



## Assessment of effectiveness of ICT (online) platforms used by the teaching council of Zambia in selected schools in Kitwe district

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### Abstract

This paper presents results and recommendation from a study conducted on the use of homegrown Information and Communications Technology (ICT) platform by the Teaching Council of Zambia (TCZ) in providing services premised on the concept of transformational service delivery strategies which foster innovative changes. A survey research design method was used in this study to examine the effectiveness of the use of homegrown ICT platform by the TCZ when providing services to teachers in selected schools in Kitwe district. It must be pointed out here that the TCZ uses a homegrown ICT platform referred to as Teacher Management Information System (TMIS) developed and managed by its own IT employees to register teachers and manage their professional records as they execute the mandate provided in the Teaching Professional Act No. 5 of 2013 of the laws of Zambia. In this study, it was established that there are a number of challenges teachers face when using the TCZ-ICT homegrown platform in selected schools in Kitwe district and the paper has presented workable strategies that can be adopted and applied to improve on the identified weakness of the ICT platform.

**Keywords:** TCZ, TCZ-ICT homegrown online platform, adoption and use, effectiveness of ICT platforms, innovativeness, service delivery, efficiency, TMIS

### Introduction

The Teaching Council of Zambia is a recently established statutory body pursuant to the teaching professional Act No. 5 of 2013. The Council was established with a mandate of regulating teachers, their practice and professional conduct and for the accreditation and regulation of colleges of education (TCZ 2018-2021 strategic Plan) with a view to improving the standards of education provision in the country. According to the TCZ strategic themes, the council had set for itself among other themes the need for Service Excellence and produce results for the satisfied clients.

Among many achievements since its inception on the 9<sup>th</sup> of February 2015, is the of record having registered 151,393 teacher practitioners who were already in service before the inception of the council. However, these figures are not static since teacher registration is said to be an ongoing exercise. TCZ has also been on record to have managed to register and accredit 125 colleges of education and has implemented a functional home-grown ICT platform for the purpose of delivering quality survive (Teaching Council Digest 2019) <sup>[9]</sup>.

The performance of TCZ thus far has been a bicorn of admiration in both the sub region and Africa as a continent. Its scored success thus far can be traced through its well-articulated objectives set in its 2018-201 strategic plan where service excellence is a strategic theme and the determination to operationalize these objectives through using ICT platforms. Nonetheless, the effective implementation of the TCZ-ICT homegrown online platform needed to be investigated through scientific research to establish how it was contributing to the performance of the Council. Hence this study which was conducted in selected schools in Kitwe district.

### General objective

- To assess the effectiveness of the adoption and use of the TCZ-ICT homegrown online platform by the TCZ.

### Specific objectives

- To establish how TCZ clients use of TCZ-ICT homegrown online platform
- To assess the effectiveness of the TCZ-ICT homegrown online platform.
- To establish TCZ clients' satisfaction levels when using a TCZ-ICT homegrown online platform.

### Hypotheses (H<sub>0</sub>)

- TCZ-ICT homegrown online platforms was being used by most clients.
- TCZ-ICT homegrown online platforms were easy to use by TCZ clients.
- TCZ-ICT homegrown online platforms was effective in the service delivery.
- Most clients were very satisfied with the TCZ-ICT homegrown online platform when accessing services.

### Literature review

Literature reviewed in this study concerns the aspects of the role of ICT in service delivery as promoted by the 2030 Agenda and the 17 Sustainable Development Goals (SDGs). The SDGs affirms the importance of ICT to opening up major possibilities for the acceleration of human progress. The 2030 Agenda deems that ICT play a facilitative and supportive role as a universal public access to information. It proposes distinct issues related to internet connectivity, availability of relevant information which must be generated made public and actively publicized by all the actors (UNESCO 2019) <sup>[10]</sup>.

Nonetheless, the availability and utilization of ICTs remains a source of concern especially in developing countries. Motah, (2008) <sup>[6]</sup> observes that survey of works carried out in several countries revealed that things are not that bright and beautiful as one would have expected. Further, Wong, Li, Choi, & Lee, (2008) <sup>[11]</sup> note that unprecedented growth of Information and Communication Technology (ICT), coupled with the globalization of economies, has created a huge challenge for effective service delivery by many service offering institutions and that there is need therefore to innovate highly and invest more in technologies.

