

## RESEARCH ARTICLE

# The impact of digitalization on CSR commitment: The role of human resource management system and employee autonomy

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## Abstract

Although the relationship between digitalization and employees' corporate social responsibility (CSR) commitment has been extensively explored in literature, there remains a consensus on how digitalization affects employees' commitment. Therefore, this study aims to investigate the relationship between digitalization and CSR commitment. Data from branches of two banks was collected by using a time-lagged approach, and structural equation modeling was employed to validate the measure and test the hypotheses. The findings indicate a direct correlation between digitalization and the CSR commitment of employees towards their organization. The research demonstrates that such a correlation is contingent upon the Human Resource Management (HRM) system used within the organization and the satisfaction of employees' need for autonomy in the workplace. The study emphasizes the role of work design and HRM practices in the relationship between digitalization and employees' CSR commitment.

## KEYWORDS

corporate social performance, corporate social responsibility (CSR), digitalization, employee commitment, human resource management (HRM) system, sustainability

## 1 | INTRODUCTION

The COVID-19 pandemic has significantly altered the daily work habits of employees in companies (Verma et al., 2023). Indeed, prior to then, remote work was confined to the elite class. On the other hand, in recent years, it has become the prevailing trend among most employees working in post-pandemic organizations. The use of digital technologies, together with the development of digital competencies, both enhanced and systematically integrated by massive digitalization, has become an essential requirement for performing remote work. Consequently, in the era of digital and sustainable transition, organizations are undergoing such a transformative process at a rapid pace

(Abbate et al., 2023; Centobelli et al., 2016; Centobelli et al., 2021; Shashi et al., 2018). Moreover, they are facing significant pressure from stakeholders to incorporate environmental and social issues into their business decisions and strategies (Kowalczyk & Kucharska, 2020; Latif et al., 2020), thus resulting in the necessity also to consider their potential impact on the well-being of employees, which are a crucial stakeholder group as their performance and behavior directly impact the firm's success, efficiency, and survival (Afsar & Umrani, 2020; Bhatti et al., 2022; Ramayah et al., 2022).

Previous research has shown that Corporate Social Responsibility (CSR) has a positive impact on the long-term growth and competitive advantage of organizations (Kumar et al., 2023; Mubushar

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et al., 2021), contingent upon its beneficial effect on employees' outcomes (Haski-Leventhal, 2013; Nejati & Shafaei, 2023). Several studies indicate that CSR improves employees' results, including their appeal to employers (Barrena-Martínez et al., 2015; Klimkiewicz & Oltra, 2017; Testa et al., 2018). Although a plethora of research deals with the relationship between digitalization and employees' CSR commitment, there is no consensus about the effects of digitalization on employee well-being (Baumeister et al., 2021). On the one hand, research suggests that digitalization positively affects commitment (Diaz et al., 2012; ter Hoeven & van Zoonen, 2015; Zeshan et al., 2021), whereas, on the other hand, many studies demonstrate a negative or neutral effect of digitalization on commitment (Aghaz & Sheikh, 2016; Day et al., 2012; van Zoonen et al., 2017).

According to Wang et al. (2020), the paradoxical relationship between digitalization and commitment can be clarified by three aspects of work design, that is, job autonomy, job demands, and relational aspect. The role of autonomy as an essential predictor of commitment has also been highlighted by the self-determination theory (Deci et al., 2017). Nevertheless, prior research also showed a paradoxical relationship between digitalization and autonomy (Bader & Kaiser, 2017). The research indicates both positive and negative relationships between digitalization and autonomy (Zeshan et al., 2021). Existing research suggests that the impact of digitalization on employees' autonomy is determined by the organizational context, which is shaped by the Human Resource Management (HRM) system in the organization (Bader & Kaiser, 2017; Martín-alcázar et al., 2005; Zeshan et al., 2021). Thus, it may be assumed that digitalization affects the HRM system in an organization, which in turn affects the employees' well-being by enhancing their autonomy. Indeed, it is worth noting that the correlation between CSR and HRM has been pointed out in increasing research on sustainable HRM (Diaz-Carrion et al., 2018; Karatas-Ozkan et al., 2022).

In the literature, there are two types of HRM systems: the control-based HRM system and the commitment-based HRM system. Since the control-based HRM system aligns with the specific environment of this study, that is, Pakistan, it may be assumed that digitalization in Pakistan may positively affect the employees' autonomy by influencing the control-based HRM system. Consequently, the increased sense of autonomy leads to employees' CSR commitment.

This research strives to achieve two objectives. First, it demonstrates the impact of digitalization on employees' CSR commitment; second, it aims to elucidate the process through which digitalization affects commitment. The findings of this study could have significant theoretical and practical implications. From a theoretical standpoint, the research seeks to elucidate the paradoxical correlation between digitalization and CSR commitment. From a more practical point of view, the research can assist managers in effectively handling the impact of digitalization on employees' CSR commitment. According to this research, managers may use an employee-focused HRM system to enhance the autonomy of the employees, leading to employees' CSR commitment.

