The role of Human Resources Practices on the Employee Performance in the Telecommunication Companies in Yemen: The Mediating Effect of HRIS

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Abstract
The main objective of the current study is to study the effect of Work Environment, Fairness, Secondment, Job Rotations, and Mentoring as independent variables with Employee Performance in the Yemeni Telecommunication Companies in Yemen. In addition, this study will further analysis the mediating effect of HRIS. To achieve this objective, the researcher selected 250 respondents who are working for the Telecommunication Companies in Yemen. The research found that Work Environment, Secondment, Job Rotations, and Mentoring have significant relationship with Employee performance. However, Fairness was found to play insignificant role on the employee performance. Finally, HRIS plays a significant mediating role in the relationship between Work Environment, Secondment, Job Rotations, and Mentoring have significant relationship with Employee performance, while HRIS did not play a significant mediating effect on the relationship between Fairness and Employee performance.

Keywords: HRIS, Employee Performance, Telecommunication, Yemen.

1. Introduction

It is clear that management practice today does not only rely on familiarity with the current challenges posed by the business world, but it also derives from the interplay of knowledge and technical and information knowledge. In the relationship of information systems and administrative position, information systems are regarded as a key factor in the business's success or failure. This is because information is used as a mechanism by which the administrative and decisions are organized and assisted, as a networking tool within the organization (Anasi, 2020).
HRM's scope is very broad as it has tools for a system that attracts, creates, motivates and maintains the productive working relationship with the manager. Research in conduct science shows that in the last few years, new developments in workers' management and advances in education have extended the HR role (Ali & Mehreen, 2020).

Therefore, the main objective of the current study is to study the effect of Work Environment, Fairness, Secondment, Job Rotations, and Mentoring as independent variables with Employee Performance in the Yemeni Telecommunication Companies in Yemen. In addition, this study will further analysis the mediating effect of HRIS.

2. Literature Review

2.1 Work Environment

The consequences of changing working environments are often linked to employee well-being, and workplace well-being. They are productive drivers. This includes job satisfaction, appreciation, dedication to work and balance of work and life (Palvalin et al., 2017). All these contribute to the performance of a person who is considered to be one of the main factors of successful organization. It is also essential that managers are aware of this and are able to measure how changes to the workplace environment affect the productivity of their employees (Thiruchelvan, 2017).

Therefore, this study examined the relationship between the working environment and the performance of employees.

H1) There is a statistically significant relationship between Working Environment and Employee Performance.

2.2 Fairness

Kumari (2013) evaluated the effects on performance of employee through the performance appraisal, showing that the former has a substantial positive effect on the latter assessment and has a clear effect on working outcomes. Iqbal et al. (2013) also examined and established a highly positive association between performance appraisal and employee performance. The following hypotheses are suggested on the basis of the above discussion (Kumari, 2013):

H2) There is a statistically significant relationship between Fairness and employee performance.

2.3 Secondment

The word "secondment" means that an individual or a group of employees are briefly assigned to work with one another, "host" company or another part of the organization of their employer. When the secondment expires, the employees (secondees) will turn back to their main and original employers and jobs (O'Donoughue Jenkins & Anstey, 2017).

Some supervisors traditionally resist secondments as they recognize that there is an instant gap in the team, and it takes time to train a new employee. They focus entirely on the short-term drawback of having to train a new employee or boost the capacity of the existing team (Aldejwi, 2020). No study indicates the link between Secondment and the performance of employees. This study therefore provides the following hypothesis on the basis of the gap identified:

H3) There is a statistically significant relationship between secondment and Employee Performance.

2.4 Job rotations

Job Rotation is when an employee is moved between programs of tasks to provide him/her with a wide exposure with the entire operation. The term "job rotation," particularly at public offices, can also be seen as a coordinated exchange of people. Job rotation comes in many forms and is helpful in most cases. The job rotation is the systemic transfer of employees from work to work (Akbari & Maniei, 2017).

H4) There is a statistically significant relationship between Job rotation and employee performance.

2.5 Mentoring

Human capitals play a significant role of an organization's success. Highly professional and experienced employees improve their chances of working. Thus, highly qualified workers may be recruited, trained, developed and retained by effective telecommunication companies and/or organizations (Nkomo et al., 2017). Therefore, this study provides the following hypothesis based on the identified gap:

H5) There is a statistically significant relationship between Mentoring and employee performance.

