, thus reducing administrative costs for the business community and the economies of countries.
- * Increase customs revenue - which is often the main source in national budgets - by ensuring that all goods are declared that duty/tax calculations are correct, and that duties/exemptions, preference regimes, etc. are properly applied and managed.
- * Producing reliable and timely trade and financial statistics along with the customs clearance process.

3.2.2 ASYCUDA system specifications (the company's website for ASYCUDA system)

It is a computerized system for customs administration that covers most foreign trade procedures. The system deals with data, customs declarations, accounting procedures, warehouse procedures and customs tax suspension procedures. It also creates detailed information about foreign trade transactions, which can be used in economic analysis and planning. ASYCUDA software works on several types of devices in a client / server environment. Transaction and control data is stored in a relational database management system and considers all international codes and standards relevant to customs processing as defined by ISO, WCO and the United Nations, the system also provides electronic data interchange between traders and customs administrations using UN / EDIFACT rules. ("Programme - ASYCUDA")

3.2.3 The most important applications included in the ASYCUDA system

- * Comprehensive Tariff: It includes all types of taxes and fees imposed by any legislation and linking them with the customs tariff items so that taxes and fees are calculated on them.
- * Selectivity system: It is an essential part of the system. The selectivity system relies on the

outputs of risk management so that the criteria that are used to determine the path that the customs declaration should take (green, yellow, red) are determined to focus efforts to target the most dangerous customs data and within the available capabilities and resources.

- * Electronic Manifest: ASYCUDA system receives customs data information from the customs data of the source countries (sea, air, land) and relies on it for the purposes of regulation and auditing.
- * Temporary entry system: It is one of the customs systems that suspend fees, such as production inputs until they are exported.
- * Bail system: It is used to guarantee fees and taxes due in relation to the suspended customs systems of customs duties and taxes such as temporary admission, transit.
- * Electronic inspection system: so that the customs inspector records his observations on the electronic system and is supported by the necessary pictures and documents, so that the customs work can be completed according to the customs inspector's views.
- * Electronic payment system: the person concerned pays electronically the fees and taxes verified from his own account within the system.

3.2.4 stages of introducing the ASYCUDA system at the Jordanian customs

The following figure shows the percentage of introduction of ASYCUDA system into Jordanian customs. This was calculated according to the importance of customs centers in collecting customs revenues. The application of ASYCUDA system was first introduced at the airport clearance customs center and Amman Customs Center in 1999 and then in 2001 Aqaba Customs and Zarqa Free Zone, and Gradually until the end of the introduction of the system in all customs centers around 2006 (the annual reports of the Jordanian customs).

Percentage of ASYCUDA system being introduced into Jordanian customs

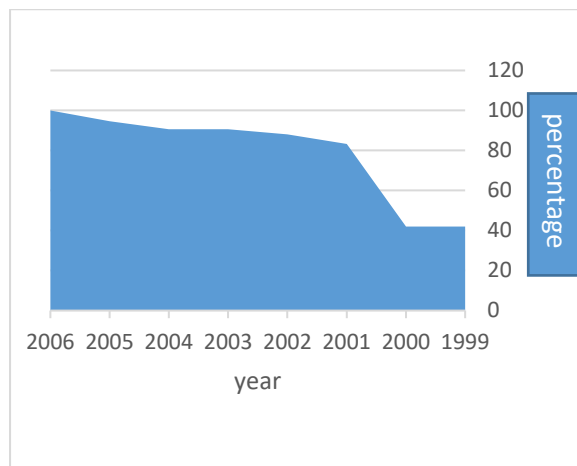


Figure (1)

4. Previous studies

4.1 (Dr. Khalil, Fadi and others, 2008): The impact of the application of the ASYCUDA system and the value of the deal in Syria.

The researchers concluded that the impact of applying the ASYCUDA system and applying the value of the deal in Syria was negative, and that a radical reform of the Syrian economy in general was required.

4.2 (Hiluf Berhe ABRAHA, 2017): EFFECTS OF CUSTOMS FUNCTION AUTOMATION ON REVENUE COLLECTION IMPROVEMENT: CASE OF ETHIOPIAN REVENUES AND CUSTOMS AUTHORITY.

The study concluded that there is a positive relationship to the introduction of automation on government revenues, and the study recommends increasing automation.

4.3 Bernard & Elizabeth Study: Effects of Automation of Revenue Collection on the Performance of County Government: A Case Study of Trans Nzoia, County Government. Kenya, 2018.

