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## **EVALUATION THROUGH E-GOVERNANCE IN EDUCATION**

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### **Abstract**

*This study focuses on the importance of monitoring and evaluation in education through E-governance especially in low-budgeted educational institutions of Punjab, Pakistan. In this era of fast-paced world, monitoring and evaluation system for education needs to be revamped in terms of digitization for effective and efficient progression, results and follow-up (Sabbagh et al, 2012). There are some reference documents/frameworks available in Pakistan to evaluate and monitor schools, however, there is near to none collaboration among the public and private sector schools with respect to evaluation in education through e-governance. So, there is a need to answer that how ready is the education sector for e-governance in terms of monitoring and evaluation. Moreover, how effective it will prove to be a support for the school leadership to make informed decisions. To answer these questions, this research is expedited with the help of Hertzberg's Two Factor (Motivation and Hygiene factors) Theory of Motivation (1968). The*

*idea of digitized monitoring and evaluation was piloted in a cluster of 20 private (Primary and Secondary) schools with the help of Android Phones. This Data base has already been designed to generate reports as per the required formats, levels, and forms. This research provides direction to future evaluators and emphasize on the significance of digitization in educational monitoring and evaluation. It certainly has major implications for educators, evaluators and for the policy makers to implement e-governance through digitized monitoring and evaluation. Moreover, this unique idea of digitized monitoring enabled us to create paper free environment, have standardized and central monitoring, unified reporting formats, data base record keeping (safe and secure), and, access of data for evaluators and School Management Team (SMT).*

### **Keywords**

E-Governance, Data Driven, Judgment, Evaluation

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## **1. Introduction**

Education plays a very significant role in the development of any country. In Pakistan, Education has undergone growth recently both in public and private sectors. Another important factor in this study is the economic growth that has become imperative with the intrusion of ICTs in the country since 1995 as S. S. U (Ahmad, 2008). Moreover, ‘the rise of e-governance has been one of the most striking developments of the web Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web. The technology as well as e-governance initiatives have come a long way since then.’ (Yadav and Singh, 2012)

This study focuses on small-sector private schools. One commonality among all these schools is that they teach books made/vetted by Punjab Text Book Board, Pakistan. These schools are being opened up by academia and businessmen alike and then academia is hired to run these schools. So these schools serve as the small business hubs as well. The point to note here is that since internet has changed the world all together and the distances have shrunk and a lot of problems are being solved very swiftly because of internet, people’s income, especially the small sector private schools have increased. So, it was certain that the school leaders were very much keen to improve their practices in order to increase their student strength and eventually income. The E-governance/monitoring is one such pivotal factor that has changed education. So, due to the above mentioned facts, these school leaders agreed to undergo this study on a condition to keep their schools’ names confidential.

## **2. Background of the Study**

Use of e-governance in Pakistan in the evaluation process face different issues and problems, such as ensuring uninterrupted access to internet, accurate knowledge and particular skills to use it, etc. It also seems to be the new idea to do evaluation through e-governance of a cluster of schools which are low-budget and are not connected to one another in terms of ownership. For curriculum, they all follow Punjab Text Book Board. Moreover, the social aspects like the lack of literacy, weak education mechanism, lack of awareness of the internet usage and scope, basic knowledge of internet and facilities cause challenges to the application of e-governance in education sector.

Though schools have a great potential to use the results of this study to improve the overall school operations and quality of teaching and learning, it does face some problems and challenges. The chosen schools do not have the clearly stated and allocated budget for teachers' professional development. Most of the school leaders and staff do not have an idea about the e-governance in education and evaluation done through e-governance. Similarly, Kumar and Subhan (2010) state that within a university context, applications of e-Governance include services for all stakeholders by means of exchanging information and/or transacting fund. These services differ according to the organizational vision and mission and ICT capacity of the university, and this diversity has given rise to the development of different e- Governance applications. Similarly, these chosen schools have their own capacity to use ICT for e-governance and improvement in other aspects.

## **3. Objectives of the Study**

The main objective of this study is to investigate how evaluation through e-governance in education sector fosters the quality of education and improve teaching and learning practices.

