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Analysing workplace spirituality as a mediator in the link between job satisfaction and organisational citizenship behaviour

An analysis of workplace spirituality

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Abstract

Purpose – Without competent and talented employees, no organisation can grow and sustain for a long time. It becomes essential for every organisation to retain and satisfy the employees to achieve their predetermined organisational goals. The present study examines the mediating effect of workplace spirituality dimensions (i.e. meaningful work, compassion, transcendence, mindfulness and sense of community) in the link between job satisfaction and organisational citizenship behaviour (OCB) among managerial employees of selected manufacturing firms of Chhattisgarh state.

Design/methodology/approach – Correlational research design was incorporated. Employees working at managerial positions at different private manufacturing firms of Chhattisgarh state were chosen as a sample for the present study. Regression analysis and confirmatory factor analysis tools were used to analyse the primary data collected from 400 respondents.

Findings – The results revealed that all the dimensions of workplace spirituality, i.e. meaningful work, compassion, transcendence, mindfulness and sense of community, were found statistically significant and partially mediated between job satisfaction and OCB among managerial employees of Chhattisgarh. The authors discussed the results thoroughly and provided avenues for the future research.

Research limitations/implications – The findings of the present research study will assist all private organisations in rethinking their employee retention and satisfaction strategies, since the presence of workplace spirituality in the organisation has a significant and beneficial impact on its environment. The current research will assist organisations in creating circumstances for OCB for employee via the introduction of workplace spirituality.

Originality/value – Creating spirituality in the current situation, where Covid-19 has suddenly affected all organisations around the world, would be extremely beneficial in terms of employee retention and satisfaction, which would eventually aid in the development of an environment conducive to citizenship behaviour at the workplace. However, the role of workplace spirituality as a mediator in the link between job satisfaction and OCB is innovative and has received little attention in the research community.

Keywords Workplace spirituality, Job satisfaction, Organisational citizenship behaviour, Manufacturing organisations, Meaningful work, Mindfulness, Transcendence, Compassion, Sense of community

Paper type Research paper

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1. Introduction

Modern organisations are currently facing several employee-related issues, such as absenteeism, turnover, corruption, stress-related illness, conflict, burnout, violence, etc. Previous researchers evidenced that these issues are abundant where spirituality is not present in the workplace (Nasina and Doris, 2011). Workplace spirituality is itself demonstrating an essential ingredient in order to retain and satisfy the talented employees of the organisation, which eventually helps the growth and development of the same (Chawla and Guda, 2010; Choerudin, 2014; Giacalone and Jurkiewicz, 2003; Kinjerski and Skrypnik, 2008; Van Der Walt and De Klerk, 2014). Workplace spirituality pervades the society and promotes peer knowledge, while also allowing them to express their sentiments for other people (Giacalone and Jurkiewicz, 2003). It is all about pursuing a spiritual path in one's employment as a means of moving forward and contributing to the community in a meaningful manner. It entails showing compassion, understanding and support to others, as well as being truthful and trustworthy to oneself and others. Previous studies explained that workplace spirituality has a significant role in creating the positive environment for OCB (Belwalkar *et al.*, 2018; Charoensukmongkol *et al.*, 2015).

OCB is a notion that is still in the early stages of development that concerns how and why employees contribute positively to their organisations outside of their designated job duties; it is a concept that has gained popularity in recent years. When it comes to OCB, researchers are asking basic issues about the conditions in which people "go the extra mile" at their places of employment. But, more specifically, what are the personal characteristics and organisational settings that motivate people to contribute in ways that go beyond their official job requirements? Was there a compelling reason for someone to contribute to a colleague's fundraising efforts or to bring in refreshments at the workplace? The definition of OCB has evolved as a result of its use. Organ provided the fundamental definition of OCB in 1988, stating that it is "individual behaviour that is discretionary, not expressly acknowledged by the formal incentive system, and that, taken together, enhances the effective functioning of the organisation". Giving coworkers a ride home, recommending methods to enhance a colleague's work or simply feeding paper into the common printer are all examples of OCBs. It also includes assisting with the recruitment of competent personnel for certain jobs, providing ideas to enhance workplace amenities and working unpaid overtime. Because of these, such behaviours are desirable, yet they are difficult to nurture inside traditional organisational structures. Organisations wishing to promote OCB must first identify the elements and specific actions that may contribute to the development of the condition.

Spirituality has the ability to influence people's conduct in a positive manner from the inside out (Heaton *et al.*, 2004). Employees' spirituality may assist them in identifying and comprehending the significance in their life, which can be beneficial to their professional growth (Lips-Wiersma, 2002). In addition, promoting spirituality in the workplace may be seen as an approach to organisational growth since it allows for the expression of values like as virtue, citizenship behaviour, honesty and integrity in a safe and comfortable environment (Petchsawang and Morris, 2006).

Moreover, it has been pointed out by Halbesleben and Bellairs (2016) that just when two persons display the same kind of OCB, it does not always follow that they are motivated by the same reasons. When two individuals are being courteous to one another, one may be motivated by image management and the other by concern for the quality of their workplace environment. Despite the fact that it is difficult to identify conclusive drivers and indicators of OCB, owing to its importance in the development and prosperity of the organisation, it has become necessary to undertake research in order to identify such elements. The present study conducts an empirical investigation of workplace spirituality dimensions (i.e. meaningful work, mindfulness, compassion, transcendence and sense of

community) as mediating variables in the link between job satisfaction and OCB among managerial employees of private manufacturing firms of Chhattisgarh state.

2. Literature review

2.1 Workplace spirituality

Globally, there is no clear consensus about workplace spirituality, with almost 70 definitions existing (Giacalone and Jurkiewicz, 2003; Markow and Klenke, 2005; Karakas, 2010; Valecha, 2012). Workplace spirituality identifies that when a person comes to work, he/she brings his/her unique skill set, talents and interests (Doraiswamy and Deshmukh, 2015). According to Marques *et al.* (2007), workplace spirituality is an experience of interconnectedness, a sense of community and a connection to higher goals by individuals at work.

Different researchers have shown the concept of workplace spirituality through distinct elements. Westgate (1996) has identified four elements of workplace spirituality, i.e. meaning and purpose in work, transcendent experiences (something beyond normal rationality), intrinsic values (internalised values that direct individuals' behaviour) and community aspects. Ashmos and Duchon (2000) found in their study that workplace spirituality should not just be considered a manifestation of one's intellectual capabilities at work but expressing oneself entirely at the workplace.

Giacalone and Jurkiewicz (2003) defined spirituality at the workplace as an organisational value framework that encourages employees' various transcendental experiences through work and motivates people to have a sense of connection with other employees, increasing completeness and joy. According to Ashmos and Duchon (2000), workplace spirituality acknowledges that every employee has an inner life, which encourages and is encouraged through meaningful work in the organisation.

2.2 Job satisfaction and workplace spirituality

Despite the fact that job satisfaction has been widely investigated, consistent findings have not been found. Job satisfaction may have a spiritual basis, rather than merely a "materialistic" one, because contemporary employees consider aspects such as self-actualisation, being associated with an ethical organisation, having interesting work, earning money, having colleagues who serve humanity and serving future generations and the community environment to be important, meaningful and purposeful in their work (Mitroff and Denton, 1999).

Additionally, meaning and purpose in life contribute to a person's well-being (or life satisfaction) (Zika and Chamberlain, 1992). Thus, spirituality plays a critical role in a person's well-being (or life satisfaction). This argument is backed up by Young *et al.* (1998), who discovered that spirituality helps people retain their overall well-being. As a result, it is thought that a spiritual person will be usually satisfied with life and, as a result, will interpret events and act differently than a dissatisfied person. Thus, a person who is satisfied is more likely to exhibit more spiritual behaviour at work in order to maintain that satisfaction and to develop a stronger connection with the organisation.

2.3 Job satisfaction and organisational citizenship behaviour

Several academics have addressed the link between job satisfaction and OCB. Non-academic employees of the Malaysian University System were studied by Mohamed (2016) for the relationship between job satisfaction and OCB. He discovered that both intrinsic and extrinsic job satisfaction had a positive impact on OCB. According to Unal (2013), four elements (business policy, supervision and advancement, the job itself, remuneration and coworkers) are linked to OCB.

Furthermore, employees' level of job satisfaction is critical in influencing their level of OCB. Employees that exhibit a high degree of OCB will assist the organisation in achieving its goals and will also contribute to the efficacy and performance of the company (Organ, 2018). Work satisfaction and OCB have been shown to be strongly correlated in earlier research (Arif and Chohan, 2012; Miao and Kim, 2010; Organ, 2018; Pavalache-Ilie, 2014; Ruhana, 2020; Unal, 2013). Moreover, these research studies have shown that workers who are extremely happy exhibit higher levels of OCB than their counterparts. As a result, OCB leads to improved organisational performance as well as increased employee retention rates.

2.4 Workplace spirituality and organisational citizenship behaviour

The workplace's spirituality was called by employees' experience (Meezenbroek *et al.*, 2012; Porshariati *et al.*, 2014). When employees can express their desire for caring and showing compassion with others, experiencing inner consciousness in search of meaning and purpose at work leads him/her to transcendence, so this can be explained as having a positive experience by employees during working in the organisation. This exposure of employees makes them work with pleasure in the organisation, and they do other positive things too, which exceed their standard job description in the workplace (Kazemipour and Mohd Amin, 2012). Hence, studies reveal that workplace spirituality helps in enhancing the organisational citizenship behaviour (OCB) among employees. Similar findings were noted by some past studies (Al-Mahdy *et al.*, 2021; Belwalkar *et al.*, 2018; Charoensukmongkol *et al.*, 2015; Garg, 2018; Jannah and Santoso, 2017; Makiah *et al.*, 2018; Sani *et al.*, 2018). But there were some studies explain insignificant relation between workplace spirituality and OCB (Kazemipour and Mohd Amin, 2012; Nasurdin *et al.*, 2013; Utami *et al.*, 2021).

2.5 Mediation of workplace spirituality the link between job satisfaction and organisation citizenship behaviour

Recently, researchers, all around the world, have begun to pay more attention to the idea of workplace spirituality. There have been very limited research studies conducted taking workplace spirituality as a mediator in the link between job satisfaction and OCB. But studies connecting the variables have been found explaining significant relationships. The correlation of job satisfaction (Arif and Chohan, 2012; Miao and Kim, 2010; Organ, 2018; Pavalache-Ilie, 2014; Unal, 2013) and workplace spirituality (Belwalkar *et al.*, 2018; Charoensukmongkol *et al.*, 2015; Garg, 2018; Jannah and Santoso, 2017; Makiah *et al.*, 2018; Sani *et al.*, 2018) on OCB have been noted in several studies. It has been seen that individuals who are satisfied are tend to engage more in meaningful work, show compassionate and mindfulness behaviour, strive for transcendence at work and connect with other employees in order to complete the job efficiently, which leads them to perform extra role behaviour for improved organisational performance. Thus, in order to remain satisfied at work, individuals connect with spirituality at the workplace, which further encourages them to perform OCB.

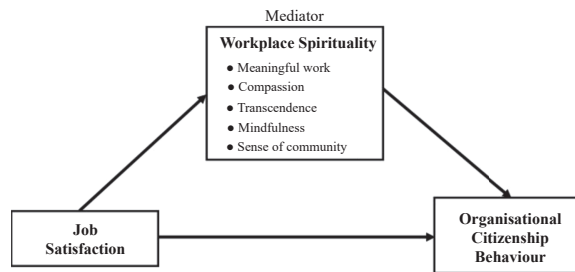
2.6 Theoretical model of the present study

The present study attempts to answer the following questions:

- RQ1.* Whether workplace spirituality dimensions (i.e. meaningful work, mindfulness, transcendence, compassion and sense of community) mediate as a link between job satisfaction and OCB among the managerial employees of selected private manufacturing firms of Chhattisgarh state.

Thus, the author proposes the following theoretical model in Figure 1:

Figure 1.
Theoretical model



3. Methodology

3.1 Hypotheses of the study

Based on the conceptual model of the present study, the following hypotheses are formulated:

- H1. Meaningful work would emerge as a positive mediator between job satisfaction and OCB.
- H2. Compassion would emerge as a positive mediator between job satisfaction and OCB.
- H3. Transcendence would emerge as a positive mediator between job satisfaction and OCB.
- H4. Mindfulness would emerge as a positive mediator between job satisfaction and OCB.
- H5. Sense of community would emerge as a positive mediator between job satisfaction and OCB.
- H6. Overall workplace spirituality (OWS) would emerge as a positive mediator between job satisfaction and OCB.

3.2 Operational definition

3.2.1 Meaningful work. According to Ashmos and Duchon (2000), meaningful work shows the importance, energising and pleasantness about work. Meaningful work is a feeling of completeness and harmoniousness with something higher purpose that clarifies their work (Overell, 2008).

3.2.2 Mindfulness. Mindfulness is awareness of a person's thoughts of surrounding environments. Petchsawang and Duchon (2009) defined mindfulness as a status of being aware of individuals' thoughts, emotions and actions moment by moment via self-inner consciousness. It is about present mind of a person without any distraction related to past, future or any other thing.

3.2.3 Transcendence. According to Petchsawang and Duchon (2012), transcendence is a special energy, wonderful actions and vitality at work experienced by matching an individual's inner and outer life via self-fulfilment. In other words, transcendence is like having a feeling beyond the physical or standard level.

3.2.4 Compassion. Compassion refers to care for others or empathy, often saying an aspiration to help. According to Petchsawang and Duchon (2009), compassion is defined as deep alertness, sympathy for others and a desire to relieve others from suffering, which eventually enforces to take responsibility for others who are distressed and less fortunate.

3.2.5 Sense of community. According to McMillan and Chavis (1986), sense of community can be defined as a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together.

3.2.6 Job satisfaction. In the words of Dandona (2013), job satisfaction is considered an essential determinant which explains that employees in the organisation love their work and try to engage themselves as much as in their work, which leads to enhanced individual performance and productivity and further will remain in the organisation for a long term.

3.2.7 Organisational citizenship behaviour. According to Organ (1997), OCB can be defined as the contributions to the continuance and facilitation of social and psychological environment, which directly affects the performance of tasks significantly. Individuals in the organisations at times reveal certain behaviours that go beyond the assigned duty. Such behaviour is known as OCB (Tambe and Shanker, 2014).

3.3 Sampling and data collection

As per the industrialisation of private manufacturing firms in Chhattisgarh state, four districts were selected, i.e. Raipur, Durg, Raigarh and Korba. Then, using stratified random sampling, the primary responses from nine manufacturing firms were collected. Respondents working at managerial positions in different private manufacturing firms were chosen as participants for the present study. Authors ensured that responses taken from each firm would have equal/appropriate representation in the analysis. The data were collected during September 2019 to March 2020.

3.4 Research design and sample size

Correlational research design is applied in the present study. Employees working at the managerial positions at different private manufacturing firms of Chhattisgarh state were chosen as sample of the study. A total of 530 questionnaires were delivered to the participants across nine private manufacturing firms of four districts in Chhattisgarh state. Out of which, 400 responses were found useable for further analysis, approximately 75.47% (see Table 1).

3.5 Research instrument

Adoption of right instrument is the prime necessity for the collection of right data for the study. The present study followed the scientific process of selection, development and validation of the scale. First, authors thoroughly studied the previous literature and found validated scale of previous studies. The authors adapted seven constructs with certain modification as per the research objectives. Second, the adapted/modified constructs were sent to four subject experts for examining the content validity and to gain valuable insights. Experts confirmed the content validity with minor changes. Finally, the authors conducted pilot study with 50 respondents to check the content creation, in which no modifications were asked by the participants in the final questionnaire. Hence, a final 46-item questionnaire was ready for collecting the primary data as showed in Table 2.

3.6 Reliability and validity measures

Smart PLS 3 (trial version) was incorporated for measurement analysis. In Table 3, Cronbach's alpha and Rho A values were found to be greater than 0.7 (Nunnally, 1978; Robert, 2004) for all the constructs taken in the present study, which explains the constructs' reliability measures. Similarly, convergent validity was noted greater than 0.7 (Bagozzi and Yi, 1988; Hair *et al.*, 2010), and average variance extracted (AVE) was found greater than 0.5 (Henseler *et al.*, 2009) for all the constructs. In Table 4, discriminant validity helps to identify whether all the constructs taken in the study are independent from each other. The values

				An analysis of workplace spirituality
Category	Sub category	Frequency	Percent (%)	
Gender	Male	337	84.25	115
	Female	63	15.75	
Age	Below 30	113	28.25	
	31–40	135	33.75	
	41–50	97	24.25	
	50 above	55	13.75	
Marital status	Single	89	22.25	
	Married	311	77.75	
Family type	Nuclear family	160	40	
	Joint family	240	60	
Family member	1–3 members	60	15	
	4–6 members	96	24	
	More than 6 members	244	61	
Religion	Hindu	205	51.25	
	Muslim	103	25.75	
	Sikh	45	11.25	
	Christian	38	9.5	
	Others	9	2.25	
Education	12th or less	47	11.75	
	UG degree	109	27.25	
	PG degree	178	44.5	
	Doctorate degree	11	2.75	
	Others	55	13.75	
Job type	Regular	258	64.5	
	Temporary	142	35.5	
Experience	0–3 years	74	18.5	
	4–6 years	118	29.5	
	7–10 years	125	31.25	
	More than 10 years	83	20.75	
Personal income (Per month)	Below 20,000	131	32.75	
	20,001–40,000	180	45	
	Above 40,000	89	22.25	

Table 1.
Demographic
description

explained more than 0.7 for each construct, thus it can be derived that the present study has a satisfactory measurement model (Dubey and Sahu, 2022).

