

# Unveiling the Relationship between Talent Development Interventions and Organization Effectiveness: Evidence from the Telecommunication Sector of Pakistan

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## Abstract

*In recent talent management research, the significance of nurturing talent has been highlighted. However, there remains a lack of sufficient quantitative investigations into the impact of these practices on organizational effectiveness, particularly in developing countries like Pakistan, and specifically within the telecommunications sector. This study seeks to address this gap by examining the relationship between different bundles of talent development practices and overall organizational effectiveness. Data was collected from 196 high-potential employees with diverse roles through online platforms. The results of the study indicate that various bundles of talent development practices, including formal, job-based, relationship-based, and informal approaches, positively influence organizational effectiveness. The findings of the study hold important implications for practitioners, indicating that the implementation of talent development practices can significantly enhance the overall effectiveness of telecommunication firms operating in Pakistan.*

**Keywords:** Management; Personnel, Business Administration, Talent development practices; organizational effectiveness;

**JEL Classification:** JO, JI, J2

## 1. Introduction

Scholars and practitioners agreed that Talent Management (TM) is a top priority for businesses around the world as it provides a long-term competitive advantage in the highly competitive, dynamic and post-COVID-19 global market scenario (Caligiuri, 2020; Collings et al., 2021). TM is widely recognized as an essential constituent of a firm's capability to outsmart the competition (Barriere et al., 2018). In the broader sense, TM refers to a set of human resource (HR) strategies for the attraction, selection and development of such

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talented human capital (Collings et al., 2019). Talent development is a vital constituent of the TM system (Cappelli, 2009; Rezaei & Beyerlein, 2018). The term “Talent Development” (TD) has gained prominence in contemporary talent management literature (Garavan et al., 2012; Hidayati & Li, 2016). Despite its importance, TD has not received adequate attention in academic discourse on talent management, except for the ongoing “make or buy” debate. Advocates of the “make” approach, such as Pfeffer (2001), emphasize that neglecting talented employees’ development while solely focusing on attracting and retaining them can be detrimental to organizations. Conversely, Garavan et al. (2012) argue that relying solely on external talent acquisition is not a successful long-term strategy. Instead, they recommend that organizations focus on developing their internal talent for successful strategy implementation. Such development approaches that are focused on high-performing or high-potential employees are regarded as a viable approach which ultimately translates to firm-level outcomes (Lepak & Snell, 1999; Garavan et al., 2012). TD is regarded as one of the key TM activities implemented through numerous bundles of talent development practices that may be used to enhance the competencies of exclusive talents (Vaiman et al., 2021). Additionally, Caplan (2014) viewed TD as the process of developing employees for achieving organizational-level outcomes.

According to recent TM reviews, the existing literature overlooked the potential linkage between TD practices and overall organization effectiveness. There is a specific deficiency of studies investigating the micro-level (individual employee) effects of exclusive TM practices (De Boeck et al., 2018). Secondly, the literature on TM suggests that the empirical evidence linking TD practices and business outcomes is limited (Garavan et al., 2012; Meyers, 2020). The contemporary TM literature shows that numerous studies focused on investigating the relationship among TM and employee retention (Ambrosius, 2018), employee innovative behavior (Khaki et al., 2017), employee turnover intention (Rana & Abbasi, 2013) and employee performance (Chegeni & Salavati, 2016; Supraptiningsih et al., 2018). The extant literature shows that little attention has been focused on organization-level outcomes as direct consequences of TD interventions. Therefore, the objective of this study is to fill the gap in the existing TM literature by analyzing the connection between TD practices and firm-level outcomes such as organizational effectiveness (OE).

Pakistan is a lower-middle income developing country with a population of 22.5 million (ESP, 2021) with a high demand for mobile phones and internet services. The telecommunications sector has been established as a leading sector in the context of foreign direct investment, revenue generation coupled with employment creation. As per the 2021 annual report of the Pakistan Telecommunication Authority (PTA), the telecom industry garnered a foreign direct investment (FDI) of \$202 million, and a sum of Rs. 226 billion was contributed to the national exchequer. Secondly, the number of cellular service subscribers has also registered an increase, with approximately 188 million at the end of the financial year 2020-2021, representing a 7% year-on-year expansion. Third, during the fiscal year 2020-21, the

telecommunications industry generated record revenue of Rs. 644 billion, as opposed to Rs. 592 billion in the preceding year. The sector has also been playing a significant role in the country's economic development, contributing to GDP growth and job creation.

