

# Factors Hindering the Adoption of the Customs Electronic Licensing System (CELS) by Clearing and Forwarding Agents in Zambia

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## Abstract

While the Zambia Revenue Authority (ZRA) aims at improving and making it much easier, more efficient and faster to process clearing agents' licenses added to mass sensitization and training on the Customs Electronic Licensing System (CELS), the adoption and utilization of the system among the clearing and forwarding agents in all the Zambian border posts is very low. This study aimed at determining the factors that impede the adoption and implementation of the CELS by the clearing agents and recommending the best ways in which ZRA can enhance the utilization of the electronic platform and boost compliance. The study was conducted within the population of the Zambia Revenue Authority and duly licensed Clearing Agents domiciled at Kenneth Kaunda International Airport (KKIA) as well as those working at Nakonde, Chirundu, Mwami, Katima Mulilo, Kasumbalesa and Kazungula border posts. We employed the mixed method approach, the quantitative and qualitative methods with a study sample of 263 licensed clearing and forwarding agents. However, analysis was based on 178 agents (the response rate was 68%). Binary Logistic was fitted on the data to determine the bottlenecks to the adoption of CELS. Factors which determined as bottlenecks to the adoption of the CELS are "Not Having ICT Skills", "Not Having an electronic Device PC/Smartphone", "No Access to Internet", "Difficulty of Use of the CELS" and "Not Having Knowledge on CELS". The challenges faced by clearing and forwarding agents include; not having electronic devices personal computers (PCs) or Smartphones, not having the required information technology skills, not having access to internet, and not having adequate knowledge about the system. To promote compliance among the agents, ZRA needs to do the following; make the possession of a computer or smartphone to be a mandatory requirement for an individual to be given the clearing and

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forwarding license; provide the required information technology skills training specifically on CELS; provide free internet only accessible to the registered agents to allow them to fully access the CELS, as well sensitization programs to ensure that all agents have knowledge on CELS.

### Keywords

Implementation, Adoption, Customs Electronic Licensing System, Agents

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## 1. Introduction

It is well observed that the reforms and indeed the modernization of Customs have involved a shift from processing hard copy documents to automation of Customs processes and procedures (Addo, 2021). These observed changes are wide-ranging and include among others, submission of documents electronically, electronic payments, inter-agency coordination, interfacing of government agency systems which are involved in clearance, implementation of One-Stop Border Posts (OSBPs), processing of pre-arrival goods, border management, electronic tracking of goods and risk management (Pavlenko et al., 2019). Such measures have long been appreciated by Revenue and Customs Authorities to secure and facilitate trade. Automated Customs systems are employed by Customs Authorities in the processing and clearance of goods, encompassing manifest lodgment, as well as risk assessments, and processing of payments to the actual release of goods (Pavlenko et al., 2019).

Central to the implementation of the Customs Electronic Licensing System (CELS) is the clearing and forwarding agents in the border posts. Clearing and forwarding agents act as an intermediary between traders and Customs in Customs clearance processes. Therefore, effective implementations of the computerised Customs system requires full integration of this personnel. The agents' domain knowledge of Customs laws and processes and their working experience in the trade supply chain can be useful for both traders and Customs. As the agents support trade by providing all necessary documentation and undertaking formalities related to cargo clearance, and licensing among other issues, agents are also expected to indorse governments' interests by ensuring compliance with Customs and other supervisory requirements and the collection of appropriate duties, licensing and taxes (Juma, Shaalan, & Kamel, 2019). With the growing electronic-commerce, Customs administrations are developing more client-oriented ICT-enabled services; and with increasingly simple and transparent Customs procedures, it may seem that the relevance of agents' services may be declining (Kumar, 2015). However, especially for developing countries including Zambia, it still remains very important that clearing and forwarding agents are licensed appropriately and in an efficient manner (M. Keen, 2003). While the process of licensing clearing and forwarding agents has to a larger extent gone electronic in developed countries and fewer developing countries, the adoption of the Cus-

toms electronic licensing, by clearing agents in many developing countries seems to be very slow (Alyoubi, 2015). Most of such activities still happen manually and this eventually makes the process costly, involving and time-wasting.

