Analysis of the performance of Khartoum Customs Department during the period 2019-2021

Dr. Akram Abd Eldaim Mohammed

College of Customs | Medical and Technological Sciences | Sudan

Abstract: The aim of this study was to investigate the performance of the Khartoum Customs Department. The problem of the study was to determine the contribution of the customs stations that make up the Khartoum Customs Department. The study claimed that the dry port of Soba had the greatest impact on the performance of the Khartoum Customs Department. To achieve the objective of the study, monthly data for the Khartoum Customs Department was collected from 2019 to 2021. The study concluded that the largest customs revenues achieved in the Khartoum Customs Department were from the Soba dry port (971.9206), while the lowest revenues were from the warehouses management (150.8236). Additionally, all customs stations in the Khartoum Customs Department showed an increase in performance in 2019, and all customs stations in the Khartoum Customs Department saw an increase in performance in the fourth quarter of each year during the study period.

Keywords: Customs, SUBA dry port, Sudan Customs.

تحليل أداء دائرة جمارك الخرطوم خلال الفترة 2019-2021

الدكتور / أكرم عبد الدائم محمد

كلية العلوم الجمركية والطبية والتكنولوجيا | السودان

المستخلص: هدفت هذه الدراسة إلى التعرف على أداء دائرة جمارك الخرطوم حيث تمثلت مشكلة الدراسة في الوقوف علي إسهام المحطات الجمركية المكونة لدائرة جمارك الخرطوم، و ادعت الدراسة بأن ميناء سوبا الجاف له التأثير الأكبر على أداء دائرة جمارك الخرطوم، ولتحقيق هدف هذه الدراسة، تم جمع بيانات شهرية لدائرة جمارك الخرطوم من 2019 إلى 2021. وخلصت هذه الدراسة إلى أن أكبر إيرادات جمركية محققة في دائرة جمارك الخرطوم كانت من نصيب ميناء سوبا الجاف (971.9206)، وأدناها كانت من نصيب إدارة المستودعات (150.8236)، كما ان جميع المحطات الجمركية في دائرة جمارك الخرطوم شهدت ازدياد في الأداء في العام 2019، كما شهدت جميع المحطات الجمركية في دائرة جمارك الخرطوم ازدياد في الأداء في الربع الرابع من كل عام خلال فترة الدراسة.

الكلمات المفتاحية: الجمارك، ميناء سوبا الجاف، الجمارك السودانية

Introduction: -

Customs play a major role in the resources of developing countries, including Sudan. Therefore, it was necessary to take care of customs revenues by identifying and optimizing the strengths and identifying and improving the weaknesses.

The development of dry ports has been a key strategy for many countries seeking to enhance their international trade capabilities. According to the United Nations (UN) definition, a dry port can be defined as a "specific site where import and export activities are processed with the help of combined transport documents such as the bill of lading and the multi-modal transport document"[1]

Dry ports play a crucial role in improving the efficiency and effectiveness of international trade, particularly for landlocked countries. They provide an essential link between seaports and the hinterland, enabling goods to be transported inland without having to physically enter the seaport. This helps to alleviate congestion at seaports, reduce transportation costs, and increase overall efficiency in the supply chain[2].

In addition to facilitating trade, dry ports also contribute to the economic development of regions by providing employment opportunities and generating revenue for local governments. They can serve as logistics and manufacturing hubs, attracting businesses to the region and providing a range of services including warehousing, packaging, and customs clearance[3].

The growth of dry ports is expected to continue in the coming years, with many countries recognizing the importance of these facilities for their economic development. Governments are investing in the development of dry ports as part of their overall infrastructure plans, recognizing the benefits that they can bring to their economies[4].

The Khartoum Customs Department Consist of the following stations: -

1. SUBA Dry Port Customs.
2. Khartoum airport customs.
3. Garry-free zone Customs.
4. Warehouse Customs.

SUBA dry port is one of the special customs systems that help trade facilitate, encourage suppliers, and link seaports with dry ports. The main objective of establishing the SUBA dry port in the 1980s was to reduce the accumulation of goods in the port of Sudan and shorten the clearance period, flooring fees, and container rentals. The administrative structure of SUBA dry port consists of seven administrative offices that clear goods and there are also related parties that contribute to facilitating the clearance process such as quarantine. The SUBA dry port works to facilitate trade by using trains to transport containers safely and quickly from seaports. The Dry port applied the Sudanese customs law 2010 to collect duties and taxes and apply customs laws and regulations related to the importation, exportation movement, and storage of goods. SUBA dry port revived the SUBA region, located south of Khartoum, economically by providing employment opportunities and providing services to the people of the region[5].