This paper makes a significant contribution by expanding the existing knowledge base, as it empirically establishes a connection between exclusive TD practices and their outcomes at the organization level, an area that has been largely overlooked in the field of Talent Management. Additionally, the study explores the moderating effect of gender on the relationship between TD practices and organizational effectiveness. Moreover, this research provides valuable insights for HR decision-makers in the telecommunications sector, as it highlights the importance of offering development opportunities to employees to enhance their skills and expertise in alignment with the organization's short-term and long-term goals. This will ultimately lead to an increase in overall organizational effectiveness. Furthermore, the study addresses a key research gap identified by Meyers (2020), who emphasized the need for exploring the impact of individual development practices on overall organizational outcomes. By doing so, this paper successfully meets the call for future research and advances our understanding of the subject.

The rest of the study is organized in the following manner: The second section examines literature related to TD and TD interventions, organization effectiveness and relationship between TD practices and OE as well as presents hypotheses and a theoretical model. The third section provides details on the research context and methods. The fourth part presents the results of the empirical study. The final section summarizes the theoretical contributions, and limitations, and proposes suggestions for further research.

## **2. Literature Review**

### ***2.1 Talent Development and Talent Development Interventions***

One of the primary responsibilities of the HRM function is the development of talent, as highlighted by various researchers such as Kim and McLean (2014) and Mehdiabadi and Li (2016). Talent development is defined as "the process of creating and implementing strategies that foster the growth and development of the talent pool in order to align with the organization's current and future strategic objectives and with the overall Talent Management processes" (Garavan et al., 2012, p.6). Werner (2021) identified that TD practices significantly affect employee-level outcomes as well as organization-level outcomes. The practitioner survey also highlighted that the establishment of talent development programs is one of the most commonly used TM practices in organizations. A global practitioner survey by CIPD (2011) revealed that in-house development programs may be viewed as the top most effective method for talent development. The second top most effective intervention was found to be 'coaching' by line managers and third, on-the-job training is also recognized as an effective

measure for talent development. Joyce and Slocum (2012) discussed that organizations are dedicating a considerable amount of time, in formal and informal programs to develop their talented employees, using mentoring programs, external training programs and job rotation assignments. Sparrow and Makram (2015) found that mentoring and coaching, learning and developmental, team building opportunities, and strategic and operational development programs are considered talent development tools.

## **2.2 Organizational Effectiveness**

Potnuru and Sahoo (2016; p. 05) referred to organization effectiveness as “an organization’s ability to align its goals and objectives with its stakeholders and constituents, as well as its ability to adapt to change, optimize resources, compete with rivals, bring quality products and services to the right market at the right time, attract potential personnel, and make the right decisions at the right time”. Judge (1994) described OE in terms of financial performance, stock returns, operating performance, productivity and product quality. Scholars have used a number of approaches to evaluate OE, such as market share, organization profitability and sales target. The established literature takes up four approaches to define OE that are (i) goal accomplishment, (ii) system resource-oriented, (iii) strategic constituency and (iv) competing values approach. However, in recent studies, scholars have referred to OE as a competing values approach, rather than the traditional approaches. Competing values viewpoint focuses on the well-being and growth of workers which leads to the well-being and growth of the firm. Scholars (Ashraf & Khan, 2013; Raheem & Khan, 2019) argued that to achieve higher organization effectiveness it is preferred to focus on the competing values approach, which constantly addresses the competitive decisions that service sector organizations make in difficult situations to compete with the rivals.

## **2.3 Talent Development Practices and Organization Effectiveness**

Lewis and Heckman’s (2006) noted that TD activities represent a collection of practices that can be used to develop the skills, knowledge, and abilities of their employees including training and education, mentoring, coaching and career development. These activities are designed to help employees to acquire skills and knowledge for their current as well as future roles in the organization. Extant literature (Glaister et al., 2017; Raheem & Khan, 2019; Sonneberg et al., 2014) shows that TD practices are aimed to develop high-potential/high-performing employees. Talent is seen as a critical component of business performance, particularly for such sectors that are characterized as most competitive such as the telecommunications sector. In their study, Otoo and Mishra (2018) explored the correlation between human development practices and OE, with a focus on the significance of employee competencies. They identified that human development practices, such as training and education, positively influence employee skills and capabilities which ultimately improves organizational effectiveness. Lyria et al. (2015) investigated the link between TM and organizational

performance and found that such practices can enhance organizational-level outcomes. Ali and Brandl, (2017) identified that TM strategies increase organizational efficiency in the service sector of Pakistan.