In Zambia, the Zambia Revenue Authority (ZRA) has made and is still making significant improvements in modernising its operating systems in order to meet its mission to “maximise and sustain revenue collection through the integrated, efficient, cost-effective and transparent systems, professionally managed to meet expectations of all stakeholders” (Dreisbach, 2019). ZRA has been mandated to push this agenda of modernisation, standardisation and harmonisation of trade procedures by employing the use of electronic procedures to license, regulate and monitor the activities of the clearing agents, who are key stakeholders due to their role in trade facilitation in all border posts (Dreisbach, 2019). Customs clearing agents are licensed by the Zambia Revenue Authority (ZRA) to transact on behalf of the importers and exporters. Section 29 of CAP 322 of the Laws of Zambia requires importers and exporters to engage a licensed clearing agent to act on their behalf in the processing of imports and exports. The licensing of Customs clearing agents is a statutory requirement provided for under Section 82A of the Customs and Excise Act (Ntanda, 2020).

Prior to 2017, the licensing process of clearing agents was manual, involving physical movement of application forms between applicants and ZRA staff (Dreisbach, 2019). With a significant increase in the number of clearing agencies, the licensing committee must process more than 300 applications in one sitting, making the process tedious and to some extent, inefficient, costly and time-wasting. It is well observed that inherently, manual systems are associated with poor record keeping and possible manipulation of processed information, misplacement of files and above all forgery and false representations (Dreisbach, 2019). Therefore, the automated Customs Electronic Licensing System (CELS) was developed hoping that it would reduce the above indicated concerns regarding agent licensing (Nyalazi, 2020).

The computerization of the licensing system has the following benefits: convenient online submission of applications, and no time limit for the submission from anywhere; timely processing of applications for licenses; improved record keeping of applications and licenses; transparency in the approval process; easier management of risk associated with forgery and fraud by applicants; reduction in human related errors; and improved security due to restricted system access. However, despite the development and implementation of the CELS in 2017 (Dreisbach, 2019), the adoption of the system among the clearing and forwarding agents is very low across all border posts in the country. The factors which are associated with the low uptake of the CELS, among the clearing and forwarding agents, in all the Zambia are not clear. As such, determining the bottlenecks to the adoption of the CELS remains critical.

While ZRA aims at improving and making it much easier, more efficient and faster to process clearing agents’ licenses, added to mass sensitization and train-

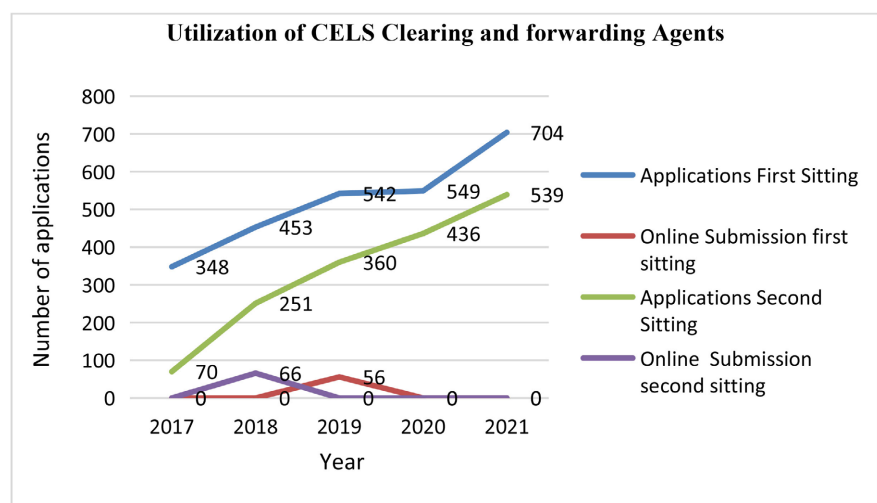
ing on the Customs Electronic Licensing System (CELS), the adoption and utilization of the system among the clearing and forwarding agents in all the Zambian border posts is very low. **Figure 1** attests.

