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Article

The impact of technology on human resource practices of corporate, value creation and organizational efficiency

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Abstract: In today's rapidly evolving business landscape, corporates contribute to economic growth and job creation in regions. Information technology (IT) has made a tremendous impact on different activities of the global society. The development of technology and telecommunications since the discovery of the telegraph has greatly changed the way people live and work. Moreover, it has influenced the workings of the organization, such as human resource management (HRM) processes, and changed them. With the passage of technological progress, traditional human resource management is changing.

The quantitative research used structural survey to collect data from 150 random people which includes human resource managers and company representative. The survey was designed in a way to include close ended and Likert scale questions to understand the extent to which technology is adopted and has influence. The team used quantitative analysis such as descriptive, graphical and inferential statistics along with correlation and correlation matrix to analyzed the data to check the relationship between variables. Through this research study researcher aims to provide robust and generalizable insights into effects of digital HR practices on organizational effectiveness and value creation in companies.

Keywords: value creation; organizational effectiveness; technology; human resource practices; information technology; adoption

1. Introduction

The Human Resource Management (HRM) function in organization has obtained increase in strategic emphasis and the importance of aligning HRM with business approaches is also well-agreed (Mwangi, 2012). Constructive HRM is essential to match market demands with skilled employees consistently (Hustad and Munkvold, 2005). These technological advances are controlled by high demands from HR executive to improvements the effectiveness, cost-containment, and speed (Buckley et al.,2004).

Snell et al., (2002) observed in his study that HRMs can match the challenges for becoming more cost-efficient, strategic, flexible, and customer-centered by strengthening IT. IT is enabling organizations to deliver "state-of-the –art" HR services, and less cost have made it possible for companies of all sizes to procure HR technologies (Ball, 2001).

The substantial advantages of communication and information technologies can smoothly extend to applications of HR (Mei et al., 2004). Human resource managers have recognized this potential, leading to the widespread adoption of HR information system (HRIS). An HRIS is a organized procedure for gathering, storing, managing, accessing, and validating the data required by an organization for its human resources, personnel activities, and organizational unit characteristics (Kavanagh and Johnson, 2017). Additionally, HRIS can serve as a decision-making tool for management rather than just a robust database (Kovach et al., 2002). Turek (2000) provides various examples of how HR technology has minimized times & improved the quality of HR services in the work area.

2. Methodology

The purpose of study is to find out how human resource practices of companies can be improved with technology which further helps in value creation and effectiveness of organization. Quantitative techniques and structured surveys/questionnaires are utilized to collect the response data. The study's independent variables are corporate performance appraisal and digital training while

its dependent variables are organizational effectiveness, value creation and technology adoption.

Data was collected from primary sources, with 150 respondents/participants randomly selected, including human resources directors and company representatives. The collection was done through survey/questionnaire including close ended and Likert scale questions to quantify the extent of technology adoption and its perceived effectiveness. The quantitative analysis was conducted by using statistical techniques i.e. descriptive statistics for summarizing the data and inferential statistics such as correlation and matrix od correlation for examining relationship between variables. The ethical consideration in was followed strictly to ensure confidentiality and anonymity of respondents, with informed consent obtained at the time of data collection. The present research aimed to provide generalizable and robust insights into the effect of digital /technological HR practices on organizational effectiveness and value creation in companies.

3. Result and Analysis

3.1. Adoption of technology to support human resource practices

Employers have continually sought innovative methods to enhance the organization and productiveness of people management through new data processing technologies. Rosenthal (2019) highlights that the past of data-driven HRM extends further back than commonly perceived, illustrating how early ninetieth century American plantation owners employed the advance data management tools of their era to maximize the productivity of their enslaved workers. Throughout the Twentieth century. IT enabled organizations to explore unmatched avenues for improving HR practices.

For the past sixty years, human resource researchers have been tracking the evolution of human resource technologies from electronic data processing (EDP) to human resource analytics. They have explored how these technologies were used to assist various human resource activities, which include record keeping, work planning, recruiting, workforce arrangement, training, management of performance, and decision making of HR.