To attain this objective, the study makes an attempt to address the following research questions:

1. How ready is the education sector to apply e-governance for the purpose of evaluation and improvement?
2. How and to what extent the quality of education has been changing through providing online professional development activities/courses to teachers and then to analyzing the effectiveness?

3. How much better can the school leadership work by using e-governance strategies and how informed are the decisions for the policy makers.

#### **4. Review of the Literature**

E-governance refers to ‘Electronic governance (which) is using information and communication technologies (ICTs) at various levels of the government and the public sector and beyond, for the purpose of enhancing governance’ (Dre’ze and Sen (2015). Karthika and Ranga Raj, (2013) also advocate the e-governance as ‘it reduces the manpower effect and used for efficient role in information and communication technology (ICT) system by improving the strength of managing education activities’.

Evaluation through e-governance can certainly improve the centralization, transparency, and standardization; enable swift information and dissemination, thus improving administrative efficiency to take informed decisions in different aspects of education. The output and quality of our education system can surely improve if e-governance can be included in our systems. Even in all other administrative departments, such as National Database and Registration Authority, NADRA, (Pakistan), e-governance is used for smooth operations and speedy, authentic and valid information. The challenge is now to bring e-governance in education sector for public as well as private schools and school systems.

It is significant to discover different ways and angles of e-governance for the field of education. It informs the educationists, teacher trainers and evaluators about various plans, strategies, and tactics that have been implemented. It further informs them of the strengths and weaknesses and definitely help them review, shape new planning and look for best examples to be shared with all concerned. In this context, the European commission in ‘eEurope2005, (2002) Program’ stressed on the importance of using Internet for information access and monitoring and benchmarking in the formation of new guidelines and policy.

J. A. Farooquie (2011) argues that, reaping benefits from e-government implementation depends on the adequacy and quality of education, economy, and ICT infrastructure.

Since this study is based on low-cost schools which are owned and run by different school leaders/owners who do not have any connection with one another except that they all participated in this study. So, transparency and effectiveness were two parameters that were given the highest importance throughout the research. Due to this, the sharing of information,

processing, updating, retrieval and dissemination became the biggest challenge for us. Moreover, readiness to accept e-governance is also a million dollar question. Does the population have the aptitude (income, life-style, education, cultural inclination) and demand for e-governance? Questions like these verify a country's readiness for e-government, called "e-readiness" (Bui et al, 2002).

The theoretical framework used for this study is based on F. Herzberg's (1968) 'Herzberg Two Factor Theory'. The essence of the theory is people's job satisfaction depends on two kinds of factors: factors for satisfaction (motivators/satisfiers) and factors for dissatisfaction (hygiene factors/ dissatisfiers).

## **5. Methodology**

First of all, the consent has been taken from all school leaders/owners to participate in this study by designing a consent form. This consent form also serves as an agreement that the researchers will not disclose the names of the schools participating in the study. Moreover, the school leaders wanted to learn the mechanism/system of e-governance which is swift, easy to use, and authentic and give them fast and correct results to base their future decisions on.

The study is carried out by a mixed method approach. We used both qualitative and quantitative research approaches. The data collected has been divided into primary and secondary data and descriptive analysis was used to interpret data and show results. Survey Method has been used to collect the data in this study. The population sample was taken from 20 private schools in different cities of Punjab, Pakistan that are run on low-cost no-cost basis. All teaching staff and the school leadership team of these schools were part of this research study. 177 sample of population has been duly selected (completely filled in forms) from teaching faculty and the members of the governing body, Senior Management Team (SMT) through systematic sampling method.

The standard questionnaire based on Herzberg two factor theory Motivators and Hygiene Factors. Hygiene factors include (basic pay, job security, friends in the workplace) and Motivational factors (recognition, achievement, advancement, and challenging work) (available on internet) measured teachers' motivation based on six indicators. These indicators include achievement, responsibility, recognition, advancement, work interest and personal growth. This helped the researcher to identify the percentage against each indicator for teachers as well as the School Management Team (SMT). This also helped in comparing the values against these

indicators with the values of the benchmark; the European norm. The overall score refers to the average of all 20 schools on all the six aspects in the given table in comparison to the European norm (refer to Figure 1 and Table 1). The value is also interpreted as the overall score of teachers or Senior Management Team (SMT) as per the graph.