2.6 The mediating role of HRIS

HRIS usage in human resource would minimize the cost of automating information and the number of staff required, however, would as well help employees by enabling them to validate their own information, providing the information and data important to HRIS managers with easy access, and allowing them, without consulting HRI experts, to evaluate and make decisions and interact with others.

Therefore, this study provides the following hypothesis based on the identified gap:

H6, H7, H8, H9, H10 there is a mediating effect of HRIS on the relationship between HR practices and Employee Performance.

2.7 Employee performance

The HRIS use and effect of the study on HRIS use scales and use at strategic and operational level indicates some average disparities in HRIS use in small and medium businesses and large businesses. Moreover, they have demonstrated that while HR professionals have unique HRIS usage because of their strategic professional relationship, they have less expertise relative to people from other careers.

2.8 Overview of the research model

In this study, the research conceptual framework consists of Employee Performance in the Telecommunication Companies in Yemen as a dependent variable; Work environment, Fairness, Secondment, Job rotation, and Mentoring as independent variable, and HRIS as a mediating variable, as shown in Figure 1.
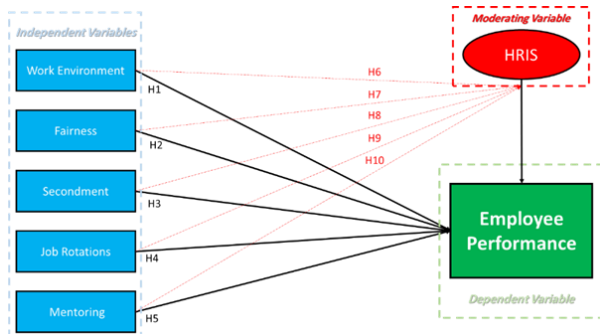
Fig. 1 Research Framework.

3. Instrument Development

The development of instruments was meticulously carried out to represent the nature of this study. As such, the questionnaire was designed to include 42 items and the variables were measured using the five-point Likert scale, with five standing for Strongly Agree and one standing for Strongly Disagree. Due to the fact that the participants spoke Arabic, it was critical that the survey be accurately translated from English to Arabic. As a result, a reverse translation was conducted, which is a common method for determining the accuracy of a translation in a cross-cultural survey (Brislin, 1970).

4. Research Methodology

In this study, the researcher will follow quantitative research methods. The researcher selected 250 respondents working in for one of the Telecommunications Companies in Yemen and send them copies of the survey questionnaire.

5. Findings

5.1 Respondent Profile

The first segment of the instrument compiled information on background profile of the respondents which comprises of their Gender, Age, Marital Status, Major, Highest level of education, Working Experience, Monthly Income, and Departments. The characteristics of each demographic profile are described below in Table 1.
Table 1: Respondent Profile

Table 1: Respondent Profile

Item	Options	Frequency	Percent
Gender	Male	190	76.0
	Female	60	24.0
Age	18 – 24	43	17.2
	25 – 34	85	34.0
	35 - 44	76	30.4
	45 and over	46	18.4
Marital Status	Married	160	64.0
	Single	90	36.0
Major	Business	90	36.0
	Social science	25	10.0
	IT	48	19.2
	Engineering	40	16.0
	Applied science	38	15.2
	Others	9	3.6
Highest level of education	High School	25	10.0
	Diploma	47	18.8
	Bachelor's degree	156	62.4
	Master's Degree	22	8.8
Working Experience	Less than 5 years	95	38.0
	5 - 10 years	90	36.0
	11 - 15 years	46	18.4
	More than 16 years	19	7.6
Monthly Income	Less than YER 50,000	15	6.0
	YER 50,000 - YER 100,000	103	41.2
	YER 100,000 - YER 200,000	112	44.8
	More than YER 200,000	20	8.0
Departments	Finance	39	15.6
	Administration	35	14.0
	Operations	26	10.4
	HR	21	8.4
	Others Position	6	2.4
	Top Management	22	8.8
	Senior Management	23	9.2
	Middle Management	28	11.2
	Supervisory	26	10.4
	Subordinate	24	9.6
	Total	250	100.0

5.2 CFA Measurement Model

Convergent Validity refers to the extent to which individual indicators reflect the constructs in comparison to indicators measuring other constructs (Byrne, 2016). To access Convergent Validity, the Average Variance Extracted (AVE) is measured. The value of AVE should be higher than 0.5, which explains at least 50 per cent of the assigned indicators' variance (Byrne, 2016; Kline, 2016). Using the AMOS graphics' estimates calculation, the AVE value is calculated. All constructs recorded AVE values higher than 0.5 for each group of data, except Work

environment, which scored (0.488), which denotes that a modification is required by deleting the items with the lower factor loadings which is WE1 (0.601). In addition, EP6 and EP7 scored extremely low factor loading and below the accepted level of 0.4.