The presented scenario is worrisome and requires a robust and quickest intervention. This study, therefore, was conducted to determine the factors that hinder the adoption of the CELS among the clearing and forwarding agents at all Zambian border posts. If these factors remain unveiled, this scenario will continue frustrating the efforts of ZRA in its quest to improve its service delivery to the public (Charles-Granville et al., 2022). Therefore, adapting the Unified Theory of Acceptance and Use of Technology (UTAUT) (Oh & Yoon, 2014), we determined bottlenecks to the adoption of Customs Electronic Licensing System (CELS) and its usage challenges faced by clearing and forwarding agents in Zambia.

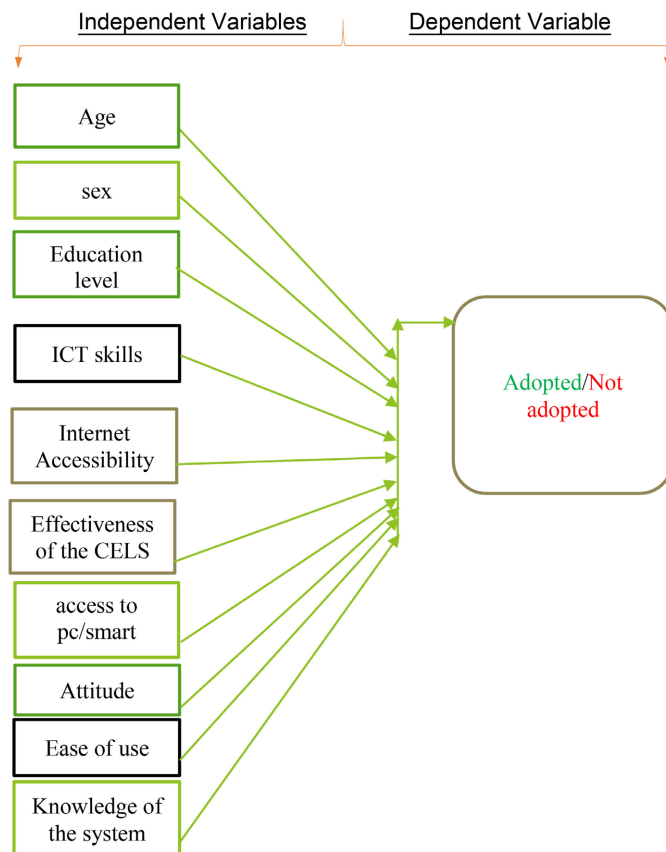
### Conceptual Framework (Modified UTAUT Model) Adapted

Based on the principles of the UTAUT model (see **Figure 2**), we premised the relationship between the Independent variables and the dependent variable: it was hypothesized that Sex, Age, Education level, ICT skills, possession of an electronic device, effectiveness of CELS, attitude towards CELS, Ease of use of CELS, and knowledge on CELS influence the adoption of CELS by clearing and forwarding agents.

Other scholars have used this model to explain various phenomena in their studies. Jaradat and Banikhaled (2013) modified it by including the quality of the website as a factor to the UTAUT model and they argued that there was significance associated with the intention of use. Nassuora (2012) also employed the UTAUT to analyse the acceptance of mobile learning and focused on attitudes rather than intention behaviour. Furthermore, Salim (2012) explored e-learning acceptance on Facebook using the UTAUT model while Gogus et al. (2012) applied the model to the Turkish educational system to examine online



**Figure 1.** Utilization of CELS by clearing and forwarding agents. Source: (Zambia Revenue Authority Clearing and Forwarding Data Base: 2021).