Study Problem: -

Since the Khartoum customs department consists of a number of customs stations, each station represents a special customs regime, and all these stations contribute to achieving the estimated revenue of the Khartoum customs department, it was necessary to determine which of these customs stations is the one that has the greatest contribution to the revenue performance of the Khartoum customs department, hence the problem of research: -

What is the contribution of the customs stations that make up the Khartoum Customs Department to the revenue performance?

This question is divided into a set of sub-questions: -

1- what is the effectiveness of the customs stations that make up the Khartoum Customs Department?
2- What is the role of SUBA dry port's in Khartoum customs?

Study Hypotheses: - The study assumes

1- There are statistically significant differences in performance between customs stations in Khartoum Customs Department.
2- The Suba dry port has a significant impact on the revenue performance of the Khartoum Customs Department.
3- There are statistically significant differences in performance between quarters during the study period.

---

(1) United Nations. (1982). Trans-modal transport systems: report of the Secretary-General. United Nations.

(2) Wan, Y. (2016). Dry ports in China: Development, policy and prospects. Research in Transportation Business & Management, 21, 45-53.

(3) (Wan, 2016)

(4) UNCTAD. (2018). Review of Maritime Transport 2018. United Nations Conference on Trade and Development

(5) Sudan Customs Authority. (2016). A study on the reasons for the decline in revenues in dry ports (p. 7).

Study Methodology

The analysis of variance (ANOVA) method is used to compare the means of three or more populations. It supports multiple comparisons while keeping the probability of a type I error (rejection of a true null hypothesis) at a predetermined level. ANOVA compares variance estimates due to chance factors alone and variance estimates due to chance plus treatment effect (if there is a treatment effect). ANOVA can also be used to investigate two or more treatment variables at the same time. Although many studies routinely use ANOVA in conjunction with post hoc comparisons to make all possible pair-wise comparisons, planned comparisons should be considered instead of ANOVA if it is known ahead of time which comparisons are important to the study[6].

The daily data collected covers all Khartoum customs departments from 1/1/2019 to 31/12/2022.

Study structure

to achieve the goal of this study, we divided it into three parts, the first part of which dealt with the concept of dry port and SUBA Dry port, while the Second part deal with Sudan Customs Authority and the last part deal with analytical.

Previous Studies: -

There are not many studies covering this important research area.

Ali, E., Ayelign, A. (2022), study aims to identify the impacts of port characteristics and port-logistics integration on port performance in the case of Ethiopian dry ports, the study was conducted in three dry ports of Ethiopia having a sample of 279 employees, which came out with a lot of results and the most important one shows that port characteristics such as port infrastructure, port connectivity, and port privatization have significantly impacted port performance.

A study on the reasons for the decline in revenues in Sudan dry ports (2016), by the Sudan Customs Authority, which is aimed to Answer the question of why the performance of Sudan Dry ports declined in (2015)? the study was conducted on Sudan dry ports and it resulted that the main reason was the increase in customs dollar exchange.

Descriptive Statistics

|	Khartoum Airport	Garry Free Zone	Suba Dry Port	Warehouses
Mean	200.5986	347.6667	971.9206	150.8236
Median	111.955	176.555	558.66	61.11
Maximum	788.63	2703.9	3924.39	1199.48
Minimum	11.31	56.62	258.65	13.33
Std. Dev.	207.8822	476.9842	963.918	240.1085
Skewness	1.681233	3.624627	1.937263	3.233852
Kurtosis	4.641572	17.86641	5.695767	13.31425
Jarque-Bera	21.00141	410.3429	33.41866	222.3224
Probability	0.0000	0.0000	0.0000	0.0000
Sum	7221.55	12516	34989.14	5429.65
Sum Sq. Dev.	1512525	7962987	32519828	2017823
Observations	36	36	36	36

Source: researchers' Calculation

From the above table, we found that there are clear differences in the average financial performance, Where SUBA Dry port achieved the highest average financial performance, followed by Garry Free Zone while warehouses came in last place.