On the other hand, Olatokun, (2009) <sup>[7]</sup> observes that modern ICTs are newcomers, and their application is still in the early stage, although rapidly increasing. This is true and can be observed that a decade later since Olatokun published his work, ICT has rapidly developed and has changed the world and affected millions of lives in ways that no one could have ever foreseen or imagined. They have also changed the nature of work as it is done now than few decades before.

The role of ICTs in service delivery is unprecedented especially in the current world. ICT is a tool that is being used in different applications to accelerate information dissemination, improve efficiency of public services, increase the transparency and accountability of government administration, to reduce corruption, and facilitate citizen participation in local governance (Bhatnagar, 2014) <sup>[1]</sup>.

Zambia and its service providing institutions is not remaining behind in developing the necessary ICT infrastructure. There has been a remarkable progress made by the government of Zambia in the field of ICT though much needs to be done. What has been achieved thus far is that there is a regulatory policy and institution (Zambia Information and Communications Authority-ZICTA) to monitor and regulate ICT activities in the country.

The progress made thus far is observed from a survey conducted by this ICT regulatory authority (ZICTA) on factors relating to the utilization of ICT facilities in various aspect of the Zambian economy. The survey has pointed out that the policy of removal of customs duties on mobile computing gadgets by the government is supporting the uptake and utilization of ICT services in the country. Further, it showed that government was committed to continuing to invest in ICT infrastructure aimed at extending coverage and enhancing reliability of ICT services across the country with the target of installing up to 1009 communication towers across the country by the year 2020 (www.zicta.zm 2018).

Owing to these positive developments, service offering institutions such as the Teaching Council Zambia and the Zambia Revenue Authority (ZRA) just as an example, are already taking advantage of this development in ICT infrastructure to improve on their services. For example, the ZRA has established an online interface of pre-approval information of good. ZRA confirms that the initiative has been one of the perfect ways to manage risks and utilize resources prudently and that the idea was to improve service delivery to customers (Buumba, 2020) <sup>[2]</sup>.

Equally, the Teaching Council Zambia has adopted and implemented the use of an ICT homegrown online platform to serve its teacher clientele. It is worth noting from ZRA, that the use of ICTs is paying off and this too must be the case of an institution such as the TCZ.

Whereas ZRA has been able to confirm that ICTs are paying

off in service delivery, information backed by research work to confirm that TCZ-ICT homegrown online platform is being accessed and used effectively by clients was scantily or not available at all, hence the decision to conduct this study to establish how TCZ-ICT homegrown online platform was supporting the service delivery in selected schools in Kitwe district.

## Methodology

### Research Design

- A survey research design was used to conducting this research.

### Target population

- The target population was 300 certified teachers who are referred to as practitioners in this study in selected schools Kitwe district.

### Sample size

- Sample size was 169 respondents who were teachers.
- The sample size was determined by using a sample size table that uses the combinations of targeted population, Confidence level and margin of error Confidence level 95% and Margin of Error 5% (<https://www.research-advisors.com/tools/SampleSize.htm>)

### Sampling and Instrument distribution

Fourteen (14) schools in Kitwe urban district were randomly selected using excel randomization function and teacher respondents in these schools were conveniently selected to participate in the survey. A convenient sampling technique was used to sample teachers basically due to the challenges caused by the Covid 19.

### Data analysis

Data was analyzed and presented in in figures, tables and charts using SPSS descriptive statistics (frequencies) and Correlate Bivariate Spearman's Rho tools.

### Data presentation

The following results are analysed and presented as figures, charts and tables bellow. The aim was to establish how effective the ICT homegrown online platforms used by TCZ was and to what extent the clients were accessing and using the same accessing services from TCZ.