The following analysis and discussion delve deeply into the development and adoption of technologies that support human resource practices, as shown in **Table 1**.

Table 1

Frequency Count for each category

S.no	Category	Frequency	Percentage
1.	Technology used		
	HRIS	25	16.67%
	ATS	21	14.00%
	Payroll Software	18	12.00%
	Performance management System	19	12.67%
	Employee self-service portal	22	14.67%
	Learning management system	17	11.33%
	Other	13	8.67%
	None	15	10.00%
2.	Duration Usage		
	Less than 1 year	22	14.67%
	1-3 years	26	17.33%
	4-6 years	24	16.00%
	7-10 years	22	14.67%
	More than 10 years	18	12.00%
	Not using any HR technology	38	25.33%
3.	Frequency Use		
	Daily	29	19.33%
	Weekly	30	20.00%
	Monthly	31	20.67%
	Rarely	32	21.33%
	Never	28	18.67%
4.	Efficiency Improvement		
	Strongly agree	27	17.33%
	Agree	28	18.67%

	Neutral	31	20.67%
	Disagree	33	21.67%
	Strongly Disagree	31	21.67%
5.	Accuracy Improvement		
	Strongly agree (SA)	29	19.33%
	Agree (A)	32	21.33%
	Neutral (N)	28	18.67%
	Disagree (D)	32	21.33%
	Strongly disagree (SD)	29	19.33%
6.	Engagement Improvement		
	SA	30	20.00%
	A	29	19.33%
	N	28	18.67%
	D	32	21.33%
	SD	31	20.67%
7.	Decision making improvement		
	SA	28	18.67%
	A	26	17.33%
	N	30	20.00%
	D	28	17.33%
	SD	38	26.67%
8.	Admin Burden Reduction		
	Strongly agree	27	18.00%
	Agree	31	20.67%
	Neutral	29	19.33%
	Disagree	31	20.67%
	Strongly Disagree	32	21.33%
9.	Impact Recruitment		
	Significantly improved	30	20.00%

	Improved	33	22.00%
	No change	31	20.67%
	Deteriorated	26	17.33%
	Significantly deteriorated	30	19.33%
10.	Impact performance Management		
	Significantly improved	32	21.33%
	Improved	30	20.00%
	No change	30	20.00%
	Deteriorated	28	18.67%
	Significantly deteriorated	30	20.00%
11.	Impact Payroll		
	Significantly improved	30	20.00%
	Improved	31	20.67%
	No change	32	21.33%
	Deteriorated	26	17.33%
	Significantly deteriorated	31	20.67%
12.	Impact training		
	Significantly improved	29	19.33%
	Improved	31	20.67%
	No change	32	21.33%
	Deteriorated	27	18.00%
	Significantly deteriorated	31	20.67%
13.	Impact self service		
	Significantly improved	30	20.00%
	Improved	30	20.00%
	No change	30	20.00%
	Deteriorated	30	20.00%
	Significantly deteriorated	30	20.00%
14.	Implementation cost		

	SA	32	21.33%
	A	31	20.67%
	N	30	20.00%
	D	30	20.00%
	SD	27	17.33%
15.	Training Challenges		
	Strongly agree	32	20.67%
	Agree	31	20.33%
	Neutral	29	19.67%
	Disagree	32	20.67%
	Strongly Disagree	26	17.67%
16.	Integration Difficulty		
	Strongly agree	31	20.33%
	Agree	30	2000%
	Neutral	30	20.00%
	Disagree	28	18.67%
	Strongly Disagree	31	20.00%
17.	Technical Issues		
	SA	30	19.67%
	A	28	18.67%
	N	31	20.67%
	D	29	19.33%
	SD	32	21.67%
18.	Data security Concerns		
	SA	31	20.00%
	A	30	20.00%
	N	30	20.00%
	D	30	20.00%
	SD	29	19.00%