---

(6) King, B.M. (2010). History of Education. In International Encyclopedia of Education (Third Edition) (pp. 32-36). Elsevier.

Also, we found that all participant has positive Skewness, And the Khartoum Airport is the closest to symmetry which has a skew close to zero, followed by SUBA Dry port while Garry Free Zone came at last place, also Garry Free Zone has the highest Kurtosis while the more perfect Kurtosis was Khartoum Airport which is near to three [7]

The Jarque-Bera which tested whether the variable followed Normal Distribution or Not shows us that the whole variable wasn't followed the normal distribution because the sig of the whole variable was less than (0.05). [8]

The following graph represents the customs duty in the Khartoum customs department:
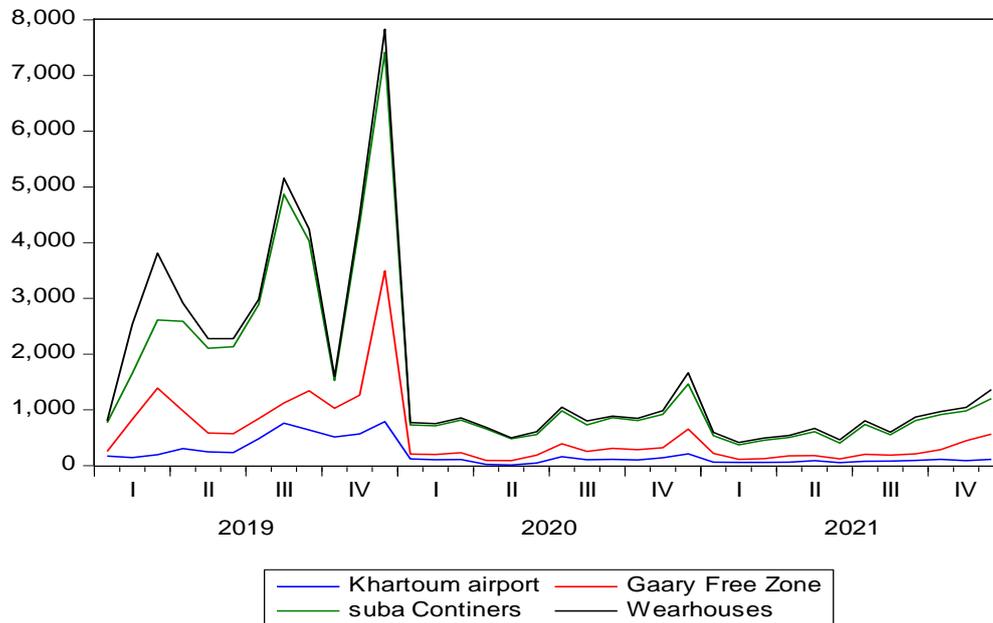
From the above graph, we can figure out that after the year 2019, the performance dropped at all customs administrative, also the performance increased in the fourth quarter of each year, Also the performance of Suba dry port and warehouses are almost matched typically, and Khartoum airport was the lowest finance performance at Khartoum department.

Comparing the finance performance of each Customs Station

| Variable	Count	Mean	Std. Dev.
AIRPORT	36	200.5986	207.8822
GARRY	36	347.6667	476.9842
SUBA	36	971.9206	963.9180
WAREHOUSES	36	150.8236	240.1085

Researchers' Calculation

From the above table, we can figure out that SUBA Dry port has the greatest value of mean for customs revenue (971.9) SDG, GARRY free zone came after SUBA Dry port with the value of mean for customs revenue (347.7) SDG, and the lowest value of mean for customs revenue was WEARHOUSES (150.8) SDG.

The following graph shows Each station's share in the financial performance of the Khartoum Customs Department during the study period

(7) Salvatore, D. & Reagle, D. (2018). Schaum's Statistics and Econometrics (Second Edition), p 13.