4. Analysis and results

4.1 Testing of H1

Regression analysis was incorporated to examine the mediating effect of meaningful work between job satisfaction and OCB in which Table 5 and Figure 2 explain the direct and significant effect between job satisfaction on meaningful work ($JS \rightarrow MW$) ($\beta = 0.244$, $t = 5.035$, $p < 0.001$). Job satisfaction was also found to be significantly associated with OCB ($JS \rightarrow OCB$) ($\beta = 0.430$, $t = 9.728$, $p < 0.001$). Meaningful work indicates significant relations with OCB ($MW \rightarrow OCB$) ($\beta = 0.197$, $t = 4.461$, $p < 0.001$). Thus, the direct effect between variables was found to be significantly connected; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Table 5 and Figure 2 also showed the significant indirect effect between job satisfaction and OCB through meaningful work ($JS \rightarrow MW \rightarrow OCB$) ($\beta = 0.048$, $p < 0.001$) with total effect ($\beta = 0.479$, $p < 0.001$). Hence, it concludes that meaningful work is found to be partially mediated (0.048) between job satisfaction and OCB.

The measurement model shows an acceptable (Dubey *et al.*, 2020) model fit of the data with $\chi^2/df = 2.624$, AGFI = 0.881, CFI = 0.901, GFI = 0.912, NFI = 0.870, RMSEA = 0.058. Thus, the model exhibits a good fit.

<i>Workplace spirituality</i>		Adapted from Petchsawang and Duchon (2009)
<i>(A) Meaningful work</i>		
1	I experience joy in my work	
2	I look forward to coming to work most days	
3	I believe others experience joy as a result of my work	
4	I see a connection between my work and the larger social good of my community	
5	I understand what gives my work personal meaning	
6	The work I do is connected to what I think is important in my life	
<i>(B) Mindfulness</i>		Adapted from Petchsawang and Duchon (2009)
1	I do jobs and tasks automatically, without being aware of what I'm doing	
2	I find myself working without paying attention	
3	At work, I break or spill things because of carelessness, not paying attention, or thinking of something else	
4	I rush through work activities without being reality attentive to them	
5	I go to the places on "automatic pilot" and then wonder why I'm there	
6	It seems I am working automatically without much awareness of what I'm doing	
<i>(C) Transcendence</i>		Adapted from Kinjerski (2013)
1	At times, I experience "high" at my work	
2	At moments, I experience complete joy and ecstasy at work	
3	At times, I experience an energy and vitality at work this is difficult to describe	
4	I have moments at work in I have no senses of time and space	
5	I experience moments at work where everything is blissful	
<i>(D) Compassion</i>		Adapted from Pradhan <i>et al.</i> (2017)
1	I can easily feel the distress of others	
2	I help others when they are in trouble	
3	I am concerned about my colleagues' needs and requirements	
4	I put conscious efforts to bring a viable solution to others' problem	
<i>(E) Sense of community</i>		Adapted from Kinjerski (2013)
1	I experience a real sense of trust and personal connection with my co-workers	
2	I share a strong sense of purpose and meaning with my co-workers about our work	
3	I feel like I am part "a community" at work	
<i>Job satisfaction</i>		Adapted from Macdonald and MacIntyre (1997)
1	I receive recognition for a job well done	
2	I feel close to the people at work	
3	I feel good about working at this company	
4	I feel secure about my job	
5	I believe management is concerned about me	
6	On the whole, I believe work is good for my physical health	
7	My wages are good	
8	All my talents and skills are used at work	
9	I get along with my supervisors	
10	I feel good about my job	

Table 2.
Theoretical construct
and measurement scale

(continued)

*Organisational citizenship behaviour*Modified from DiPaola and Hoy
(2005)

- 1 Employees help subordinates on their own time
- 2 Employees wastes a lot of work time
- 3 Employees voluntarily help new employees
- 4 Employees volunteer to serve on new groups
- 5 Employees arrive to work and meeting on time
- 6 Employees take the initiative to introduce themselves to substitutes and assist them
- 7 Employees begin work promptly and use work time effectively
- 8 Employees give colleagues advanced notice of changes in schedule or routine
- 9 Employees give an excessive amount of busy work
- 10 Employee groups in the organization work effectively
- 11 Employees provide their personal time to complete work voluntarily
- 12 Employees make innovative suggestions to improve the overall quality of organizational products

Table 2.

4.2 Testing of H2

Regression analysis was applied to investigate the mediating effect of compassion between job satisfaction and OCB in which Table 6 and Figure 3 explain the direct and significant effect between job satisfaction and compassion ($JS \rightarrow CM$) ($\beta = 0.281, t = 5.850, p < 0.001$). Job satisfaction is also found significantly associated with OCB ($JS \rightarrow OCB$) ($\beta = 0.421, t = 9.438, p < 0.001$). Compassion also indicates significant and positive correlation with OCB ($CM \rightarrow OCB$) ($\beta = 0.203, t = 4.554, p < 0.001$). Thus, the direct effect between variables was found to be significantly connected; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Table 6 and Figure 3 also showed the indirect effect between job satisfaction and OCB through compassion significantly associated ($JS \rightarrow CM \rightarrow OCB$) ($\beta = 0.057, p < 0.001$) with the total effect ($\beta = 0.479, p < 0.001$). Hence, it concludes that compassion is found to be partially mediated (0.057) between job satisfaction and OCB.

The measurement model shows an acceptable model fit of the data with $\chi^2/df = 2.845$, AGFI = 0.821, CFI = 0.941, GFI = 0.859, NFI = 0.921, RMSEA = 0.067. Thus, the model exhibits a good fit.

4.3 Testing of H3

Regression analysis is incorporated to investigate the mediating effect of transcendence between job satisfaction and OCB in which Table 7 and Figure 4 explain the direct and significant effect between job satisfaction and transcendence ($JS \rightarrow T$) ($\beta = 0.397, t = 8.643, p < 0.001$). Job satisfaction is also found significantly linked with OCB ($JS \rightarrow OCB$) ($\beta = 0.388, t = 8.342, p < 0.001$). Transcendence indicates significant correlation with OCB ($T \rightarrow OCB$) ($\beta = 0.228, t = 4.906, p < 0.001$). Thus, the direct effect between variables was found to be significantly connected; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Also, Table 7 and Figure 4 explain the indirect effect between job satisfaction and OCB through transcendence associated significantly ($JS \rightarrow T \rightarrow OCB$) ($\beta = 0.091, p < 0.001$) with the total effect ($\beta = 0.479, p < 0.001$). Thus, it concludes that transcendence is found to be partially mediated (0.091) between job satisfaction and OCB.

The measurement model shows an acceptable model fit of the data with $\chi^2/df = 2.547$, AGFI = 0.935, CFI = 0.980, GFI = 0.962, NFI = 0.970, RMSEA = 0.061. Thus, the model exhibits a good fit.

4.4 Testing of H4

Regression analysis is incorporated to investigate the mediating effect of mindfulness between job satisfaction and OCB in which Table 8 and Figure 5 explain the direct and

Construct	Item Code	Item loading	Cronbach alpha	Rho A	CR	AVE
Meaningful work	MW1	0.751	0.853	0.877	0.865	0.521
	MW2	0.702				
	MW3	0.757				
	MW4	0.785				
	MW5	0.861				
	MW6	0.727				
Mindfulness	MF1	0.778	0.866	0.868	0.864	0.517
	MF2	0.757				
	MF3	0.761				
	MF4	0.744				
	MF5	0.777				
	MF6	0.784				
Transcendence	T1	0.706	0.74	0.759	0.753	0.581
	T2	0.714				
	T3	0.785				
	T4	0.701				
	T5	0.762				
Compassion	CM1	0.732	0.851	0.853	0.85	0.588
	CM2	0.723				
	CM3	0.808				
	CM4	0.80				
Sense of community	SoC1	0.741	0.787	0.791	0.786	0.552
	SoC2	0.778				
	SoC3	0.804				
Job satisfaction	JS1	0.795	0.79	0.841	0.797	0.509
	JS2	0.71				
	JS3	0.783				
	JS4	0.781				
	JS5	0.778				
	JS6	0.746				
	JS7	0.73				
	JS8	0.785				
	JS9	0.754				
	JS10	0.746				
Leadership	LS1	0.814	0.804	0.867	0.804	0.543
	LS2	0.793				
	LS3	0.798				
	LS4	0.774				
	LS5	0.761				
	LS6	0.709				
	LS7	0.755				
	LS8	0.78				
	LS9	0.76				
	LS10	0.749				
Organisational citizenship behaviour	OCB1	0.72	0.867	0.875	0.865	0.555
	OCB2	0.733				
	OCB3	0.757				
	OCB4	0.745				
	OCB5	0.79				
	OCB6	0.739				
	OCB7	0.716				
	OCB8	0.753				
	OCB9	0.749				
	OCB10	0.752				
	OCB11	0.702				
	OCB12	0.799				

Table 3. Overall workplace spirituality
Measurement results **Note(s):** CR = Critical ratio; AVE = Average variance extracted

	CM	JS	MW	MF	OCB	SoC	T	OWS
CM	0.767							
JS	0.447	0.756						
MW	0.57	0.36	0.722					
MF	0.275	0.617	0.453	0.719				
OCB	0.416	0.715	0.375	0.458	0.796			
SoC	0.455	0.702	0.271	0.542	0.582	0.743		
T	0.737	0.607	0.66	0.683	0.51	0.487	0.717	
OWS	0.716	0.648	0.655	0.762	0.547	0.641	0.692	0.785

Note(s): Where, CM = Compassion; JS = Job satisfaction; MW = Meaningful work; MF = Mindfulness; OCB = Organisational Citizenship Behaviour; SoC = Sense of Community; T = Transcendence; OWS = Overall Workplace Spirituality

Table 4.
Discriminant validity
(Fornell–Larcker
criterion)

Predicted relationship	Standardised path loading (β)	t-value	p-value	Indirect effect	Total effect
JS → MW	0.244	5.035	***	–	0.244
JS → OCB	0.430	9.728	***	0.048	0.479
MW → OCB	0.197	4.461	***	–	0.197

Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; MW = Meaningful work; OCB = Organisational citizenship behaviour

Table 5.
Direct, indirect and
total effect between job
satisfaction,
meaningful work
and OCB

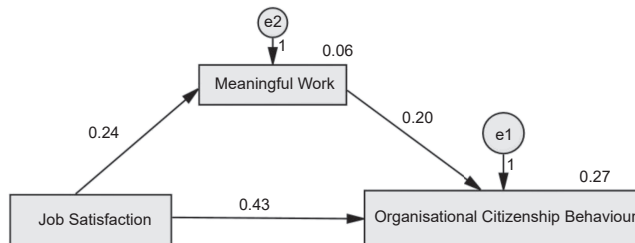


Figure 2.
Mediating effect of
meaningful work
between job
satisfaction and OCB

Predicted relationship	Standardised path loading (β)	t-value	p-value	Indirect effect	Total effect
JS → CM	0.281	5.850	***	–	0.281
JS → OCB	0.421	9.438	***	0.057	0.479
CM → OCB	0.203	4.554	***	–	0.203

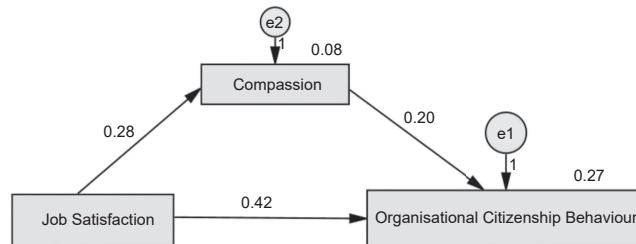
Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; CM = Compassion; OCB = Organisational citizenship behaviour

Table 6.
Direct, indirect and
total effect between job
satisfaction,
compassion and OCB

significant effect between job satisfaction and mindfulness (JS \rightarrow MF) ($\beta = 0.432$, $t = 9.564$, $p < 0.001$). Job satisfaction is also found significantly linked with OCB (JS \rightarrow OCB) ($\beta = 0.373$, $t = 7.912$, $p < 0.001$). Mindfulness also indicates significant correlation with OCB (MF \rightarrow OCB)

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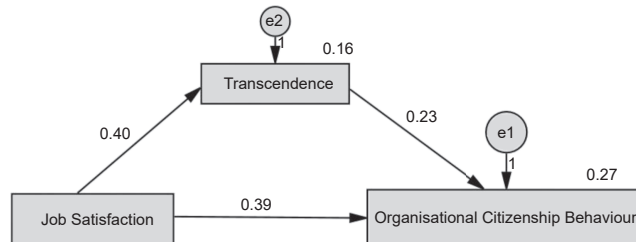
Figure 3.
Mediating effect of
compassion between
job satisfaction
and OCB



Predicted relationship	Standardised path loading (β)	<i>t</i> -value	<i>p</i> -value	Indirect effect	Total effect
JS \rightarrow T	0.397	8.643	***	–	0.397
JS \rightarrow OCB	0.388	8.342	***	0.091	0.479
T \rightarrow OCB	0.228	4.906	***	–	0.228

Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; T = Transcendence; OCB = Organisational citizenship behaviour

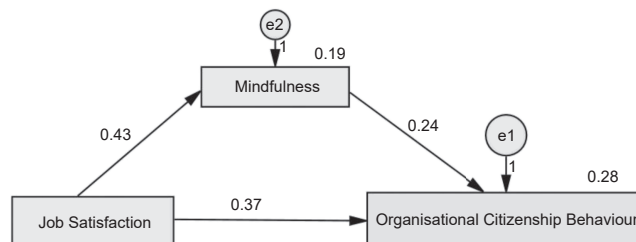
Figure 4.
Mediating effect of
transcendence between
job satisfaction
and OCB



Predicted relationship	Standardised path loading (β)	<i>t</i> -value	<i>p</i> -value	Indirect effect	Total effect
JS \rightarrow MF	0.432	9.564	***	–	0.432
JS \rightarrow OCB	0.373	7.912	***	0.105	0.479
MF \rightarrow OCB	0.244	5.168	***	–	0.244

Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; MF = Mindfulness; OCB = Organisational citizenship behaviour

Figure 5.
Mediating effect of
mindfulness between
job satisfaction
and OCB



($\beta = 0.244$, $t = 5.168$, $p < 0.001$). Thus, the direct effect between variables was found to be significantly connected; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Also, Table 8 and Figure 5 indicate the indirect effect between job satisfaction and OCB through mindfulness associated significantly (JS \rightarrow MF \rightarrow OCB) ($\beta = 0.105$, $p < 0.001$) with the total effect ($\beta = 0.479$, $p < 0.001$). Hence, it concludes that mindfulness is found to be partially mediated (0.105) between job satisfaction and OCB.

The measurement model shows an acceptable model fit of the data with $\chi^2/df = 2.950$, AGFI = 0.921, CFI = 0.942, GFI = 0.931, NFI = 0.966, RMSEA = 0.054. Thus, the model exhibits a good fit.

4.5 Testing of H5

Regression analysis is incorporated to examine the mediating effect of sense of community between job satisfaction and OCB in which Table 9 and Figure 6 explain the direct and significant effect between job satisfaction and sense of community (JS \rightarrow SoC) ($\beta = 0.509$, $t = 11.809$, $p < 0.001$). Job satisfaction is also found significantly associated with OCB (JS \rightarrow OCB) ($\beta = 0.329$, $t = 6.726$, $p < 0.001$). Sense of community also indicates significant correlation with OCB (SoC \rightarrow OCB) ($\beta = 0.294$, $t = 6.021$, $p < 0.001$). Thus, the direct effect between variables was found to be significantly connected; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Also, Table 9 and Figure 6 showed the indirect effect between job satisfaction and OCB through sense of community associated significantly (JS \rightarrow SoC \rightarrow OCB) ($\beta = 0.150$, $p < 0.001$) with the total effect ($\beta = 0.479$, $p < 0.001$). Hence, it concludes that sense of community is found to be partially mediated (0.150) between job satisfaction and OCB.

The measurement model shows an acceptable model fit of the data with $\chi^2/df = 2.750$, AGFI = 0.924, CFI = 0.874, GFI = 0.899, NFI = 0.911, RMSEA = 0.072. Thus, the model exhibits a good fit.