The following section of the paper presents several hypotheses that have been formulated based on previous literature. A detailed explanation of the methodology employed in this research for data collection is provided. In the last section, the study's findings are presented, together with an analysis of the contributions and a summary of the conclusions drawn. Based on these premises, this paper aims to provide an answer to the following research question:

RQ. Does digitalization affect employees' CSR commitment, and what is the role of the HRM system and employee autonomy?

## 2 | LITERATURE REVIEW AND HYPOTHESES

### 2.1 | Digitalization and CSR commitment

The COVID-19 pandemic has led to unprecedented changes in organizational routines. Indeed, prior to the pandemic, the proportion of employees working remotely was 2.8% in the US and 2% in Europe (Wang et al., 2021). On the contrary, the pandemic swiftly established remote working as the prevailing standard. In undeveloped countries, such as Pakistan, the situation is similar, with employees being instructed to work remotely or at least in a hybrid mode. Additionally, such countries continuously witness a growing need for CSR activities (Scuotto et al., 2022).

Most of the banks in Pakistan have commenced working online in compliance with government directives. Indeed, although banks have been extensively digitalized in recent years, there is also a notable prevalence of increased burnout and turnover intentions in the banking industry (Ahmad & Afgan, 2016). Hence, it is crucial to examine how employees may be kept committed to organizations that are becoming increasingly digitalized environments. Commitment refers to establishing a strong connection between an individual and the organization (Klein & Park, 2015). There are three components of commitment, namely affective, normative, and continuance commitment (Allen & Dan Meyer, 1990). Continuance commitment refers to the commitment that employees develop towards the organization because of the investments they have made by choosing not to leave (Becker, 1960). Normative commitment arises from a sense of obligation to remain in the organization (Allen & Dan Meyer, 1990). Affective commitment refers to "individuals identification with and involvement in a particular organization" (Mowday et al., 1979; Porter et al., 1974). Since affective commitment refers to individuals' psychological attachment towards the organization, this research has primarily focused on such aspects to evaluate CSR commitment.

The CSR commitment of employees can be significantly affected by digitalization. According to Zeshan et al. (2021), digitalization refers to the extent to which information (hence big data and analytics) and communication technologies (networks) are used within an organization. Digitalization offers both data and its analysis, making it very



helpful and time-saving for the employees working in the organizations. Therefore, digitalization is likely to lead to a greater prevalence of positive attitudes from employees. Existing research also suggests that digitalization is positively associated with different job attitudes, such as job engagement and satisfaction (Diaz et al., 2012; Ter Hoeven et al., 2016). Therefore, it may be proposed that:

**Hypothesis 1.** Digitalization positively affects employees' CSR commitment.

## 2.2 | Digitalization, commitment, and mediation of employee autonomy

Although a significant body of research indicates the positive effects of digitalization on employee attitudes, it is worth noting that other studies also report negative consequences (Baumeister et al., 2021). According to Wang et al. (2020), the effect of digitalization on employees depends upon the degree of autonomy it offers to them.

Autonomy is defined as the feeling of choice and concurrence with one's actions (Olafsen et al., 2018). As a matter of fact, digitalization may enhance employees' autonomy by providing them with data and enabling them to make informed decisions through data analytics (Lai & Dobravska, 2015). Furthermore, digitalization can also offer the opportunity for flexible work arrangements (Wang et al., 2020). Empirical research indicates that digitalization enhances employees' autonomy (Sun, 2017; Zeshan et al., 2021).

Productivity and engagement among employees are contingent upon their autonomy in task execution and decision-making as they adjust to digital environments (Bloom et al., 2014; Lai & Dobravska, 2015). Therefore, it may be proposed that:

**Hypothesis 2.** Digitalization positively affects employee autonomy.

The self-determination theory (1985) posits that satisfying the need for autonomy facilitates the internalization of organizational values. Given that, CSR commitment also derives from internalizing organizational values (Zeshan, de La Villarmois, & Rasool, 2022), it may be assumed that satisfaction with the need for autonomy will elicit the employee's CSR commitment. The literature also demonstrates a positive effect of the satisfaction of the need for autonomy on employee commitment and other positive employee attitudes (Gangé & Deci, 2005; Greguras & Diefendorff, 2009; Meyer & Maltin, 2010). Thus, it may be supposed that:

**Hypothesis 3.** Satisfaction of employees' need for autonomy positively affects employee CSR commitment.

The preceding argumentation suggests that digitalization positively affects employees' autonomy. Hence, employees' CSR

commitment directly results from fulfilling the need for autonomy. Therefore, it may be assumed that:

**Hypothesis 4.** Autonomy positively mediates the relationship between digitalization and CSR commitment.

## 2.3 | Digitalization, employee autonomy, and the mediation of control-based HRM system

Although many studies have demonstrated the positive impact of information technology on employees' autonomy, there is also a body of research indicating a negative correlation between digitalization and autonomy (Bala & Venkatesh, 2013; Eriksson-Zetterquist et al., 2009; Gerten et al., 2019). However, research also suggests that these paradoxical results regarding the relationship between digitalization and autonomy are influenced by the organizational context (Bader & Kaiser, 2017), which is configured by the HRM system in the organization (Martín-alcázar et al., 2005). The commitment-based HRM system aims to achieve organizational goals by establishing a psychological connection between organizational and employee goals. In contrast, the control-based HRM system accomplishes organizational goals by ensuring employees' compliance with rules and procedures (Hauff et al., 2014). The control-based HRM system can be categorized into two types, that is, the enabling control-based HRM system and the coercive control-based HRM system. Coercive control involves using tight compliance to achieve organizational goals, while enabling control focuses on empowering employees to achieve their own goals (Adler & Borys, 1996). It is plausible to suggest that within the available HRM systems, the enabling control-based HRM system exists in our empirical context, namely in Pakistan. Such a belief is based on two reasons. First, Hofstede (1983) has classified Pakistan as belonging to high-power distance cultures, thus emphasizing control within the organization (Walton, 1985). Furthermore, work-related values in Pakistan align with the values observed in modern market economies, strongly emphasizing enabling employees or employee empowerment (Khilji, 2004). In the remainder of the paper, the control-based HRM has been employed to enable the control-based HRM system.

An enabling control-based HRM system comprises three components: participation in goal setting, participation in performance measurement, and developmental feedback (Zeshan et al., 2021). The first component (i.e., participation in goal setting) can be defined as the extent to which employees are allowed to set their goals (Sholihin et al., 2011). Participation in performance measurement has been defined as the extent of the influence that employees feel they have had on the design of the performance measures used to measure their performance (Groen et al., 2013). The third component, that is, developmental feedback, refers to the extent to which supervisors provide their employees with helpful and valuable information, enabling them to learn, develop and improve on the job (Zhou, 2003).

Research suggests that information technology increases delegation and participation in decision-making (Bloom et al., 2014; Lai &

Dobrajska, 2015; Wang et al., 2020), thus allowing employees to actively participate in goal setting and performance measurement setting. Research also shows a positive effect of digitalization on participation in goal setting, performance measurement, and developmental feedback (Zeshan et al., 2021). Therefore, it may be proposed that:

**Hypothesis 5.** Digitalization positively affects the control-based HRM system in the organization.

The managerial approach that supports autonomy allowing subordinates to participate in the goal setting, enhances employees' motivation (Baard et al., 2004; Fernandez & Moldogaziev, 2013). As per the findings of Marescaux et al. (2012), participation in the organization signals to employees that passive obedience is not required, hence enhancing their sense of autonomy. Lee and Wei (2011) also suggest a positive correlation between participation in goal setting and a feeling of autonomy. Similar to participation in goal setting, participation in performance measurement also results in the satisfaction of employees' need for autonomy. In an enabling performance measurement process, employees do participate in the decisions about the design and implementation of the evaluation (Groen et al., 2012). Existing research suggests that participation in decision-making results in satisfying the basic psychological need for autonomy (Deci et al., 2017). Similar to participation in goal setting and performance measurement, developmental feedback also fulfills the employees' need for autonomy (Zeshan et al., 2021). The discussion on the relationship between different aspects of a control-based HRM system (i.e., participative goal setting, participative performance appraisal, and developmental feedback) and the basic psychological need for autonomy suggests a positive correlation between them. Therefore, it may be proposed that:

**Hypothesis 6.** A control-based HRM system satisfies employees' need for autonomy.

Digitalization positively affects practices in control-based HRM system, namely participation in goal setting, performance measurement and developmental feedback. Consequently, these practices lead to a sense of autonomy among the employees (Zeshan et al., 2021). Consequently, it may be proposed that:

**Hypothesis 7.** Control-based HRM system positively mediates the relationship between digitalization and autonomy.

Digitalization enhances employees' CSR commitment by increasing employees' autonomy. However, the relationship between digitalization and autonomy is mediated by the HRM system in the organization. Therefore, it may be assumed that:

**Hypothesis 8.** Control-based HRM system and satisfaction of need for autonomy serially mediate the

relationship between digitalization and employees' CSR commitment.

Finally, this last hypothesis suggests that control-based HRM practices act as a mediator in the correlation between digitalization and employees' commitment to CSR.

The hypothesized relationship between all the constructs discussed above has been shown in Figure 1.

### 3 | METHODS

#### 3.1 | Context, sample, and procedure

The study has been carried out within the banking industry in Pakistan. Pakistan was chosen as a relevant context due to its unique socio-cultural dynamics, regulatory framework, and industry-specific challenges, particularly in the banking sector. First, the high-power distance culture, as described by Hofstede (1983), is based on hierarchical systems and centralized decision-making that influence the implementation and effectiveness of HRM practices, particularly in shaping employees' autonomy and commitment. Furthermore, the banking industry is influenced by specific regulatory demands and competitive pressures (Khalid & Hanif, 2005), which impact the execution and outcomes of digitalization initiatives in Pakistan (Abid & Noreen, 2006). Additionally, the control-oriented HRM system, tailored to the environmental setting of Pakistan, is assumed to enhance employee autonomy by implementing specific HRM practices. Empowering employees' autonomy is essential for promoting their commitment to CSR (Yunis et al., 2017).

The first step of data collection involved defining the population of this study (Eisenhardt, 1989), which consists of banks located in the city of Faisalabad, Pakistan. Subsequently, branches of two banks that recently switched to digitalized banking were selected. These banks have been chosen following the principle that the chosen sample should provide information regarding the investigated subject (Eisenhardt, 1989).