The process of automating online revenue collection processes affects government performance to a considerable extent. The study also concluded that automating revenue collection processes increases the

administrative effectiveness of government administration; The study concluded that the process of online payment and automation impacts revenue collection processes, moreover, the study concluded that automation saves time and increases compliance with government controls.

4.4 (ASKAH OMOSA): EFFECT OF SYSTEMS AUTOMATION ON CUSTOMS REVENUE PERFORMANCE IN KENYA, 2020.

The study concluded that automation and the use of modern tools and methods in customs work led to an increase in revenues, the effectiveness of border controls and an increase in expenditures.

5. Study Approach

This study is one of the field studies that follow the descriptive analytical method, with the aim of identifying the impact of customs work automation on customs performance from the point of view of Jordanian customs employees, through an applied study in Jordanian customs, and analyzing the data extracted from the questionnaire distributed to the study sample and comparing the study variables. Secondary data was also used.

5.1 hypotheses of the study

The main null hypothesis: There is no effect of customs work automation on customs performance at the function level 0.05 from the point of view of Jordanian Customs employees.

From this hypothesis, two sub-hypotheses emerged:

* The first sub-null hypothesis, which states that: There is no effect of introducing the ASYCUDA system on the customs performance at the function level 0.05 from the point of view of Jordanian customs officials.

* The second sub-null hypothesis which states that: There is no effect of using modern equipment and devices on customs performance at the function level 0.05 from the point of view of Jordanian customs officials.

5.2 study model

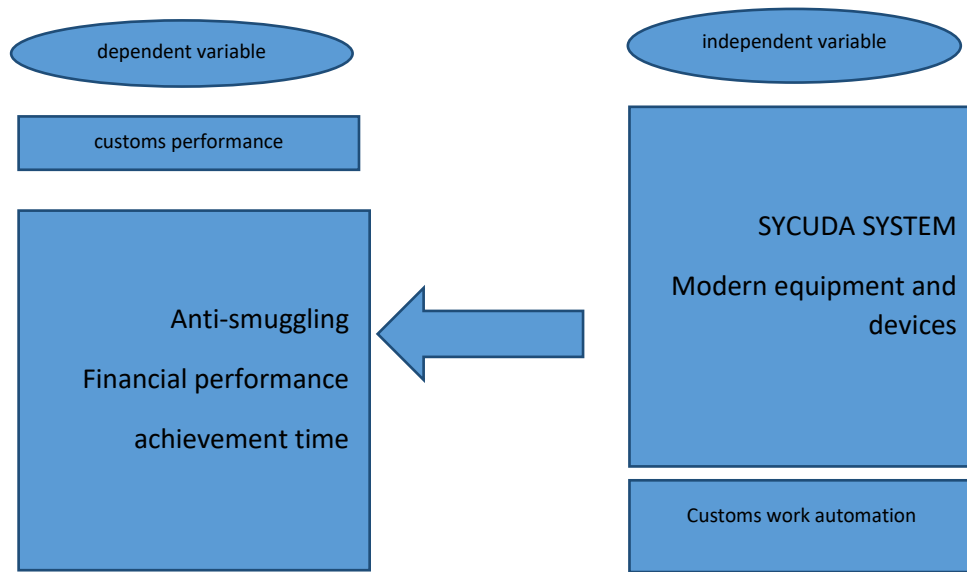


Figure (2)

5.3 Study population and sample

The study population consists of the employees of the Jordanian Customs Department, numbering (3,514) employees (annual report for the year 2020), where the researcher obtained a representative sample from the total community using a simple, easy random sample, by distributing the questionnaire to all customs centers in Jordan, where those covered work. Within the study sample, (489) responses were obtained from the employees, and they were subjected to statistical analysis.

5.4 data collection tools

The questionnaire was used to obtain the primary data, and it consisted of three parts: The first part relates to the demographic (personal) information of the respondents, including: gender, job title, educational qualification, and number of years of experience. As for the second part, it included the questionnaire items related to the independent variable (customs work automation) consisting of (34) items, divided into two dimensions (ASYCUDA system, modern devices, and equipment), they were graded according to the five-point Likert scale.

The first dimension: (the ASYCUDA system consisting of (9) paragraphs, and the second dimension (modern equipment and devices) consisting of (8) paragraphs, and the third part included paragraphs of the questionnaire related to the dependent variable (customs performance) on (22) paragraphs, divided. It has three dimensions: the first dimension (anti-smuggling) and consists of (8) paragraphs, the second dimension (financial performance) consists of (8) paragraphs, and the third dimension (completion time) consists of (6) paragraphs.