4.6 Testing of H6

Regression analysis was applied to test the mediating effect of OWS in the link between job satisfaction and OCB in which Table 10 and Figure 7 explain that job satisfaction is

Predicted relationship	Standardised path loading (β)	<i>t</i> -value	<i>p</i> -value	Indirect effect	Total effect
JS \rightarrow SoC	0.509	11.809	***	–	0.509
JS \rightarrow OCB	0.329	6.726	***	0.150	0.479
SoC \rightarrow OCB	0.294	6.021	***	–	0.294

Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; SoC = Sense of community; OCB = Organisational citizenship behaviour

Table 9.
Direct, indirect and total effect between job satisfaction, sense of community and OCB

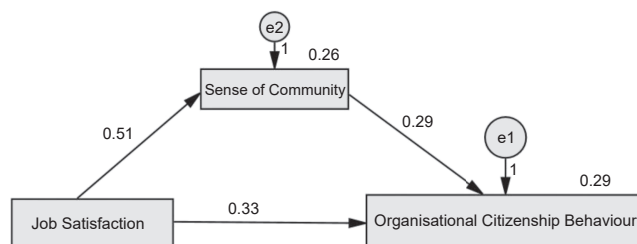


Figure 6.
Mediating effect of sense of community between job satisfaction and OCB

significantly connected with OWS ($JS \rightarrow OWS$) ($\beta = 0.454, t = 10.19, p < 0.001$) and OCB ($JS \rightarrow OCB$) ($\beta = 0.337, t = 6.664, p < 0.001$). Also, OWS is found to be significantly associated with OCB ($OWS \rightarrow OCB$) ($\beta = 0.312, t = 7.196, p < 0.001$). Thus, the direct effect between the variables was found to be connected significantly; hence, it is evidenced to be the case of partial mediation (Dubey and Sahu, 2022). Table 10 and Figure 7 also indicates the indirect effect between job satisfaction and OCB through OWS significantly associated ($JS \rightarrow OWS \rightarrow OCB$) ($\beta = 0.117, p < 0.001$) with the total effect ($\beta = 0.454, p < 0.001$). Hence, it concludes that OWS is found to be partially mediated (0.117) between job satisfaction and OCB (see Table 11).

Table 10.
Direct, indirect and
total effect between job
satisfaction, workplace
spirituality and OCB

Predicted relationship	Standardised path loading (β)	t-value	p-value	Indirect effect	Total effect
JS \rightarrow OWS	0.454	10.19	***	–	0.454
JS \rightarrow OCB	0.337	6.664	***	0.117	0.454
OWS \rightarrow OCB	0.312	7.196	***	–	0.312

Note(s): *** indicates significance level ($p < 0.001$); JS = Job satisfaction; OWS = Overall workplace spirituality; OCB = Organisational citizenship behaviour

Figure 7.
Mediating effect of
workplace spirituality
between job
satisfaction and OCB

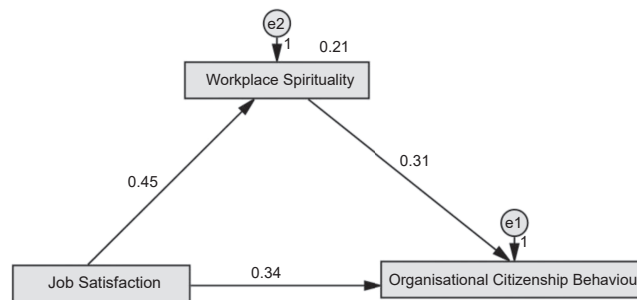


Table 11.
Outcomes of proposed
hypotheses of the
present study

Hypotheses	Statements	Results
H1	Meaningful work would emerge as a positive mediator between job satisfaction and OCB.	Confirmed
H2	Compassion would emerge as a positive mediator between job satisfaction and OCB.	Confirmed
H3	Transcendence would emerge as a positive mediator between job satisfaction and OCB.	Confirmed
H4	Mindfulness would emerge as a positive mediator between job satisfaction and OCB.	Confirmed
H5	Sense of community would emerge as a positive mediator between job satisfaction and OCB.	Confirmed
H6	Overall workplace spirituality would emerge as positive mediator between Job satisfaction and OCB.	Confirmed

The measurement model shows an acceptable model fit of the data with $\chi^2/df = 2.811$, AGFI = 0.901, CFI = 0.886, GFI = 0.901, NFI = 0.920 and RMSEA = 0.077. Thus, the model exhibits a good fit.

5. Findings and discussion

The results of the first hypothesis test revealed that meaningful work evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted. Thus, it can be concluded that when meaning and purpose at work are added, a substantial relationship between job satisfaction and OCB is discovered among managerial employees of selected private manufacturing companies. This suggests that the existence of meaningful employment in an organisation has a positive relationship with the satisfaction of employees and their participation in civic activities at work. Employees' sense of meaning and purpose at work instils positive sentiments in them, which leads to them achieving organisational efficiency by going above and beyond their job responsibilities.

The outcome of the second hypothesis test predicted that compassion evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted. Therefore, it can be concluded that when compassion is brought into the workplace, a significant link is shown between job satisfaction and OCB among managerial employees of selected private manufacturing firms. It suggests that the existence of the compassion element in the workplace has a beneficial impact on the satisfied workers' willingness to engage in citizenship behaviour. When workers show compassion for one another, it fosters cooperation and camaraderie inside the organisation, which in turn encourages citizenship behaviour, which leads to improved organisational performance.

Similarly, the result of third hypothesis test indicated that transcendence evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted. So, it can be concluded that when the transcendence component is added into the workplace, a statistically significant relationship is shown between job satisfaction and OCB. This suggests that the existence of the transcendence factor has a considerable impact on the relationship between satisfied workers and their employers' citizenship behaviour at the workplace. In other words, employees who have a strong sense of transcendence are more connected to their jobs and their workplace, which results as extra role behaviour in the organisation.

Likewise, the outcome of fourth hypothesis test revealed that mindfulness evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted. Therefore, it can be derived that when the mindfulness aspect is added into the workplace, a significant relationship between job satisfaction and OCB is revealed. It suggests that the presence of mindfulness has a favourable impact on the transformation of satisfied employees into individuals who exhibit OCB in the organisation. Employees need to have a mindfulness component since it helps them be aware of their surroundings and positively engage in certain jobs in order to achieve organisational success by practicing civic behaviour.

Also, the result of fifth hypothesis test explained that sense of community evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted. Therefore, it is likely to infer that when the sense of community component is added at the workplace, a substantial link is discovered between job satisfaction and OCB. It suggests that the existence of a sense of belonging is positively associated with satisfied employees' participation in organisational citizenship activities. Employees who have a strong sense of belonging at work are more likely to complete certain tasks with the assistance of the community, which encourages them to embrace citizenship behaviours.

Expectedly, the outcome of sixth hypothesis test predicted that OWS evidenced to be partially mediated between job satisfaction and OCB; thus, the hypothesis is accepted.

Therefore, it can be derived that when spirituality is present in the workplace, a statistically significant association between job satisfaction and OCB has been observed. Consequently, evidence appears that the existence of workplace spirituality has a favourable impact on the willingness of satisfied employees to take on more responsibilities in the workplace. As a result, it is concluded that workplace spirituality assists employees in engaging in more meaningful and transcendental work, committed to compassionate and mindfulness behaviour as well as a strong sense of community with other employees, in order to contribute to the overall growth of the organisation, which ultimately creates an environment conducive to the development of OCB at the workplace.

6. Implications of the study

The current research adds to management theory and practice. Every organisation wants to keep its talented personnel so that they may develop and thrive in a cutthroat competitive market. Previous research indicates that workplace spirituality helps to retain and satisfy workers and has a substantial impact on organisational success. The present study attempts to examine the presence of workplace spirituality dimensions (i.e. meaningful work, mindfulness, transcendence, compassion and sense of community) in the link between job satisfaction and OCB among managerial employees. The results explained that all the dimension of workplace spirituality positively evidenced to be a favourable link between job satisfaction and OCB. It means that the meaning and purpose of work, compassion for others, a sense of transcendence, mindfulness at work and a sense of belonging in the workplace had the greatest impact on the development of citizenship behaviour among management employees.

Given the importance of OCB in the workplace, it becomes critical to have such behaviours in the workplace in order to achieve sustained organisational success. However, establishing conditions for citizenship behaviour among employees is not a simple job, and in order to achieve this aim, it is necessary to perform such a study to determine the elements that positively impact the citizenship behaviour of employees in the organisation. Employees who are sustained, retained and satisfied are the pillars of any organisation's success and growth, in which people who demonstrate extra-role behaviour at work give an organisation an extra-edge in a variety of ways, such as motivating others to perform more and better, assisting others in problems, feeling the organisation as its own and so on. In reality, organisations use multiple methods to foster citizenship behaviour among employees, such as greater compensation for work, incentives, medical and life insurance, various types of leaves and so on, yet they are unable to keep talented employees. In this respect, the present study's findings will assist all private organisations to comprehend the needs and perceptions of their employees, allowing the businesses to act appropriately in order to foster citizenship behaviour in the organisation.

The study will undoubtedly assist Chhattisgarh state's private manufacturing firms in understanding their employees' perceptions of work and the workplace, which will aid in policymaking. Globally, organisations are confronting a dilemma in keeping talented and qualified personnel; consequently, the current research may be useful to all of those organisations in developing an environment for achieving citizenship behaviour among their employees.

7. Conclusion

Workplace spirituality is a major determinant that has a direct and significant impact on a variety of organisational outcomes, including increased employee engagement, job satisfaction, morale, OCB, a reduction in absenteeism, conflict and stress, and many more.

Developing a conducive environment for citizenship behaviour among employees has never been a simple task for any organisation. Previous research suggests that workplace spirituality can aid in the development of citizenship behaviour among employees; however, the question of whether it can act as a mediator between job satisfaction and OCB remains unanswered as this area lacks original research papers in the knowledge domain. The present study attempted to analyse workplace spirituality dimensions (i.e. meaningful work, mindfulness, transcendence, compassion and sense of community) as a mediator in the effect of job satisfaction on OCB among managerial employees of selected private manufacturing firms of Chhattisgarh state. According to the findings, all dimensions of workplace spirituality considerably and partly mediated the relationship between job satisfaction and OCB. As a result, it can be stated that workplace spirituality has a good and substantial influence on establishing citizenship behaviour among employees; hence, private manufacturing firms must examine the results of the current research to increase workplace belongingness and connection.

7.1 Limitations of the study

The findings of this research were based on cross-sectional data, but a longitudinal study might provide a more complete picture of the impact of workplace spirituality on employees. However, the project was entirely self-funded.

7.2 Future research avenues

Future researchers can conduct similar studies using the same model in other sectors, such as banking, academics, information technology (IT) and so on, to determine how the workplace spirituality dimensions create or not create any impact as a mediating variable between job satisfaction and OCB among employees. If the researchers use longitudinal data, it will be far more effective in examining the influence of workplace spirituality on different organisational outcomes.

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An overview on megaproject management systems

Megaproject
management
systems

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Abstract

Purpose – There is a large amount of published literature on project management. However, there exists a gap between the existing literature and current practices in the industry for the development and execution of megaprojects. Existing literature generally focuses on individual elements applicable to project management in general. This article aims to provide an overview of the project management system components used in industrial megaprojects and identify the gaps between theory and practice, which can be used as input for further research on the topic.

Design/methodology/approach – The topic of megaproject management is reviewed based on available literature sources on megaproject management systems to identify the main gaps in the literature between theory and practice. Based on the findings, an analysis is provided to discuss the improvements required in distinct project management areas and phases.

Findings – There are multiple gaps associated with issues, failures, successes and challenges in industrial megaprojects. Improvements are needed in distinct management areas and over the entire project lifetime. Further guidelines are required for achieving improved megaproject management systems. Such concepts could benefit researchers and practitioners in streamlining their research toward the most relevant and critical areas of improvement of megaproject management systems.

Originality/value – This study addresses the literature gaps between theory and practices on megaproject management systems with an overview that provides helpful guidance for industrial applications and future research. A holistic analysis identifies gaps and critical drives in the body of knowledge, revealing avenues for future research focused on quality as the central pillar that affects the entire megaproject management system.

Keywords Megaproject management, Challenges, Success, Improvements, Lessons learned, Quality

Paper type Literature review

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1. Introduction

Megaprojects represent a complex, unstable, non-linear, irregular, uncertain, unpredictable and highly dynamic environment. They are often developed and executed over multiple years and encompass a multi-scope decision-making process. Hence, they are complicated to be efficiently implemented and control. Industrial megaprojects face numerous challenges in various areas and stages, which often lead to issues and failures in the economics, operations, social, environmental and political spheres. In this context, the effective use of a proper management system increases the success of megaprojects and has been the topic of multiple academic studies. The literature also reports various lessons learned from past and present megaprojects, which ideally should be incorporated for enhanced future megaprojects. Such management drivers for challenges, failures, successes and lessons learned are highly impactful in industrial megaprojects and need to be further addressed by the academic literature.

Most megaprojects face multiple challenges throughout all phases over their lifetime. The academic literature needs to address further and identify these challenges and develop



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methodologies for properly handling them by building better management capabilities (Söderlund *et al.*, 2017). Megaproject management challenges are related to accomplishing the project objectives given multiple requirements and expectations within a highly complex and uncertain environment, in which various sources of risks often exist (Marrewijk, 2007). Planning and development often ignore risks and uncertainties, whereby megaprojects become inflexible and vulnerable to unexpected events (Giezen, 2012). Management systems often rely on experience and intuition rather than considering risks (Qazi *et al.*, 2016). Hence, long-term predictions are typically inaccurate or unreliable (Flyvbjerg *et al.*, 2007). That leads to significant exposure and the occurrence of risks. Despite the multiple risk management methodologies employed in the last decades, the increasing complexity of megaprojects imposes difficulties in achieving risk mitigation strategies. It often leads to significant issues and failures of megaprojects.

Megaproject outcomes are either very good or very bad, mainly because the project phases are interconnected (Hollmann, 2017). In general, poor management performance is expected. It includes budget, schedule and quality issues, which significantly impact the expected benefits and outcomes. Some of the main drivers for that are associated with project complexity, misinformation of data, underestimation of cost and schedule, overestimation of benefits, poor risk prediction, management and mitigation, long project's lifetime, lack of training and experience, inefficient organizational structure, poor stakeholder management, political influence and occurrence of major unexpected events (Marrewijk *et al.*, 2008; Flyvbjerg, 2017; Locatelli *et al.*, 2014).

Despite the importance of addressing issues and failures, there are also advantages in understanding the main factors that lead to successful megaprojects. This helps identify which changes are required and how they can be employed. Success factors in megaprojects are associated with well-defined project objectives, efficient management tools and strategies, accurate estimations and forecasts, stakeholder support and alignment, flexible and adaptive project management systems (PMS), reasonable organizational structure and project governance, proper planning, clear procurement procedures, management and execution strategies, good communication, trained, experienced and qualified teams, performance feedback, and monitoring, high-level technology, accurate analysis of geopolitical risks, good corporate reputation and social responsibilities (Bredillet and Dwivedula, 2008; Merrow, 2011; Crosby, 2012; Jetu and Riedl, 2012; Kwak *et al.*, 2014; He *et al.*, 2019).

It is fundamental to understand megaprojects' challenge, failure and success drivers. This work delivers well-structured insights by better understanding these factors that influence megaproject management systems. The discussion is extended to the main PMS categories in which gaps are identified, and improvements required are discussed. Quality-driven megaprojects are presented as a novel proposition highlighting the quality aspects of the megaproject ecosystem and its entire lifetime. The significance of incorporating lessons learned toward continuous improvement to achieve successful quality-driven megaprojects is also addressed. The outcomes of this research provide practitioners and researchers with a better understanding of the challenges, issues, failures, successes and lessons learned that are relevant for improved PMS, thereby highlighting the most impactful gaps and improvements required. This article contributes to the literature on megaproject management systems with an overview that provides helpful guidance for future research and industrial applications. A better understanding of the current gaps and how to achieve further improvements would enhance the megaproject management system with better and more efficient project outcomes. Such enhancements are helpful for both industry and academia through increasingly meaningful research and developments on the topic.

To the best of our knowledge, the literature of megaproject management systems requires a recent review on the main drivers of challenges, failures, successes and lessons learned in

industrial megaprojects. Therefore, we propose the following research questions as main drivers toward a structured review to be presented and discussed herein:

- RQ1.* Which factors most affect megaproject management systems?
- RQ2.* Which are the main challenges faced in the execution of megaprojects?
- RQ3.* Which are the main issues and failures in megaproject management systems?
- RQ4.* Which are the main drivers of successful megaprojects?
- RQ5.* Which are the most important lessons to be learned in industrial megaprojects?