The data was gathered from the employees of the selected banks based on convenient sampling. This method has been used due to the lack of a sampling frame. The employees have been reached with the approval of the branch managers, whereas a doctoral student with expertise in data collection, has gathered the data. The purpose of the study has been disclosed to the bank employees, who have also been ensured that their responses would be kept confidential. Furthermore, they have been informed that their participation in the study was voluntary.

The data was collected using the traditional approach of paper and pen at four distinct time intervals, each spaced one week apart. The time-lagged data collection approach has been used to reduce the common method variance, as Conway and Lance (2010) recommended. In the initial phase, respondents were asked to respond to questions about demographics and digitalization; in the second wave,

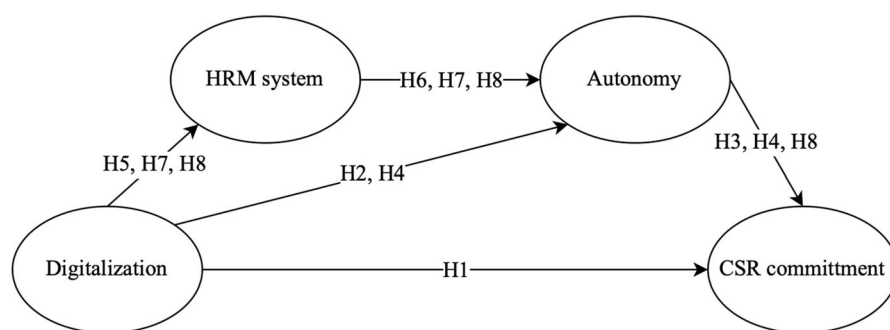


FIGURE 1 Conceptual model.

responses to HRM practices were collected, whereas in the third wave, participants were asked questions about autonomy. Finally, in the last stage, responses regarding commitment were collected. Based on Soper's (2020) calculator, this study's suggested minimum sample size is 116. Among the 600 individuals contacted, 157 successfully completed the questionnaire during the first time period, resulting in a response rate of 27.50%. In the subsequent data collection waves, only these respondents were contacted, and all responded. The demographic characteristics of the respondents are presented in Table 1.

### 3.2 | Measures

A five-point Likert scale anchored with "strongly disagree" (1) to "strongly agree" (5) has been used to measure the items. The survey was administered in English, being Pakistan's official language (Zeshan, de La Villarmois, Rasool, & Niazi, 2022).

#### 3.2.1 | Digitalization

A 4-item scale adopted by Zeshan et al. (2021) from Sun (2017) has been used to measure digitalization. A sample item is "I rely on Corporate IS extensively for solving problems in my job". The internal reliability for the construct is 0.89.

#### 3.2.2 | Control-based HRM system

Following Zeshan, de La Villarmois, and Rasool (2022), CBHRM has been measured through the following three components: participation in goal setting, participation in performance measurement, and developmental feedback.

Participation in goal setting has been measured with a 2-item scale developed by Sholihin et al. (2011). A sample item is "My supervisor allows me to participate in setting my performance goals". The internal reliability for the construct is 0.88.

Participation in performance measurement was measured using an 8-item scale developed by Roberts and Reed (1996). A sample item is "I can openly discuss job problems with supervisor". The internal reliability for the construct is 0.93.

TABLE 1 Demographic characteristics of the sample.

Characteristics	Percentage	Frequency
<b>Gender</b>		
Male	78.30%	123
Female	21.70%	34
<b>Education</b>		
Bachelor	15.30%	24
Masters	58.60%	92
MPhil.	23.60%	37
PhD.	2.50%	4
<b>Age</b>		
18–25	10.8%	17
26–33	63.1%	99
34–41	23.6%	37
41–49	1.90%	3
50–More	0.60%	1
<b>Experience in the Organization in Year</b>		
Less than 1	11.5%	18
01–03	13.4%	21
04–06	10.8%	17
07–09	38.9%	61
10 or more	25.5%	40
<b>Type of bank</b>		
Public sector	47.4%	74
Private Sector	42.6%	83

Developmental feedback was measured using a 3-item scale developed by Zhou (2003). A sample item is "While giving me feedback, my supervisor focuses on helping me to learn and improve". The internal reliability for the construct is 0.85.

#### 3.2.3 | Autonomy

Autonomy has been measured through three items adopted from Van den Broeck et al. (2010). A sample item is "I feel like I can be myself at my job". The internal reliability for the construct is 0.83.

**TABLE 2** Factor level VIF for common method bias.

Variables	Autonomy	Commitment	DF	Digitalization	CBHRM	PGS	PPM
Autonomy		1.54					
Commitment							
DF <sup>a</sup>							
Digitalization	1.11	1.11			1.00		
HRM <sup>b</sup>	1.11	1.61	1.00			1.00	1.00
PGS <sup>c</sup>							
PPM <sup>d</sup>							

<sup>a</sup>DF = Developmental feedback.

<sup>b</sup>HRM system = Human resource management system.

<sup>c</sup>PGS = Participation in goal setting.

<sup>d</sup>PPM = Participation in performance measurement.