5.5 statistical methods used in the study:

To answer the study questions and test the validity of its hypotheses, the appropriate statistical methods and treatments that were made using the Statistical Package for Social Sciences (SPSS) were used, as follows:

* Descriptive Statistics

* Cronbach's alpha coefficient to estimate the stability of the internal consistency of the instrument (Consistency Reliability).

* Simple Linear Regression analysis to test the validity of the study model and the significance of the effect of the independent variable (automation of customs systems as a whole) on

the dependent variable (customs performance as a whole).

* Multiple linear regression analysis to test the validity of the study model and the significance of the influence of independent variables (ASYCUDA system, modern equipment, and devices) on the dependent variable (financial performance as a whole).

6. Analysis of the results

6.1 Descriptive Statistics:

6.11 for secondary data (annual reports of the Jordan Customs Department).

6.1.1.1 Customs Revenue from 1995-2019.

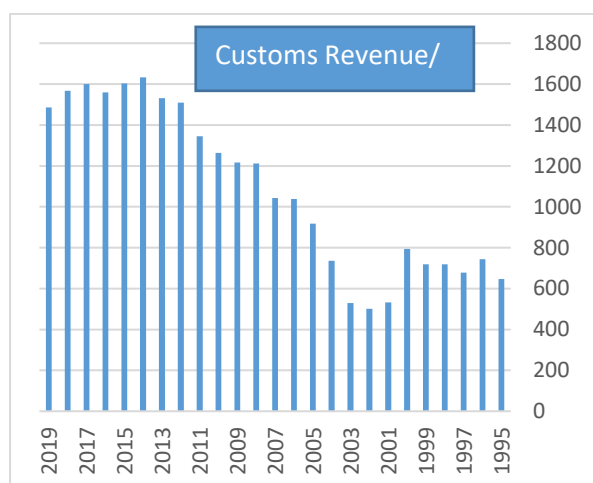


Figure No. (3)

From the previous graph, we note that customs revenues at the beginning of the application of the ASYCUDA system in the Jordanian Customs Department led to a decline in customs revenues and then began to rise increasingly, and the explanation for this result is:

First:

The reverse trend at the beginning of the application was due to several factors, the most important of which are:

* The issuance of a new customs law in 1998 to accept the automation of customs work, which was not limited to that, as the movement of foreign trade was facilitated, and at the same

time the penalties related to customs violations and customs smuggling were eased.

* Jordan's accession to the World Trade Organization, which entered into force on 11/4/2000, and Jordan's commitments to the organization included reducing the customs tariff rates to reach their maximum (30%) in 2000 and reduced to (25%) in 2005, and finally the stability of the customs tariff ceiling at the level of (20%) in 2010, which affected the amount of customs revenues from foreign trade.

* The ASYCUDA system was initially introduced into the customs centers and was incomplete, and it lacked some key parts, such as the manifest and inspection unit.

* The lack of integration and linking processes with the rest of the sub-systems operating at the Customs Department and their continuity in working with it.

Second:

The increase in customs revenues after 2003 was due to the following reasons:

The emergence of political factors, wars and instability in neighboring countries and forced population migrations towards Jordan from these countries, which led to an increase in the population of Jordan, which led to an increase in demand for consumption, knowing that Jordan depends on imports for most consumer goods, which led to an increase Revenues from foreign trade, during the study period.

6.1.1.2 Customs revenue from fines (customs offenses and smuggling)

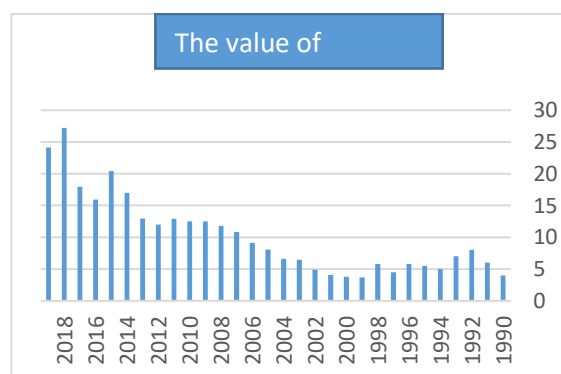


Figure No. (4)

From the previous graph, we note that customs fines at the beginning of the application of the ASYCUDA system at the Jordanian Customs Department led to a decrease in customs fines, and then began to rise increasingly, and the explanation for this is almost the same as the previous reasons, but it seemed to rely more on modern technology, devices, and equipment at work Customs.