After removing the aforementioned items, the second run was conducted (see Table 2). The lowest AVE value reported is for Work environment (0.514), followed by Secondment (0.539), Job rotations (0.552), Fairness (0.565), HRIS (0.566), Mentoring (0.597), and Employee performance (0.761) which explains more than 76% of the total variance. These results show that the measurement model demonstrated adequate convergent validity.

Table 2: Convergent Validity Results

Constructs	Items	Factor loadings	AVE	CR	Cronbach Alpha
Employee performance	EP1	0.870	0.761	0.941	0.940
	EP2	0.878			
	EP3	0.842			
	EP4	0.848			
	EP5	0.923			
Fairness	FA1	0.665	0.565	0.899	0.897
	FA2	0.677			
	FA3	0.816			
	FA4	0.893			
	FA5	0.673			
	FA6	0.879			
	FA7	0.605			
HRIS	HRIS1	0.693	0.566	0.901	0.899
	HRIS2	0.717			
	HRIS3	0.767			
	HRIS4	0.706			
	HRIS5	0.832			
	HRIS6	0.794			
	HRIS7	0.750			
Job rotations	JR1	0.790	0.552	0.895	0.885
	JR2	0.773			
	JR3	0.762			
	JR4	0.694			
	JR5	0.813			
	JR6	0.737			
	JR7	0.617			
Mentoring	ME1	0.578	0.597	0.910	0.907
	ME2	0.623			
	ME3	0.780			
	ME4	0.833			
	ME5	0.841			
	ME6	0.826			
	ME7	0.878			
Secondment	SE1	0.684	0.539	0.890	0.887
	SE2	0.704			
	SE3	0.740			
	SE4	0.743			
	SE5	0.754			
	SE6	0.787			
	SE7	0.723			
Work environment	WE2	0.615	0.514	0.862	0.857
	WE3	0.695			
	WE4	0.752			
	WE5	0.766			
	WE6	0.841			
	WE7	0.604			

The goodness of fit of a statistical model describes how well it fits a set of observations. Measures of goodness of fit typically summarize the discrepancy between observed values and the values expected under the model in question (Byrne, 2016).

For the study, the ratio of CMIN/DF ($\chi2/df$) is 3:1 which is considered accepted and shows a good fit (Kline, 2016). For the P-value, the test of exact fit involves an error probability of rejection of the H0-hypothesis where the P-value should be less than 0.05. On the other hand, to achieve the good fit, GFI, AGFI, TLI, and NFI should all be above 0.90. In addition, RMSEA lower than 0.10 as values above 0.10 denote a poor fit, as recommended by many researchers (Browne & Cudeck, 1992; Collier, 2020; Hair et al., 2019; Hoyle, 2015; Kline, 2016). The components of the current study showed an acceptable level of RMSEA (< 0.10), GFI, (>0.90), AGFI (>0.90), TLI (>0.90), NFI (>0.90), $\chi2/df$, (<3.00), and P value (< 0.05) as recommended as shown in Table 3.

Table 3: Goodness of the Model Fit of Paths

Goodness of the Model Fit						
AFI			IFI		PFI	
RMSEA (< 0.10)	GFI (>0.90)	AGFI (>0.90)	TLI (>0.90)	NFI (>0.90)	χ2/df (<3.00)	P value (< 0.05)
.091	.956	.915	.976	.920	2.978	.000

