

The development and validation of a scale on perceived workplace flexibility in Indian context

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Abstract

Workplace flexibility has been regarded as a way to increase employee well-being. Workplace flexibility has many facets, and it is essential to have a unified scale to measure its effectiveness towards the same. Workplace flexibility has been studied in many different contexts to quantify its significance in light of other factors. This study aims at developing a scale to measure the overall score on workplace flexibility in the Indian context. The study incorporates various items highlighted in the literature review, modifying them in the Indian context and testing its overall validity and reliability using exploratory and confirmatory

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factor analysis. The study has been done on the Indian Information Technology, and Information Technology enabled Services Industry. The study can further be advanced to explore its effects in light of other industry-specific factors. It can help identify the perception of employees towards various workplace flexibility options.

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Introduction

Ever since the industrial revolution started, the concerns related to employee well-being have always been there. Companies try to make the workplace more attractive to the masses every year. In the journey of employee welfare, we have come a long way from dealing with concerns related to hazards and employee safety at the workplace to the hustle for fair wages and eventually to employee wellbeing. Workplace flexibility means the ability to adapt to changing circumstances. The business environment is not constant so is the business. Businesses must focus on the deliverables rather than when and where. In a work environment with workplace flexibility, two aspects of the place and time become insignificant, and quality and efficiency become the critical drivers. A flexible employer does not confine the work to a traditional workweek. It allows employees the freedom to complete the task within the deadline by matching it with the time requirements for family responsibilities. (Rangnekar et al., 2016). Historians differ in their opinion of the workweek. However, it has been calculated based on the production of crops per labour. With this estimate, studies concluded that the number of workers working hours per year has reduced from 3000 to 1500 in the past 150 years in the United Kingdom, America, Sweden and Germany (Huberman & Minns, 2007). The revolutionary step of allowing five days a week by one of the cotton mills in the United Kingdom in 1900, followed by Henry Ford in 1908, has been rekindled by the demand for four days work week. Over the years, the industry has accepted many requests related to employee welfare. Allowing employees to decide when and where they want to do the task was not a central question in the past, partly due to the required information technology support for such a work culture (Jayasri Puli & Srilalitha Sagi, 2022). But the emergence of practical collaborative tools will only get an impetus.

Literature Review

Workplace flexibility has been studied and discussed for an extended period now. A critical literature review analysis by (Bal & Izak, 2021) has highlighted two axes to the study in this field, i.e. flexibility versus flexibility of employee and organisation, and favourability versus criticality. The impact of flexible work practices on firm performance was studied in 2007. There are various studies involving factors related to job and work demand, burnout, and the effect of workplace flexibility. Studies have found that flexible workplaces reduce burnout (Jing-Ying Lin, at all 2013). It has also been proved in the study that flexible work practices help increases business outcome. The improvement in business outcomes is attributed to the change in employees' work behaviour. Various studies highlight how workplace flexibility has been conceptualised across multiple disciplines. A survey of a large consulting firm finds that flexible work practices exceed far more than the approved set of regulations on workplace flexibility in Human Resource policies. The perception and understanding of employees have improved over the years in client-oriented responsiveness (Cañibano, 2019). Yet another study has proved that the benefits and implications differ for different generations of employees (Deepti s. at all 2022). It has been noted that gen Z value flexibility more than millennials. Studies have found that the perception and accessibility to workplace flexibility are essential to improving the well-being of employees.

Models of workplace flexibility: The “flexible firm” has been one of the most cited models in the field of workplace flexibility. It provides a foundation for further studies in this field wherein it proposes a division of workers into the core and peripheral workforce. On the other hand, the psychological contract theory suggests that the traditional concept of working for a firm for a lifetime is no longer valid. Employees work with an organisation if the psychological contract between employee and organisation is favourable. At the same time, the psychological contract is beyond anything written and agreed upon in black and white.

Methodology:

In line with the scale development process followed by (Dabholkar et al., 1996), various researchers in the field extracted scale items from the existing questionnaire (Yuchun Zhou 2019) . Based on the previous studies, some essential scale items have been extracted, a few statements

were added to the current scale and presented to an expert panel in the field for face validity, and necessary amendments have been incorporated. The scale was raised to 10 Information Technology professionals, and a thorough interview of the respondent was done to find problems related to the comprehension of wording, grammar etc. The consultation with the professionals helped the researcher understand various aspects of flexibility. Based on their feedback, the required adjustments have been made.