The existing literature recognized that TM and career development can be used to enhance organizational effectiveness (Ali et al., 2019). They examined that talent development programs can improve organizational effectiveness. Garavan et al. (2012) classified TD programs into four categories: (i) “formal talent development practices”, (ii) “relationship-based development practices”, (iii) “job-based development practices”, and (iv) “informal development practices”. Formal development (FD) practices focus on enhancing employee skills, knowledge and capabilities and it results in employee development (Garavan et al., 2012). These include various practices that aim to improve an individual’s skills, knowledge, and personal growth which eventually help the organization to grow. These programs can focus on both conceptual and skill-based development, provide feedback-based and action-oriented support (Ready & Conger, 2010). These programs are mainly geared towards improving and enhancing desired behaviors. Formal talent development programs such as on-the-job training, instructor-led training off the job, formal educational courses, coaching by external practitioners, work groups and external conferences. Thus, the first hypothesis of the study is:

**H1a:** Formal talent development has a direct effect on organizational effectiveness.

Higgins and Kram (2001), described relationship-based talent development interventions in mentoring and supporting the development activities of high-potential employees. These interventions can take various forms such as in-house development programs, coaching by line managers, internal knowledge-sharing events and shadowing (observing experts at work). Such relationship-based interventions are gaining popularity as an efficient way of developing high-potential talent (CIPD, 2011). The relationship-based practices focus on talent and skill development through solid social interaction among the employees that in turn transpires into increased organizational effectiveness (Garavan et al., 2012).

**H1b:** Relationship-based talent development has a direct effect on organizational effectiveness.

Job-based developmental practices provide employees with opportunities for development through the job itself. Various aspects of the job are emphasized as a primary source of development. Widely used talent development policies and practices include opportunities for collaboration with highly talented employees (mentoring and counseling); global team and diversity opportunities, leader development programs, increases in job scope, horizontal job moves and developing new practices. Such practices emphasize implementing changes and developing new practices that are adopted by top-performing companies (Schuler, 2015). Job-based development practices are specifically created and carried out to enhance organizational outcomes. Such development practices not only enhance employees’ knowledge of

the specific position but also leads to enhance overall organizational effectiveness. Thus, it is hypothesized that:

**H1c:** Job-based developmental practices have a direct effect on organizational effectiveness.

Given the unpredictable nature of work within organizations, talent development strategies should not only focus on formal training and development programs but also on informal and non-formal practices which can help employees to develop and advance in their careers (Marsick & Watkins, 2001). Informal development is unplanned, ad-hoc, and often emerges as a result of another activity also known as Implicit development, which refers to learning that takes place without a deliberate intention to learn. Informal talent development programs include collaborative and social learning (such as connecting employees and sharing knowledge via social media) and workshops and events. Anwar and Ghafoor (2017) noted that informal development practices focus on future needs and take place over a longer period of time as compared to formal TD practices that are currently in progress and are related to specific staff responsibilities. Informal development activities can contribute to overall organizational outcomes such as organizational effectiveness (Garavan et al., 2012). Thus, it is hypothesized that:

**H1d:** Informal and non-formal talent development practices have a direct effect on organizational effectiveness.

Gender equality has been acknowledged as a significant worldwide issue, which is apparent from its inclusion in the UN sustainable development goals (United Nations, 2015). Gender-based discrimination in the workplace, particularly in the private service sector, is a widely recognized global phenomenon. However, in developing countries like Pakistan, the issue is even more pronounced and prevalent (Cheema & Jamal, 2022). Within the patriarchal structure of Pakistani society, men hold a dominant position (Sharif et al., 2021). Consequently, the private service industry in Pakistan reflects this gender disparity, leading to pervasive gender inequality and discrimination against women (Cheema & Jamal, 2022). It requires serious attention and concerted efforts to address and promote gender equality in these contexts. The identification of inequality-preserving mechanisms within organizations is essential for achieving gender equality in the workplace. Therefore, this study attempts to revisit the moderator effect of gender in the relationship between talent development practices i.e. formal development practices, relationship-based development practices, job-based development practices and informal development practices and organization-level outcomes. Thus, it is hypothesized that:

**H2a:** Gender moderates the relationship between formal talent development interventions and OE.



**H2b:** Gender moderates the relationship between relationship-based development interventions and OE.

**H2c:** Gender moderates the relationship between job-based talent development interventions and OE.

**H2d:** Gender moderates the relationship between informal talent development interventions and OE.

## **2.4 Theoretical Foundation**

This research adopts the resource-based view (RBV) framework in which talented employees are viewed as valuable resources. When a business firm identifies a small group of employees and marks them as high-potential/ high-performing employees, this exclusive belief of the organization presumes workforce differentiation to be a vital constituent of organization strategy. Workforce differentiation refers to the unequal allocation of resources to a specific group, with the expectation of receiving disproportionately higher returns (Gelens et al., 2014). This approach involves categorizing employees into distinct groups, aiming to enhance organizational efficiency based on two critical dimensions of human capital: value and uniqueness (Lepak & Snell, 1999). The value represents the potential of talented individuals to bolster an organization's competitive advantage, whereas uniqueness refers to the difficulty of finding a suitable substitute for a particular individual within the labor market context (De Vos & Dries, 2013). The RBV framework, Gallardo-Gallardo et al. (2015) highlighted the importance of employee differentiation for the effectiveness of an organization. To enhance and make the best use of human capital, organizations employ talent management strategies. As mentioned by Huselid and Becker (2011) and King (2016), talent management serves as a means of distinguishing and cultivating the unique abilities and skills of employees. This approach ultimately contributes to the overall growth through optimal utilization of the human resources of the organization.

The dynamic capabilities view seeks to explain how an organization maintains the competitive edge in evolving markets by outstretching the resource-based view. Resultantly, the focus is moved from internal operations to the external environment and the activities needed to reconfigure existing operations to meet constantly changing demands. As such, the development of high-potential employees is seen as a dynamic capability that serves as a mechanism for adapting to evolving needs and securing competitive advantage in the long term.

## Theoretical Framework

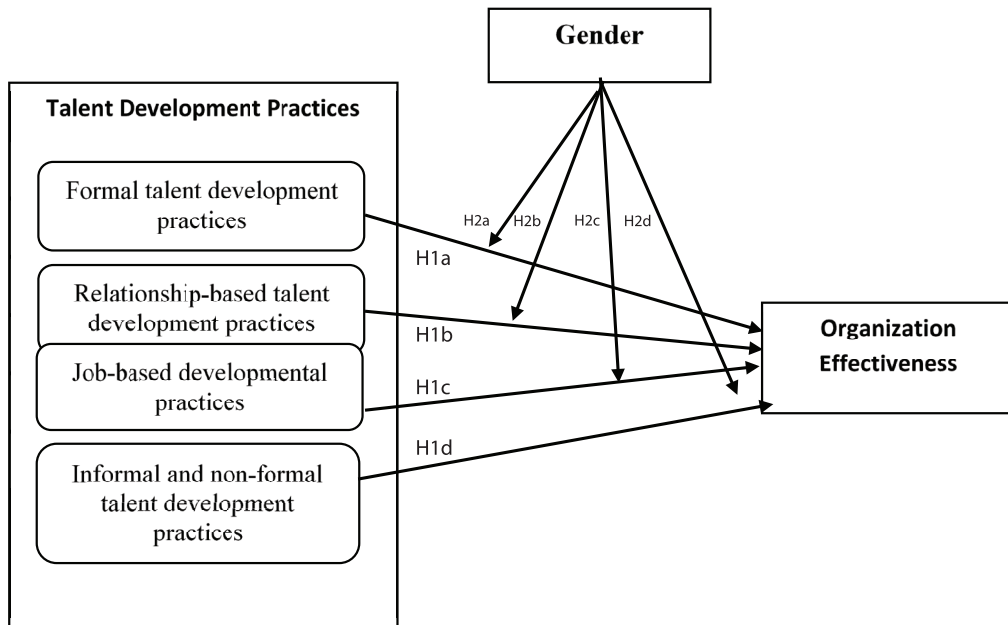


Figure 1: Theoretical Framework

### 3. Methods

This study used a quantitative research design. The quantitative design is best suited where the researcher develops hypotheses and tests the relationship between exogenous and endogenous variables. The principal objective of this quantitative research was to examine the degree to which TD practices influence OE. Therefore, the study is causal in nature. In quantitative research, a causal relationship is established when a change in the predictor variable is associated with a change in the outcome variable. Quantitative design helps the researcher to investigate causal relationships (Creswell, 2013). The present study is cross-sectional in terms of the time dimension.

#### 3.1 Data Collection and Data Analysis

Data collection was carried out in two steps. In the first step, the HR managers of the telecom organizations were contacted to get the list of those employees who were formally identified as talented employees by their organization. After securing the contact details (email), the questionnaire was shared with the employees through e-mail and the LinkedIn platform. The survey was conducted through Google Forms. A unique URL was created for every respondent. A sum of 196 out of 247 questionnaires were returned from the respondents and were used for data analysis. The overall response rate was 85%.