The model has shown a proper fit as the $\chi2/df$ were below the ratio of 3:1 (2.978), while the RMSEA achieved the recommended level below 0.10 (0.091). On the other hand, the GFI, AGFI, TLI, and NFI scores were at satisfactory level of above 0.90 (.956, .915, .976, and .920 respectively). In addition, the P value associated with the goodness of the model fit was below 0.05 (0.000). Figure 2 illustrate the results of AMOS graphics estimates calculation with standardized estimates.
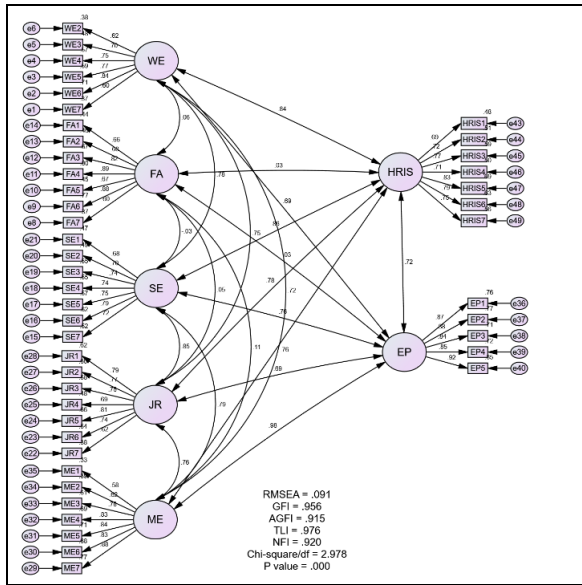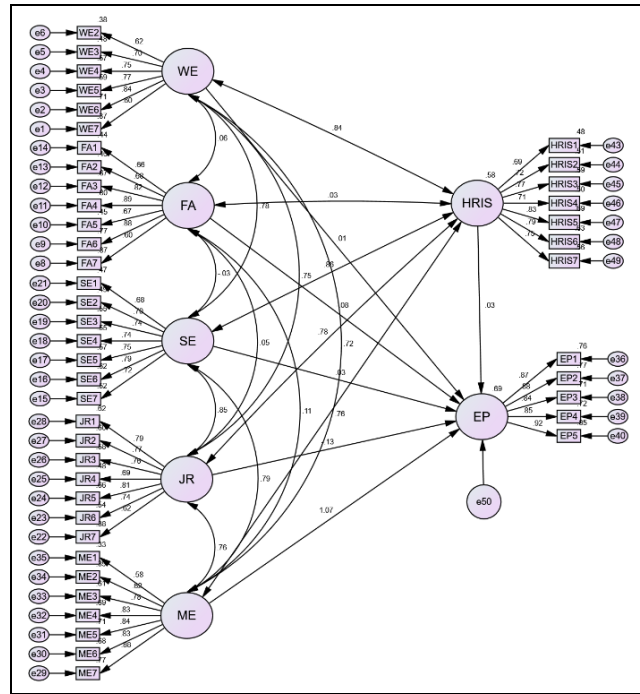
Fig. 2 Goodness of the Model Fit.

5.3 Regression Model Results

Collier (2020) indicated that multiple regression analysis can play an important role in prediction and explanation. Prediction and explanation reflect different research questions, study designs, inferential approaches, analysis strategies, and reported information. In prediction, the main emphasis is on practical application such that independent variables are chosen by their effectiveness in enhancing prediction of the dependent variable values. In explanation, the main emphasis is on the variability in the dependent variable explained by a theoretically meaningful set of independent variables (Collier, 2020).

As indicated by Byrne (2016), the squared multiple correlation coefficient indicates the amount of variance explained, predicted, or accounted for in the dependent variable by the set of independent predictor variables The R2 value is also interpreted as an effect size or model-fit criterion in multiple regression analysis (Byrne, 2016). In the current study, the Squared Multiple Correlation (R²) of HRIS was 0.58, which indicates 58% of the variance associated with 5 predictors, namely, Work Environment, Fairness, Secondment, Job rotations, and Mentoring. Moreover, the Squared Multiple Correlation (R²) of Employee Performance was 0.69, which indicates 69% of the variance associated with 6 predictors, namely, Work Environment, Fairness, Secondment, Job rotations, Mentoring, and HRIS. Figure 3 illustrate the Squared Multiple Correlation (R²) for each of the above variables.

Fig. 3 Structural Model and R squared.

The regression analysis observed from AMOS graphics estimates calculations presented in Table 4.