**Figure 2.** Adapted UTAUT Model. Source: (Oh & Yoon, 2014).

communication and interaction and the ultimate acceptability of the system. In addition, Uğur and Turan (2018) extended the UTAUT by adding two new determinants: the area of scientific expertise and system interactivity and assessed the adoption of e-learning among academicians. In this study the UTAUT was used to determine the factors that hinder the adoption of the CELS among the clearing and forwarding agents in Zambian border posts.

## 2. Methods

In this study, a cross-sectional study design was employed. This design was chosen among others because we intended to use snap-shot information to determine hinderers of non-adoption of CELS by the clearing and forwarding agents in the Zambian border posts. We measured the outcome among the study participants at the same time and participants were selected based on the outcome status. We recruited 263 respondents duly licensed clearing and forwarding agents as at January 2022 from Kenneth Kaunda International Airport (KKIA) as well as those working at Nakonde, Chirundu, Mwami, Katima Mulilo, Kasumbalesa and Kazungula border posts. To select the study units, systematic random sampling was employed. Given the target population for each study areas and the estimated respective samples sizes, we calculated the sampling interval to qualify every member of the sampling frame an equal non-zero chance

of being recruited for participation. Data was collected from a primary source which was directly from the clearing and forwarding agents from 07 border posts and KKIA. Primary and secondary quantitative and qualitative data were collected from all the respondents as the response rate was 100%. This process was done using a structured questionnaire which had both open and closed ended questions. The questionnaire was designed as an individual questionnaire which was sent to the respondents via an electronic platform. The process was private for every respondent to ensure the security and confidence of the respondents during and after the answering of the questionnaire and the subsequent submission through email. Introductions and assurance of privacy and security were highly taken with the seriousness they required. Pearson Chi-square was used to produce cross tabulations for categorical, nominal and/or ordinal scaled independent variables to determine the significance of the relationships between all the categorical independent variables and the dependent variable; at 5% level of significance. To investigate the influence of individual factors on the adoption of CELS, multivariate analysis, using binary logistic regression was performed. The resulting influence of the independent variables on the dependent variable has been explained in terms of odds ratios.

### 2.1. Binary Logistic the Model

The resulting effects of the predictor variables on the dependent variable are described by its 1-unit increase or status change (log-odds). The log-Odds of the dependent variable were modeled as a linear combination of the independent variables. Unlike other models, binary logistic regression was chosen for this study. This is because the dependent variable was binomial and this study only wanted to examine the overall demographic and socioeconomic effects of HIV self-test kit uptake.

Binary the model was used to estimate the odds of a clearing and forwarding agent adopting the CELS. The binary logistic regression equation was estimated as indicated:

$$\text{Logit}(P) = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_pX_p + E$$

$P$ : - denotes the probability of the risk of infant mortality.

Where  $P$  is a dichotomous dependent variable.

$b_1 \dots b_p$ : - denotes the coefficients of the independent variables.

$X_1 \dots X_p$ : - denotes the independent variables. All dichotomous variables will be converted into dummy variables before employing modelling them on the dependent variable. This was performed using the enter method considering the number of variables were employed in the study for analysis.

### 2.2. Ethical Issues

Ethical clearance was obtained from The University of Zambia Ethics Committee (Directorate of Research and Graduate Studies; DRGS). Written consent from participants was solicited.

### 3. Results and Discussion

#### 3.1. Bivariate Analysis

Relationship testing at bivariate level was done to create a basis for advanced determination of the hinderers of the adoption of CELS by use binary logistic regression model.

#### 3.2. CELS Differentials by Background Factors of the Respondent

Presented under this sub-chapter are findings of the study on the relationship between the predictor variables and the outcome variable. This analysis was done using Cross-tabulations. All the relationships were tested at [ $P = .05$  (95%: CI)]. All relationships with the  $P$ -value of  $\leq .05$  are considered significant.

