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Research Paper

Comparative Analysis of ICT Adoption and Job Satisfaction in Government and Private Schools: A Case Study of Chakradharpur, West Singhbhum District, Jharkhand

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ABSTRACT

The integration of Information and Communication Technology (ICT) has become a significant factor that affects the teaching and teacher job satisfaction. The present paper endeavors to study the extent of adoption of ICT tools and its influence on job satisfaction among the teachers working in government and private schools in Chakradharpur, West Singhbhum district of Jharkhand, India. Based on a review of the literature, the paper investigates the variation of ICT infrastructure, teacher training, policy formulation and its influence on job satisfaction. The results suggest that there are marked differences in the adoption of ICTs between private and government schools. However, the link between ICT use and job satisfaction is ambiguous and dependent on such aspects as training, support, workload, perceived usefulness, etc.

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1. INTRODUCTION

The 21st century has experienced remarkable technological innovations, leading to drastic changes in the educational environment globally. Information and Communication Technology (ICT) has developed into a crucial instrument for improving teaching-learning processes, administrative productivity, as well as educational achievement (Tondeur et al., 2017). In the Indian school context, ICT integration is positioned as a national priority; programmes like National Education Policy (NEP) 2020 emphasizes development of digital infrastructures and technological competence to be an integral part of quality education (Ministry of Education, 2020).

Chakradharpur, West Singhbhum District of Jharkhand, situated in the south western part of Jharkhand, are areas which differs widely with certain unique socioeconomic features like predominant tribal population, rural setting and differing degrees of infrastructural development. This educational ecosystem in

these regions includes both government schools and private schools existing under distinct resource restrictions, administrative structures, and philosophies of education. It is important to have knowledge of the patterns of adoption as well as an understanding of how these are related to teacher job satisfaction in this situation to implement specific interventions that can contribute to closing the digital gap and increase educational quality. Teacher job satisfaction is an important factor in determining the quality of education; factors such as teacher turnover rates, motivation to work and teaching effectiveness may harshly affect this aspect, which then affects student achievement (Skaalvik & Skaalvik, 2015). Opportunities and challenges for teachers through the infusion of ICT in education. The integration of ICT into educational environments is going to create new opportunities but also are going to bring up new challenges. Technology may facilitate the job as a teacher, increase his/her teaching efficacy and create access to an enormous amount of educational resources, but simultaneously it may cause anxiety, lead to more time preparing and lead one to always learning and adapting (Hatlevik, 2017). The present review paper focuses on the literature about ICT adoption and job satisfaction in educational settings with comparisons between government schools and private schools. Examining these interactions based on Chakradharpur provides a local lens of enablers and barriers with respect to technology integration as well as teacher well-being.

ICT Adoption in Educational Institutions: A Theoretical Framework

Conceptualising ICT Adoption

ICT adoption in education is the use and application of digital devices such as a computer, internet connection, educational software, multimedia tools and communications channel to help teaching, learning or administrative activities (Vanderlinde & van Braak, 2010). The Technology Acceptance Model (TAM), which has been proposed by Davis (1989), is one of the basic models for explaining adoption of a technology, and maintains that perceived usefulness and perceived ease of use are two key factors to determine users' acceptance of technology.

In the educational context, access to ICT goes beyond the availability of technology and includes teachers' skills, integration into curricular practice, support structures in use within schools or universities, as well as the degree to which there is correspondence between what is taught and how it should be applied (Ertmer & Ottenbreit-Leftwich, 2010).

Barriers to ICT Integration

There has been widespread obstacles to the successful integration of ICT in teaching and learning, especially in developing countries, as revealed by studies. Ertmer in 1999 differentiated first-order barriers (lack of technological access, time, training and technical support) from second-order barriers (teachers' beliefs about teaching and learning, the way classrooms are conducted and resistance to change). In the case of India, other challenges include erratic electricity network in rural areas and low Internet penetration rates, language barriers, as well as the shortage of tailored digital content (Sharma et al., 2019).

There's a great digital divide in ICT infrastructure and resources between the government schools and private schools, as evidenced in Indian education literature. While private schools tend to have more freedom and hence resources to make technological infrastructure investments, government schools experience financial constraints and cumbersome processes that hinder the procurement and maintenance of technology (Srivastava, 2016).

Government Versus Private Schools: Comparative Perspectives

Structural and Resource Differences

Public and private schools in India are subjected to fundamentally different administrative, financial and regulatory environments. State government-run schools, supported and run by different state education departments, were the major mediums of instruction for poor and rural children, with mandated school practices shaped by standard curricula and political dictates (Kingdon, 2017). Private schools, on the other hand, have more flexibility with their curriculum, school fees, resource allocation, etc., and are regulated only in terms of both recognition and minimum standards.