### 3.2 *Measures*

The questionnaire of the present study comprised two sections. The first part was related to the demographic information of the respondents. Section two included 20 items for measuring talent management practices and organization effectiveness. This study used the CIPD (2013) talent development scale that entails integrated bundles of talent development practices. Numerous TM studies (e.g. Sonnenberg et al., 2014; Glaister et al., 2017) validated the CIPD (2013) scale for the measurement of TD practices. These practices foster collaboration, empower and motivate employees and provide a stimulating work environment which results in employee development. TD practices were measured with 15 practices on 5 points Likert scale ranging from 1 being 'never used' to 5 being 'used very frequently'. Different scales have been used to measure OE (Tayal et al., 2021). This study used the Ashraf and Khan (2013) scale that was exclusively developed to measure the organizational effectiveness of the telecom organizations operating in Pakistan. The measure entails 5 items and the responses were measured on a 5-point Likert scale ranging from 1 being 'strongly disagree' to 5 being 'strongly agree'.

### 3.3 *Data Analysis and Results*

The quantitative data analysis was carried out through Statistical Package for Social Sciences version 27 (SPSS-27). The statistical analysis encompassed various procedures, such as measurement scale reliability, descriptive statistics, multicollinearity assessment, and exploration of the common method variance (CMV) pertaining to the study variables were accessed, followed by correlation analysis. Regression analysis was used for hypothesis testing.

### 3.4 *Demographic and Descriptive Statistics*

Table 1 illustrates the demographic characteristics of the survey participants. A total of 196 individuals participated in the survey, with 77.2% being males and 22.8% being females. The largest proportion of respondents (54.5%) were between the ages of 31 to 40. A significant number of participants (51.5%) had completed 16 years of formal education while 37.1% had completed 18 years of education. A big chunk of respondents (61.4%) were middle-level management employees whereas 10.4% were at executive-level management. A large percentage of respondents (37.6%) had over 12 years of professional experience, whereas, 12.4% had 9 to 11 years of professional experience. A large portion (76.2%) were permanently employed, whereas, 23.8% were contractual employees. Additionally, 19.8% of employees had been serving in the present organization for more than 12 years and 16.3% had 5 to 7 years of experience in the current organization. Table 2 demonstrates descriptive statistics of the study.

Table 1  
*Respondent's Profile*

Demographic Characteristics		Frequency	Percent (%)
Gender	Male	150	76.5 %
	Female	46	22.5 %
Age	21 - 30 years	50	25.5 %
	31 - 40 years	106	54.1 %
	41 - 50 years	37	18.9 %
	51 and Above	3	1.5 %
Qualification	14 years	21	10.7 %
	16 years	100	51.0 %
	18 years	73	37.2 %
	Doctorate	2	1.0 %
Total Professional Experience	Less than one year	2	1.0 %
	1 - 3 years	14	6.9 %
	3 - 5 years	27	13.4 %
	5 - 7 years	45	22.3 %
	7 - 9 years	13	6.4 %
	9 - 11 years	25	12.4 %
	More than 12 years	76	37.6 %
Employment Type	Contractual	47	24.0 %
	Permanent	149	76.0 %
Monthly Income	40,000-80,000	54	27.6 %
	80,000-160,000	70	35.7 %
	160,000-220,000	33	16.8 %
	220,000-440,000	25	12.8 %
	440,000 and Above	14	7.1 %
Duration in Present Org.	Less than 1 year	27	13.8 %
	1 - 3 years	38	19.4 %
	3 - 5 years	39	19.9 %
	5 - 7 years	33	16.3 %
	7 - 9 years	10	5.1 %
	9 - 11 years	10	5.1 %
	More than 12 years	39	19.9 %
Hierarchical Level	Low level	30	15.3 %
	Middle level	120	61.2 %
	Top level	21	10.7 %
	Executive level	21	10.7 %
	Technical Staff	3	1.5 %
	Any other	1	0.5 %

Table 2 provides descriptive statistics of the variables of the study. OE has the highest mean value among all the variables, with a mean of 4.582. This suggests that OE is a relatively high-scoring variable compared to the others. On the other hand, FDP, RDP, JDP, and IDP all have similar means that are noticeably lower than the mean for OE. The standard deviation values for each variable indicate how much the values deviate from the mean. In this case, the standard deviations are relatively small for all variables, which suggests that the data is tightly clustered around the mean values. This is particularly true for FDP, RDP, JDP, and IDP, which all have standard deviations between 0.683 and 0.703. OE has a slightly larger standard deviation of 0.277, indicating that there may be more variability in the scores for this variable.