6.2 Descriptive analysis of primary data

6.2.1 Tests of validity and reliability

6.2.1.1 The apparent validity of the tool: This was done by presenting the questionnaire to a few arbitrators from faculty members from various universities and a few officials in the Jordanian Customs Department, where they reviewed the content of paragraphs and the extent of their consistency, comprehensiveness, and coverage of the subject in question, and based on their observations, the tool was modified the study in its final form.

6.2.1.2 The validity of the construction of the tool: This was done through the following:

* Calculating the corrected Item-Total Correlation coefficients for the correlation of each paragraph of the impact of customs work automation on the dimension to which it belongs, as well as the corrected Item-Total Correlation coefficients for the correlation of each paragraph of the customs performance with the dimension to which it belongs, So that there are two main conditions for these transactions; They are: that the corrected correlation coefficient is not less than (0.30), and the presence of statistical significance for these coefficients, and after conducting the analysis, the two conditions for the corrected correlation coefficients are available.

* Calculating the correlation coefficients (Pearson) between each two dimensions of the customs systems automation, and the correlation coefficients (Pearson) between each dimension and the automation of customs systems by automating the customs systems, and table (1) shows the values of those transactions.

Table (1): *the values of the correlation coefficients (Pearson) between each dimension of customs performance with the customs performance*

		ASYCUDA	Modern equipment and devices	automate customs systems
ASYCUDA	Pearson Correlation	1	0.572	0.886
	Sig.	.000	.000	.000
	N	489	489	489
Modern equipment and devices	Pearson Correlation		1	0.886
	Sig.		.000	.000
	N		489	489
automate customs systems	Pearson Correlation			1
	Sig.			0.00
	N			489

Table (1) shows that there is a statistically significant correlation.

Reliability of the study tool financial performance Reliability Test The stability of the study tool means the stability of the results, that is, the extent of agreement or consistency in the results of the questionnaire if it was applied more than once and in similar conditions. The internal consistency coefficient

of Cronbach Alpha was used; It measures the extent of consistency in the respondents' answers on all the items on the scale, and alpha can be interpreted as the internal stability coefficient between the answers, and its high value indicates the degree of high reliability coefficient, and it ranges between (0 and 1), and its value is acceptable at (60%). and above, and the results were as shown in Table (2).

Table 2: *Internal consistency coefficients (Cronbach's alpha) for each dimension of the study tool and for the tool (customs systems automation)*

Dimension	Number of vertebrae	Internal consistency constancy coefficient (Cronbach's alpha)
ASYCUDA	9	0.890
Modern devices and equipment	8	0.887
automate customs systems	17	0.916

We note from Table (2) that the coefficients of internal consistency stability (Cronbach's alpha) for all dimensions of customs systems automation and the automation of customs systems were greater than (0.60), which

indicates the existence of internal consistency between the paragraphs of each dimension of customs systems automation.

* Calculating the corrected Item-Total Correlation coefficients for the correlation of each paragraph of the customs performance with the dimension to which it belongs and the customs performance as a whole, as well as the Corrected Item-Total Correlation coefficients for the correlation of each paragraph of the customs performance tool with the customs performance as a whole, So that there are two main conditions for these coefficients are: that the corrected correlation coefficient is not less than (0.30), and the presence of statistical significance for these coefficients, Table (3) shows the values of these coefficients.

Table (3): *Corrected correlation coefficient values for the correlation of each paragraph of the customs tool with the customs performance as a whole*

Paragraphs of customs performance			
*Corrected correlation coefficients for each paragraph's association with		number Paragraph	The dimension
performance as a whole	The dimension to which the paragraph belongs		
0.583	0.647	1	Anti-smuggling
0.764	0.900	2	
0.711	0.834	3	
0.678	0.806	4	
0.674	0.806	5	
0.629	0.745	6	
0.737	0.665	7	
0.772	0.636	8	
0.667	0.625	1	Financial performance
0.613	0.745	2	
0.574	0.592	3	
0.634	0.728	4	
0.543	0.585	5	
0.664	0.723	6	
0.637	0.640	7	

Paragraphs of customs performance			
*Corrected correlation coefficients for each paragraph's association with		number Paragraph	The dimension
performance as a whole	The dimension to which the paragraph belongs		
0.686	0.760	8	achievement time
0.645	0.671	1	
0.583	0.727	2	
0.758	0.763	3	
0.497	0.679	4	
0.463	0.632	5	
0.621	0.691	6	

All these parameters are statistically significant

The table shows that the two conditions for the corrected correlation coefficients are satisfied.