The outline of this paper is as follows. Section 2 presents an overview of megaproject management elements and discusses the main challenges, issues, success factors and lessons learned in industrial megaprojects. Section 3 discusses the most impactful gaps and improvements required in industrial megaprojects over nine distinct categories. Section 4 introduces the concept of quality-driven megaprojects with a novel perspective of how megaproject management systems should be addressed. Section 5 highlights the main conclusions of this work.

2. Overview on megaproject management elements

The literature review methodology employed in this paper retrieves relevant works from available online citation indexes published in peer-reviewed journals and other reliable sources. The framework for the literature search is illustrated in Figure 1 to provide easier visualization of the method.

In Step 1, keywords associated with megaproject management systems are selected to identify relevant articles to the topic correctly. The primary databases used for the search are Scopus and Web of Science, as shown in Step 2, leading search engines of peer-reviewed literature. Additional relevant papers from other reliable sources, such as Google Scholar, are also included. A first filtering procedure is performed in Step 3 by removing papers not relevant to the proposed review. Step 4 combines the selection of works from the databases and removes the duplicated papers (i.e. in case both databases provided the same article). The pool of papers selected undergoes a second filtering procedure performed in Step 5, consisting of an in-depth reading of the papers to ensure that all works to be reviewed are meaningful contributions to the topic of megaproject management and are closely related to the scope of this review paper. The final pool of papers selected comprises the data set of relevant literature on megaproject management to be reviewed and discussed herein. The data set contains relevant information on megaprojects' main challenges, failures, successes and lessons. The megaproject management topic is meaningful and essential to provide a solid structural foundation for the discussion proposed herein.

Most academic works on megaproject management focus independently on some aspects, concepts, ideas, strategies or methodologies related to a specific topic (e.g. risk analysis, stakeholder, and safety, health and environment (SHE), etc.), or project phase (e.g. planning, execution and closeout), or application (e.g. design, construction megaprojects). The literature on the topic requires covering the significant gaps and improvements needed in industrial megaprojects. Thus, it is fundamental to determine the critical drivers for challenges, issues, failures and successes typically existent over the project lifetime and to properly study, analyze, and capture the lessons learned throughout projects. This provides capabilities required for future guidance toward improved megaproject management systems. This work aims to explain the main gaps in megaproject management, which areas and topics should be further addressed in future research, and the requirements and improvements needed to accomplish such objectives.

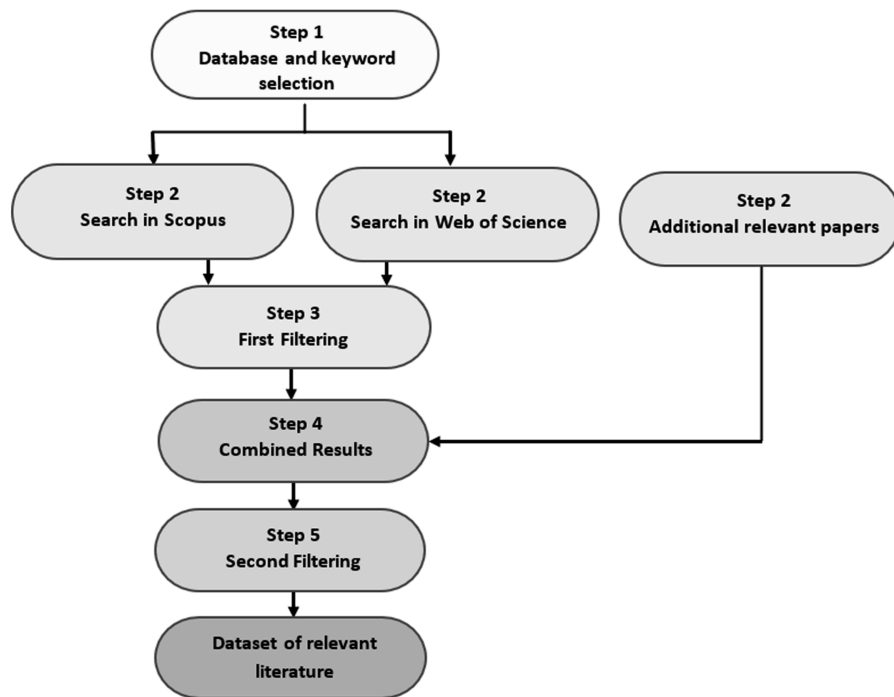


Figure 1.
Literature search
method

2.1 Challenges

Megaproject's face challenges in management and organization. They require a vast number of the skilled labor force to execute the work, whereby a shortage of skilled labor resources and organizational expertise is often present due to the high demand of megaproject labor requirements. Additional challenges for megaprojects are inadequate management skills, lack of experience and the duration it takes to complete the project, typically more than four to five years if the project stays on schedule. Those challenges lead to unstable management structures and poor monitoring and control as many team members leave the project before completion, taking the history and knowledge with them, which impacts the overall performance of the megaproject.

Due to the dynamic complexity and uncertainty of the connections between megaprojects and the stakeholder community, stakeholder satisfaction has been a concern. Megaprojects should create values for the stakeholder community compared to its value. Stakeholder alignment and engagement are challenging tasks given the intrinsic complexity of megaprojects. They can be achieved through proper communication and the development of healthy relationships. However, it is challenging to meet all stakeholder expectations due to resource constraints. To fulfill the gap in stakeholder engagement, the project team should respond to all stakeholders' expectations and prioritize their attention to their expectations. Bahadorestani *et al.* (2020) propose a framework to define priorities for stakeholder involvement relying on the balance mutual value creation between the stakeholder community and megaprojects by addressing the value creation theory. Their methodology can be applied through identifying, categorizing and managing stakeholder engagement in megaprojects to provide benefits toward improved megaproject management.

Megaprojects require careful management where client and contractor must be transparent and responsive to open record requests. Megaprojects typically present challenges because of their complexity, size, uniqueness and technological and innovation levels. It includes novelty features, a long time horizon, multiple sources of uncertainties and a high potential for corruption (Delatte, 2017). Delivering a worldwide megaproject to completion on schedule, according to planned budget and as per defined specifications is a tremendous undertaking requiring experience, teamwork and the appropriate tools to assist project teams (El-Sabek and McCabe, 2017). The problematic issues impacting the implementation of megaprojects globally include changes in schedule, budget, scope and quality specifications. Jobling *et al.* (2019) point out that standard PMS approaches cannot resolve complex challenges as megaprojects are generally riddled with pitfalls and problems.

According to Tshidavhu and Khatleli (2021), the significant barriers to effective execution are poor site management, inadequate worksite management, insufficient managerial capabilities, poor continuous monitoring, unbalanced roles and responsibilities, weak organizational structure and lack of expertise. Moreover, Flyvbjerg (2017) argues that megaprojects confront disproportionately huge scheduling and budget constraints compared to other project types. The causes include (1) increased hazards owing to complicated interfaces and extensive planning horizons; (2) planning processes involving many people with competing interests; (3) project scope that is subjected to considerable modification over time; (4) misrepresentation to the public regarding costs, benefits, and risks.

Artificial intelligence (AI) has been used to overcome multiple challenges and ensure success for megaprojects. Through an analysis of the project management literature, ethnographic studies and semi-structured interviews with project management professionals, Greiman (2020) explores the growing use of AI to manage megaprojects, including the obligations of private industry and the government as the guardian of the public interest, while at the same time exploring the technical, managerial and ethical considerations in the deployment of AI.

2.2 Failures and issues

Megaprojects tend to poor performance, with failure to deliver on-schedule, or within allocated budget, or with good quality, or by governing or environmental requirements that can have significant consequences on an organization's reputation and revenue performance (EY, 2014). Roughly two-thirds of all megaprojects fail, which means either going over budget, past deadlines or failing to meet the desired objectives. The root causes for project failure concern completing front-end loading, escalation, regulatory regimes, plant complexity, new technologies and complex ownership (Schoenhardt *et al.*, 2014). Dupont and Véronique (2013) argue that megaprojects commonly fail in addressing social concerns and social redistribution elements. According to Locatelli *et al.* (2014), technical, psychological and political are the three categories leading to poor performance. The main reasons include complexity, biased forecast, lack of information about cost and benefit and poor stakeholder management.

Schoenhardt *et al.* (2014) argue that multiple issues can affect the megaproject management system, increasing its complexity. It includes contemporary detailed design and construction, non-integrated project team, contractual risk misallocation, fast-tracking projects, lack of internal capacity, clearly defined process or industry complexity. Caldas and Gupta (2017) identify multiple factors that negatively impact the success of megaprojects and classify them into five categories, namely, location and technology, organization team and communication, planning and execution process, governance and governance stakeholders and delivery strategy.

Many works highlight the importance of SHE elements in megaprojects' execution (Flyvbjerg, 2017; HSE, 2021). To reduce or mitigate SHE and other quality issues, Delatte (2017) suggests that during the megaproject inception and planning and control phases, SHE and quality should be overseen by independent inspector agencies through a cold eye review process to handle quality and safety issues properly.

According to Söderlund *et al.* (2017), some of the essential and critical factors in megaproject management include managing megaproject investments with high benefit proportions that might significantly influence the government's corporate economic goals and boost people's trust in the nation's present and future.

As the majority of the megaprojects are funded by the governments and private capital investment banks, the decision-making process is slow, which impacts the progress of megaprojects and often leads to contractual claims, variation orders and delays in the project execution (Callegari *et al.*, 2018). Factors related to cost and schedule are the most common issues often faced in megaproject management (Tshidavhu and Khatleli, 2021). They are often associated with project management factors, stakeholder conflict, resource constraints, recurrent change orders, unrealistic time schedules imposed on contracts, regulatory and policy-related challenges, inadequate organizational structures and unfavorable external environment (Hudson *et al.*, 2016; Basak *et al.*, 2018). Jobling *et al.* (2019) discuss contractual issues and their impact on the execution of megaprojects, whereby risks are transferred to another party on the project, leading to additional costs.

Proper analyses, estimation and evaluation are essential at the early stages of megaprojects for minimizing disruptions and negative impacts due to unforeseen events and outcomes. Strategies and analysis methodologies should be periodically or continuously carried out to control the megaproject phases' activities, goals, accomplishments and deadline activities.

2.3 Success factors

Given the high rate of failure in megaprojects, it is also critical to investigate the factors that contribute to the success of megaprojects to overcome the complexity of managing megaprojects and increase the collaboration required among many parties (Kardes *et al.*, 2013). Instead of focusing on megaprojects failures, many works address and discuss the main essential factors required or helpful in providing success to megaprojects. The success of a megaproject is interpreted differently by different stakeholders. Large complex projects continue to underperform despite the increased availability of systemic and disciplined project management approaches. Tolerance in meeting project success criteria varies among distinct projects, and what may be acceptable in one project may be entirely unacceptable in another. As a result, each project's collection of performance indicators is distinct and cannot be compared across different projects.

Puerto and Shane (2013) address two major highways expansion megaprojects and identify the management practices that resulted in successful megaprojects. The main reason for the success of these two megaprojects relies on the commitment among the owners and the project delivery teams in identifying and resolving problems in an efficient and timely manner. Other success factors include (1) early agency agreements and commitments; (2) understanding the culture and socio-political circumstances surrounding the project; public outreach; and (3) recognizing circumstances that impact project delivery.

Crosby (2017) investigates success factors by identifying the key strategic area that exhibits robust correlation to project success, especially in the project definition phases starting from inception and planning and feasibility phase. The author emphasizes the importance of defining project goals and success definitions, efficient procurement, building project resilience, tackling complexity, early selecting optimism and mission assurance mindset and risk and preparedness analyses.

El-Sabek and McCabe (2017) highlight the importance of developing and employing new methods and tools to overcome shortcomings and provide efficient management capabilities. Eren (2018) provides insights on measures for achieving effective megaproject practices and discusses the proper strategies to address. Zhang *et al.* (2020) state that successful megaproject experiences are derived from different aspects, including governance system, method and objectives, organizational structure, resources protection, technical support and evaluation system.

Al-Hajj *et al.* (2018) examine when and how project management affects project success. The authors argue that such methodologies are not generic, and each project may have different success factors. Instead, they need to be adapted depending on the project objectives for achieving consistent management success. Further, the authors corroborate that PMS positively influences project success with a strong correlation between efficient project management and successful projects.

Performance measurement methods are different according to project. Regardless of the amount of work on the subject in literature, there is no commonly agreed framework of performance measurement on megaprojects (Yang *et al.*, 2019). Moreover, effective indicators for assessing megaproject success are not validated, which leads to an ineffective assessment of megaprojects (Wang *et al.*, 2020). Major project success factors include using tools of performance measurements and feedback, whereby key performance indicators (KPIs) can be employed to make decisions and reduce uncertainty in assessing megaprojects (Eshghi *et al.*, 2019). Toor and Ogunlana (2010) investigate the importance of KPIs from construction stakeholders' standpoint, including clients, consultants and contractors. Their primary outcomes imply that the traditional measures known as the iron triangle (time, cost and quality) are no longer valid for evaluating performance on sizeable public sector megaprojects development.

2.4 Lessons learned

Currently, leading companies have realized that their competitiveness depends on how fast knowledge flow through the organization. Learning has become a tactical resource of the organization as a viable advantage. Incorporating lessons learned into organizational processes can enhance their current and future project delivery. Therefore, the concept of lessons learned is fundamental for developing efficient PMS. It assists in reducing issues, risks, and failures and increases the success rate of projects. Due to the complex environment in which megaprojects are managed, the companies have many lessons and improvements. Project management for lessons learned involves aligning different aspects of a project to bring encouraging results for the overall industry (Amalraj *et al.*, 2007).

It is critical to learn from past lessons to find ways to aggregate acquired insights and transmit knowledge (Haynes, 2011; Lenfle and Loch, 2017). The lessons learned are gained from experience, success and failure to improve future performance and may be specific for distinct industries or projects (Aisheh, 2021). However, there are no guidelines on structured ways of analyzing projects and retaining lessons learned for future projects and few for building practical organizational capabilities and competencies. Project-based learning needs assurance, and continuous investment of time and resources are repeatedly neglected (Williams, 2008).

Khoo *et al.* (2009) point out many lessons learned and perspectives to be considered when developing megaprojects. This includes (1) novelty aspects are related to effort, diligence, discipline, and rigor required throughout all the phases of megaprojects; (2) many experiences, processes, tools and learnings can be applied in the future megaprojects even from different fields and in different places; (3) execution challenges are not necessarily simple extrapolations but may become orders of magnitude more complex; (4) although there

are many advantages for being a pioneer in novel and unforeseen megaprojects, a project team with knowledge and competency to anticipate and respond against disturbances and complications is crucial; (5) it is vital to have a large pool of technical personnel expertise from shareholder entities to rely on when significant challenges arise.

Learning lessons from past megaproject experiences assists companies in preventing the same mistakes and pursuing more successful projects in the future, enhancing their competitiveness (Arditi *et al.*, 2010). Paranagamage *et al.* (2012) state that the lesson learned should incorporate into the work process to (1) enhance future performance, (2) find the solution to the present problem or make a preventative action, (3) create the policy or obtain the guideline of the companies and (4) prevent the adverse situation. According to Puerto and Shane (2013), investigating successful megaprojects is an important lesson that enables practitioners to apply and refine successful practices to manage future projects. Ferrada *et al.* (2016) argue that lessons learned from megaprojects are typically not systematically incorporated into subsequent projects.

The successful transfer of learning throughout projects has been a long-held demand by project professionals. The nature of projects as a team creates the complexities in achieving this activity is split from a permanent organization. This is valid for megaprojects, given that their complexity and size make it difficult to discern which elements of its myriad configurations mainly influence performance and how that happens (Brookes *et al.*, 2015).

Duryan and Smyth (2016) highlight the importance of understanding cultural barriers to incorporate lessons learned into organizational standards and processes disseminated among all stakeholders involved. The project challenges, risks, barriers, obstacles and complexities are intrinsic to the process, operation, field, place, among others and should be considered and analyzed when pursuing guidance toward megaproject learning. According to Poddar and Sue (2016), there is a significant increase in success when interface management is implemented as integrated megaproject steps, a valuable lesson for future works on the topic.

Upon the project completion, employees are often moved on to the next project before analyzing lessons or incorporating additional knowledge. That limits the flow of information and leads to the wastage of lessons. Delatte (2017) discusses the importance of having an effective communication strategy and carefully studying the lessons learned from previous projects to build effective management and troubleshooting strategies for future projects. Söderlund *et al.* (2017) address multiple critical issues in megaproject management for developing a preparedness assessment process with lessons learned from previous events. The assessment is expected to provide the project team with alignment on the criticality of the impact factor and effective mitigation strategies. Jo *et al.* (2018) argue that lessons and knowledge gathered from recently completed megaprojects assisted in understanding that a significant cause of delays is attributed to inefficient management of resources and unrealistic workloads.

Invernizzi *et al.* (2018) provide a novel benchmarking approach that incorporates qualitative and quantitative analysis to gather, identify and analyze successful and poor practices in a portfolio of megaprojects.