Table 2  
*Descriptive Statistics*

Variable	Obs.	Mean	Std.Dev	Min	Max
OE	196	4.582	0.277	3	5
FDP	196	3.565	0.677	2	5
RDP	196	3.643	0.686	2	5
JDP	196	3.645	0.683	2	5
IDP	196	3.658	0.703	2	5

*Notes:* FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices, OE: Organizational effectiveness.

### 3.5 *Reliability*

One of the most frequently employed methods to assess internal consistency is utilizing the Cronbach- $\alpha$  coefficient (Sekaran & Bougie, 2016). This coefficient can be computed using SPSS, and a higher value indicates stronger internal consistency. According to Malhotra (2004),  $\alpha$  values exceeding 0.60 are considered reliable and acceptable. In our study, a reliability test was conducted and the results obtained (table 3) for the constructs ranged from 0.601 to 0.765, indicating that the test instruments met the required criteria.

Table 3  
*Reliability Statistics*

<b>Talent Development Practice</b>	<b>No. of items</b>	<b>Cronbach's Alpha</b>
FDP	5	.765
RDP	4	.705
JDP	3	.601
IDP	3	.643
OE	5	.604

*Notes:* FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices, OE: Organizational effectiveness.

### 3.6 *Common Method Bias*

The Harmon single-factor test and analysis show that the percentage of variance is 31.097% which is well below the threshold value (50%) and there is no single factor accounted for substantial variance; therefore, CMV cannot be assumed for the study. Table 4 depicts the Harmon single-factor test for testing common method bias.

Table 4  
*Total Variance Explained*

<b>Factor</b>	<b>Initial Eigen values</b>			<b>Extraction sums of squared loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
1	9.605	33.122	33.122	9.018	31.097	31.097

### 3.7 *Correlation*

The Pearson correlation is a statistical measure, that examines the association between variables, was calculated to examine the relationships between the bundles of TD practices (formal development practices, relationship-based development practices, job-based development practices and informal development practices) and OE. The matrix presented in Table 5 shows a strong, positive correlation between bundles of TD practices and dependent variable OE.

Table 5  
*Correlation Matrix*

<b>Construct</b>	<b>FDP</b>	<b>RDP</b>	<b>JDP</b>	<b>IDP</b>	<b>OE</b>
FDP	1				
RDP	.631**	1			
JBD	.587**	.685**	1		
IDP	.202**	.129**	.339**	1	
OE	.157**	.152*	.183*	.229**	1

Notes: FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices, OE: Organizational effectiveness.

The Pearson correlation value between OE and FDP is 0.157, a slightly low value but positive. The sigma value and correlation value demonstrate a positively significant relationship between these two variables, meaning if more FDP is used, it will increase the overall OE. There is a strong positive correlation between OE and relationship-based development practices with a correlation coefficient of 0.631. This indicates that as RDP increases, OE tends to increase as well. Additionally, there is a very weak positive correlation between OE and job-based development practices with a correlation coefficient of 0.587. Lastly, there is a positive correlation between IFD and OE with a correlation coefficient of 0.202. This indicates that as IFD increases, OE tends to increase as well. The correlation matrix (Table 5) depicts that correlation among the variables of this study is statistically significant at the 0.05 level (two-tailed), denoted by \*.

### 3.8 *Multicollinearity*

The variance inflation factor (VIF) serves as a metric to quantify the extent to which the variance of the estimated regression coefficient increases due to correlations among the independent variables. The tolerance, which is the reciprocal of the VIF, helps to assess the presence of multicollinearity among the variables. A lower tolerance indicates a higher likelihood of multicollinearity among the independent variables. According to Shrestha (2019) When VIF equals 1, it suggests that the independent variables are not correlated with each other. For VIF values between 1 and 5, the variables show moderate correlation. The challenging range of VIF lies between 5 and 10, signifying highly correlated variables. If VIF is greater than or equal to 5 to 10, multicollinearity is present among the predictors in the regression model. When VIF exceeds 10, it indicates that the regression coefficients are poorly estimated due to the presence of multicollinearity. Table 6 depicts that all variables of the study have a VIF value less than the threshold, indicating no issue of multicollinearity for this study.