Table 4: Regression Analysis Results

H	Paths			Beta coefficients	S.E.	C.R. (t-value	Decision
H1	WE	-->	EP	.203***	.030	6.649	Supported
H2	FA	-->	EP	.010 (P>0.05)	.023	0.443	Rejected
H3	SE	-->	EP	.230***	.030	7.701	Supported
H4	JR	-->	EP	.250***	.037	6.807	Supported
H5	ME	-->	EP	.430***	.045	9.610	Supported
*** = P < 0.001							

5.4 The mediating effect of HRIS

The mediation analysis was used to determine the mediation effects of HRIS as mediating variable on the effects of Work Environment, Fairness, Secondment, Job Rotations, and Mentoring as independent variables with Employee Performance as dependent variable (i.e., H6, H7, H8, H9, and H10 respectively). Furthermore, the indirect effects of the independent variables on the dependent variable through the mediating variable were also

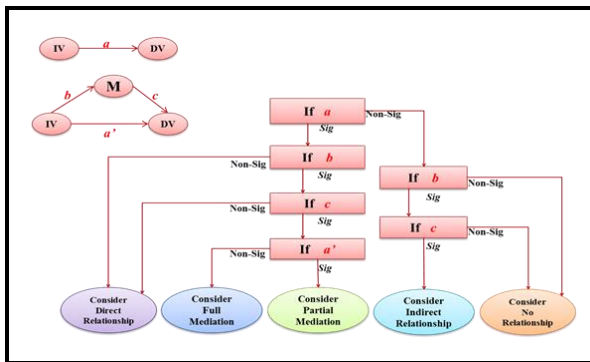examined. The illustration of this framework.is shown in Figure 4.

Fig. 4 The mediating effect.

The SEM technique is claimed to be preferable to regression techniques for testing mediation because SEM permit modelling of both measurement and structural relationships and yield overall fit indices (Hair et al., 2014), this research employed the bootstrapping approach to assess the mediating effects of HRIS.

The significance of the regression coefficients between Work Environment, Fairness, Secondment, Job Rotations, and Mentoring independent variables with Employee Performance as dependent variable, and HRIS as mediating variable, were examined to determine the occurrence of the mediation effect and its mediating degree. Thus, four hypotheses (i.e., H6, H7, H8, H9, and H10 respectively) depicted in Table 5were examined in this section. The results of examining these hypotheses are displayed in Table 5 with the standardized effects of different paths.

Table 5: Mediating effect of EME results

DV = Employee Performance MV = HRIS	Independent variable				
	Work Environment Beta (P-value)	Fairness Beta (P-value)	Secondment Beta (P-value)	Job Rotations Beta (P-value)	Mentoring Beta (P-value)
Total Effect of IV on DV without MV (path a)	.203 (.000)	.010 (.658)	.230 (.000)	.250 (.000)	0.430 (0.000)
Direct Effect of IV on DV with MV (path a')	.196 (.000)	.009 (.653)	.213 (.000)	.232 (.000)	0.341 (0.000)
Effect of IV on MV (path b)	.189 (.000)	.008 (.649)	.197 (.000)	.214 (.000)	.253 (.000)
Effect of MV on DV (path c)	.236 (.000)	.236 (.000)	.236 (.000)	.236 (.000)	.236 (.000)
Mediation Path	WE → HRIS → EP	FA → HRIS → EP	SE → HRIS → EP	JR → HRIS → EP	ME → HRIS → EP
Mediation Effect	Yes	No	Yes	Yes	Yes
Degree of Mediation	Partial Mediating	No relationship	Partial Mediating	Partial Mediating	Partial Mediating
Hypothesis Result	H6 Supported	H7 Rejected	H9 Supported	H9 Supported	H10 Supported

6. Discussion

In H1, the relationship between Work environment and Employee Performance was statically positive and significant. In the quantitative data analysis, Work environment have 20.3% of predictive power (β) in achieving high level of Employee Performance (with p-value below the cut-off point 0.05), which means the Work environment affects the performance of the employees. Hence, H1 was supported.

In H2, the relationship between Fairness and Employee Performance was statically positive but insignificant. In the quantitative data analysis, Fairness has only 0.1% of predictive power (β) in achieving high level of Employee Performance (with p-value above the cut-off point 0.05), which means the Fairness do not affect the performance of the employees. Hence, H2 was rejected.