Variables:

X1) I am allowed to adjust my office hours. X2) My manager supports me during flexible work hours. X3) My job responsibilities are suitably aligned to support a flexible work environment. X4) My organisation has the required Information technology infrastructure to support telework. X5) I can opt for telework. X6) I get support from all stakeholders during flexible work arrangements. X7) It is difficult to collaborate with the team on flexible work options. (R). X8) I have the liberty to choose my work shift. X9) I have been provided with equipment or tool for telework. X10) I can opt for non-traditional hours of work based on my needs. X11) My performance can be effectively evaluated during flexible work arrangements. X12) My organisation has well defined and coded flexibility policy. X13) I can opt for extended leave for education/other purposes.

The set of statements received during the literature review is analysed using exploratory factor analysis to identify the relationships and structure of the items (Paré et al., 2015). Exploratory factor analysis will help us identify latent constructs in this study and the relationship of each item to a specific unobserved construct (Miyazaki H Seki Y 1987).

KMO Bartlett test of sphericity (Table 1) shows a score of 0.901, which indicates that the data is fit for factor analysis. The current test shows a significant value at less than the .05 level of significance; hence it can be concluded that there is redundancy in the variables. The data is suitable for factor analysis.

Table 1
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.901
Bartlett's Test of Sphericity	Approx. Chi-Square	2169.381
	df	78
	Sig.	.000

The communalities finds that more than 50 % of the variance of all the variables can be explained by the underlying factors.

The total variance explained table find that the first factor explains more than 48 % of the variance, whereas the following two variables explain close to 15 % and 9 %, respectively. All three factors combined have been able to explain close to 72% of the variance in the data. The cumulating % of variance remains the same after extraction and rotation. Based on the rotated component matrix (Table 3), we can club these statements in the following three factors (Table 2). The scores on statement 9 do not qualify for being included in any of the factors given below.

Table 2
Factors extracted from factor analysis

Factors	Statements	
Factor 1	X1, X5, X8, X10, X13	Option Available
Factor 2	X4, X6, X7, X12	Facilitating Ecosystem
Factor 3	X2, X3, X11	Managerial Support

Hence it will be dropped from the further study Based on the statements, we can name the factors as the following.

Table 3
Component Transformation Matrix

Component	1	2	3
1	.677	.573	.461
2	.363	-.806	.468
3	-.640	.149	.754

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Based on the factors received from the confirmatory factor analysis, we can say that perceived flexibility is the function of three crucial components: availability of flexibility options, Managerial support, and facilitating ecosystem (Figure 1).

Theoretical Framework:

With the changed business realities due to COVID 19, organisations have been forced to adopt one or the other flexible working options

(Jagriti Srivastava & Balagopal Gopalakrishnan 2022). In most cases, the availability of such options cannot be attributed to the organisation's culture. Still, it is more to do with the realignment needed to adjust to this health emergency. Hence, workplace flexibility mustn't be studied considering the options available in isolation. It is equally vital that the options available should be easy to exercise. And the is with which these options can be exercised can be explained into two subheads. Studies have proved that the availability of flexible options merely is not enough. It should be complemented by the policies and culture to be able to make it truly effective. One of the important aspects in improving the effectiveness in workplace flexibility is the availability of digital ecosystem. One most important aspect of the same is managerial support. Managerial support remains dominant because we have not adopted an autonomous working mode, such as the gig economy.



Figure 1

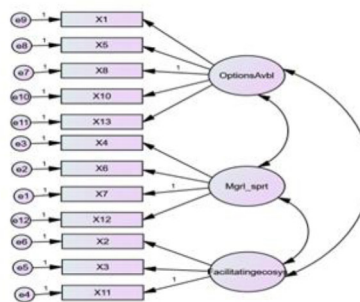


Figure 2

Confirmatory Factor Analysis

The complex structures of the relationship between the variables and underlying latent factors can be identified using the confirmatory factor analysis (Figure 2). The confirmatory factor analysis will help us identify the structure of the relationship among the latent and observed variables (Mueller & Hancock, 2001). A proper measurement model should be developed based on the insights received during the literature review in order to identify the structure of the relationship within the factor extracted from exploratory factor analysis. CFA is done to ensure the unidimensionality of the factors extracted through exploratory factor analysis. The structure of the relationship Confirmatory Factor Analysis:

The model fit is assessed through the Goodness to fit indicators and badness to fit indicators.