19.	Future Technology		
	AI and ML	27	18.00%
	Advanced analytics	28	18.67%
	Block chain	29	19.33%
	VR for Training	29	19.33%
	Mobile HR applications	18	12.00%
	Other	20	13.33%
	No plans	16	10.67%

Source. Created by researcher from collected data

Note. Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

Table 2

Correlation Matrix between adoption of technology and HR practices

	Technology_ used	Duration_ Usage	Frequency_ use	Efficiency_ Improvement	Accuracy_ Improvement
Technology_used	1.000	0.144	-0.030	0.019	-0.061
Duration_usage	0.144	1.000	-0.086	0.056	-0.043
Frequency_use	-0.030	-0.086	1.000	0.012	0.002
Efficiency_Improvement	0.019	0.056	0.012	1.000	-0.151
Accuracy_Improvement	-0.061	-0.043	0.002	-0.151	1.000
Engagement_Improvement	-0.023	0.015	0.095	-0.037	0.059
Decision making_Improvement	0.006	0.029	-0.067	-0.058	-0.027
Admin_Burden_Reduction	-0.031	0.066	-0.056	-0.118	0.068

Impact_recruitment	-0.014	0.005	0.039	0.094	0.085
Impact_Performance_management	0.026	0.061	-0.012	0.075	0.024
Impact_payroll	-0.222	-0.189	0.064	-0.116	0.078
Impact_ Training	-0.036	-0.004	0.001	-0.021	-0.033
Impact_Self_Service	0.006	-0.120	-0.064	-0.039	0.200

Source. Created by researcher from data analysis

While there is evidence of positive impacts from technology adoption on several HR practices, the correlations are generally weak, and some negative correlations suggest areas where technology may not be meeting expectations. Therefore, while there is some support for the hypothesis that there is significant adoption of technology to support HR practices, the impact is not uniformly positive across all areas.

Overall, the technology adoption does support some HR practices significantly, but there are areas where its impact may be less beneficial or even negative. Further investigation and targeted improvements in these areas could strengthen the overall positive impact of technology on HR practices.

Thus, hypothesis that "There is significant adoption of technology to support human resource practices" is accepted.

Our analysis leads to two main conclusions, as shown in **Table 2**, first is that the information and data become more extensively available within an organization, and their value is maximized when employees are empowered to utilize It effectively. Implementing a supportive HR strategy without corresponding IT practices can be counterproductive, potentially demoralizing employees and disrupting the intended HR environment. Similarly, deploying a supportive IT strategy without corresponding HR practices can also be counterproductive. Therefore, we propose that supportive HR and IT activities are interdependent, especially in knowledge-intensive where employees frequently interact with technology (Mithas and Whitaker, 2007; Tafti et al.,2007).

3.2. Impact of technology on organizational effectiveness and value

creation of companies

However, maximum studies have highlighted the general usage of IT (Ang and Koh, 1997). Unfortunately, empirical research and theory on how IT effects organizations remain underdeveloped (Wang, 1997). One area gaining less attention in the research on successful IT usage is HRM practice (Othman and Teh, 2003). Specifically, three emerging areas require more empirical research and application: IT innovation and "e-HR" development approaches, globally distributed engineering and international technology entreneurship, and professional service and customer relationship management modelling (Wang, 2005).

To support and extend the study following analysis including calculation of responses on relationship between organizational effectiveness and value creation with technology use shown in below **Tables 3** and **4**.

Table 3

Descriptive statistics for Organizational effectiveness

S.no	Statement	Mean	Standard Deviation
1.	Technology has improved overall productivity	3.87	0.98
2.	Technology has enhanced decision making processes.	3.53	1.07
3.	Technology has streamlined operations and reduced costs.	3.70	0.98
4.	Technology has improved internal communication and collaboration.	3.68	1.01
5.	Technology has facilitated innovation and creativity.	3.70	0.97
6.	Technology has enhanced the ability to respond to market changes.	3.62	1.03

The descriptive statistics for organizational effectiveness reveal a generally positive perception of technology impact among respondents. The mean score across six statements indicate that technology has notably improved various aspects of organizational effectiveness. The highest mean score of 3.87 is observed for the statements "Technology has improved overall productivity," suggesting strong agreement among respondents regarding productivity enhancements due to

technology. Similarly, high mean scores of 3.70 for both "technology has streamlined operations and reduced costs" and "technology has facilitated innovation and creativity "reflects positive perceptions of operational efficiency and innovation facilitated by technology.