The questionnaire also has a provision of 'comments section'. The only correct answer was the frank opinion of the respondents. Teachers were supposed to fill in this survey online and it directly reached the data bank. The Senior Management Team (SMT) of all schools also filled in the same survey and the responses were gathered on another data base. The secondary data has been collected through analysis of the school documents including prospectus, observations by the Senior Management Team of the school, peer observations, records of professional learning and development opportunities provided to teachers and the documents related to established systems for governance by school leaders.

The process of research was dependent on the internet access. Moreover, anonymity (anonymous responses of teachers) is also taken into consideration for validity of the research and their job security.

The qualitative and quantitative findings played a significant role to compare and contrast and validate the overall findings.

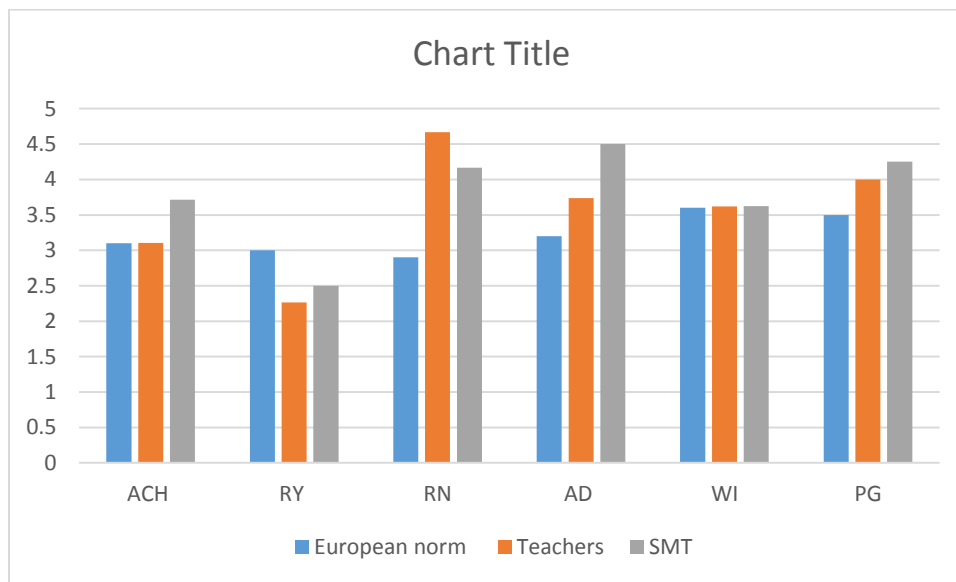
## **6. Analysis and Result**

To analyze the data quantitatively, MS Excel has been used. Data has been put in the formula sheet through which graphs are automatically generated. Several trends can be easily seen through the emerged graphs. One can see the graph for each school, district/city-wise and also school-level-wise to interpret the findings in the most relatable way.

The interpretation of the result shows that the overall score inclusive of the values of all six indicators (achievement, recognition, responsibility, advancement, work interest, personal growth) of the teaching faculty of all 20 schools falls under the range of normal job satisfaction if we compare it with the European norm. Teachers scored high on 'recognition', 'advancement' and 'personal growth'. However, there is a room for enrichment in the domain of 'responsibility', which indicates that teachers feel they have limited autonomy in their roles. In additional comments, some of the responses included presence of favoritism and high work load.

The collective result for all 20 school leaders is well above the European norm as shown in the Table 1. This shows that school leaders have a lot of autonomy as leaders/owners of the school to run it as per their vision, aspirations and school improvement planning.

The qualitative analysis of the secondary data reveals some similar results and also some difference of opinion in comparison to the quantitative data analysis result. The scrutiny was based on human skill and knowledge, thus interpreting it in a subjective way. So, this gives us a clear-cut answer of adopting e-governance for evaluation in the field of education for standardization and centralization to produce authentic, valid and reliable results instead of putting subjectivity and bias into the evaluative judgments.