* Calculating the correlation coefficients (Pearson) between each of the dimensions of

Table (4): *Pearson correlation coefficients between each dimension of customs performance with customs performance as a whole*

		Combating smuggling	Financial performance	time performance	Customs Performance
Combating smuggling	Pearson Correlation	1	0.705	0.644	0.905
	Sig.	.000	.000	.000	.000
	N	489	489	489	489
Financial performance	Pearson Correlation		1	0.723	0.911
	Sig.		.000	.000	.000
	Number		489	489	489
time performance	Pearson Correlation			1	0.850
	Sig.			.000	.000
	N			489	489
Customs Performance	Pearson Correlation				1
	Sig.				0.00
	N				489

** Statistically significant at the level of statistical significance ($\alpha = 0.05$)

Table (4) shows that there is a statistically significant correlation.

* Reliability of the study tool Customs performance Reliability Test The stability of the study tool is the stability of the results, that is, the extent of agreement or consistency in the results of the questionnaire if it was applied

customs performance and the correlation coefficients (Pearson) between each dimension of customs performance with the customs performance, and table (4) shows the values of these coefficients.

more than once and in similar circumstances. On all the items in the scale, alpha can also be interpreted as the internal consistency coefficient between the answers, and its high value indicates the degree of high stability and ranges between (0 and 1) and its value is acceptable at (60%) and above, and the value of the internal consistency stability coefficient was (Cronbach alpha) according to the following table:

Table (5): *Internal consistency coefficients (Cronbach's alpha) for each dimension of the study tool and for the tool as a whole (customs performance)*

Dimension	number of paragraphs	Internal consistency constancy coefficient (Cronbach's alpha)
Combating smuggling	8	0.892
Financial performance	8	0.838
performance time	6	0.780
Customs performance	22	0.930

We note from Table (5) that the internal consistency coefficients (Cronbach's alpha) for all dimensions of customs performance and

customs performance were greater than (0.60), which indicates the presence of internal consistency between the paragraphs of each dimension of customs performance.

6.2.1.3 Results of the first question: What is the level of the role of customs work automation in the Jordanian Customs Department from the point of view of its employees?

To answer this question; The arithmetic averages and standard deviations of the employees' estimates of the level of the role of customs work automation in the Jordan Customs Department were calculated from the point of view of the employees in it, on each dimension of customs work automation (ASYCUDA, modern equipment and devices) as follows:

Table (6): *Arithmetic averages and standard deviations of the estimates of the study sample on each dimension of the role of customs work automation arranged in descending order according to the arithmetic averages*

Dimension number	Dimension	Arithmetic average*	Standard deviation	Level	Rank
1	ASYCUDA system	4.0607	0.393	High	1
2	Modern equipment and equipment	3.9888	0.4455	High	2
	Automation of customs work	4.0268	0.370	High	

* Minimum score of (1) and maximum score of (5)

It is noted from Table (6) that the level of the role of customs work automation is (high) with an arithmetic average (4.0268), and it is noted from the table that the two dimensions (ASYCUDA and modern devices and equipment) came at a (high) level.

The arithmetic averages and standard deviations of the estimates of the study sample members were also calculated on each item of the tool related to the role of automation of customs work (ASYCUDA and modern devices and equipment) and that all averages came at a (high) level between (4.1247) and (3.9059).

6.2.1.4 Results of the second question, which states: What is the level of customs performance (anti-smuggling, financial performance, completion time) from the point of view of Jordanian customs employees?

To answer this question; The arithmetic averages and standard deviations of the employees' estimates of a level for the role of customs performance (anti-smuggling, financial performance, completion time) were calculated from the employees' point of view on each dimension of customs performance (anti-smuggling, financial performance, completion time) as follows:

Table (7): *Arithmetic averages and standard deviations of the estimates of the study sample members on each dimension of the role of customs performance (anti-smuggling, financial performance, completion time)*

Dimension: NO	Dimension	Standard Deviation	Arithmetic mean*	Level Rank	Rank
1	Combating smuggling	.45687	4.0330	High	1
2	Financial performance	.40294	3.9982	High	2
3	time performance	.37247	3.9853	High	3
	Customs performance	.37012	4.0073	High	

* Minimum score of (1) and maximum score of (5)

It is noted from Table (7) that the level of the role of automation of customs work from the point of view of employees is (high) with an arithmetic average (4.0073), and it is noted from the table that the two dimensions (anti-smuggling, financial performance, completion time) came at a (high) level.