Table 6  
*Multicollinearity Statistics*

<b>Construct</b>	<b>Tolerance</b>	<b>VIF</b>
FDP	.556	1.799
RDP	.460	2.173
JDP	.450	2.221
IDP	.854	1.173

*Notes:* FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices.

### ***Hypothesis Testing***

*H1a:* Formal talent management practices are directly and positively related to organizational effectiveness.

*H1a* evaluates whether FDP has a significant impact on the OE. The results reveal that FDP has a significant impact on OE ( $\beta = 0.147$ ,  $t = 1.940$ ,  $F = 3.767$ ). Therefore, H1a was supported.

*H1b:* Relationship-based talent development practices are directly and positively related to organizational effectiveness.

*H1b* evaluates whether RDP has a significant impact on OE. The results show that RDP has a significant impact on OE ( $\beta = 0.170$ ,  $t = 2.281$ ,  $F = 5.206$ ). Hence, H1b was supported.

*H1c:* Job-based talent development practices are directly and positively related to organizational effectiveness.

*H1c* tests whether JDP has a significant impact on OE. The results show that JDP has a significant impact on OE ( $\beta = 0.153$ ,  $t = 1.889$ ,  $F = 3.570$ ). Therefore, H1c was accepted.

*H1d:* Informal talent development practices are directly and positively related to organizational effectiveness.

*H1d* investigates whether IDP has a significant impact on OE. The results show that IFD has a significant impact on OE ( $\beta = 0.229$ ,  $t = 2.882$ ,  $F = 9.304$ ). Hence, H1d was supported.

Table 7  
*Regression Analysis*

<b>Hypotheses</b>	<b>Relationship</b>	<b><math>\beta</math></b>	<b>T value</b>	<b>F value</b>	<b>Adj. R2</b>	<b>Decision</b>
H1a	FDP -> OE	.147*	1.940	3.767	0.018	Accepted
H1b	RDP -> OE	.170**	2.281	5.206	0.027	Accepted
H1c	JDP -> OE	.153*	1.889	3.570	0.017	Accepted
H1d	IDP -> OE	.229*	2.882	9.304	0.005	Accepted

(\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ).

*Notes:* FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices, OE: Organizational effectiveness.

In summary, the results suggest that all the bundles of TD practices namely FDP, RDP, JDP and IDP are statistically significant predictors of the OE. The results of our study are consistent with previous studies conducted in the service sector organizations in Pakistan (Ali et al., 2019; Rana & Malik, 2017; Hongal & Kinange, 2020). Almaaitah et al. (2020) also found that TM practices positively influence organizational performance.

### 3.9 Moderation Effect of Gender

Moderation analysis was performed to access the relationship between TD practices and overall OE. The results of the moderation analysis are depicted in Table 8.

Table 8  
*Moderation Effect*

Hypotheses	Relationship	$\beta$	T value	F value	P value	LLCI	ULCI
H2a	FDP*Gender -> OE	3.344	4.314	2.335	.0000	1.8124	4.8763
H2b	RDP*Gender -> OE	3.481	4.656	2.209	.0000	2.0042	4.9593
H2c	JDP*Gender -> OE	3.409	4.920	2.682	.0000	2.0398	4.7786
H2d	IDP*Gender -> OE	3.306	3.961	3.309	.0000	1.8574	5.5561

Notes: FDP: Formal development practices, RDP: Relationship-based development practices, JDP: Job-based development practices, IDP: In-formal development practices, OE: Organizational effectiveness.

H2a evaluates whether gender moderates the positive and significant relationship between FDP and OE. The results reveal that gender moderates the relationship ( $\beta = 3.344$ ,  $t = 4.314$ ,  $F = 2.335$ ). Hence, H2a was supported. H2b evaluates whether gender moderates the positive and significant relationship between RDP and OE. The results reveal that gender moderates the relationship ( $\beta = 3.481$ ,  $t = 4.656$ ,  $F = 2.209$ ). Therefore, H2b was supported. H2c evaluates whether gender moderates the positive and significant relationship between JDP and OE. The results reveal that gender moderates the relationship ( $\beta = 3.409$ ,  $t = 4.920$ ,  $F = 2.682$ ). Hence, H2c was supported. H2d evaluates whether gender moderates the positive and significant relationship between IDP and OE. The results reveal that gender moderates the relationship ( $\beta = 3.306$ ,  $t = 3.961$ ,  $F = 3.309$ ). Hence, H2d was supported.