In H3, the relationship between Secondment and Employee Performance was statically positive and significant. In the quantitative data analysis, Secondment has 23% predictive power (β) in achieving a high level of Employee Performance (with p-value below the cut-off point 0.05), which means the Secondment affects the performance of the employees. Hence, H3 was supported.

In H4, the relationship between Job Rotation and Employee Performance was statically positive and significant. In the quantitative data analysis, Job Rotation have 25% of predictive power (β) in achieving high level of Employee Performance (with p-value below the cut-off point 0.05), which means the Job Rotation affects the performance of the employees. Hence, H4 was supported.

In H5, the relationship between Mentoring and Employee Performance was statically positive and significant. In the quantitative data analysis, Mentoring has 43% of predictive power (β) in achieving a high level of Employee Performance (with p-value below the cut-off point 0.05), which means Mentoring affects the performance of the employees. Hence, H5 was supported.

Moving on to the Mediating effect of HRIS on the relationship between the HR practices and Employee performance. The data analysis found that HRIS play a significant partial mediating on the relationship between Work Environment and Employee Performance. It means that with the implementation of the HRIS in the Yemeni Telecommunication Companies the work evironment will be more positive and maintained and that will reflect their employee performance to be better. Furthermore, HRIS did not play a mediating role on the relationship between fairness and employee performance, this means that whether HRIS is implemented or not, the employees' performance will not change in terms of fairness. In addition, HRIS plays a significant partial mediating effect on the relationship between Secondment and employee performance, which means that with the implementation of HRIS, transferring employees to another positions termprorily to another position will reduce their high level of performance. Moreover, HRIS plays a signficant partial mediating effect on the relationship between Job rotation and employee performance, which means that impelementing HRIS will significantly enhance role of Job rotation and will increase the level of employee performance. Finally, HRIS plays a significant partial mediating effect on the relationship between mentoring and employee peroformance, which means the implementation of the HRIS will inrease the effect of good mentoring on the employee performance.

7. Theoretical and Practical Implications

In practice, this study has a number of practical implications for human resources management. The study suggests that the work environment would reflect the performance of the employees. As well as Secondment and Job Rotation staff would have their performance affected by that. In addition, establishing the proper level of Mentoring in an organizational context would reflect and enhance staff performance. However, Fairness has no effect on the employee performance.

The purpose of this study is to determine how HR practices are related to the employee performance of the Telecommunication Companies in Yemen. The study included Work environment, Fairness, Secondment, Job rotation, and Mentoring as independent variables. In order to achieve better results from this study, the researcher has introduced HRIS as mediating effect of the relationship between the variables. The target population for this study are Employees working for Telecommunication Companies in Yemen. This study suggests significant relationship between Work environment, Secondment, Job rotation, and Mentoring from hand, and employee performance of the Telecommunication Companies in Yemen employees from another hand, which support what was found in the majority of the previous published literature. But unlike the majority of the published literature, Fairness was found to be insignificant with employee performance of the Telecommunication Companies in Yemen.

One of the most important theoretical implications that it will enrich the body of literature with a holistic study dedicated to the Telecommunication sector in Yemen to firmly conceptualize what are the variables that affect employee performance, which many studies were limited and did not include this aspect. Therefore, this study was well structured to bridge this gap and overcome the problem caused by this gap theoretically. In addition, including the HRIS in the study as a mediating effect has drawn a new theoretical discipline, by highlighting how this variable could be integrated into the underpinning theories of the current topic, like HRM, HRIS, and Performance Measurement.

8. Limitations and Future Recommendations

This study has a lot of potentials, many of them could be addressed here in order to make sure that future researchers are aware of them, and to list few:

Focusing on other types of companies in Yemen (industrial companies for example) as case study with systematic selection would generate different types of results on the factors that affect Employee Performance.

Studying a larger sample size may return with more options in the analysis and results.

Following mixed methods (i.e., including the interviewing) as a methodology for future studies would spot the light on the Perceived Productivity and opinions that are worthy of studying.

In this study, Work Environment was considered as independent variable while a good sum of studies considered several HR Practices as a moderating or independent variables, it is recommended that the future studies may consider the Work Environment Dimensions and associate them with employee performance in a holistic study.

Redoing the same study but with other independent variables would come back with different determinants of

the employee performance of the Yemeni Telecommunication Companies.

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