**Table 1** presents the cross-tabulations for relationships between the independent variables and the dependent variable. Relatively, compared to other age-groups, majority of the respondents (66.7%) who did not adopt CELS were from the 26 - 32 age group. However, the relationship between the age and the adoption of CELS is not statistically significant because the  $p$ -value is greater than .05. Relatively, compared to females, more males (63.5%) did not adopt CELS. However, the observed statistical relationship is not significant because the  $p$ -value is greater than .05. About 64.2% of respondents in the education level; secondary or below, relatively, did not adopt CELS compared to the respondents who completed the tertiary level of education. Despite this presented statistic, the association between education level and the adoption of the CELS is not significant as the  $P$ -value is greater than .05. Relatively, 68.6% of respondents who had a low ICT skill set, did not adopt CELS compared to the other groups. There is a significant relationship between having ICT skills and adopting the CELS ( $P = .006$ ; CL: 95%). Relatively, compared to respondents who did not have internet, 72.6% of the respondents who had access to internet did not adopt CELS. The association between access to internet and adoption of the CELS is significant ( $P = .000$ ; CL: 95%).

Furthermore, **Table 1** shows that, relatively, more of the respondents who indicated that the CELS is not effective, 69.6% did not adopt the CELS. However, there is no relationship between the effectiveness of CELS and its adoption. Compared to respondents who did not possess an electronic device (personal computer/Smartphone), 66.7% of respondents who had an electronic device (personal computer/Smartphone) did not adopt the CELS. This association is significant ( $P = .018$ ; CL: 95%). Relative to other groups of the respondents, 72.2% of respondents who had a negative attitude towards CELS did not adopt it. However, what is observed between attitude and the adoption of CELS is not statistically significant because the  $p$ -value is greater than .05. Relatively, 71.6% of the respondents who indicated that they didn't find CELS as an easy tool to use did not adopt it. The relationship between the ease of use and the adoption of CELS was significant ( $P = .028$ ; CL: 95%). Relatively, compared to all other groups, 84.2% had no knowledge of the CELS. The Knowledgeability of CELS is significantly associated with its adoption ( $P = .00$ ; CL: 95%).

**Table 1.** CELS Adoption differentials by background characteristics of the respondents.

Variable Name	Adoption of CELS				Total	
	Adopted CELS		Not Adopted CELS		X	%
	X	%	X	%	X	%
<b>Age - Group</b>						
<b>19 - 25</b>	22	36.7	38	63.3	60	100
<b>26 - 32</b>	12	33.3	24	66.7	36	100
<b>33 - 39</b>	11	37.9	18	62.1	29	100
<b>40 - 46</b>	14	42.4	19	57.6	33	100
<b>47+</b>	9	45.0	11	55.0	20	100
<b>Total</b>	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = 1.063; P = .900$						
<b>Gender</b>						
Female	30	40.5	44	59.5	70	100
Male	38	36.5	66	63.5	104	100
Total	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = .293; P = .588$						
<b>Education Level</b>						
Secondary or Below	39	35.8	70	64.2	109	100
Tertiary	29	42.0	40	58.0	69	100
Total	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = .699; P = .403$						
<b>Level of ICT Skills</b>						
High	20	39.2	31	60.8	51	100
Low	11	31.4	24	68.6	35	100
No Skills	37	40.2	55	59.8	92	100
Total	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = 34.861; P = .006$						
<b>Access to Internet</b>						
No	35	60.3	23	39.7	58	100
Yes	33	27.5	87	72.5	120	100
Total	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = 17.86; P = .000$						
<b>Rate of Effectiveness</b>						
Effective	37	46.8	42	53.2	79	100
Not Effective	14	30.4	32	69.6	46	100
Very Effective	17	32.1	36	67.9	53	100
Total	<b>68</b>	<b>38.2</b>	<b>110</b>	<b>61.8</b>	<b>178</b>	<b>100</b>
$X^2 = 4.512; P = .105$						