The complexities in achieving transfer of learning throughout projects are created by the nature of projects themselves, their split from a permanent organization and their uniqueness. Even with multiple attempts by companies to develop reliable systems to transfer learning across projects, most organizations still need to achieve more efficient ways of sharing learning among projects. This is especially valid for megaprojects, given that their complexity and size make it very difficult to discern which elements of its myriad configurations mainly influence performance and how that happens (Brookes *et al.*, 2015).

Liu *et al.* (2020) explore a mechanism for improving knowledge-sharing performance using the theory of planned behavior and conclude that four factors affect knowledge

sharing: benefit perception attitude, risk perception attitude, subjective norms and perceived behavioral control.

2.5 Summary of key elements

The most important drivers for each element previously discussed (challenges, risks, failures/issues, success and lessons learned) are summarized and illustrated in Table 1. This provides comprehensive, concise information concerning the literature reviewed in this work.

3. Discussion on PMS gaps and improvements

The literature on megaproject management systems is premature. It requires further research to understand better the main issues, failures, successes, and challenges and the improvements needed for future management of megaprojects. In this section, we discuss some of the most impactful gaps and enhancements required for enhanced megaproject management systems segregated into nine categories (project planning and control, conceptualization and execution strategies, organizational structure and project governance, safety, health and environment, cost and schedule, risks analysis and management, procurement process, stakeholder alignment, engagement and satisfaction, and project closeout).

3.1 Project planning and control

Effective project planning and management are fundamental for better success rates, given the complexity, risky, uncertain and unpredictable environment of megaprojects. At early stages, robust planning processes with appropriate tools should be employed to define project objectives, scope, responsibilities, complexities, uncertainties and resources needed for achieving the project objectives. Many gaps are often faced in the current project planning and control methodologies employed in megaprojects.

First, the traditional planning approach is centralized and focuses on taking control of actions only after problems. Second, the project planning and control policies simplify the methodologies and the project's overall scope. Third, evaluating risks, uncertainties and unforeseen events is often poorly designed or estimated. Fourth, the currently employed standard planning and control are often excessively restricted and limited, in which changes are not always suitable. That makes it difficult and inefficient to achieve reliable estimations, adapt to changes, cope with unexpected events, mitigate critical risks and address challenging elements. Therefore, better planning and control management tools and strategies need to be developed for improved megaproject management capabilities.

The main capabilities currently required include achieving realistic project planning and control with flexible responses and strategies, improved assessment and management of uncertainties and risks, further assist on the identification and communication of uncertainties, transparent and clear identification and communication of risks and ambiguities, and properly quantifying the importance of project flexibility from financial and management perspectives.

3.2 Conceptualization and execution strategies

Conceptualization and execution strategies are vital pillars for the success of megaprojects, mainly because they encompass most of the project lifetime. There are many management expectations to be consolidated during the conceptualization and execution phases, which are highly significant toward the project's success. It is the platform where the outcome expectations of the results are anticipated to be finalized through clear technical definitions. Most of them are vulnerable to difficulties and failures, especially given the complexity of

Table 1.
Challenges, failures/
issues, success, and
lessons learned

Challenge drivers	<ul style="list-style-type: none">- Efficient project management system- Many uncertainties, disruptions and unforeseen events- Specific, complex and often unique processes, technology and requirements- Constant changes in the project scope- Perform accurate and detailed estimations over a long horizon- Long planning horizon and detailed scheduling operations- Budget and schedule constraints- Stakeholder alignment and engagement- Project complexity- Poor estimations or biased forecasts- Lack of information or misinformation- Poor stakeholder management and conflicts among stakeholders- Inadequate structure and governance- Lack of teamwork and communication- Safety, health, environmental and quality concerns- Political and social conflicts and issues- Properly addressing the known or expected challenges and issues- Efficient project management capabilities- Development, acquisition and employment of novel and efficient technology, strategies and methodologies- Incorporation of previous lessons learned- Stakeholders' commitment and alignment- Continuous updating of planning/scheduling over the project lifetime- Performance measurement tools and continuous feedback- Use of KPIs
Failure/Issue drivers	<ul style="list-style-type: none">- Focus on project quality and safety- Identifying main factors and elements associated with risks, issues, failures and successes- Execution challenges may scale exponentially with project complexity- Technical and operational expert teams are vital to mitigate risks and handle uncertainties- Enhanced PMS is required for megaprojects- Organizational behavior, structure and governance- Risk management and mitigation strategies can be of great assistance- Experiences, processes, tools and learnings can significantly enhance the development, management, and execution of future projects- Although megaprojects are typically unique, lessons learned are often adaptable and implementable to future projects, even from different fields and in other regions
Success drivers	
Lessons learned drivers	

megaproject environments. Many times, alignment of the stakeholders and shareholders are either missed out or misinterpreted during the early stage of the project because of a lack of joint opportunity framing workshops which leaves an unclear definition, incomplete project development, and faulty execution strategies. This severely impacts the budget and schedule overruns during the execution of the project due to frequent scope changes, repetition of works, and added expectations leading to unforeseen issues and risks, which makes the project vulnerable to missing its objectives. This also brings a big challenge in framing the execution strategies regarding contracting and procurement strategies, organizational structures, key issues and significant cost optimization opportunities.

The development and application of effective strategies for the conceptualization and execution phases are fundamental for avoiding issues and failures, mitigating risks and handling unforeseen events. Therefore, there is a need to establish separate but interdependent processes through the development of deliverables starting from the planning phase until the defined phase of the project. This also requires adequate flexibility to adapt against changes, unforeseen events, company commitment and periodic improvements.

3.3 Organizational structure and project governance

The organizational structure represents a critical part of megaproject management over the entire project lifetime, in which well-defined corporate planning in every stage is fundamental for enhancing the project's success and mitigating issues and failures. Effective organizational structure can adequately reduce the megaproject complexity without compromising quality. Moreover, it provides the capabilities required to survive megaprojects by mitigating risks, issues and the impact of uncertainties, increasing the project performance, strengthening the inter-organizational compatibility and communication and enhancing cooperation and coordination aspects within megaprojects. A proper governance system and organizational structure have been vital for the excellent performance of multiple recent complex megaprojects. It is worth highlighting the importance of identifying and exploring resources for creating and capturing value for organizations.

Due to challenging aspects, many organizational structures and project governance factors may compromise the megaprojects' key elements (e.g. budget, schedule, scope). The literature highlights major requirements toward transparent and robust processes, ethical considerations, enhanced knowledge management, better communication strategies, proper team management and inter-organization relationships. Such elements are fundamental to tackling the main gaps in megaproject management, avoiding project delays, cost overruns, safety, health and environment hazards, and general quality issues.

3.4 Safety, health and environment

Most works on megaprojects have generally focused on cost and schedule, although recent global trends have highlighted the importance of the safety, health and environmental elements. The traditional cost-schedule-quality basic megaproject management concepts have been adapted according to the current social and ecological needs. This includes concerns with the health and safety of people, project security, sustainability and value creation, and multiple climates and environmental concerns.

Improvements are required to provide safer, healthier and environment-friendly megaprojects. The industry needs to clearly define safety and health concepts and how they should be considered during the execution of megaprojects. More attention is required to mitigate accidents at the project sites through well-defined safety guidelines, periodic and rigorous on-site safety inspection procedures (e.g. by employing third-party safety inspection to achieve safer conditions and provide guidelines for improved megaproject safety

management), implementation of preventive measures and robust safety policies to avoid the occurrence of accidents, enhanced communication and feedback on safety practices, the commitment of the management team and site supervisors, training and education to the employees to provide adequate safety knowledge. One of the main objectives in megaprojects is to ensure all people involved in the project goes home safely to their family at the end of the project as all safety incidents are preventable. It is also essential to improve the hierarchy of control for health risks, provide access to health services, improve health data management, reduce risks and exposures, adequately address health risks and behavioral safety measures and awareness and further emphasize the importance of occupational health risks health management.

3.5 Cost and schedule

Cost and schedule are the most critical features considered within project management, the former because the economic aspect is crucial for implementing megaprojects. The latter is for financial, strategic and operational aspects. Cost overflow and schedule slippage are the most common challenges in megaproject management. They often involve recurrent change orders by the contractor due to unrealistic time schedules imposed on contracts and inadequate organizational structures. The leading causes include project management factors, stakeholder conflict, resource constraints, regulatory and policy-related challenges and an unfavorable external environment.

Novel methodologies must be developed to manage better and execute megaprojects to handle cost and schedule elements. Future research should focus on adequately analyzing and estimating risks for the better contingency of cost and time over the megaproject lifecycle, designing improved estimation tools for accurately determining budget and schedule information, and developing systematic cost and schedule methodologies using proven tools from the planning phase of projects. The cost and schedule estimates are predictions based on given data and conditions, which should include realistic levels of contingency and accuracy depending on the pre-defined estimations, and which must be updated accordingly throughout the project lifecycle.

3.6 Risk analysis and management

The literature on quantitative risk analysis for megaproject management is still premature due to the lack of studies that quantitatively measure and evaluate the impact of risks on the execution of megaprojects.

Risks should be identified as early as possible, whereby risk assessments should be continuously performed with recommended risk mitigation tools, measures and action plans. Risk management can assist in anticipating future consequences and timely support the mitigation or avoidance of risks before their occurrence. Given the complexity of megaprojects, the identification, assessment and mitigation of risks are critical. Their success depends on how well complexity and risk are addressed over the entire megaproject decision-making process. Hence, exploring how complexity can be incorporated into risk management is critical for formulating appropriate strategies.

Most project risks are driven by front-end loading, ownership structure, new technologies, plant complexity, regulatory regimes, failure to forecast escalation, materials, resources, equipment issues and unforeseen or unpredictable conditions. One of the primary sources of risks is derived from cost-cutting attempts at different project stages, which leads to risky decisions and unexpected consequences. Transferring risks from owners to contractors is another critical issue, as it is typically ineffective, compromises the project's success and jeopardizes openness and collaboration among the stakeholders involved. Better strategies

should jointly manage risks between stakeholders. All these elements are related to risk-related factors, including organizational, environmental and technical.

To correctly manage risks over the execution of megaprojects, it is fundamental to employ quantitative risk analyses to anticipate issues in the presence of uncertainty. Novel approaches are required for risk management. Efficient risk management is challenging for the success of megaprojects. It helps minimize delays and cost overruns, improve project quality, improve decision-making processes and enhance execution performance. This represents a crucial topic on megaproject management, whereby further research with improved tools, strategies and approaches is imperative.

3.7 Procurement process

Procurement processes are essential for the overall megaproject performance. They account for reasonable costs and provide multiple resources required for the project execution. It is highly recommended to have a well-defined procurement management plan for the project and how the procurement documentation should be developed and managed through the contract closeout. Many project failures can happen due to poor procurement processes. Therefore, better procurement management plans are required for megaproject management systems. A systematic framework supported by an effective procurement plan should be implemented in early megaproject phases. Significantly, it should be updated accordingly over the project's lifetime to account for relevant acquisition and market changes. Better approaches are required to enhance the decision-making selection for the procurement process according to the type, area, scope, and size of the megaproject, aiming to avoid a shortage of materials and resources, delays and cost overruns. This represents great potential for improvements that affect the overall scope of megaprojects.

3.8 Stakeholder alignment, engagement and satisfaction

Stakeholders are essential for megaprojects' planning, management, and execution stages and contribute to the decision-making process over the project lifetime. Therefore, good alignment and engagement of the stakeholder objectives and good cooperation among them are essential for successful megaprojects because of the dynamism, complexity and uncertainty of the several relationships between the projects and stakeholders' community. This includes understanding the needs, requirements and objectives of all stakeholders involved in the project, adopting structured mechanisms for better stakeholder engagement and providing a proper environment with collaborations and synergies among the stakeholders for contributing to a common goal.

Significant issues in megaproject management arise due to poor stakeholder alignment. The approval of final investment decisions is difficult as they require alignment from all stakeholders and huge funds with substantial backing from the government and international banks. Exist overlapping interests should be handled by balancing the stakeholders' interests through management and analysis methods, engagement initiatives and external influence. Many stakeholders may lead to high political and social interest, whereby the project leadership is unclear or not identified, which often jeopardizes the communication and synchronization of people and resources.

The development of stakeholder management strategies, in which the stakeholders affect the decision-making processes, is essential. Stakeholder engagement is critical for success in megaprojects. Important factors include forming community advisory groups, effective management of stakeholders' objectives and requirements, collaboration and mutual trust, transparency and a well-defined scope of works with a clear definition of responsibilities at early stages. This enhances the stakeholder relationship, reduces disputes, eliminates conflict of interest, allows knowledge exchange, provides a collaborative environment and healthy

interactions between stakeholders, and improves problem-solving techniques by including external stakeholders in the organization's decision-making process.

3.9 Project closeout

The closeout phase begins once the project has already been completed, and it might last or extend for long after the work has been constructed on-site. It represents a crucial phase that is under-evaluated in importance and challenging aspects and frequently not well-planned. This leads to many obstacles, including lack of funding and resources, time overrun, conflicts and litigation. Hence, the closeout is a challenging phase that must be carefully considered.

Long-term impacts are not well analyzed and evaluated. The megaproject success should include the project's long-term benefits, which may be measured and achieved years after the project's completion and delivery according to the stakeholders' expectations and objectives. Many megaprojects face relevant changes after years of completion, whereby significant issues arise, leading to the total failure of expected successful megaprojects.

Inefficient megaproject closeout processes are driven by several factors, such as poor planning, punch-list delays, external barriers, project delayed, misplaced, missing or insufficient documentation, owner postponement decision-making, unresolved change orders, the financial struggle of the owners, government intervention, miscommunication, sluggish contractor's response to requests, limited contractor staff, owners' inattention and change of contractor key individuals at critical times are the significant challenges and pitfalls that arise within project closeout phase. Notably, the project closeout should be planned and prepared by all stakeholders. Inefficient project closeout often leads to significant delays, cost overruns, compromise completion, quality and success.

In addition, many megaproject closeouts do not adequately address, emphasize, save and transfer the knowledge and learning obtained or do not provide effective methodologies to capture that value to be used in future megaprojects. This is important for coping with similar issues to achieve enhanced success in future projects.

4. Quality-driven megaproject management systems

Based on the review and discussion provided in this work, we stimulate the perspective of highlighting the importance of quality for megaproject management systems. Quality is the vital pillar that affects the entire system. Any category or element within the megaproject context is related to quality. The decision-making process is the main foundation of the megaproject should focus primarily on achieving high quality. Quality is essential to achieve expected results assured by quality assurance, control and management system. Quality assurance is the planned and systematic actions necessary to ensure that a product or service satisfies requirements.

In contrast, quality control is required to verify that a product or service meets the requirement. A further quality-driven management system is necessary to provide enhanced industrial capabilities. The academic literature indicates many complications in which the decision-making has difficulties beyond the project management's schedule–cost–quality scope criteria. All aspects of megaprojects' efficiency and performance are a consequence of quality. Recently, companies have started to focus on quality by creating quality management systems, assurance and control. The current focus of the industrial PMS is on quality drivers because they affect every stage and feature of the project. Significantly, quality is associated not only with equipment or tools. Instead, it is embedded in all areas and phases of megaprojects and involves the people, resources, assets, software and management strategies. Figure 2 proposes a quality-driven improved megaproject iron triangle, whereby

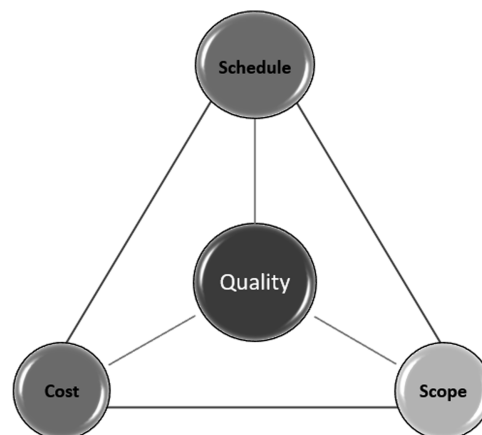
quality is a central key aspect related to all other main drivers of megaproject management: schedule, cost and scope (Dhillon, 2018).

In our perspective, quality is the central pillar that affects the entire PMS applied to every megaproject product, service, task, action or decision. Any aspect, category or element within the megaproject context is related to quality. The entire decision-making process should focus primarily on achieving high quality. It may directly or indirectly handle challenges, mitigate issues and failures, leverage success factors and adequately incorporate lessons learned into developing and implementing enhanced megaproject management systems. Therefore, increasing focus on quality PMS aspects is a key recommendation of this paper.

5. Conclusions

The findings from this article contribute to the literature on megaproject management systems with a comprehensive overview that provides helpful guidance for industrial applications and future research. Based on the conducted analysis, the literature on megaproject management requires further research to understand better the gaps, factors of failure and success, challenges and risks associated with the project performance, and which affect the industrial practices over the entire project lifecycle.