Muralidharan and Sundararaman (2015) find that private schools in India tend to cost less per student than public schools, while scoring as high or higher on measures of student learning outcomes, due to factors such as greater teacher accountability, more efficient resource use and greater parental involvement. But these savings are usually made by cutting teacher wages and benefits, private school teachers often make far less than their public-school counterparts even when they work the same or heavier load.

ICT Infrastructure Comparison

Informal observations of ICT facilities in different types of schools show consistent discrepancies that give private schools advantage. Studies from various Indian states have suggested that it is the private schools that are more well-endowed with computer labs, dependable internet facilitates and, interactive whiteboards and digital learning management systems (Arora & Kalra, 2020). Government schools served by programmes, such as the ICT at Schools scheme, face difficulties in maintaining equipment given to them, as there is little technical support available for upkeep of hardware, a lack of training of maintenance staff and delays caused by cumbersome bureaucratic procedures for repair and replacement.

In places like Chakradharpur, rural and semi-urban areas, the inequalities are compounded by geographical isolation and unreliable power and telecom infrastructure. Government schools in these areas might receive computers and associated equipment through government programmes, yet the absence of ecosystem elements (such as trained personnel, internet

connectivity and ongoing maintenance) makes such computer equipment hardly utilised, or non-operational (Pal et al., 2018).

Job Satisfaction Among Teachers: Conceptual Framework

Defining and Measuring Job Satisfaction

Job satisfaction, as Locke (1976) emphasised, is the affective perception that employees feel about their experience at work. In educational settings, job satisfaction of teachers is related to a variety of factors including working conditions, salary and compensation packages, colleagues and administrative support relationships, student behaviour/action and performance achievement, professional autonomy and growth opportunities for employees, as well as work-life balance (Toropova et al., 2021).

Herzberg's Two-Factor Theory separates hygiene factors (e.g., salary, working conditions, job security) that prevent dissatisfaction where present but do not necessarily motivate, and motivator factors (e.g., achievement, recognition, the work itself, advancement) actively contribute to job satisfaction. This construct is particularly applicable in the current study focusing on the differences between government and private school teachers that encounter varied combinations of hygiene and motivator factors.

Job Satisfaction Disparities Between Government and Private School Teachers

Comparative study of job satisfaction among public and private teachers in India. Socio-economic condition is one of the factors that determine an individual's level of satisfaction (Wright et al., 1995). The government school teachers have higher job security, better pay, defined pension benefits, and regulated working hours, with are the positive factors of job satisfaction (Kaur, 2016). Nevertheless, they are stymied by bureaucratic strangleholds, lack of decision-making powers in pedagogical matters, overcrowded classrooms and insufficient infrastructure.

Private school teachers, even if in general they have lower wages and job security and also longer working hours, often have the advantage of better work environment, smaller class sizes, more supportive leadership from schools, greater independence to teach how one deems best, as well as better resources for teaching (Ramachandran et al., 2018). The association between these variables and overall job satisfaction is intricate and situation-specific, depending on regional, school type, and teacher characteristics.

ICT Integration and Teacher Job Satisfaction: The Nexus

Positive Impacts of ICT on Job Satisfaction

When effectively practiced supported, and educated by teachers, integration of ICT contributes to the improvement of teacher job satisfaction in several ways. Technology can help to minimize the time educators spend on repetitive administrative tasks so that they are able to pay more attention towards teaching and learning as well as engaging with students (Gil-Flores et al., 2017). With the use of digital educational resources, teachers have the potential to offer a variety of pedagogical devices and learning styles and thus provide better learning processes for their students.

ICT tools allow for communication and collaboration between teachers for professional learning community building, resource sharing, peer support networks and teacher isolation (Trust et al., 2016). In addition, successful TIE brings the teachers to a feeling of professional competence and selfconfidence to their work, which can have positive effects on job satisfaction and professional image.

Challenges and Negative Impacts

On the contrary, teacher's job satisfaction can be affected if there is a lack of planning or partial management support for the integration of ICT. Inadequate training makes teachers feel underprepared and anxious with technology and technical difficulty, frustrating infrastructure waste instructional time (Howard & Mozejko, 2015). Pressure to adopt technology without commensurate decreases in other demands can add new work and stress, especially in the early stages of implementation when teachers have to invest a lot of time learning tools and creating digital materials.

Hatlevik (2017) found that teachers' job satisfaction is influenced by the quality of professional development, administrative support, fit between technology and curriculum goals, as well as teachers' beliefs about the educational value of technology. In the absence of such enabling conditions, implied by non-availability of infrastructure and other opportunities in under resourced government schools, ICT integration can be a stressor rather than a satisfactor.