## Continued

Have an Electronic Device						
No	23	53.5	20	46.5	43	100
Yes	45	33.3	90	66.7	135	100
Total	68	38.2	110	61.8	178	100
$\chi^2 = 5.612; P = .018$						
Attitude Towards CELS						
Negative	5	27.8	13	72.2	18	100
Positive	14	37.8	23	62.2	37	100
Very Positive	49	39.8	74	60.2	123	100
Total	68	38.2	110	61.8	178	100
$\chi^2 = .970; P = .616$						
Easiness of Usage of CELS						
Easy	33	46.5	38	53.5	71	100
Not Easy	19	28.4	48	71.6	67	100
Very Easy	16	40.0	24	60.0	40	100
Total	68	38.2	110	61.8	178	100
$\chi^2 = 4.865; P = .028$						
Knowledge Status on CELS						
Knowledgeable	22	34.9	41	65.1	63	100
No Knowledge	6	15.8	32	84.2	38	100
Very knowledgeable	40	51.9	37	48.1	77	100
Total	68	38.2	110	61.8	178	100
$\chi^2 = 22.865; P = .001$						

### 3.3. Summary of Statistical Differentials

It was established that age, gender, education level, and attitude were not significantly associated with the adoption of CELS. Effectiveness of CELS, ICT skills, access to internet, possession of an electronic device, ease of use, and knowledgeability of CELS were significantly associated with the adoption of CELS.

### 3.4. Multivariate Analysis

Two binary logistic regression models were fitted to the data at this level of analysis to assess the impact of respondents' individual characteristics on the adoption of CELS. Therefore, binary logistic was fitted on the data in this scenario to forecast how each individual independent variable would affect the adoption of CELS. This analysis was designed to determine whether or not, based on the regressed individual factors, the business growth was positively or negatively impacted. The **ENTER** method was employed to fit the binary logistic model on the data, and the outcome influence were explained in terms **Log Odds**.

### 3.5. Binary Logistic Model Two

When building the second model, only the variables which influenced the adoption of CELS significantly; “Not Having ICT Skills”, “Not Having an electronic Device PC/Smartphone”, “No Access to Internet”, “Difficulty of Use of the CELS” and “Not Having Knowledge on CELS” were entered in the model. This was done to rule out the confounders on the relationships. See **Table 2**.

**Table 2** indicates that holding all the variables constant, adoption of CELS increases by .546 log odds [ $(P = .003)$ ; (CL: 95%)]. Holding all other variables constant at a time, “Not Having ICT Skills”, “Not Having an electronic Device PC/Smartphone”, “No Access to Internet”, “Difficulty of Use of the CELS” and “Not Having Knowledge on CELS”, reduced the reduced the chances of adopting CELS by [1.811, .641, 2.711, .585, and 1.990 log odds respectively ( $P = .009, .004, .000, .004, \text{ and } .001$ ); (CL: 95%)].

### 3.6. Challenges Faced by the Clearing Agents in the Utilization of the CELS

It was established that among the challenges which clearing and forwarding agents face in the Zambia boarder include: not having electronic devices; personal computers (PCs) or Smartphones which are required for them to be able to use the CELS; others do not have the required information technology skills for them to operate the CELS. Other agents indicated that they do not have access to Internet which is the key infrastructure in the adoption the CELS and others indicated that not having adequate knowledge about the system makes it difficult for them to use the system.

### 3.7. Enhancing the Licensing System and Encourage Compliance among Clearing Agents

It was established that ZRA among other things, need to do the following in order to encourage compliance among clearing agents; make the possession of a computer to be a key required for an individual to be given the clearing and forwarding license. ZRA need s to provide the required information technology skills training specifically on CELS. Furthermore, it is required that ZRA provides free internet only accessible to the registered agents to allow them fully access the CELS. In addition, ZRA needs to carry out sensitization programs to ensure that all agent have knowledge on CELS.

**Table 2.** Binary logistic Regression Model Two.

Higher Category Predictors	Coefficient	Sig.
Intercept	.546	.003*
Not Having a PC/Smartphone = 1	-1.811	.009*
Not Having ICT Skills = 1	-.641	.004*
No_access to Internet = 1	-2.711	.000*
Difficulty of Use of the CELS = 1	-.585	.004*
Not Having Knowledge on CELS = 1	-1.990	.001*

## 4. Discussion

This study intended to establish the factors that hinder the adoption of the CELS in Zambia. In order to achieve this objective; the study determined the factors that hinder the adoption of the Customs Electronic Licensing System (CELS) as well as identified the challenges faced by the clearing agents that had utilized the system; and established how the Zambia Revenue Authority (ZRA) can enhance the CELS and encourage compliance.