## 4. Conclusion

The existing literature lacks sufficient empirical research that specifically examines the practical impact of TD practices on organizational effectiveness within the telecommunication sector firms in Pakistan. This study aims to fill this gap by investigating the influence of various bundles of TD practices, including formal development practices, relationship-based practices, job-based development practices, and informal development practices, on the organizational effectiveness of telecom firms operating in Pakistan. The findings reveal that all bundles of TD practices are significant predictors of organizational effectiveness.



Furthermore, the study confirms the significance of all four hypothesized relationships between TD practices and organizational effectiveness, thereby providing robust support for all the proposed hypotheses. Additionally, the findings of this study provide empirical evidence that supports the validity of hypothesis H1, indicating a substantial impact of talent development on organizational effectiveness. This aligns with the theoretical perspectives of (Bayyurt & Rizvi, 2015; Al-aldaea, 2016; Kareem, 2019) who recognized the significance of talent development for enhancing organizational effectiveness. Likewise, the results pertaining to hypothesis H1 present similar outcomes, demonstrating a significant positive correlation between training and development initiatives and organizational effectiveness. This finding is consistent with the assertions made by Lyria et al. (2015) and (Ismael et al., 2021), further supporting the notion that investing in training and development contributes to improved organizational effectiveness.

Our results are in-line with the previous studies. Shoo (2016) conducted a study to analyze how human resource development (HRD) interventions influence organizational effectiveness through the development of employee competencies. The research revealed that HRD interventions have a substantial positive impact on fostering employee competencies, leading to improved organizational effectiveness. Alagaraja et al. (2015) investigated the effects of human resource development contributions on organizational effectiveness. Furthermore, Alagaraja et al. (2015) highlighted the role of HDP for achieving organization-level outcomes.

#### **4.1 Contributions and Implications**

This study contributes to TM literature by three folds. First, the majority of TM studies investigated the impact of TD practices on individual-level outcomes such as employee performance (Sopiah et al., 2019), psychological contract (Raheem & Khan, 2019), employee engagement (Meenash, 2016), and Job satisfaction (Luna-Arcos & Marley, 2015). Gallarado and Thunnissen (2016) noted that the empirical evidence about TD practices and organization-level outcomes is very limited. The existing literature overlooked the potential link between TD practices and organization-level outcomes such as organizational effectiveness. This study contributes to TM literature by investigating the direct linkage between TD practices and OE as organization-level outcomes. This study enriches TM literature by evaluating key predictors of OE at organizational level. Second, Garavan et al. (2012) as well as Hiyadati and Li (2016) noted that there is limited literature on the individual effects of TD practices and rarely any study investigated the perception of TD practices of high-potential employees. This study aims to contribute to the literature on TM by unveiling the perceptions of high-potential employees' perception about TD practices and their influence on overall OE. Third, A few studies investigated how gender influence TD-OE causal relationship. This study contributes to the literature by suggesting gender as moderator for analyzing the impact bundles of TD practices on OE.

This study has practical implications for the telecommunications industry. This study highlights the importance of TD practices and their positive relationship with organizational effectiveness. The findings of the study can assist decision-makers in telecommunication organizations to implement TD practices, which can help to develop employees with improved skills, abilities, and competencies, leading to an overall improvement in OE. Furthermore, gender inequality in the telecom sector of Pakistan remains a significant problem (Cheema & Jamal, 2022). Women are underrepresented in leadership and technical roles, facing limited opportunities for career advancement and unequal pay compared to their male counterparts. Societal norms and stereotypes perpetuate this disparity, hindering women's full participation and contribution to the sector's growth. This study bridges this gender gap which is crucial for fostering diversity, increasing firm outcomes and achieving sustainable development in the telecom industry. Organizations and policymakers must implement such policies that promote equal opportunities and challenge prevailing biases to create an inclusive and equitable work environment irrespective of their gender.

#### 4.2 *Limitations and Future Directions*

The study makes notable contributions; however, it also has certain limitations that require attention. Specifically, the study is limited to the telecommunications industry in a developing country's context, which may not be generalizable to other industries. Additionally, the cross-sectional research design used in data collection does not permit a thorough examination of causality in the relationship between TD practices and OE. Furthermore, the study only examines four bundles of TD practices as predictors of organizational effectiveness, while other TD practices may also have an impact on organizational effectiveness. Therefore, future research could consider exploring additional TD practices and attributes of organizational effectiveness as well as examining the potential moderating effect of other variables such as employee behavior on the relationship between TD practices and OE.

**Conflict of interest:** The authors do not have any conflict of interest.

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