The main challenges faced by industrial megaprojects are the process complexities, dynamic environment and management of people and resources. They include the need for more efficient management capabilities, strategies to handle uncertainty, and reliable methodologies and tools. Such challenges lead to multiple issues and failures in industrial megaprojects, often derived from poor estimations, biased forecasts, lack of information, poor stakeholder management, inadequate structure and governance, lack of teamwork and communication, safety, health, environmental concerns and political and social conflicts. Conversely, effective use of a proper management system leads to successful megaprojects. The most critical success drivers are associated with using efficient project management capabilities, understanding and considering known or expected challenges and issues, employment of novel and efficient technologies, strategies and methodologies, incorporation of previous lessons learned, stakeholder commitment and alignment, continuous updating of planning/scheduling over the project lifetime, performance measurement tools and constant feedback, use of KPIs, and intense focus on project quality and safety. Megaprojects are rich



Source(s): Adapted from Dhillon (2018)

Figure 2.
Quality-driven
improved megaproject
iron triangle

environments full of knowledge. The literature reports multiple lessons learned to identify the primary factors and elements associated with risks, challenges, issues, failures and successes, the importance of qualified personnel, organizational behavior, structure, governance, risk management and mitigation strategies.

The challenges, issues, successes and lessons learned are closely related to the overall quality of the megaproject management system. Quality is the degree to which a set of inherent characteristics fulfills the specified requirement for a product fit for purpose. Implementing quality criteria in megaprojects is essential to (1) improve employee safety and environmental protection; (2) deliver and sustain premier performance; (3) assure business continuity in the face of adverse situations (accident/downtime or service disruptions); (4) reduce product waste and inefficient use of the supply chain; (5) support business excellence and continuous improvement; (6) attain consistent processes and results; (7) prevent and manage operational risks; (8) satisfy customers and stakeholders. In addition, it is essential to emphasize the topic of lessons learned toward an improved, safer, efficient and higher-quality megaproject environment by continuously enhancing the current organizational and personal capabilities. Industrial management practices often do not incorporate lessons learned into their systems. Lessons learned are fundamental for people's development and involve all quality aspects, including cost, schedule and SHE.

This paper combines the various components of PMS available in the literature as it is used in managing megaprojects in industrial settings. It also provides a discussion on the most impactful gaps (between literature and industry) and improvements required in future megaprojects over several categories that are greatly important in megaproject management systems, namely, project planning and control, conceptualization and execution strategies, organizational structure and project governance, safety, health and environment, cost and schedule, risks analysis and management, procurement process, stakeholder alignment, engagement and satisfaction, and project closeout.

Project management is a vast subject, and this paper focuses on addressing multiple project management elements currently used in ongoing industrial megaprojects. We believe this study contributes to the literature on megaproject management systems in providing helpful guidance for future industrial megaprojects. Current industrial gaps and improvements required are highlighted in several management areas that can enormously benefit from future research on the topic.

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Application of artificial intelligence: benefits and limitations for human potential and labor-intensive economy – an empirical investigation into pandemic ridden Indian industry

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Abstract

Purpose – This paper aims to study the extent of use of artificial intelligence (AI) in the modern organization; to comprehend the changing nature of future jobs in the context of application of AI; and to study the impact of AI on the economy of the country with special reference to the job market. Given the critical scenario of labor intensive Indian economy, the paper intends to show how AI shall affect rather coexist with human intelligence or labor.

Design/methodology/approach – The research on implementation of AI in different industries and its effect on job market are at a nascent stage. There is a dearth of literature. Hence, this study followed a qualitative approach to have a better understanding of the research questions as Bhattacharjee (2012) confirms that employing an interpretive paradigm (qualitative analysis as the analysis of data, e.g. data from interview transcripts) is the more productive way to study social order and that it is achieved through “subjective interpretation of participants involved, such as by interviewing different participants and reconciling differences among their responses using their own subjective perspectives”. Sample selection: The selection technique utilized is purposive sampling. The respondents in this research are the general managers and HRs from different companies. A total of 14 senior professionals from various sectors were approached for the interview out of which seven people gave their consent to take interview. Seven senior HR professionals, mainly general managers and HRs from various sectors viz. oil and gas sector, manufacturing, healthcare, construction, media, power and energy and retail were interviewed to understand how they are using AI in their respective fields. Inclusion Criteria: (1) Generally, the people covered under the research are from the decision-making level of their companies so they are in a position to give strategic perspective as well as day to day implication of implementation of AI. (2) Respondents have adequate knowledge of the respective industry to which they belong. (3) Respondents have reasonable industry of dealing with Human Resource Management and national economy as a whole assessment tool and its administration procedures. A narrative approach was adopted to have a better understanding of the research questions and comprehend their views regarding implementation of AI in their respective companies. A semi structured open ended interview was administered to steer the discussion around the research questions. The respondents were interviewed over the phone and each respondent shared their stories. Analysis of data: The narrations were then transcribed by online transcriber website otter.ai.com. The common keywords as prescribed by the website are as: AI, strategy, learning and implementation. The extracts of the discussions are noted in the next segment of the paper. As and when required this research also used secondary data from the journals, literature available in the websites to understand the implementation of AI globally.

Findings – A country where the government itself admits 90% of its workforce belongs to informal sector and conspicuously exits a multi-faceted stark digital divide (Huberman, 2001; DiMaggio *et al.*, 2001; Guillen, 2006; Servon, 2002) wherein gap of digital divide is significant between the rural and urban India (Dasgupta *et al.*,



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2002; Nath, 2001; Singh, 2007; Mahajan, 2003; Dutta, 2003) talking of educating, applying and implementing AI seems to be “a distant dream” but an “ambiguous ambition”

Research limitations/implications – Prior to implementation of AI that India has to ensure, the basic hygiene factors of informal sector labor force like social security, 2008, low wages and lack of legal protection, unpaid overtime and occupational health problems, poor bargaining power, working without leave under coercion, child care issues and health ailments (for which mere legislation or statutarization is just a formality executed than taking real action) to take the majority of Indian workforce to attain the motivational factor to acquire the knowledge and skill of AI and to implement it.

Practical implications – The AI and its adoption are still at their embryonic stage in Indian companies. With the adoption of such sophisticated technology, in one side, the organizations are dreaming of efficiency, higher productivity and better organizational performance whereas on the other side requirement of changing skill sets and decreasing manpower, creating fear among the mass, which results in hard resistance against the implementation process of AI. On the other hand, lack of expertise and high cost of adoption is also hindering AI to implement in the organizations. The adoption and implementation stage of AI vary from organization to organizations, as well as functions to functions. While the marketing departments of several organizations are using advanced level of AI, there, the HR departments are using AI at the very initial stage. But it is evident from the above discussions that adoption of AI in business functions is inevitable and only it is a matter of time. With the COVID-19 pandemic this has become the utmost necessity for many organizations, particularly who works across the globe. HR partners of the businesses are also adopting AI at a fast pace to do away with the mundane works and deliver efficient services to the stakeholders. It is understood from the discourse that the prerequisite for a successful implementation of AI across the industries throughout the country, needs a concerted effort from industries, academia and government.

Social implications – The answer lies in Keynesian economics. The central tenet of which is government intervention rather investment to stabilize and progress the economy by way of spreading Internet connectivity, basic literacy and computer literacy, then only truly AI can be effective in a greater scale.

Originality/value – A study on application of artificial intelligence in the pandemic era from a wider perspective, this work is an empirical investigation into the benefits and limitations of artificial intelligence for human potential and labour-intensive pandemic ridden Indian economy.

Keywords AI, HRM, Unemployment, COVID 19

Paper type Case study

Introduction

The strategic approach to effectively manage employees and increase their performances in the organizations is Human Resource Management (HRM). Over the years it has served to remain an essential aspect in the existing companies. HRM helps organizations to achieve their aims, mission, vision and goals by making them unique among their competitors and adopting innovative practices like selection, recruitment, compensation management, talent retention, performance appraisal and so on. Off late it is shifting from its administrative work and advancing toward work automation, robotics, machine intelligence, augmented intelligence that are entirely reconstituting the workforce characteristics of the organizations. Presently artificial intelligence (henceforth be called as AI in this research) is the most important word which is redesigning HR practices globally in every sector. It is an emerging technological tool which helps to improve employee performances and work productivity.

One of the main purposes of emergence of this technology is to efficiently maintain large scale data and information by organizations, to help in effective decision-making, to access employee performances, avoid repetitive work and maximize organizational output. It is a part of sophisticated computer operation process which uses machine intelligence but behaves mostly like a human brain (Mokyr *et al.*, 2015). It also helps HR personnel to automate their communications with candidates who are applying for jobs, screen candidates from the pool of application forms, conduct large number of interviews in a short span of time, efficiently recruit the right candidate for the right designation, provide performance feedback to all, providing on time training and development to employees and maximizing their work efficiency (Nun, 2019).

A lot of research is continuously taking place on AI but till now it is not known whether it is advantageous or disadvantageous to our society. With the introduction of AI, people feared of losing jobs as dependency on machines increased at a faster rate. However, slowly and gradually, industries and organizations started accepting it. Though, some people are still assuming that

AI can threaten human potential because if too much machine work increases, human labor will gradually decrease, thereby resulting in loss of jobs. Thus, this case will help to study the extent of AI utilization in the organizations and whether it is a boon or a bane for human potential and labor-intensive economy like ours.

Conceptual framework

AI, a term coined by emeritus Stanford Professor John McCarthy in 1956, was defined by him as “the science and engineering of making intelligent machines”.

AI has been described by certain approaches in relation to human intelligence, or intelligence in general. Many definitions refer to machines that behave like humans or are capable of actions that require intelligence (US NDAA, 2019; Russel and Norvig; McCarthy, 2007; Nilsson, 1998; Fogel, 1995; Albus, 1991; McCarthy, 1988; Gardner, 1987; Newell and Simon, 1976; Minsky, 1969; McCarthy *et al.*, 1956). AI concerned with making computers behave like humans more human like fashion and in much less time than a human takes so is called as AI (Poole and Goebel, 1998).

Despite the multiple facets of AI, according to Samoili *et al.* (2020) there are a number of commonalities that the author observes which are mentioned hereunder:

- (1) Perception of the environment, including the consideration of the real world complexity (High-level expert group (HLEG), 2019; European AI Strategy, 2018; EC JRC Flagship report on AI, 2018; Tsinghua University, 2018; Nakashima, 1999; Nilsson, 1998; Poole *et al.*, 1998; Fogel, 1995; Wang, 1995; Albus, 1991; Newell and Simon, 1976).
- (2) Information processing: collecting and interpreting inputs (in form of data) (High-level expert group (HLEG), 2019; European AI Strategy, 2018; EC JRC Flagship report on AI, 2018; Kaplan and Haenlein, 2018; Tsinghua University, 2018; Nakashima, 1999; Nilsson, 1998; Poole *et al.*, 1998; Wang, 1995).
- (3) Decision making (including reasoning and learning): taking actions, performance of tasks (including adaptation, reaction to changes in the environment) with certain level of autonomy (High-level expert group (HLEG), 2019; OECD, 2019; European AI Strategy, 2018; EC JRC Flagship report on AI, 2018; Kaplan and Haenlein, 2018; Tsinghua University, 2018; Nilsson, 1998; Poole Fogel, 1995; ISO/IEC 238228, 1995; Wang, 1995; Albus, 1991; Newell and Simon, 1976).
- (4) Achievement of specific goals: this is considered as the ultimate reason of AI systems (HLEG, 2019; OECD, 2019; European AI Strategy, 2018; Kaplan and Haenlein, 2018; Poole *et al.*, 1998; Fogel, 1995; Albus, 1991; Newell and Simon, 1976) (see Table 1).

Functional areas of AI is given hereunder

Artificial Intelligence	Cognitive Science Applica	Expert systems Learning Systems Fuzzy Logic Generic Algorithms Neutral Networks Intelligent Agents Visual Perceptions Tactility Dexterity Locomotive Navigation Natural Languages Speech Recognitions Multisensory Interfaces Virtual Reality
	Robotics Application	
	Natural Interface Application	

Source(s): Khanzode and Sarode (2020)

Table 1.
Areas of artificial
intelligence

Human potential is the capacity for humans to improve themselves through studying, training and practice, to reach the limit of their ability to develop aptitudes and skills. "Inherent within the notion of human potential is the belief that in reaching their full potential an individual will be able to lead a happy and more fulfilled life" (Vernon, 2009) Human potential management does not use human beings as a resource, but recognizes their potential and enables them to utilize their potential. Human potential management is an integrative and continuous process of enhancing human capabilities and capacities. In this sense, it is different from HRM, which does not essentially see various interventions as integrative and as a whole the focus is on the use of human beings as a resource. In that sense, HRM has more of a "maintenance" kind of mindset, whereas human potential management follows a continuous-growth-oriented approach (Kalra, 1997).

Labor intensive refers to a process or industry that requires a large amount of labor to produce its goods or services. Labor costs encompass all of the costs necessary to secure the human capital necessary to complete work. (<https://www.investopedia.com/terms/l/laborintensive.asp>).

Background: exploratory study

In the present times, organizations which are still following traditional processes are facing challenges as emergence of new technology is spreading worldwide. The HRM which is the pillar of any organization must immediately accept these new technological advancements and utilize them in their usual functionalities like recruitment, selection, employee retention, compensation management, performance appraisal, employee rating and deciding employee salaries and workers' wages (Wall and Wood, 2005). With proper training and development HRM helps employees to increase their work productivity and attain the goals and objectives of the organization within a short span of time. AI which was first introduced in the year 1956 by John McCarthy is an intelligent machine which acts like a human brain. It uses various algorithms which are installed in different AI tools and software which further helps the HRM personnel to ease their work (Netessine and Valery, 2012). It helps in work automation and prevents doing repetitive task thus helping HR managers to focus on other important areas where machines cannot play a role (Pickup, 2018). Organizations are run by employees who are expert and knowledgeable in their field. Thus, selecting and retaining these employees through proper recruitment process is important. The process of shortlisting from a pool of applications and selecting appropriate candidates for a job role is recruitment. With the application of AI, HRM will be able to conduct the process effectively and automatically, not having to do much of a manual task (Recht and Bryan, 2017). Skilled and experienced employees are selected with the help of Intelligent Screening Software; an AI tool which helps in analyzing the rate of turnover. AI also helps to access a candidate's body language, answering skills, choice of words and personality traits during the interview process thus helping the HR team to make the final selection. It also helps them to provide individual performance feedback within the time limit thus making the process smooth and swift (Bondarouk and Brewster, 2016). AI also helps in providing training and development programs to employees in an effective way and helps to assess the training gaps, based on which suitable measures are taken (Chamberlain, 2016). Workers need to upgrade and transform their skills and knowledge as required. As per recent research studies, sufficient jobs will be available if workers can upgrade and learn the new technological skills with proper training and development (Ball, 2010). However, the upcoming job environment may not be the same as before or may not be of the same type and thus workers will have to adapt to the new situation and adjust themselves to these challenges (Bessen, 2017). Occupations based on higher as well as middle level education both have tendency to grow in future (Broadberry and Wallis, 2016). Industries which use digitalized technologies have shown to bring positive changes in business, as well as led to improvement in the work quality. Production outcome although depends on employees, workers, stakeholders and government policies (Caselli and