### 3.2.4 | Commitment

An 8-item scale developed by Allen and Dan Meyer (1990) has been used to measure CSR commitment. A sample item is "I would be very happy to spend the rest of my career with this organization". The internal reliability for the construct is 0.86.

All the measures have been provided in Table A1 in the appendix.

## 4 | RESULTS

By using Smart PLS 3.0, the structural equation modeling technique has been adopted to test the model. Due to its ability to test numerous equations simultaneously (Hair et al., 2010), this technique outperforms simple regression analysis. The requirement of data normality is not compulsory while using Smart PLS. However, non-normal data may pose challenges when using bootstrapping techniques (Hair et al., 2019). Thus, the normality has been checked using measures of skewness and kurtosis. The values for these two parameters fall within the range of  $-2$  to  $+2$ , indicating that the data follows a normal distribution (Mallery & George, 2000). The results of the measurement and structural model have been discussed in the subsequent section.

### 4.1 | Common method bias

The time-lagged approach to collecting data has effectively mitigated the common method bias. However, its absence has also been statistically confirmed. For such a purpose, Variance Inflation Factor (VIF) values have been calculated. Since all these values are lower than the threshold value of 3.3 (Kock, 2015), it can be inferred that there is no presence of common method bias in this study (Table 2).

### 4.2 | Measurement model

Confirmatory factor analysis (CFA) has been used to confirm reliability and validity. Items' reliability has been confirmed through factor

loadings. Indeed, when the factor loading of some items was below 0.5, they have been deleted (Table 3). Consequently, only items with loading greater than 0.5 have been retained.

Internal consistency reliability has been ensured by measuring composite reliability (CR) and Cronbach's alpha. These values for all the constructs are above 0.7 and thus meet the minimum value criteria specified by Hair et al. (2019). The reliability has also been confirmed through the average variance extracted (AVE). The AVE value for all the constructs is above 0.5, confirming their reliability. Values of items loading, CR, Cronbach's alpha, and AVE are provided in Table 3.

The discriminant validity of the measurement model has been confirmed using Fornell and Larcker's (1981) criteria, suggesting that discriminant validity can be proven by comparing the square root of the AVE of a construct with its correlation with other constructs. Table 4 provides evidence of the discriminant validity of the model based on Fornell and Larcker's (1981) criteria.

### 4.3 | Structural model

The data was analyzed using partial least square structural equation modeling (PLS-SEM) through Smart PLS 3.0 (Figure 2). PLS-SEM has been used instead of covariance-based structural equation modeling (CB-SEM) due to the study's small sample size and the better statistical power of PLS-SEM (Hair et al., 2019).

The result of the regression analysis shows the significant direct effect of digitalization on employees' commitment ( $B = 0.34$ ,  $p < 0.000$ ), supporting hypothesis Hypothesis 1.

Hypothesis 2 states that digitalization positively affects employees' autonomy. Based on the results ( $B = 0.1$ ,  $p < 0.521$ ), Hypothesis 2 is rejected.

Hypothesis 3 proposes that employees' autonomy positively affects their CSR commitment. The results ( $B = 0.35$ ,  $p < 0.000$ ) support this proposition.

Hypothesis 4 states that employees' autonomy mediates the relationship between digitalization and CSR commitment. Bootstrapping results show that there is a zero between upper and lower intervals. Therefore, Hypothesis 4 is rejected.

SR#	Factor	Items <sup>1</sup>	Loadings	Alpha	CR	AVE
1	Commitment	AC1	0.78	0.80	0.86	0.51
		AC2	0.77			
		AC3	0.81			
		AC5	0.51			
		AC6	0.54			
		AC7	0.80			
		2	Autonomy			
AUTO4	0.75					
AUTO5	0.82					
AUTO6	0.69					
3	Digitalization	DIG1	0.86	0.84	0.89	0.67
		DIG2	0.86			
		DIG3	0.80			
		DIG4	0.75			
4	Control-based HRM system <sup>a</sup>	PGS	0.81	0.92	0.91	0.76
		PPM	0.83			
		DF	0.97			
(I)	PPM <sup>b</sup>	EVAL1	0.88	0.91	0.93	0.66
		EVAL2	0.79			
		EVAL4	0.65			
		EVAL6	0.88			
		EVAL7	0.78			
		EVAL8	0.84			
(II)	DF <sup>c</sup>	FEED1	0.88	0.74	0.85	0.66
		FEED2	0.64			
		FEED3	0.89			
(III)	PGS <sup>d</sup>	GOAL1	0.92	0.73	0.88	0.78
		GOAL2	0.85			

<sup>a</sup>Control-based HRM system = control-based human resource management system.

<sup>b</sup>PPM = Participation in performance measurement.

<sup>c</sup>DF = Developmental feedback.

<sup>d</sup>PGS = Participation in goal setting.

<sup>1</sup>AC8, AUTO2, AUTO 3, EVAL3, EVAL5 have been removed because of loading less than 0.5.

Variables	Autonomy	Commitment	DF	Digitalization	CBHRM	PGS	PPM
Autonomy	0.74						
Commitment	0.59	0.71					
DF <sup>a</sup>	0.40	0.54	0.81				
Digitalization	0.23	0.29	0.31	0.82			
CBHRM <sup>b</sup>	0.59	0.61	0.83	0.31	0.75		
PGS <sup>c</sup>	0.64	0.56	0.55	0.20	0.80	0.89	
PPM <sup>d</sup>	0.55	0.56	0.72	0.30	0.97	0.71	0.81

<sup>a</sup>DF = Developmental feedback.