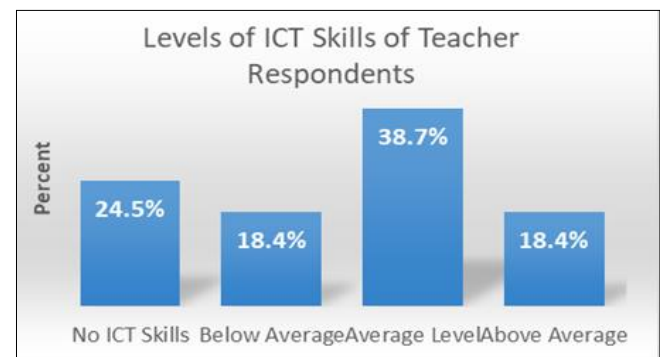


Fig 1

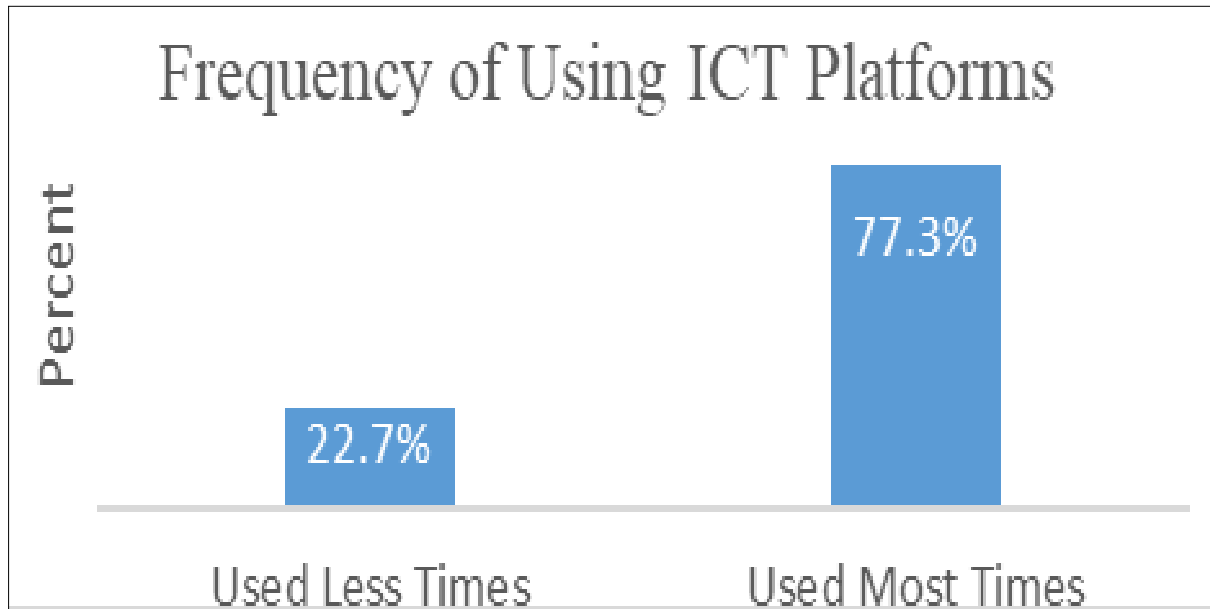
Figure 1 shows that 24.5% of the teacher respondents had no skills in ICT while 18.4% had their ICT skills below average. 38.7% of the teacher respondents had average skills in ICT and only 18.4% of teacher respondents had their ICT skills above average. Overall, 75.5% of respondents had some form of ICT skills.

**Table 1: Correlations**

			Levels of ICT Skills of Respondents	Frequency of Using ICT Platforms
Spearman's rho	Levels of ICT Skills of Respondents	Correlation Coefficient	1.000	0.066
		Sig. (2-tailed)		0.402
		N	163	163
	Frequency of Using ICT Platforms	Correlation Coefficient	0.066	1.000
		Sig. (2-tailed)	0.402	
		N	163	163

Table 1 shows the SPSS output of the correlations between teachers' respondent's level of ICT skills and the frequency of

using the ICT platforms whose P value is 0.402 > 0.05 at 95% confidence level and the value of r=0.066.



**Fig 2**

Figure 2 shows results on the teacher respondents use of the TCZ homegrown online platform. 22.7% used the platform

less frequently while 77.3% of teacher respondents used the platform more frequently.