Manning, 2017). Production growth will be higher in the next five to 10 years if AI applications are used judiciously and substantially. Although organizations may suffer a large amount of expense while investing in learning and training sessions for their employees but the after effect will be beneficial (Crafts, 2010). Organizations that start using this technology at an early stage will benefit overall. As advancements are taking place, the concept of AI is becoming popular in various sectors like healthcare, finance, supply chain, agriculture and so on. AI software used in the agriculture and food production sector helps to provide sufficient food supply to the country thus promoting hunger-eradication. Farm View is one such example of AI which helps in managing crops and improving breeding of plants. A heat tolerant grain Sorghum in Africa is used in this case to meet food demand of the country (Elliott, 2017). AI software is also widely used in areas of transportation, advanced analytics, improved electric signals on tracks (Eurofound, 2012). Application of AI helps organizations to increase their level of productivity and profit and eventually these profits are provided as wages to workers and other employees (Evans and Schmalensee, 2014) The profit is used in the work operations of the organizations and the output obtained is invested for more production which further leads to promotion of new jobs for employees (Fouquet and Broadberry, 2015) This will have an economic impact of the country (Nedelkoska and Quintini, 2018). AI will help to grow and upgrade the Information and Communication Technology sector thereby making its contribution important to the Indian economy. On the other hand, a group of researchers feel automation of work will have an impact on the workforce distribution and work timing of an organization. Uneducated and unskilled workers are at a high risk in terms of work automation except where they need to perform extremely vital task (Abramovitz and David, 1996). Other theoretical models predict that the ongoing productivity slowdown is likely to continue due to increased inequalities (Gries and Naudé, 2018), learning costs (Jones, 2009) and a lower rate of disruptiveness of AI compared to other general-purpose technologies (Gordon, 2016, 2018). A forecast by think-tank Bruegel warns that as many as 54% of jobs in the EU face the probability or risk of computerization within 20 years. The effect is likely to be more nuanced, and there seems to be a consensus among researchers that there will be significant workforce shifts across sectors of the economy, accompanied by changes in the nature and content of jobs, which would require reskilling. Furthermore, job polarization is probable: lower-paid jobs that typically require routine manual and cognitive skills stand the highest risk of being replaced by AI and automation, while well-paid skilled jobs that typically require non-routine cognitive skills will be in higher demand. Studying the patterns of previous industrial revolutions indicates that job destruction will be stronger in the short and possibly medium term, while job creation will prevail in the longer term. Nonetheless, labor relations may alter, with more frequent job changes and a rise in precarious work, self-employment and contract work, which would possibly weaken workers' rights as well as the role of trade unions. The disruptive effects of AI may also influence wages, income distribution and economic inequality. Rising demand for high-skilled workers capable of using AI could push their wages up, while many others may face a wage squeeze or unemployment. This could affect even mid-skilled workers, whose wages may be pushed down by the fact that high-skill workers are not only more productive than them thanks to the use of AI, but are also able to complete more tasks. The changes in demand for labor could therefore worsen overall income distribution by affecting overall wages. Much will depend on the pace, with faster change likely to create more undesirable effects due to market imperfections. Theoretically, the more AI solutions replace routine labor, the more productivity and overall income growth will rise and the more sharply inequality will increase. This may lead to a "paradox of plenty": society would be far richer overall, but for many individuals, communities and regions, technological change would only reinforce inequalities. There are indeed fears that the current trends of shifting the

distribution of national income away from labor, which leads to deeper inequality and the concentration of wealth in “superstar” companies and sectors, will indeed only be exacerbated by AI (Szczepański, 2019). Many studies have shown AI’s negative effect on employment wherein technological unemployment and job displacement have been prevalent. Consequences for labor markets will affect workers in terms of inequality, wage-push inflation and tax base shrinkage. AI could also have a disruptive effect on the economy and its relationship with other countries as it may augment the gap globally (Szczepański, 2019). A growing body of recent theoretical work in economics builds on the literature on job polarization to consider the potential impact on labor of the implementation of AI. This literature includes Acemoglu and Restrepo (2016, 2018b), Aghion *et al.* (2017), Bessen (2017), Caselli and Manning (2017), among others. In the models discussed by Acemoglu and Restrepo (2018a) and by Caselli and Manning (2017), in the short term the substitution effect may dominate, and workers may be worse off. Here it shall not be out of context to mention that AI is likely to affect very different kinds of occupations, and so different kinds of workers, than software and robots. Whereas low skill occupations are most exposed to robots, and middle-skill occupations are most exposed to software, it is high-skill occupations that are most exposed to AI (Webb, 2020). A shared concern about robotization arose from job polarization, or the fact that middle skill, middle-income jobs are disappearing to the benefit of job creation both at the high and at the low end of the wage distribution (Autor, 2010; Autor *et al.*, 2003). Workers employed in nonrepetitive activities requiring high digital skills could increase the wages they command as their skills are in dearth of supply, while raising the productivity they contribute to their employers. In stark contrast, workforces engaged in repetitive tasks are likely to be compressed as their skill sets shall gradually and increasingly irrelevant consequently their power to negotiate for higher wages is likely to decay. In brief, a community of workers is at serious risk of being replaced by machines, while there could be scarcities of workers who can complement what machines do. AI may increase employment for specific skills that may be needed to automate the said technological change. Hence, it creates new latitudes through “creative destruction” (Morgan and Frank, 2019). It appears in general AI is likely to disrupt labor with markets modestly negative impact on long-term employment overall.

Besides, there are some researchers who point out the inherent limitation of AI. With respect to automation in general, and AI is no exception, there is another challenge regarding the issue of “potential liability”. For instance, if in the future, AI methods are used to build partial or full autonomous vehicles, if an autonomous vehicle is involved in a crash, who should be held liable in such a case? While this limitation is not merely technical in nature, it is a serious issue that needs to be addressed (Chowdhury and Sadek, 2012). One major criticism of many AI paradigms (e.g. neural networks), which was previously alluded to in the article by Van Zuylen, is that they are often regarded as black boxes that merely attempt to map a relationship between output and input variables based on a training data set. This also immediately raises some concerns regarding the ability of the tool to generalize to situations that were not well represented in the data set (Chowdhury and Sadek, 2012). Another limitation of AI-based search methods, such as genetic algorithms and ant colony optimization, is that they are never guaranteed to reach the “optimal” solution. Also when using AI-based search methods to solve a problem, it is often hard to gain true insight into the problem and the nature of the solution, as is possible for instance when using mathematical programming methods. The inability to quickly do sensitivity analyses is an important example of this limitation (Chowdhury and Sadek, 2012). For several AI methods, there is currently little guidance on how to decide upon the best values to use for a given method’s tuning parameters (Chowdhury and Sadek, 2012).

The current crisis

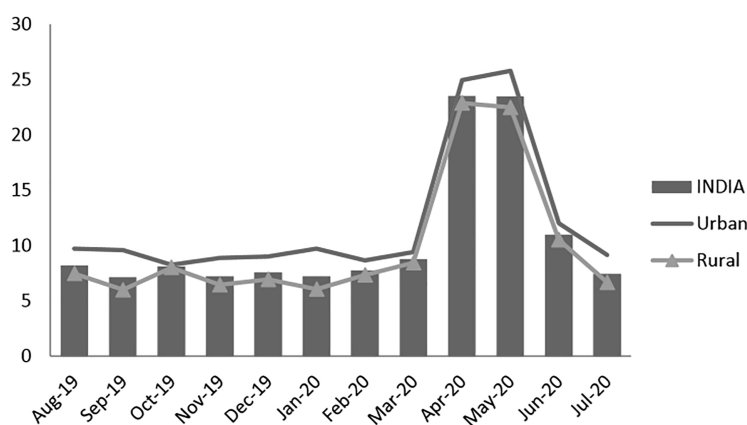
The report of CMIE (Centre for Monitoring Indian Economy) confirms unemployment rate in India rose to 29% since the country went into lockdown from March 2020. The picture shall be clear from the figure given hereunder (see Figure 1):

Choudhary (2020) confirms urban unemployment rate to 30.9% whereas, an ADB-ILO report's prognosis for unemployment is 6.1 million young Indians (15–24 years) may lose jobs even if the virus is controlled by September 20 ("6.1 million youth may lose . . .", 2020)

Unemployment rate in urban areas rose to 20.9% during the April–June quarter of 2020, more than double the unemployment rate in the same quarter the previous year (8.9%) as shown in figure below (see Figure 2):

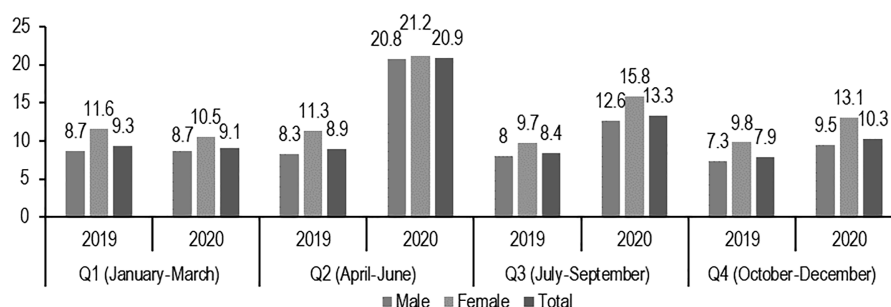
In all aforesaid cases unemployment rate means the percentage of unemployed persons in the labor force. labor force constitutes persons who are either employed or unemployed but seeking work.

Regarding the availability of data for employment generation in the unorganized sector rural and urban, the representative of the ministry submitted in evidence as follows:



Source(s): Centre for Monitoring Indian Economy Pvt. Ltd

Figure 1.
Unemployment rate of
India July, 2019–
June 2020



Source(s): Quarterly Periodic Labour Force Survey Reports, Ministry of Statistics and Program Implementation; PRS

Figure 2.
Unemployment rate in
urban areas during the
April–June quarter
of 2020

“Right now, there is no area framed for this data for unorganized sector.” (Ministry of Labour and Employment, Government of India, 2021)

From the aforesaid confirmation of the central government it is established absence or ineffectiveness of a formal organizational framework for unorganized workers, their lack of representation of in associations, exclusion of workers from legal rights for minimum wages is as evident as for the domestic workers in particular as highlighted in earlier research (Bhattacharya *et al.*, 2016; Chandramouli, 2018).

However the Standing Committee on Labor (Chair: Mr. Bhartruhari Mahtab) submitted its report on the subject “Impact of COVID-19 on Rising Unemployment and Loss of Jobs/Livelihood in Organised and Unorganised Sectors” on August 3, 2021. observed “that 90% of workers in India are from the informal sector. These workers include: (1) migrant workers, (2) contract labours, (3) construction workers, and (4) street vendors. The Committee observed that these workers were worst impacted by the pandemic due to seasonality of employment and lack of employer-employee relationship in unorganised sectors” (Ministry of Labour and Employment, Government of India, 2021).

Report from press confirms 80% of India’s informal workers lost jobs during COVID-19 lockdown and 63% survived on two meals a day (“80% of India’s informal . . .”) About 80% of the high-volume domestic workers (more than 10 jobs per week) ended up almost jobless and half of them reported poor access to medical care during the period (National Domestic Workers Alliance, 2020). In April 2020, the International Labor Organization (ILO) observed that more than 40 crore informal workers in India may get pushed into deeper poverty due to the pandemic (Kumar, Srivastava, 2021).

As per the NCRB report, a spike of 10% in the number of deaths by suicide was recorded in India in 2020 as compared to 2019–1.53 lakh suicides in 2020 – highest in the last 10 years. Daily wage earners constituted the highest share, a total of 37,666(24.6%) wage workers died by committing suicide (“India Lost More People”).

The lockdown to combat the corona virus outbreak has compelled many industries to shut down thus increasing unemployment across the country (Admin, (2020), July 21). The public health crisis outbreak at a time when India’s gross domestic product (GDP) growth was already sloping down, and unemployment was on the rise (Dev and Sengupta, 2020). Compared to 2003–2011, investment and savings rates and exports-GDP ratio declined in the 2011–2019 period. The investment rate declined from 34.31% of GDP in 2011–12 to 29.30% in 2018–19. The savings rate declined almost consistently from 34.27% of GDP to 30.51% between 2011 and 2018 (Nair, 2020). According to the advance estimates (January) of the National Statistical Office, the growth of the gross domestic product (GDP) in 2019–20 was 5%, a steep fall from the 2016–17 growth rate of 8.2% (Nagaraj, 2020). Other theoretical models predict that the ongoing productivity slowdown is likely to continue due to increased inequalities (Gries and Naudicé, 2018), learning costs (Jones, 2009) and a lower rate of disruptiveness of AI compared to other general-purpose technologies (Gordon, 2016, 2018). It is pertinent to mention here although the Indian economy is the third-largest economy in the world, the unemployment rate is very high and it also differs every year due to its large labor force caused by the young working population of the country (Kumar and Murali, 2016). Despite the growth of GDP, jobless growth becomes more integral based on the findings of the periodic labor force survey of 2017–18, proving the fact that GDP growth is not an automatic transformation process for employment in the economy (Paruchuru *et al.*, 2020). One of the main causes of jobless growth in India over the years is prevailing job losses, which according to Madhavan (2018), have risen between 2016 and 2017 for as much as 1.5 million jobs lost.

Unemployment in India has been a consistent issue for years. Full-time job opportunities are decreasing day by day due to part-time and casual work (Chand *et al.*, 2017). Over the years, as technology took part in driving India’s economy, there is also job-deficient growth,

rising farm distress and youths concerned for job reservations in the public sector, hence overall employment insignificance might be caused by AI displacing human labor in the services sector, making labor demand for predictable jobs shrink (Bonsay *et al.*, 2021).

The prevailing degree of unemployment clearly indicates that there is something inherently wrong with whole economic structure. The inequalities grew because as a result of reckless inflation, the wealthy got richer and the poor became poorer. According to the Oxfam study in 2019, the top 10% of the Indian population owned 77% of the overall national income. The calculation showed 73% of the wealth produced in 2017 went to the wealthiest 1%, while 670 million Indians, who constitute the poorest half of the nation, received just a 1% rise in their income. (Oxfam International, 2021). The World Inequality Report produced by a network of social scientists estimated the share of wealth owned by billionaires has mounted by a record amount during the pandemic, with millionaires also coming up out of COVID-19. Lead author Lucas Chancel confirmed: "The COVID crisis has exacerbated inequalities between the very wealthy and the rest of the population ("Pandemic makes the super-rich richer"). Overall, the scenario is one of rising wage and employment opportunity inequality, the recent research studies of Korinek and Stiglitz (2000), Aghion and Howitt (2017) points to rising wage inequality once jobs start to be created subsequent to a technological disruption.

Problem area/issues under investigation

- (1) To study the extent of use of AI in the modern organization.
- (2) To comprehend the changing nature of future jobs in the context of application of AI.
- (3) To study the impact of AI on the economy of the country with special reference to the job market.
- (4) Given the critical scenario of labor Indian economy how AI shall coexist with human intelligence or labor

Research Methodology

Research Design

The research on implementation of AI in different industries and its effect on job market are at a nascent stage. There is a dearth of literature. Hence, this followed a qualitative approach to have a better understanding of the research questions as Bhattacharjee (2012) confirms that employing an interpretive paradigm (qualitative analysis as the analysis of data, e.g. data from interview transcripts) is the more productive way to study social order and that it is achieved through "subjective interpretation of participants involved, such as by interviewing different participants and reconciling differences among their responses using their own subjective perspectives".

Sample selection

The selection technique utilized is purposive sampling. The respondents in this research are the General Managers and HRs from different companies. A total of 14 senior professionals from various sectors were approached for the interview out of which seven people gave their consent to take interview. Seven senior HR professionals mainly general manager and HRs from various sectors viz. oil and gas sector, manufacturing, healthcare, construction, media, power and energy, retail, were interviewed to understand how they are using AI in their respective fields.

Inclusion criteria

- (1) Generally, the people covered under the research are from the decision-making level of their companies so they are in a position to give strategic perspective as well as day to day implication of implementation of AI.

- (2) Respondents have adequate knowledge of the respective industry to which they belong
- (3) Respondents have reasonable industry of dealing with HRM and national economy as a whole

Assessment tool and its administration procedure

A narrative approach was adopted to have a better understanding of the research questions and comprehend their views regarding implementation of AI in their respective companies. A semi structured open ended interview was administered to steer the discussion around the research questions. The respondents were interviewed over the phone and each respondent shared their stories.

Analysis of data

The narrations were then transcribed by online transcriber website otter.ai.com. The common keywords as prescribed by the website are as: AI, strategy, learning, implementation. The extracts of the discussions are noted in the next segment of the paper. As and when required this research also used secondary data from the journals, literature available in the websites to understand the implementation of AI globally.

Findings and analysis based solutions

The application of AI in the organization

AI is impacting every function and the modalities of business. For example, AI helps in managing various sub-stations in the energy plant which helps to study the amount of electricity load consumed or needed; power-consumption, system process through which consumption is done and obtain daily workforce updates. It also helps to prepare forecasts and prediction reports and analytics of the operations, thus making work easier for the employees. The respondent from the healthcare sector expressed that AI helps employees to work better, provide fast and efficient service to clients, diagnose problems and issues, analyze cases and provides accurate information for specific problems. Agriculture and dairy sector are also using AI in their work process. AI is helping the employees to easily access the process, payment and make other operations smooth thereby preventing brokers from making money and helping in delivering products directly from producers to consumers thereby minimizing loss and maximizing output and profit of the business. One of the respondents also shared his organizational experience related to the AI application in the office canteen to reduce wastage of foods. The office canteen uses AI tools through which employees select the items and amount of food they wish to consume. With the help of a biometric automatic display of trays and coupons are provided; thereby preventing wastage of food. But the implementation of AI is not so smooth. It is comprehended from the interviews that to implement AI, the initial step needed is a change of mindset to accept the technology.

The role of AI in human resource management (HRM)

Like other business functions, HR as a business partner also adopting AI in the HR processes. It was understood from the in-depth interviews that AI is being used in many areas of HR function such as: recruitment, selection, performance management, employee retention, etc. AI is helping the managers to conduct smooth recruiting operations and conducting large scale interviews. AI helps in synchronizing the questions and analyzing the answers, providing timely feedback, study the interviewees' behavior traits, choice of words, language,

interest in the field, predicting a rate of attrition and helping in employee retention. AI also helps in performance management, employee engagement, providing training and development for employees, study the net promoters score, happiness quotient of employees; thereby increasing motivation.