The arithmetic averages and standard deviations of the estimates of the study sample members were also calculated on each paragraph of the tool related to the role of customs performance (anti-smuggling, financial performance, time of completion), and the arithmetic averages and standard deviations of the employees' estimates of the performance dimension were also calculated on each of the paragraphs of customs performance (Anti-smuggling, financial performance, completion time), and all averages were at a (high) level and ranged between (4.1145) and (3.8569).

6.3 Simple regression analysis

6.3.1 Results of the third question, which states: What is the impact of customs work automation on customs performance?

The following main hypothesis emerged from this question: There is no effect of automation

Table 8: *Results of analysis of variance (ANOVA) to check the power and significance of the simple linear regression analysis model*

Model	Method used	Model	Sum of Squares	df	Average squares	F	Sig.
Simple linear regression	Enter	Regression	50.927	1	50.927	1557.471	.000 ^a
		Residual	15.924	487	.033		
		Total	66.852	488			

of customs work on its performance at the significance level of (0. 05).

In order to identify the impact of the automation of the customs work as a whole on the customs performance as a whole, a Simple Linear Regression analysis was used to find out if there was a statistically significant effect of the independent variable (the role of customs work automation as a whole) on the dependent variable (the customs performance as a whole) at the level of significance A statistic ($\alpha = 0.05$), which requires checking the suitability of the data to the assumptions of simple linear regression analysis, by conducting some tribal tests (the linear relationship between the independent variable and the dependent variable, the test of normality for the independent variable and the dependent variable, and the test for significant and explanatory power of the simple linear regression analysis model). (user) and it was verified before starting to apply simple linear regression, and then the test of significant and explanatory strength of the simple linear regression analysis model used was found: This was done only through analysis of variance (ANOVA), due to the presence of only one independent variable shown in Table (8).

* Statistically significant at the level of statistical significance ($\alpha = 0.05$)

a. Predictors: (Constant) the role of customs work automation

b. Dependent Variable: Customs Performance

It is noticed from Table (8) that the value of (P = 1557.471)) and with statistical significance (0.000), which is less than the level of statistical significance ($\alpha = 0.05$); This indicates that there is an explanatory and

significant power to use the simple linear regression analysis model between the independent (customs work automation), and the dependent variable (customs performance). Thus, the simple linear regression model is suitable for measuring the causal relationship between the independent variable (the role of automation of the customs work as a whole), and the dependent variable (the customs performance as a whole), Table (9) shows a summary of the Model Summary for simple linear regression analysis.

Table (9) is a *summary of Model B (Simple Linear Regression Analysis)*

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	R ² Change
Simple linear regression	0.873	0.762	0.761	0.18083	0.762

a. Predictors: (Constant) the role of customs work automation

b. Dependent Variable: Customs Performance

Table (9) shows that the value of the correlation coefficient between the independent variable (the role of automation of the customs work as a whole), and the dependent variable (the customs performance as a whole) is (0.873), and that the value of the coefficient of determination (2R) is (0.762), and that the value of the modified coefficient of

determination (Adjusted R²) (0.761), which indicates that the independent variable was able to explain (76.2%) of the changes occurring in the dependent variable, and the rest is attributed to other factors.

Thus, it can be said that there is at least one independent variable that affects the dependent variable, which can be significant, and this is known by testing the coefficients of the standard and unstandardized simple linear regression equation, and the table (10) It shows.

Table (10): *Significance of the coefficients of the Standard and Unstandardized Simple Linear Regression Equation*

Simple linear regression model	Unstandardized		Standard	T-Value	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	0.498	0.089		5.580	0.000
The role of the customs work	0.871	0.022	0.873	39.465	0.000

* Statistically significant at the level of statistical significance ($\alpha = 0.05$)

a. Predictors: (Constant) the role of automation of the customs work as a whole

b. Dependent Variable: Customs Performance

From table (10) it is clear that:

* Customs performance = 0.489 + 0.871 Automation of customs work

* There is a statistical significance for the simple linear regression equation constant, where the value of (t = 5.580) and with a statistical significance (0.000) is less than the level of statistical significance ($\alpha = 0.05$),

which indicates a significant presence of the simple linear regression equation constant.