The mean score of the proposition "Technology has improved internal communication and collaboration" has been found to be very high (3.68). It shows that respondents feel technology plays a role in enhancing teamwork and communication. Nevertheless, the statement that "Technology improves decision making" received the lowest average scoring of 3.53 points but above the average human conscious meaning it can improve slightly still offering a room for improvement.

The values of standard deviation are 0.97 to 1.07 which show moderate variability response. The wording of the statement that, and I quote, "the decision-making is very effective" has a maximum standard deviation of 1.07, which suggests that some respondents may have different views. On the other hand, the minimum standard deviation (0.97) in promoting innovation and creativity reveals that the respondents are indicating more about the positive role of technology in this area.

In conclusion, the efficiency and organizational development of every organization depends on technology. It has also significantly improved businesses' efficiency and productivity. The moderate change in response shows some differences in perception but overall, very positive trend.

Table 4

Descriptive statistics for value creation

S.no	Statement	Mean	Standard Deviation
1.	Technology has improved customer satisfaction and engagement.	3.80	0.98
2.	Technology has enhanced product and service quality.	3.65	0.97
3.	Technology has created new revenue streams.	3.37	1.06
4.	Technology has improved the company's competitive advantage.	3.63	0.99
5.	Technology has facilitated entry into new markets.	3.47	1.05

6.	Technology has enhanced brand reputation.	3.60	1.01

According to descriptive statistics on value creation, respondents tend to exhibit a generally positive attitude towards technology. The mean score for "The customer satisfaction and engagement has been really helped by technology" was the highest at 3.80 points, showing that people strongly agree technology has helped a lot with respect to anything and everything customer related. A high score of 4.2 shows that respondents are convinced that technology improves customer satisfaction and engagement.

The average score of 3.65 points shows that people positively see technology as enhancing the quality of products and services. Similarly, the average score for "Technology enhances a company's competitive advantage" was 3.63, indicating that respondents believe technology plays a crucial role in maintaining or enhancing a competitive position.

Technology has created new sources of income scored an average of 3.37 points. It is positive though it is the lowest of all statements. The people's recognition of the role of technology in creating new income opportunities is moderate. There is still much more opportunity to have influence in this regard. Technology entry into new market, with an average score of 3.47, shows an agreement. According to this, although technology contributes to the expansion of the market, it may be differently accepted by different backgrounds/respondents.

The standard deviation range is 0.9735 and 1.0641, suggesting a moderate change in response. The standard deviation (1.06) of the new revenue stream is the highest. This shows that there are different opinions among people concerning technology as a new revenue stream. The quality of service reveals greater consensus on the beneficial effect of technology in this area.

In all, these answers tell us that technology has increased the value creation of companies. According to the respondents, technology has a strong positive impact on customer engagement, product quality, and competitive advantage. The change in reaction is moderate, indicating some difference of opinion, but the trend is very positive.

4. Conclusion

To sum up, the use of technology to support human resources must be incorporated due to it being constantly on the quest for efficiency and effectiveness. This study has shown various positive evidence that respondents assert technology plays an important role in enhancing productivity, innovation, customer satisfaction, operational efficiency and competitive advantage. This research emphasizes that organizations can create value successfully if they functioning efficiently as demonstrated by analysis results being interrelated. In the end, strategies tailored to organizational needs must be advanced to maximize technical benefits, research shows. However, Wang (2005) believes there are areas to be improved, particularly the decision making and application of new income generation, as per the observational findings, which also requires more empirical studies and application.

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