**Table 2: Frequency of Using ICT Platforms \* Assessment User friendliness of Online Platform when Accessing Services Cross tabulation**

% within Frequency of Using ICT Platforms				
		Assessment User friendliness of Online Platform when Accessing Services		Total
		Was Difficult to Use and Access Services using the Platform	Was Ease to Use and Access Services using the Platform	
Frequency of Using ICT Platforms	Used Less Times	86.5%	13.5%	100.0%
	Used Most Times	66.7%	33.3%	100.0%
Total		71.2%	28.8%	100.0%

Table 2 presents results on the Assessment of user friendliness of TCZ homegrown online platform. 86.5% of teacher represents respondents who did not frequently use the online platform when accessing services, rated the platform

being difficult to use when accessing services while 33.3% of teacher respondents who used the platform most frequently rated it as being easy to use when accessing services.

**Table 3: Correlations**

			Frequency of using ICT platforms	Assessment user friendliness of online platform when accessing services
Kendall's tau-b	Frequency of Using ICT Platforms	Correlation Coefficient	1.000	.183*
		Sig. (2tailed)	.	.020
		N	163	163
	Assessment User friendliness of Online Platform when Accessing Services	Correlation Coefficient	.183*	1.000
		Sig. (2tailed)	.020	.
		N	163	163

\*Correlation is significant at the 0.05 level (2-tailed).

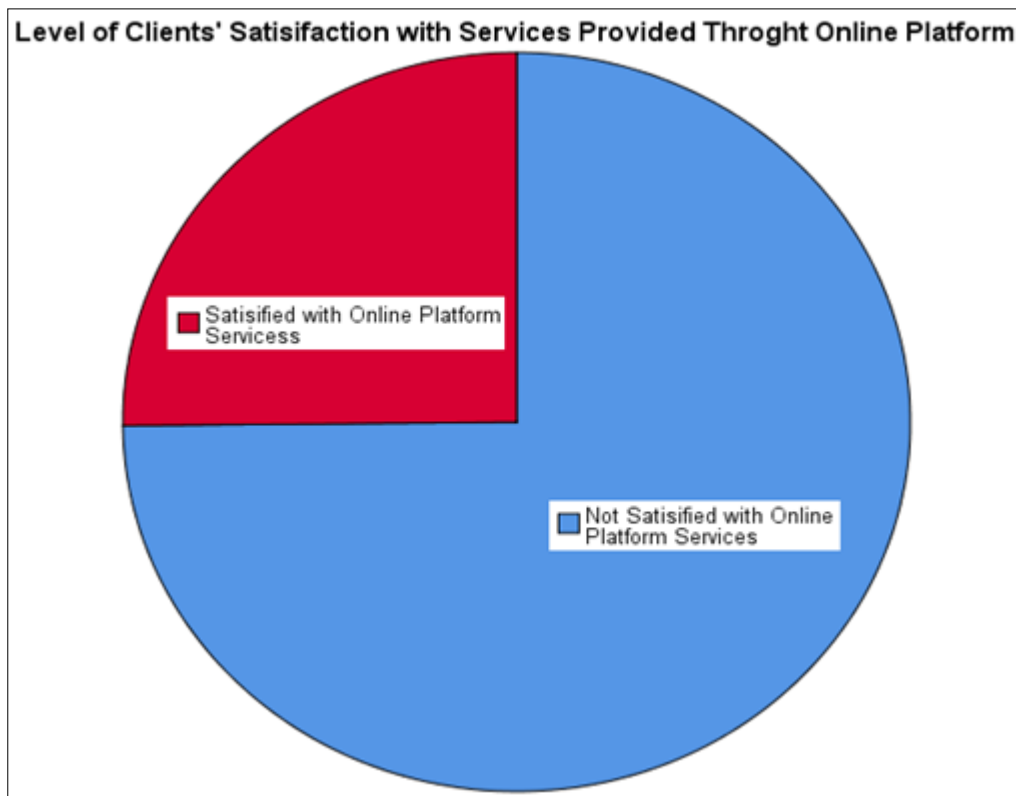
Table 3 presents the relationship between the two variables whose P value is 0.02 which is P<0.05 and the value of r=0.183