* There is a statistical significance of the standard and non-standard simple linear regression equation coefficient related to the independent variable (the role of automation of customs work as a whole) , where the value of, ($T = 39.465$) and with statistical significance (0.000), which is less than the level of statistical significance ($\alpha = 0.05$), which indicates the rejection of the null hypothesis and acceptance of the alternative which states: There is an impact of the role of automating the customs work as a whole on the performance of the customs work as a whole, and thus there is Significant coefficient of the standard simple linear regression equation, whose value was (0.871), and the non-standard (0.873).

6.4 Multiple regression analysis

* The first sub-null hypothesis which states: There is no effect of ASYCUDA on the customs performance at the function level 0.05 from the point of view of Jordanian customs employees.

* The second sub-null hypothesis which states: There is no effect of modern equipment and devices on customs performance at the function level 0.05 from the point of view of Jordanian customs employees

To verify the effect of each dimension of customs automation on customs performance from the point of view of customs officials, a Multiple Linear Regression analysis was used to find out if there is a statistically significant effect of the independent variables (ASYCUDA, modern devices and equipment) on the variable. The dependent (customs performance as a whole) at the level of statistical significance ($\alpha = 0.05$), which requires checking the suitability of the data to the assumptions of multiple linear regression analysis, by conducting some tribal tests (the linear relationship between each independent variable and the dependent variable, and the test of naturalness for each independent variable and for the variable). The dependent, and the test of significant and explanatory power of the multiple linear regression analysis

model used) were confirmed and then a regression analysis (ANOVA) was conducted: the analysis of variance was calculated for the independent variables entered the equation and its results are shown in Table (11).

Table (11): *Results of analysis of variance (ANOVA) b to verify the strength and significance of the multiple linear regression analysis model*

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.014	2	26.507	930.981	.000 ^b
	Residual	13.838	486	.028		
	Total	66.852	488			

* Statistically significant at the level of statistical significance ($\alpha = 0.05$)

It is noted from Table (11) that all the values of the statistical significance of all the independent variables (0.000), which are less than the level of statistical significance; This indicates that there is an explanatory and significance power to use the multiple linear regression analysis model between the independent variables (ASYCUDA, modern equipment and devices), and the dependent variable (customs performance as a whole). Thus, the multiple linear regression model is suitable for measuring the causal relationship between the independent variables and the dependent variable. Table (12) shows a summary of the Model Summary. Multiple linear regression analysis.

Table (12): *A summary of the model b (Model Summary) Multiple linear regression analysis*

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	R ² Change
1	0.891	0.793	0.792	0.16874	0.793

Table (12) shows that the value of the multiple correlation coefficient has (0.891), and that the value of the coefficient of determination (2R) has (0.793), and that the value of the adjusted coefficient of determination (Adjusted R2) is (0.792), which indicates that the independent variables (ASYCUDA, devices and modern equipment) was able to explain (79.3%) of the

changes occurring in the dependent variable (customs performance).

To find out which of the variables influence the dependent variable and are statistically significant, this was determined by testing the significant coefficients (Coefficients) of the Standardized and Unstandardized Multiple Linear Regression Equation, and Table (13) shows this.

Table (13) *Significance of the coefficients a ((Coefficient) Standardized and Unstandardized Multiple Linear Regression Equation)*

Multiple linear regression model	Non-standard		Standard	T-Value	sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	.401	.084		4.770	.000
ASYCUDA	.641	.024	.682	27.105	.000
Modern devices and equipment	.252	.021	.303	12.037	.000

* Statistically significant at the level of statistical significance ($\alpha = 0.05$)

Table (13) shows that all the independent variables have a statistically significant effect on the customs performance, as follows:

* The presence of statistical significance for the multiple linear regression equation constant, where the value of ($t = 4.770$) and statistical significance (0.000), which is less than the level of statistical significance ($\alpha = 0.05$), which indicates a significant presence of the multiple linear regression equation constant.

* There is a statistical significance of the standard and non-standard multiple linear regression equation coefficient related to the independent variable (ASYCUDA), where the value of ($t = 27.105$) and statistical significance (0.000) is less than the level of statistical significance ($\alpha = 0.05$), which indicates the

rejection of the null hypothesis Acceptance of the alternative that states: There is an effect of ASYCUDA on the customs performance as a whole; Thus, there is significant significance for the coefficient of the standard multiple linear regression equation related to ASYCUDA, whose value was (0.684), and the non-standard(0.641).