<sup>b</sup>Control-based HRM system = Control-based human resource management system.

<sup>c</sup>PGS = Participation in goal setting.

<sup>d</sup>PPM = Participation in performance measurement.

**TABLE 3** Properties of the final measurement model.

**TABLE 4** Fornell-Larcker criterion.

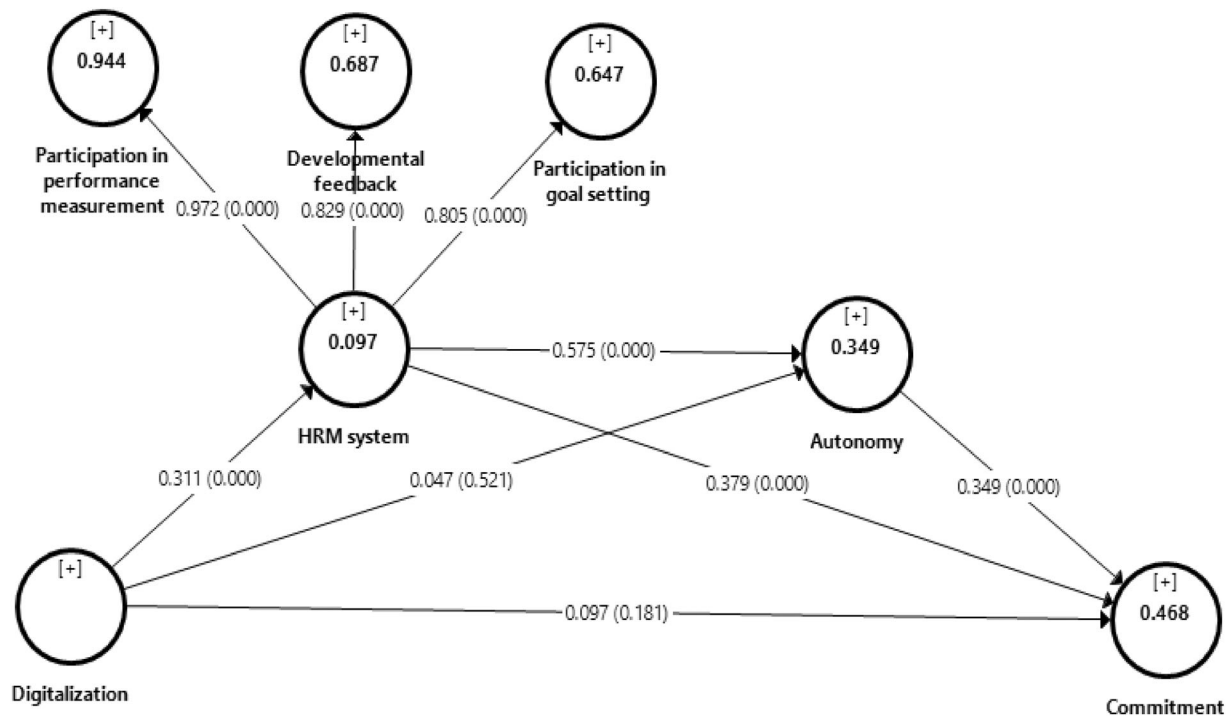


FIGURE 2 Structural model.

TABLE 5 Structural model results.

H#	Relationships	B	P values	Confidence interval 2.5% 97.5%	Results
Hypothesis 1	Digitalization → Commitment	0.34	0.000	0.27	0.49 Accepted
Hypothesis 2	Digitalization → Autonomy	0.05	0.521	-0.11	0.17 Rejected
Hypothesis 3	Autonomy → Commitment	0.35	0.000	0.20	0.48 Accepted
Hypothesis 4	Digitalization → Autonomy → CSR Commitment	0.02	0.539	-0.04	0.08 Rejected
Hypothesis 5	Digitalization → CBHRM <sup>a</sup>	0.31	0.000	0.15	0.43 Accepted
Hypothesis 6	CBHRM → Autonomy	0.58	0.000	0.44	0.69 Accepted
Hypothesis 7	Digitalization → CBHRM → Autonomy	0.12	0.002	0.05	0.20 Accepted
Hypothesis 8	Digitalization → CBHRM → Autonomy → Commitment	0.06	0.008	0.03	0.12 Accepted

Note: R-Square value for CBHRM is 10%, autonomy is 35%, and commitment is 47%.

<sup>a</sup>CBHRM stands for control-based HRM.

**Hypothesis 5** shows a positive relationship between digitalization and the control-based HRM system. It is supported by the results ( $B = 0.31$ ,  $p < 0.000$ ). **Hypothesis 6** states that the control-based HRM system positively affects employees' autonomy. The hypothesis is also accepted based on the obtained results ( $B = 0.58$ ,  $p < 0.000$ ).