**Table 4:** Correlations

			Frequency of Using ICT Platforms	Assessment of Effectiveness of Online Platform
Kendall's tau_b	Frequency of Using ICT Platforms	Correlation Coefficient	1.000	.173*
		Sig. (2-tailed)	.	.028
		N	163	163
	Assessment of Effectiveness of Online Platform	Correlation Coefficient	.173*	1.000
		Sig. (2-tailed)	.28	.
		N	163	163

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 presents the relationship between the two variables whose P value is 0.028 which is  $P < 0.05$  and the value  $r = 0.173$



**Fig 3**

Figure 3 presents an outlook of respondents' appreciation of the services provided by the Teaching Council of Zambia through an online platform.  $\frac{3}{4}$  were not satisfied with the services.

**Table 5:** Correlations

			Frequency of Using ICT Platforms	Level of Clients' Satisfaction with Services Provided through Online Platform
Kendall's tau_b	Frequency of Using ICT Platforms	Correlation Coefficient	1.000	.183*
		Sig. (2-tailed)	.	.017
		N	163	163
	Level of Clients' Satisfaction with Services provided through Online Platform	Correlation Coefficient	.183*	1.000
		Sig. (2-tailed)	.017	.
		N	163	163

\*Correlation is significant at the 0.05 level (2-tailed).

Table 5 presents the relationship between the two variables whose P value is 0.017 which is  $P < 0.05$  and the value of  $r = 0.183$

**Discussion of Results**

Referring to literature sited from the UNESCO (2019) [10] about the approval of the 2030 Agenda and the 17 Sustainable Development Goals (SDGs) which confirms the importance of ICT to opening up major possibilities for the acceleration of human progress as ICT playing a facilitative

and supportive role for the universal public access to information, the following can be discussions will show how TCZ is using this facilitative tool and how its clients are being engaged in Kitwe district. As it was early stated, TCZ had made remarkable progress since its inception in 2015 and it was stated that some of its

progress could have been attributed to the use of ICT platform. The following is actually the reality about what was hypothesized about how ICT could have contributed to this remarkable achievement by the TCZ.

The assessment of Teachers respondent's skills in ICT helped to determine the effectiveness of the TCZ homegrown online ICT platform where it was reviewed that 75.5% had skills ranging from below average to above average and as such the results were held to be valid as presented in figure 1 above.

The study further assessed the frequency of using the platform by the respondents. Table 1 above indicate that the level of respondents' skills in ICT had not significance influence on preventing them from using the platform. In fact, the correlation between Levels of ICT skills of respondents and frequency of using ICT platforms indicated that the P value was  $0.402 > 0.05$  at 95% confidence level where the value of  $r=0.066$ . this being the case, it was therefore concluded that teachers were able to access and use the platform in one way or the other. This is also evidenced in the results presented in figure 2 where results show that 77.3% of teacher respondents were able to frequently use the online platform.

Notwithstanding the results in table 1 and figure 1, the assessment of the user friendliness of the TCZ online platform is shown in Table 2 as an output from the SPSS correlations results. For a service system to be useful, it must have attributes of user-friendliness, it must be easy to be used by the end users. It doesn't matter how perfect the system developed and implemented is, if it poses challenges to the user it becomes irrelevant. As Derbyshire, (2000) observes in his study titled User-Friendliness of Computerized Information System. He found out that users of the IT systems found it to be more troublesome and problematic than manufacturers, software developers and IT advocates could appreciate. He then concluded that, as the demand for the use of IT systems increases, it would be expected that IT becomes facilitative rather than hindering force. Equally, this study reviewed that the TCZ homegrown online platform was found not to be user friendly to the larger extent of respondents as shown in results of table 2 were 86.5% of those who used the platform less rated the platform as not being user friendly and only 33.3% of those who used the platform frequently rated the platform as being user friendly.

These results were further triangulated with an output of a correlations of variables between Frequency of Using ICT Platforms and Assessment User friendliness of Online Platform when Accessing Services and results are shown in Table 3. The relationship between the two variables shows the P value of 0.02 at the standard  $P < 0.05$  confidence level where the value of  $r=0.183$ . though the relationship is shown as weak the  $H_0$  is rejected and the  $H_1$  is actually true.