### 4.1. Factors Hindering the Adoption and Utilization of the Customs Electronic Licensing System (CELS) and Challenges Faced by the Clearing Agents in the Utilization of the CELS

To respond to the first specific objective of the study, binary logistic regression was fitted on the data to determine how each of the independent variables influenced the adoption of CELS. To develop the model, all the variables were entered in the first model and in the second only the independent variables which were significantly associated with adoption of CELS were entered. Furthermore, in order to obtain correct predictions, dichotomous and other independent variables, which had fewer entries, were recoded into dummy variables. After regressing the dependent variable on all the independent variables, it was established that “Not Having ICT Skills” was negatively related with the adoption of CELS. The possible explanation to this outcome could be that, agents who do not possess the required ICT skills to work with the CELS. Even in interest of an individual to adopt the system, this presents a difficulty. This result speaks to the finding of other studies which indicate that lack of ICT skills among teachers made it difficult for them to adopt E-learning (Bingimlas, 2009; Guma, Faruque, & Khushi, 2013; Ouma, Awuor, & Kyambo, 2013; Almazova et al., 2020; Adarkwah, 2021). The study further established that “Not Having an electronic Device PC/Smartphone”, was negatively related with adoption of CELS. Given the fact that an individual requires to use an electronic device such as a personal computer, tablet or even a smartphone. In the absence of any of these therefore, the situation presents difficult in the way the agents would employ the CELS. This, therefore, makes it difficult for the agents to adopt the system. Similarly, other scholars indicated that for an individual to be able to utilize any e-system, they have to have access to an electronic device which enables them to access the e-systems (Bingimlas, 2009; Guma, Faruque, & Khushi, 2013).

In addition, the study determined that “No Access to Internet” is related negatively to the adoption of CELS. This is in line with other studies that established that lack of access to the internet was among the key factors impeding the adoption of e-billing (Twaambo & Phiri, 2022). The possible explanation to this result could be that there would be no e-activity without internet. Internet is the driver of e-activities. Therefore, even if an agent adopts the system, they would not employ the system for their clearing and forwarding activities. The findings for this current study are in line with the findings of a study which indicated that

implementation of the system can be better and can be accepted according to the needs of its users. The study findings show that the variables that greatly influence the acceptance and utilization of this information system are performance expectations and internet availability (M. M. Keen, 2003).

Furthermore, the study established that “Difficulty of Use of the CELS” and “Not Having Knowledge on CELS” was negatively related to the CELS. If a system is difficult to use, it does not give user interest to use especially for business purposes. This is because there is presumable high time wastage to use a difficulty. Additionally, people without knowledge on CELS cannot use it, therefore it would be very difficult or practically impossible for it to be adopted. Even though agents may want to use the CELS, most of them stop using it because of its difficulty to use under the circumstances that the system is difficult to use. Others have little or no knowledge about the CELS. In line with this finding are results from a study which was discussion identify the influential factors, such as quality and difficultness of use of the systems and lack of awareness among others hindered the adoption of an electronic tax system (Alshehri & Drew, 2010). The study results are further, in with the study which looked at e-tax system in Zambia. In this study it was reported that the system was easy to use and having knowledge on the system by clients made the system easily adopted. Similarly this study reported that even though majority adopted the system, there are few taxpayers who still felt that e-tax is not useful, not easy to use (Soneka & Phiri, 2019).