(8) Schaum's, p 15

performance

- ■ AIRPORT
- ■ GARRY
- ■ SUBA
- ■ WEARHOUSES
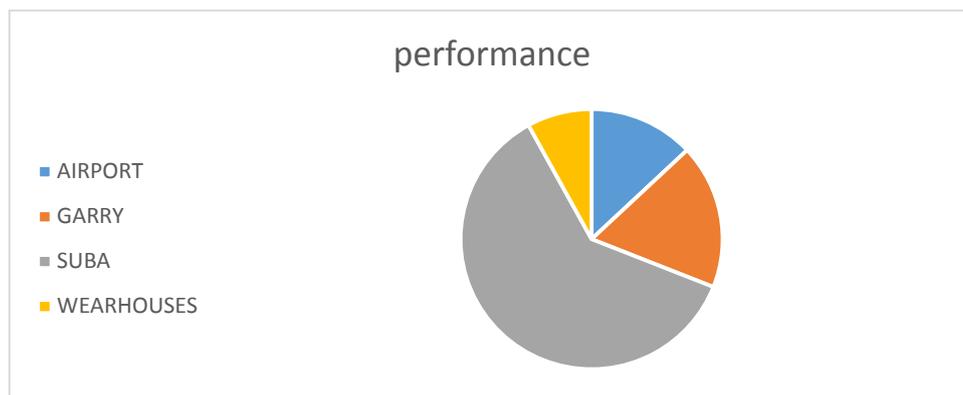
To make sure that the variation in the value of mean for customs revenue between the different Customs Stations is real and not caused by chance, we tested as follows: -

H_0: the variation in the value of mean for customs revenue between the different Customs Stations **is** not significant.

H_1: the variation in the value of mean for customs revenue between the different Customs Stations **is** significant.

H_0: the variation in the value of the mean for customs revenue between the different quarters **is** not significant.

H_1: the variation in the value of the mean for customs revenue between the different quarters **is** significant.

The following table shows the results of the test: -

Method	Df	Value	Probability
Anova F-test	(3, 140)	16.42935	0.0000
Welch F-test*	(3, 72.7447)	9.075699	0.0000

Researchers' Calculation

From the above table, we can find that the Probability of both test ANOVA F-test and Welch F-test were less than (5%), So we can accept the alternative Hypothesis (H_1) Which is mean the variation in the value of mean for customs revenue between the different Customs Stations, and the variation in the value of the mean for customs revenue between the different quarters **is significant**, meaning that SUBA Dry port has achieved the highest Customs Revenue in Khartoum Customs Department during the study period, and fourth quarters in each years has greatest revenue.

Discussions.

So our main Hypotheses which state that SUBA Dry Port has the most significant impact on the performance of the Khartoum Customs Department, and at Khartoum Customs Department there is an increase in performance in fourths quarters in each year **were accepted**.

Conclusion

Our study aimed to identify the performance of the Khartoum Customs Department to check out our main Hypothesis that SUBA Dry Port has the most significant impact on the performance of the Khartoum Customs Department, and at Khartoum Customs Department there is an increase in performance in fourths quarters in each year, to achieve the aim of this study, monthly data were collected for the Khartoum Customs Department from 2019 to 2021.

This study concluded that the greatest Customs Revenue in Khartoum Customs Department was SUBA Customs dry port (971.9206), and the lowest one was Warehouses (150.8236), Also SUBA dry port contributes to trade facilitation by achieving highs value of revenue, Also All customs stations at the Khartoum Customs Department notice an increase in performance in 2019 and all Customs Stations at Khartoum Customs Department there is an increase in performance in fourths quarters in each year.

We recommend to SUBA Dry port increase the workforce, provide technical support, improve the working environment, and add another dry port.

References

- King, B. M. (2010). History of Education. In International Encyclopedia of Education (3rd ed., pp. 32-36). Elsevier.

- United Nations. (1982). Trans-modal transport systems: Report of the Secretary-General. United Nations.

- Salvatore, D., & Reagle, D. (2018). Schaum's Statistics and Econometrics (2nd ed., p. 13). McGraw-Hill Education.

- Endris Ali, & Abate Ayelign. (2022). The impacts of port characteristics and port logistics integration on port performance in Ethiopian dry ports. International Journal of Financial, Accounting, and Management, 4(2), 163-181.

- UNESCAP. (2002). Trade Facilitation Handbook for the Greater Mekong Sub-region. United Nations.

- Sudan Customs Authority. (2016). A study on the reasons for the decline in revenues in dry ports (p. 7).

- Wan, Y. (2016). Dry ports in China: Development, policy and prospects. Research in Transportation Business & Management, 21, 45-53.

- UNCTAD. (2018). Review of Maritime Transport 2018. United Nations Conference on Trade and Development.