**Hypothesis 7** shows a mediation of the control-based HRM system between digitalization and autonomy. Because there is no zero between upper and lower confidence intervals, this hypothesis is also accepted. **Hypothesis 8** shows a serial mediation of the control-based HRM system and autonomy between digitalization and commitment. Bootstrapping results also show this mediation.  $R^2$  for the control-based HRM system is 10%, autonomy is 35%, and commitment is 47%. According to Hair et al. (2019),  $R^2$  values of 0.75, 0.50, and 0.25 are small, medium, and large, respectively. Hence, the value of  $R^2$  is

weak for the control-based HRM system, but moderate for autonomy and commitment.

Results are provided in Table 5, while the summary of hypotheses has been provided in Table 6.

## 5 | DISCUSSION AND CONCLUSION

The results of this study demonstrate a positive relationship between digitalization and commitment, as indicated by **Hypothesis 1**. These findings corroborate previous research that shows a similar relationship between the two constructs (Diaz et al., 2012; Ter Hoeven et al., 2016). On the other hand, the results do not confirm a positive relationship between digitalization and autonomy (**Hypothesis 2**).

**TABLE 6** Summary of hypotheses with results.

Hypotheses	Results
Hypothesis 1: Digitalization positively affects employees' CSR commitment.	Accepted
Hypothesis 2: Digitalization positively affects employee autonomy.	Rejected
Hypothesis 3: Satisfaction of employees' need for autonomy positively affects employee CSR commitment.	Accepted
Hypothesis 4: Autonomy positively mediates the relationship between digitalization and CSR commitment.	Rejected
Hypothesis 5: Digitalization positively affects the control-based HRM system in the organization.	Accepted
Hypothesis 6: A control-based HRM system satisfies employees' need for autonomy.	Accepted
Hypothesis 7: Control-based HRM system positively mediates the relationship between digitalization and autonomy.	Accepted
Hypothesis 8: Control-based HRM system and satisfaction of need for autonomy serially mediate the relationship between digitalization and employees' CSR commitment.	Accepted

However, the complete mediation of CBHRM is the reason for the relationship between digitalization and autonomy. The findings confirm the positive correlation between autonomy and CSR commitment ([Hypothesis 3](#)), which is also consistent with the prior research (Zeshan, de La Villarmois, & Rasool, 2022). However, since [Hypothesis 2](#) has been rejected because of the full mediation of CBHRM between digitalization and autonomy, [Hypothesis 4](#) has been rejected as well. Results regarding the positive effect of digitalization on CBHRM ([Hypothesis 5](#)) also support prior research (Zeshan et al., 2021). Similarly, results validate the propositions in [Hypothesis 6](#) and [Hypothesis 7](#). Finally, the findings provide evidence for a serial mediation of the control-based HRM system and autonomy between digitalization and commitment.

## 5.1 | Contribution of the study

### 5.1.1 | Theoretical contribution

This study contributes to the existing body of literature by highlighting the reason behind the paradoxical results regarding the relationship between digitalization and commitment (Baumeister et al., 2021). Indeed, existing research indicates both positive (Díaz et al., 2012; Ter Hoeven et al., 2016) and negative effects of digitalization related to well-being, including commitment, engagement, and satisfaction (Aghaz & Sheikh, 2016; Day et al., 2012; van Zoonen et al., 2017; Wright et al., 2014). Consistent with Wang et al. (2020), the research shows that the effect of digitalization on employees' commitment depends on its effect on their autonomy. In other words, implementing digitalization to support employees' decision-making and autonomy will strengthen employees' commitment to an organization. Furthermore, this research provides a second contribution by highlighting the role of the control-based HRM system in the relationship between

digitalization and autonomy. By incorporating the findings of Bader and Kaiser (2017) and Martín-alcázar et al. (2005), the research demonstrates that the implementation of the control-based HRM system can create an environment within the organization that may enhance the positive effect of digitalization on employees' autonomy. This increased level of autonomy can subsequently lead to increased employee well-being in terms of CSR commitment.

In conclusion, the findings of this study have several implications for both theory and the broader literature on CSR. First, the research contributes to theoretical understanding by shedding light on the relationship between digitalization and CSR commitment. Theoretical frameworks, such as the self-determination and job design theories have been instrumental in guiding this study's exploration of the mechanisms digitalization influences CSR commitment. By integrating these theories and empirically testing their propositions, this research advances our understanding of how organizational practices, particularly those related to HRM and work design, interact with digitalization to shape employee attitudes and behaviors towards CSR. Finally, this study contributes to the literature on CSR by comprehensively analyzing the mechanisms through which digitalization influences employee attitudes towards CSR commitment.

### 5.1.2 | Practical contribution

The findings of this study can provide guidance in mitigating the adverse effects of digitalization. For such a purpose, managers should enhance the employees' sense of autonomy, which can be achieved through the participation of employees in the decision-making process or by enabling empowerment. The study suggests that managers should implement the control-based HRM system in their organization to foster a sense of autonomy among employees. Indeed, this system has the potential to enhance employees' participation in setting goals and performance measurement. Moreover, this system can also provide development feedback to the employees. These three components of the control-based HRM system have the potential to enhance the employees' autonomy and foster greater commitment to the organization. Notably, the findings of this study offer valuable insights for managers seeking to navigate the challenges and capitalize on the opportunities presented by digitalization. By understanding the critical role of employee autonomy and the enabling control-based HRM system in fostering CSR commitment, managers can tailor their strategies to create supportive work environments that promote both employee well-being and organizational sustainability. By integrating theoretical perspectives, empirical evidence, and practical implications, this research advances our understanding of the complex interplay between digitalization, HRM practices, and CSR outcomes, offering valuable insights for both scholars and practitioners.