The CMIN/DF chi-square fit statistics /degree of freedom value less than three is accepted as a good model fit .The value in the current measurement model comes out to be 2.363 (Table 4), which is well within the acceptable range.

Model Fit Summary

Table 4
CMIN RMR, GFI

Model	NPAR	CMIN	DFP	CMIN/ DF	Model	RMR	GFI	AGFI	PGFI
Default model	27	120.529	51 .000	2.363	Default model	.065	.934	.900	.611
Saturated model	78	.000	0		Saturated model	.000	1.000		
Independence model	12	2144.554	66.000	32.493	Independence model	.522	.303	.176	.256

The Goodness of fit indicators indicates the fit between hypothesised model and the observed covariance matrix. A value of more than .90 is taken as an acceptable value. Adjustable Goodness to fit indicator also shows a value in the acceptable region (Table 5).

Table 5
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.944	.927	.967	.957	.967
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

The Root Mean Square of Error Approximation value (Table 6) of .067 is a reasonably good indicator of model fit. A value less than .10 is acceptable.

Table 6
RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.067	.052	.083	.034
Independence model	.323	.312	.335	.000

Reliability and Validity Analysis:

Convergent and Divergent Validity: Each construct dimension has a minimum of not less than 0.5 of the average variance explained. If the measurement error accounts for more than 0.5 of the variances, the measurement model is not adequate/ needs improvement. In the current measurement model, the average variance explained of all three factors, namely “Options Availability”, “Managerial Support”, and “Facilitating Ecosystem”, has a variance of more than 0.5, which means that the measurement model can explain the variance adequately.

Divergent validity is achieved since average variable explained (AVE) is more than the Maximum Shared Variance (MSV) for each dimension. The square root of the average variance explained is more than the inter-factor correlation. The logic behind this is that every latent variable explains more variance of their respective observed variables. The AVE is less than inter factor correlation in cases of multicollinearity issues.

Composite Reliability: The validity scores are arrived at using the validity master sheet provided in the stats tool package provided by Prof. James Gaskin (Table 7). The composite reliability score (Gaskin, 2016) is also called construct reliability. Many scholars have accepted C.R. scores above 0.6. As followed by (Brunner & Süß, 2005), scores above 0.08 should be taken in a conservative approach. As explained in (Almén et al., 2018),

Table 7

“Reliability Score arrived at using validity master sheet provided in the stats tool package provided by Prof. James Gaskin

	CR	AVE	MSV	MaxR(H)	Options Avbl	Mgrl_supt	Facilitating ecosys
OptionsAvbl	0.887	0.614	0.476	0.903	0.783		
Mgrl_supt	0.798	0.571	0.476	0.823	0.690	0.756	
Facilitatingecosys	0.891	0.674	0.289	0.910	0.538	0.425	0.821

the Average variance explained is less than cr for all factors but greater than .05; hence it is in an acceptable region and maximum shared variance are all in the acceptable region. All the Parameters are.

Conclusion

Theoretically, many studies have contributed to workplace flexibility studies. Workplace flexibility has come to focus in the recent past with the emergence of COVID 19, which forced companies toward flexible work options. This study puts forth three crucial factors in the existing body of knowledge on workplace flexibility, and this defines the underlying relationship of these factors with the overall workplace flexibility. The development of three factors namely options availability, managerial support and ease of access. This scale can be studied with emergence of new and innovative approach of working. The balance between traditional full time 9 to 5 employment may see newer transformation making it even more flexible. The current study can also help further the knowledge on aspects of workplace flexibility. Companies can utilise this scale to measure the perceived flexibility enjoyed by the employees in an organisation. It will help them tailor various options to optimes the employee's well-being.

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