**Figure 1:** *Collective Employee Motivation Survey Results of all 20 Schools*

**Table 1:** *Overall Score of all 20 Schools' SMT and Teachers in Comparison to the European Norm on each Indicator*

Consolidated Motivation Survey Findings							
	ACH	RY	RN	AD	WI	PG	overall
European norm	3.1	3	2.9	3.2	3.6	3.5	51.7
Teachers	3.1	2.3	4.7	3.7	3.6	4.0	57.1579
SMT	3.7	2.5	4.2	4.5	3.6	4.3	59.8571
School	3.4	2.4	4.4	4.1	3.6	4.1	58.5075

**Figure 2: Key for the Scores**

KEY	
3.5 and above	Satisfactory
2.5 - 3.0	room for enrichment
2.5 and below	area of concern
overall 55+	total job satisfaction
45-55	no cause of concern
below 45	area of concern

For each school participated in the study, graphs (like above: separate for teaching faculty and school leadership team separately as well as collectively) are generated and interpreted to inform future decisions about each school by their leadership/owners. The leadership teams used this study to review their current practices on governance and opportunities and autonomy provided to teachers for futuristic School Improvement Planning (SIP).

## 7. Conclusion

We believe that today is the world of change and revolution. Things which are not dynamic are considered as mortal (Yadav and Singh, 2012). Also as Dre'ze and Sen (2013) say that E-governance is using information and communication technologies (ICTs) at various levels for the swift and validated use, it has been proved through the analysis and result achieved of this study that evaluation through e-governance improves the centralization, transparency, and standardization in education. It also enables swift information and dissemination, thus improving administrative efficiency to take informed decisions in different aspects of education.

The findings of this study further show that governance in education has been improving by providing the intervention of Information and Communication Technology (ICT).

The quality of teaching, learning, autonomy for teachers, student achievement all can be analysed through the effective use of e-governance. And lastly, the school leadership can take swift yet informed decisions by using e-governance strategies. So, we need to work on the E-Systems to deal with education or educational process to make the evaluation process and judgments, objective and data driven. Moreover, this idea of digitized monitoring and evaluation helped us create a paper free environment; data based safe and secure record keeping and access.

As the quantitative findings were data driven, the School Management teams (SMT) were really excited to see the results and could easily refer back to their own policies and school operations keeping in mind the overall motivation of the staff members/teachers of the specific



school. It further informs school leaders' decisions on the professional needs, achievement, recognition and delegation of duties and the teachers' response to these. This mechanism of evaluating the school's governance and motivation using e-governance was duly shared with the School Management Team (SMT) for easy access of results of their policies, to have the self-review check before the launch of new policies etc. The result along with the original survey questions and excel sheets with formulae were handed over to schools free of cost for their future school improvements.

The study findings further reveal that in spite of having some limitations, the evaluation of system through E-governance benefits and contribute towards improving the quality of education. It provides strong evidence-based judgments on the evaluated aspects.

Moreover, it also developed human skills making them competitive for the global market. Researchers believe that the findings of the study have provided guidelines for future researchers and academia on this very relatable and current need from various other angles to draw the attention of the policy makers.

### **7.1 Future Implications and Recommendations**

Due to less number of low-budgeted schools, our study was confined to just 20 private schools. Moreover, as this study has limited finances, the professional development of teachers could not be conducted in detail to see the impact. And due to time constraints, we could just gather data from 20 private schools to do this research. We are sure, if done on a large scale, it will be more beneficial/ interesting to know the trends in Pakistan's indigenous context.

In addition, there are handfuls of research studies which have touched upon e-governance in education in South East Asia; we could just touch upon the Motivation as well as Hygiene Factors through Hertzberg's Two Factor Theory and questionnaire. Our subjects of the study were also hesitant despite our reminders that the feedback is anonymous.

In this regard, following recommendations are important:

1. This kind of research can provide guidelines for future researchers and academia. This aspect of E-governance should be looked into and researched through different angles of professional development, standardized testing etc. to inform future decisions and better School Improvement Planning (SIP) particularly in our education sector where resources are meager and demand for valid and swift data analysis is pertinent.

2. Further research in indigenous contexts can be done to cater the needs of specific schools and their teaching faculty. This may help to make clusters of schools as per their provisions and limitations and then have e-follow-ups for further improvement.
3. To bridge the gap between public and private schools, standard of education, standardization, centralization through quality assurance, e-governance need to be put to practice and use in an effective way, especially in Pakistan.

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