* There is a statistical significance for the standard and non-standard multiple linear regression equation coefficient related to the independent variable (modern devices and equipment), where it reached a value of ($t = 12.037$) and with a statistical significance (0.000), which is less than the level of statistical significance ($\alpha = 0.05$), which indicates a rejection The null hypothesis and acceptance of the alternative, which states: There is an effect of modern devices and equipment on customs performance as a whole; Thus, there is significance for the coefficient of the equation of the multiple standard linear regression related to modern devices and equipment, whose value reached (0.252), and the non-standard(0.303).

7. Findings and Recommendations

7.1 Results:

There is a decrease in performance (revenue and customs fines) at the beginning of the application of the computerized ASYCUDA system. *

* There is a direct correlation between the automation of customs procedures and its performance, which is at a high level (0.873).

* The model used in the study was able to explain 76.1% of the factors affecting performance in customs, and the remaining 23.9% are attributed to other factors.

* There is a direct correlation between the independent sub-variables (the introduction of the ASYCUDA system, the use of modern devices and equipment), each of them separately, with the customs performance.

7.2 Recommendations

- * Increasing reliance on automation (computerized systems, equipment, and modern devices) in customs work.
- * Increasing the trend towards facilitating customs procedures to encourage investment and reduce costs, with tightening penalties for smuggling and the like, according to the customs law.
- * Follow up on the latest technological developments in customs work.
- * Conducting studies on the effectiveness of the various government tax policies.

Reference

- [1] Strategic plans and annual reports of the Customs Department, website (<https://www.customs.gov.jo/ar/Annual.aspx>).
- [2] Jordanian Legislation, website (<http://www.lob.gov.jo/ui/laws/listall.jsp>).
- [3] Experts of the Arab Administrative Development Organization, Development of Customs Performance and WTO Agreements - Selected Arab Examples -, Arab Administrative Development Organization, Cairo, 2008, pg. 49.
- [4] Jerash, the Computerized Customs System, Publications of the Customs Department in cooperation with the Amir Program for International Development, 2001, pp. 26-27.
- [5] Customs Clearance Department, Oliman, Khaled, and Al Mashaqah, Ali, p. 5-9, Dar Al-Safa Publishing and Distribution, Amman 2009, 126-127.
- [6] Introduction to Computerized Customs Systems / Concepts and Applications, 2021 Edition, d. Radaydah, Murad, Al-Alam, Ahmad, pp (137-139).
- [7] The effects of applying the ASYCUDA system and the value of the deal in Syria, Tishreen University Journal for Research and Scientific Studies - Economic and Legal Sciences Series, Volume (93) Issue (5), 2008, Fadi Al-Khalil and others.
- [8] Vol 8, No 21 (2017 Customs Scientific Journal.
- [9] Customs Scientific Journal Vol. 7, No. 2, Hiluf Berhe ABRAHA.
- [10] European Journal of Business and Management, ISSN 2222-1905 (Paper) - ISSN 2222.
- [11] 2839 (Online) Vol.10, Bernard& Elizabeth.
- [12] Broadway, R. W. (2012). From optimal tax theory to tax policy: retrospective and prospective views. Cambridge: MIT Press.
- [13] De Wulf, L., & Sokol, J. B. (2005). Customs Modernization Handbook. Washington: World Bank.
- [14] Visser, C. B., & Erasmus, P. W. (2005). The Management of Public Finances: A Practical Guide. Oxford: Oxford University Press.
- [15] Ireland, P. (1994). Supply-side economics and endogenous growth. Journal of Monetary Economics 33, 559-571.
- [16] Haughton, M., & Desmeules, R. (2001). Recent Reforms in Customs Administration. The International Journal of Logistics, 12, 65-82.
- [17] EFFECT OF SYSTEMS AUTOMATION ON CUSTOMS REVENUE PERFORMANCE IN KENYA, ASKAH MORAA OMOSA, published master's thesis, 2020 (<http://ir.mu.ac.ke:8080/jspui/handle/123456789/3808>).
- [18] THE EFFECTS OF AUTOMATING CUSTOMS SYSTEMS ON PERFORMANCE OF ZIMBABWE REVENUE AUTHORITY, ANTHONY TAPIWA MAZIKANA transparent electronic version available at: <https://ssrn.com/abstract=3431840> 23.
- [19] ASYCUDA company website (<https://asycuda.org/en/programme>).