There would be need for the TCZ to consider ways in which to help its clients use and appreciate the online platform more easily than it is now.

Further, results of variables presented in tables 4 for the assessment of the effectiveness of the TCZ homegrown online platform, statistically significant presents that the platform was not effective in providing services to clients. In this outcome  $P=0.028$  in relation to the recommended  $P=0.05$  at 95% confidence level with the value of  $r=0.173$ . These results mean that the  $H_0$  is not actually correct and the opposite is true for the  $H_1$

There is need there that the Institution looks into the weakness within the implementation strategies to try and remedy this unfortunate situation to avoid allocating resources on strategies that do not serve the intended purpose.

Figure 3 and tables 5 have presented satisfaction levels of user of the TCZ home grown online platform. The results were statistically significant that the  $H_0$  was not true hence the  $H_1$  being true were the value of  $P=0.017$  at recommended  $P=0.05$  of 95% confidence level with the value of  $r=0.183$ . The users of TCZ homegrown online platform were not satisfied with services provided through this platform hence the need to evaluate the system and its performance. There is need to investigate underlying causes of the low satisfaction level in users of the online platform and urgently address them. This in in line with observation made by Wong, *et al* (2008) [11] who notes that unprecedented growth of Information and Communication Technology, has created a huge challenge for effective service delivery by many institutions. Service offering institutions need therefore to innovate highly and invest more in technology.

Going by the Council's strategic plan of 2018-2021 [8] page 14, TCZ has acknowledged and committed itself to taking advantage of developments that was taking place in the field of ICT in the country to improve on its service delivery.

Midway of the implementation of the strategic plan, the use of ICTs is proving to be a challenge on the part of clients as reviewed in this study. Results shown in figure 3 indicate that only a ¼ of users accessed and used the online platform were satisfied. While efforts were being made to implement the use of ICT platforms in service delivery, few users were accessing and using the platform satisfactorily a situation which need to be followed up and addressed.

One of the strategies that need to be employed by the TCZ is sensitization activities. This has been observed to be effective in addressing the perceived challenges when introducing new programmes on the market. Jalaludeen *et al.* (2018) in their study about loan defaulting concluded that with adequate sensitization to the clients, the issue of loan repayment default was reduced to an appreciable level and helped improve the developmental impact and the overall performance of the microfinance institutions. Similarly, it would be significantly important for the TCZ to consider embarking on clients' sensitization campaign if the efficacy of the online platform implemented is to realize its full potential results.

Through its IT section, the TCZ must develop strategies that would engage the clients particularly in Kitwe district to sensitise them on the procedure and processes involved in using the ICT platform for its effective use.

### Summary

This study has established key things with regard to the Teaching Council of Zambia adopting and using ICT homegrown online platforms. TCZ is in the right direction by aligning its service delivery to the internationally recommended strategies of adopting innovative service delivery strategies. However, it has been established that services provided through the online platform by TCZ are not well appreciated by clients due to challenges posed by the system in accessing the services. Hence the need for the TCZ and indeed any other technologically oriented service provider to spend more effort and resources in enhancing the use of these technologies.

### Limitations

The study was limited by meeting statistically recommended sample size for the target population due to failure to collect all the distributed research questionnaires. Nonetheless, the number of questionnaires collected formed 93% of expected sample size. With this sample size, analyzed results forms a basis for generalizing outcome with a fair confidence level.

### Recommendations

The Teaching Council of Zambia being a new and fast-growing institution in the country and that it has existed in an indispensable ICT era need to consider the following:

- Continue investing in ICT tools and enhancing the capacity of its employees to be able to handle emergent needs in addressing clients' needs through effective service provision supported by ICT.
- Ensure that the online platforms have self, step by step clients' tailored (consideration of clients' ICT competences) trouble shooting features.
- Develop and conduct clients' tailored sensitization programmes on how to use the online systems.
- Conduct regular surveys to establish areas of need and areas of strength to avoid straining efforts on what does work with clients.

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