Regional Context: Chakradharpur, West Singhbhum District, Jharkhand

Socioeconomic and Educational Profile

The town of Chakradharpur, with a municipality in West Singhbhum district also present distinct educational problems and possibilities. The area has large tribal population, mostly of Munda, Ho and Oraon, whose culture and language are different. Educational statistics in the region have been lower than state/national averages, higher dropout rates, low enrolment rates and inadequacies of infrastructure (Census of India, 2011). Mining, agriculture and small industries including personal enterprises, are the backbone of the economy of the region. Urban centres like Chakradharpur have seen the number of private schools mushrooming to cater to middle-class aspirations for educating their wards in quality English language schools, while government-run schools continue to function in rural areas. That builds a layered field of education on which quality as well as technological use reflects very much by geographical and social origin.

ICT Infrastructure in the Region

Telecommunications in Chakradharpur have seen significant change with mobile network coverage and internet connectivity expanding over the past years. That does not mean that rural areas have an easy ride- it is just not getting any easier with

inconsistent power supply, poor broadband access and physical obstacles to connectivity persisting as barriers. These infrastructure constraints ultimately restrict the use of ICT in schools, irrespective of type. The government has also attempted to provide certain government schools with computers and instructional content via initiatives like the Digital India programme and state-level technology-powered education systems. But subsequently, the poor teachers' training, lack of technical support staff members, and noninvolvement in curriculum and pedagogy have kept the performance in check (Kumar & Prakash, 2020).

Methodology Considerations for Future Research

Although this review indicates that future empirical research in Chakradharpur, West Singhbhum District, should be based on literature synthesis, a mixed-methods study (comprising quantitative surveys analysing the extent of ICT adoption and job satisfaction) alongside qualitative interviews (interpreting teachers' lived experiences, beliefs, and the context) would enable such evidence. The study should be a comparison between a sample of government and private schools taken in urban, semi-urban and rural settings to represent geographic variation. The significant factors which need to be examined are the availability of ICT infrastructure, frequency and variety of ICT used for teaching, teachers' competencies and confidence in using computer, quality and sufficiency of ICT training programs attended, administrative support or technical assistance system/s to use computers as well as managing workload/time; multiple dimensions of job satisfaction: intrinsic motivation/working condition/compensation /professional development opportunity. Let tools like the Teacher Job Satisfaction Questionnaire and modified ICT adoption models be contextually and linguistically relevant at the local level.

Implications for Policy and Practice

Bridging the Digital Divide

Policy interventions in terms of infrastructure development, human resource creation and institutional support system would be needed to address the disparities between government and public schools with reference to ICT adoption. Reliable electricity and internet connection in rural schools should be prioritised as conditions for meaningful ICT integration. Funding such resilient, low-maintenance technology solutions that can withstand harsh environmental conditions can contribute to sustainable ICT infrastructure in government schools.

Comprehensive Teacher Training

Sustainable ICT integration is more than just training teachers, beyond basic computer literacy skills, it involves creating holistic support for implementing integrated technology focusing on the pedagogical and technological aspects of educational technology (Bell & Garofolo, 2008) and on developing digital educational content, classroom management in digital environments as well as continued support for trouble shooting and innovation (Mishra & Koehler 2006). Training should be context-specific, ongoing rather than one-off, and foster peer-learning and collaborative practice.

Holistic Approach to Teacher Job Satisfaction

Improving teachers' job satisfaction is not just about technology provision, but rather a multifaceted work condition challenge. These include the need for a reduction in administrative demands on government schools, sufficient infrastructure provision, opportunities for professional development and supportive school leadership. In the case of private schools, fair pay, job security and reasonable workloads. In both sectors, there is strong potential to increase job satisfaction by building collegial professional cultures in which teachers feel valued, respected and are given agency.

CONCLUSION

The association between ICT use and satisfaction among teachers in public and private schools is complicated, context-dependent, and influenced by both infrastructural resources, institutional support systems, teacher competences and beliefs, as well as wider conditions of work. In the context of West Singhbhum and Chakradharpur, significant disparities exist between government and private schools in ICT infrastructure and resources, reflecting broader inequalities in the Indian educational system. Although it is generally true that private schools show better integration of ICT, this does not mean that overall private school teachers are more satisfied with their job than the public ones: satisfaction depends on more variables than just access to technology. Likewise, successful integration of ICT, which is more likely to contribute towards rather than interfere with satisfaction among teachers, demands holistic strategies that span infrastructure, professional development, technical and administrative support, workload issues, as well as relatedness to pedagogy.

Future research in this area must investigate these associations empirically, providing an evidence base for policymakers to promote policies that can improve both technological integration and teacher well-being. Whilst India presses on with its bold educational technology moves, concerns like equitable access to ICT resources and helping teachers to truly integrate technology will become crucial if quality education for all is the goal.

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