## 5.2 | Limitations of the study and future research

Despite its contribution to the literature and practice, this study also reveals some aspects that can be further improved. First, this research

solely focused on autonomy as one of the three components of job design theory. Most likely, the use of job demand and relational aspects from the work design theory may provide a more comprehensive understanding of the relationship between digitalization and job attitudes. Furthermore, the study relies on convenience sampling. Although it represents an easy and cost-effective sampling method (Etikan, 2016), it diminishes the generalizability of the research. Therefore, it is advisable to employ a variety of sampling techniques. One further limitation of this study is the reliance on self-reported data. Due to the challenging nature of establishing a causal relationship between the constructs, employing a longitudinal research design for such a study is advisable. To overcome this constraint, multisource data could be collected from both managers and employees (Podsakoff et al., 2003).

Finally, it is necessary to acknowledge the context of the specific country and sector within which the research was conducted. More precisely, the study was focused on the banking sector of Pakistan, which is characterized by its unique socio-cultural dynamics, regulatory environment, and industry-specific challenges. In Pakistan, organizations operate within a high-power distance culture, as classified by Hofstede (1983), which emphasizes hierarchical structures and centralized decision-making. This cultural context may influence the implementation and effectiveness of HRM practices, particularly in shaping employees' autonomy and commitment. Additionally, the banking industry in Pakistan faces distinct regulatory requirements and competitive pressures, which can impact the adoption and outcomes of digitalization initiatives. Acknowledging these contextual factors is essential for understanding the peculiarities of the findings and their applicability to different organizational contexts. Future research could head towards exploring how these relationships vary across diverse country and sector contexts, thus resulting in the potential for developing contextually tailored strategies to optimize the benefits of digitalization and HRM practices in diverse organizational settings.

### 5.3 | Concluding remarks

The study investigates the impact of digitalization on employees' CSR commitment by considering the role of CBHRM practices and employee autonomy as mediators. The data collected from the employees in the banking sector of Pakistan indicate that digitalization positively affects employees' CSR commitment by supporting HRM practices and employee autonomy. The study proposes that future research could enrich the existing literature on the impact of digitalization on employees by further examining the mechanism through which digitalization and work design theory work together to enhance positive attitudes. This investigation should incorporate two additional aspects of work design theory, namely job demands and relational aspects.

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## APPENDIX A

**TABLE A1** Construct and measure items.*Digitalization* (Zeshan et al., 2021)

DIGI 1: I rely on Corporate IS extensively for solving problems in my job.

DIGI 2: I depend on Corporate IS extensively to carry out my job responsibilities.

DIGI 3: Corporate IS is really indispensable for my work.

DIGI 4: Without Corporate IS, it would be very difficult for me to do my job.

*Control-based HRM system**Participation in Goal Setting* (Sholihin et al., 2011)

GOA1: My supervisor allows me to participate in setting my performance goals.

GOAL2: I am highly involved in setting the budget goal.

*Participation in Performance measurement* (Roberts & Reed, 1996)

EVAL 1: I can openly discuss job problems with supervisor.

EVAL 2: Supervisor respects my opinion even when he disagrees.

EVAL 3: It is important for me to participate in developing performance goals.

EVAL 4: My supervisor expects more of me when we set goals together.

EVAL 5: Developing performance goals with supervisor is beneficial.

EVAL 6: My supervisor encourages me to express my opinion.

EVAL 7: My supervisor and I jointly develop my performance goals.

EVAL 8: When I disagree with my evaluation, my supervisor listens.

*Developmental Feedback* (Zhou, 2003)

FEED 1: While giving me feedback, my supervisor focuses on helping me to learn and improve.

FEED 2: My immediate supervisor always gives me developmental feedback.

FEED 3: My supervisor provides me with useful information on how to improve my job performance.

*Need for Autonomy* (Van den Broeck et al., 2010)

AUTO 1: I feel like I can be myself at my job.

AUTO 2: At work, I often feel that I have to follow other people's commands. (R)

AUTO 3: If I could choose, I would do things at work differently. (R)

AUTO 4: The tasks I have to do at work are in line with what I really want to do.

AUTO 5: I feel free to do my job the way I think it could best be done.

AUTO 6: In my job, I feel forced to do things I do not want to do. (R)

*CSR Commitment* (Allen & Dan Meyer, 1990)

AC 1: I would be very happy to spend the rest of my career with this organization.

AC 2: I enjoy discussing my organization with people outside it.

AC 3: I really feel as if this organization's problems are my own.

AC 4: I think that I cannot easily become as attached to another organization as I am to this one.

AC 5: I feel like a 'part of the family' at my organization.

AC 6: I feel 'emotionally attached' to this organization.

AC 7: This organization has a great deal of personal meaning for me.

AC 8: I feel a strong sense of belonging to my organization.