While Customs clearing agents play an important role in cross-border trade, supporting traders by handling the documentation needed to gain clearance for goods coming in and leaving the country, Zambia as country a proper licensing framework and accreditation programme for Customs clearing agents – they can currently obtain a licence to operate without demonstrating the skills required to perform the role. Therefore most of the agents finds it difficult to use the CELS due to the fact that they lack proper knowledge of how to clear goods in compliance with Zambia Revenue Authority (ZRA) regulations. Others lack ICT skills on how operate electronic devices which they need to be able to employ the CELS effectively. Such individuals will then settle for manual applications, which can lead to errors in documentation and this causes mistrust between agents and Customs, a high level of physical inspections and ultimately delays at the in the licensing process. The other challenge agents are faced with is the lack of proper internet system which is key in the employment of the CELS. In addition, most agents do not have computers/Smartphones/tablets which they mostly required for them to be able to carry out their businesses using the CELS. These results are in line with what was reported by Dreisbach (2019) who stated that Customs electronic procedures have a great impact on the organizations. Dreisbach (2019) indicated that Customs electronic procedures were found to have drastically reduced the average lodgment time, as well the clearance time and lodgment cost. The main challenges experienced in adopting Customs electronic procedures was found to be inadequacy of relevant skills to sustain the system,

financial constraints and material and unfriendliness of the system.

#### **4.2. Enhancing the Licensing System and Encourage Compliance among Clearing Agents**

ZRA may need to run training programs to orient all the clearing and forwarding agent across all border posts. This will reduce on the difficult that come with the use of the CELS and will eventually motivate the agents to adopt the system. In addition, ZRA need to ensure that it supplies internet to all the agents at the clearing and forwarding premises for the agents to efficiently use the CELS system. This will boast their interest in adopting the system as it will make their work much easier. The possession of and electronic device; Smartphone/tablet/computer should be made as a non-negotiable for an individual to be given a clearing and forwarding license. Literatures indicate that there is need for governments to embrace e-stems in all government operational areas such the border posts for purposes of efficiency and effectiveness. Government through their revenue agencies, need to create an enabling environment to promote compliance among clearing agents (Pavlenko et al., 2019).

### **5. Conclusion**

This research determined that the factors that posed a hindrance to the adoption of the CELS are “Not Having ICT Skills”, “Not Having an electronic Device PC/Smartphone”, “No Access to Internet”, “Difficulty of Use of the CELS” and “Not Having Knowledge on CELS”. It was established that the challenges in its utilization faced by clearing and forwarding agents that had adopted CELS included inadequacy of relevant ICT skills to operate the CELS, financial and material limitations, as well as the absence of the ease of use of the system. It can then be concluded that the factors that hinder the adoption of the CELS by clearing and forwarding agents in Zambia are similar to the challenges faced by those that have adopted the system. Therefore, in order to promote compliance among the agents, the ZRA needs to make the possession of a computer/ electronic device to be a key requirement for applicants of a clearing and forwarding license; provide the required information technology skills through training specifically on CELS; provide free internet only accessible to the registered agents to allow them to fully access the CELS, as well sensitization programs to ensure that all agents have knowledge on CELS.

### **Limitations**

The response rate was lower than planned. This effected the differentiability of the study results because the power of the sample reduced.

### **Recommendations**

From the research findings, the researcher recommends the following:

- 1) That ZRA provides the clearing agents with more training on the use of CELS as it may prove to be helpful and inevitable in the long run. The acquisi-

tion of this knowledge may positively influence the adoption of CELS by the agents.

2) That ZRA plans an effective change management program that will ensure the smooth receipt of the Customs Electronic Licensing System for both the agents and the companies involved. This change management system will allow the ZRA management to track the preparation, the implementation as well as review and analyze results of using CELS at the border posts.

3) Additionally, the Zambian government through the Minister of Commerce and Trade should by statutory instrument, make that the use Customs Electronic Licensing System mandatory for all clearing and forwarding agents and enforce this regulation in accordance with chapter 322 of the laws of Zambia. Having a system like CELS be mandated by law will ensure that there is compliance.

4) Future research to consider the challenges that come with the implementation of an electronic system when end users are not involved in the initial system design.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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