As per respondents, the implementation of AI in various HR functions will be expedited with the current COVID-19 situation. Organizations' regular operations are being challenged in a big way as employees are now becoming remotely connected due to "lock downs" and there is a restricted use of employees on-site. Experts from the field of HR opined that in the current COVID-19 situation, as most of the operations are performed online, the implementation and use of AI in various HR functions, is becoming obvious and essential. In the post pandemic situation, the use of AI will be more significant to balance between organization's reduced size in terms of manpower and efficiency in terms of result. The companies are now experimenting and embedding AI to do the mundane jobs for the HR department. It uses psychometric tools, helps in augmenting and automating work by selecting suitable resumes from the pool of applications, chalks out the previous companies the employee has worked in, helps in recruitment of employees, integrate multiple data, synchronizes behavioral competency of candidates, performances, employee retention, analyze the rate of success, helps to understand which employee suits in which position and study the rate of attrition of the organization. AI is helping the HR department to perform more efficiently and strategically by performing the routine and repetitive works in a smarter and more efficient way, and thus helping the HR managers to deliver service with speed, accuracy and more bias-free way. It is evident from the responses that AI can also help the HR managers to retain potential employees correctly predicting possible details, which creates grievances even at the individual level. AI tool helps to understand the gap between organizations and individual expectations and hence help HR managers to take measures. Thus, HR department gets more time to concentrate on managing other important areas where machines cannot play a role.

AI is helping the HR partners in augmenting and automating work, and prevents repetitive and manual task and allows them to concentrate on building strategies for achieving company aims and goals within a short span of time.

The changing job nature and acceptance of AI by the Indian companies

Implementation and implementation of technology have never been easy. When computers were discovered and computerization of businesses was in force, people feared of losing their jobs and a huge resistance resulted in socially. But with time it is proven that it helped in increasing employment and changing lifestyles to a better one. Similarly, AI when merged with HRM in the modern companies is benefitting everyone in an effective way. People do not have much of a choice but to accept it, though most companies have already started using the technology. The COVID-19 has expedited the work – from – home concept and has made the gig-economy a reality today. People and organizations are becoming more accustomed to the changing context with the fast implementation of technology. It was evident from the interviews that post COVID-19, organizations will be looking for more specialty skills and the forms of work – contracts are surely going to be changed. According to the respondents, quick implementation of technology and AI, will help managers in better decision making and forecasting which is already been proven to be advantageous to the companies. After adoption of LPG economy, the IT/ITS hubs in India are flourishing while other sectors are still at a developing stage. With the implementation of AI technology, these sectors will also bring in more productivity thereby increasing jobs for people. Another respondent mentioned how companies like Google, OLA, UBER and OYO have already adapted AI technology and with the help of its tools and software people are getting benefits in their day to day lives. AI will help to manage the workforce globally. AI will help the organizations to identify skills

correctly, from a large pool of candidates. It will help the organizations to design competitive compensation packages and help the HR managers to integrate workforce across the world reducing the cultural and semantic barriers.

The viability of AI for a labor-intensive economy like India

As per experts, AI is a viable long-term proposition, even for a labor-intensive economy like India. According to the respondents, the introduction of AI will benefit all stakeholders. It helps in work automation and upgradation. Implementation of AI will change the job nature and hence the requirement of skills will be different. HR managers have to predict the future requirement of skill sets and must take corrective actions by providing training sessions to employees for learning the new technologies, help unskilled workers to upgrade their skills and utilize workforce in operating these tools and software. Several respondents feel terminating employees can never be a solution; be it in times of recession or in times of pandemic; rather they can diversify their work process and upgrade employees' knowledge and skills that can be used efficiently for production and organizational benefits.

The impact of AI in the Indian Economy and job market

India is a labor-intensive country. The cost of implementing AI is generally huge. It is generally beyond the capacity of small and medium scale to implement the AI at large scale. Our country is comprised of a huge number of blue collared workers who are less skilled and less knowledgeable. So, rapid and wide implementation of AI in all industries and in every organization is not possible in this country. Implementation of AI will lead to transform our lifestyle, work culture and communication keeping in mind certain intrinsic limitations of AI mentioned hereunder:

- (1) Sometimes it can be misused leading to mass scale destruction.
- (2) Program mismatch is sometime done opposite to the command.
- (3) Creativity is dependent upon programmer.
- (4) Lacks the human touch
- (5) Younger generation becomes lazy.
- (6) Require a lot of time and money; and
- (7) Technological dependency increases (Khanzode and Sarode, 2020).

Though the entire world is moving towards automation, India cannot resist its' implementation. But the country must plan wisely at macro level and focus on building future-skill sets among young workforces. Thus, industries and organizations must utilize these people by providing proper development and training for operating these tools and software. Employees must upgrade their skills to be able to work effectively and efficiently; thereby increasing the rate of employment. In long term the AI skill-based courses skill based course can be created and implemented in collaboration with the academics and industries. But currently working professionals in industry we must emphasize on upskilling and reorienting. Whereas sophisticated AI-technologies reduce the need for human labor in today's industry, synchronizing these technologies to the organizational needs and deliverables requires an in-depth understanding of organizational members' capabilities (Davenport and Kirby, 2016). Therefore at present development of AI competencies and its applications has become vital to help employees remain employable in the future.

Implementation of AI in different fields will improve the operational efficiencies of the industries. It is understood from the discussions that AI and robotics helps in augmenting

and automating work, reduce manual task, prevent pilferages cybercrime, work repetition and maintain large scale data and information. This will not only increase organizational productivity and output but will also provide time to employees to concentrate on other vital areas where machines cannot play a role. Thus, it will have a positive impact on the Indian economy and job market. And here comes the role of creative HRM – who cannot be reskilled must be rehabilitated by way of utilizing their existing skills by way of initiating entrepreneurial venture.

But the most vital part of the story is one can only run if the person knows to walk. A country where the government itself admits 90% of its workforce belongs to informal sector and conspicuously exists a multi-faceted stark digital divide (Huberman, 2001; DiMaggio *et al.*, 2001; Guillen, 2006; Servon, 2002) wherein gap of digital divide is significant between the rural and urban India (Dasgupta *et al.*, 2002; Nath, 2001; Singh, 2007; Mahajan, 2003) talking of educating, applying and implementing AI seems to be “a distant dream” but an “ambiguous ambition”.

Therefore the answer lies in Keynesian economics The central tenet of which is government intervention rather investment to stabilize and progress the economy by way of spreading Internet connectivity, basic literacy and computer literacy, then only truly AI can be effective in a greater scale which was duly pointed out by Bonsay *et al.* (2021) suggesting that other economies being involved in AI utilization should focus on developing high standards of an educational system that covers a wide range of skills aligned to the new job creation rooted in technology and leverage this transformation to further enhance people’s livelihood and income, as the continuous shift toward technological change is inevitable.

Prior to that India has to ensure the basic hygiene factors of informal sector labor force like social security. Low wages and lack of legal protection, unpaid overtime and occupational health problems, poor bargaining power, working without leave under coercion, child care issues and health ailments (for which mere legislation or statutarization is just a formality executed than taking real action) to take the majority of Indian workforce to attain the motivational factor to acquire the knowledge and skill of AI and to implement it.

Conclusion

The AI and its implementation are still at their embryonic stage in Indian companies. With the implementation of such sophisticated technology, in one side, the organizations are dreaming of efficiency, higher productivity, better organizational performance whereas on the other side requirement of changing skill sets and decreasing manpower, creating fear among the mass, which results in hard resistance against the implementation process of AI. On the other hand, lack of expertise and high cost is also hindering implementation of AI in the organizations. The implementation and implementation stage of AI vary from organization to organizations, as well as function to functions. While the marketing departments of several organizations are using advanced level of AI, there, the HR departments are using AI at the very initial stage. But it is evident from the above discussions that implementation of AI in business functions is inevitable and only it is a matter of time. With the COVID-19 pandemic this has become the utmost necessity for many organizations, particularly who works across the globe. HR partners of the businesses are also adopting AI at a fast pace to do away with the mundane works and deliver efficient services to the stakeholders. It is understood from the discourse that the prerequisite for a successful implementation of AI across the industries throughout the country, needs a concerted effort from industries, academia and government.

Questions for discussion

- (1) How application of AI has changed the HR functions?

- (2) How AI benefits HR functions?
- (3) Is AI desirable in a labor intensive country like India?
- (4) What is the limitation of AI in HR function?

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I trust friends before I trust companies: The mediation of WOM and brand love on psychological contract fulfilment and repurchase intention

The mediation
of WOM and
brand love

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Abstract

Purpose – Consumer psychology research has established the importance of customer satisfaction as a determinant of customer repurchasing intention. Nonetheless, even satisfied customers switch brands. Also, even dissatisfied customers have repurchasing intentions. This means that customer repurchasing behaviour is extremely difficult to predict, necessitating additional research to identify additional factors that can help organizations better understand the methods to predict customer repurchasing intention. To fill this knowledge gap, this study examined the mediating effects of brand love (BL) and positive word of mouth (PWOM) on psychological contract fulfilment (PCF) and customer repurchasing intentions.

Design/methodology/approach – This is a cross-sectional study. The study used structural equation modelling (SEM) to analyse relationships from a sample size of 400 beauty salon customers. Also, a process macro mediation test was used to analyse the mediating effects of BL and PWOM on the relationship between PCF and customer repurchase intentions.

Findings – The findings indicate that transactional and relational psychological contracts have a positive and significant relationship with BL and PWOM. As well, BL and PWOM positively and significantly influence customer repurchase intentions. Finally, the findings indicate that BL and PWOM mediate the relationship between psychological contract fulfilment and customer repurchase intentions.

Research limitations/implications – This survey sampled beauty salons solely. Given that each type of organization may have a unique way of fulfilling psychological contracts, future studies may include more categories such as restaurants and craftsmanship to broaden the sample. Additionally, this study utilized female beauty salons. Therefore, future research could include salons that cater to women and men to boost the sample's generalizability. Finally, this study concluded that BL and positive recommendations are the most effective variables for resolving consumer satisfaction challenges. However, additional factors can probably amplify this fact by focusing on additional elements to broaden the arguments.

Originality/value – Past studies have extensively covered customer repurchasing intention in relation to customer satisfaction. However, it was noted that even some satisfied customers could switch to other brands, and those who were dissatisfied could repurchase the brand. Given that little is known about how other factors than customer satisfaction can affect repurchasing intentions, this study examines the mediating effects of BL and PWOM on PCF and customer repurchase intentions.

Keywords Psychological contract fulfilment, Transactional psychological contracts, Relational psychological contracts, Brand love, Word of mouth, Customer repurchase intention

Paper type Research paper



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Introduction

Customer repurchase intention is designed to encompass or explain an individual's personal preference for purchasing a particular product again. Repurchase intent is a highly effective strategy for raising profit margins and assuring a company's long-term success (Wangwiboolkij, 2011). Customers' repeat purchase is a sign of customer loyalty (Chiu *et al.*, 2009). As a result of the severe rivalry that exists today, businesses must compete to acquire new consumers and retain existing ones to survive and thrive (Ismail, 2022a, b). Business owners are now considering customer switching behaviour as a complex phenomenon. Hence, dealing with this behaviour requires them to determine what makes them reconsider repurchasing the foregone products. Switching hurdles and inducements can exist in customers' perceptions simultaneously, and the absence of one may result in a biased estimation of customer behaviour, leading to erroneous conclusions and ineffective management actions (Chuah *et al.*, 2017).

On the other hand, owners of businesses and researchers believe that increased customer satisfaction has a favourable impact on the number of customers that the company retains. However, the scholarly concern is that customer satisfaction reflects short-term emotions associated with fulfilling consumers' needs. This means that having only satisfied customers might not be enough to maintain achievement in the competitive industry of today despite the fact that customer satisfaction serves as the foundation for other customer behaviours like repeat purchases (Carroll and Ahuvia, 2006; Hsu and Chen, 2018).

In addition, Kumar *et al.* (2013) demonstrate that placing an exclusive emphasis on the contentment of customers is insufficient to guarantee the maintenance of customer-organization relationships that are profitable over the long term. In this situation, customer satisfaction is viewed as a short-term emotion associated with fulfilling customers' requirements and hence may fall short of adequately explaining how to achieve long-term effects, such as client retention (Ghazali *et al.*, 2016). This is stressed by evidence from the very recent literature about consumer psychology that some of the customers have switched to other products or have shown an intention to switch regardless of being highly satisfied customers (Evanschitzky *et al.*, 2022). At this point, organizations must come up with several strategies that go beyond customer satisfaction. Among the hailed initiative that has been considered, the supreme step toward future customer behaviour is brand love (BL). A satisfied customer's level of passionate, emotional attachment to a particular product is defined as BL. Although BL and customer satisfaction look similar, these concepts have different constructs (Carroll and Ahuvia, 2006).

BL is distinct from customer satisfaction in the fact that, whereas customer satisfaction is typically conceived as a cognitive judgement requiring thoughts, BL is considerably more emotive in nature. This indicates that if a customer has cognitive responses to a product, they can alter them at any time and have a desire to switch to another product if they are dissatisfied with the product at the time. BL is more concerned with the emotional connection between the buyer and the product. These emotional attachments are tough to shake off due to the marketing pressure exerted by competitors. Second, although customer satisfaction is often considered the consequence of an exchange between the customer and the company, BL is frequently the product of a consumer's long-term engagement with the brand (Carroll and Ahuvia, 2006). Besides, customer satisfaction is typically related to the expectancy disconfirmation paradigm, whereas BL is defined by the consumer's knowledge of the brand's expectations.

Finally, BL entails a readiness to declare affection (Carroll and Ahuvia, 2006). Therefore, creating BL could be the next important step for increasing customer repurchasing intentions. Similarly, since even satisfied customers can switch, creating recovery strategies can be a step forward for creating customer repurchase intentions (Tarofder *et al.*, 2016). Further, if a customer is displeased with a service or product, they may be equally dissatisfied with an unsuccessful recovery, or vice versa, depending on the circumstances (Ismail, 2022c).

The company's efforts to recover from the failure take on a variety of forms, but they all have the same goal in mind: to ensure that recovery methods affect BL, which in turn raises the likelihood of customers intending to repurchase the company's products. This eventually yields BL and positive word-of-mouth (PWOM) (Kau and Loh, 2006; Tarofder *et al.*, 2016).

According to Tarofder *et al.* (2016) and Zhu *et al.* (2004), organizations with a failed recovery strategy may experience increased negative word of mouth (NWOM), and a customer who has faced a bad experience from NWOM may tell 10–20 individuals, resulting in a loss of approximately 30% in sales. Apart from a noted connection between BL and the intention to repurchase, PWOM has a true connection with repurchasing behaviour among customers. Customers typically view PWOM as a way to mitigate a variety of risks associated with repurchasing decisions, including social, psychological and financial risks. Consequently, customers seeking recommendations believe that positive recommendations aid in purchase decisions and refrain from purchasing if they receive negative recommendations (Amani, 2022a; Ismail, 2022d).

Indeed, evidence indicates that negative information influences consumer ratings more than positive information (Sweeney *et al.*, 2005). Thus, negative information has a bigger impact on beliefs and must be neutralized through appropriate techniques such as recovery strategies to sway the minds of dissatisfied customers and those who intend to switch to other products. So far, it is clear that BL and PWOM are important factors for achieving customer intention to repurchase. But one of the lingering questions is how these two concepts can be achieved to influence customer repurchase intention. Since most of the strategies, either straightforward or recovery, aim to maintain or change the customers' minds, these strategies act as a promise to the customers. Hence, they act as psychological contracts between customers and organizations. Purchasing psychological contract ideas originated in human resources management; thus, psychological contracts in organizations can consist of customers' beliefs about the marketing strategies defined in terms of the agreement between customers and organizations.

Psychological contracts are made up of the responsibilities that customers think businesses owe them and the responsibilities that customers think they owe businesses in return. This is backed by the fact that customers' intention to repurchase is contingent upon the value acquired from prior transactions, defining the promised future transactions. They typically base future purchase intentions on the value gained from earlier contacts, with relationship benefits serving as a surrogate for future advantage expectations. Repurchase intention is typically determined by surveys of current consumers, which examine their proclivity to buy the same brand, product/service and from the same company (Fungai, 2017).

In this way, there are two outcomes of a psychological contract: breaching the promises and fulfilling the promises. The psychological contracts are said to be breached if the customers perceive that organizations have failed to fulfil one or more of the psychological contract obligations, meaning that customers perceive that they have been treated wrongly concerning the terms of agreements with organizations (Pavlou and Gefen, 2005). Furthermore, previous research revealed that customers could be punished with vengeful intentions after experiencing service failure or unfair treatment (Funches *et al.*, 2009; Grégoire and Fisher, 2006). Although each consumer's perception of service failures differs, they may perceive differently and express feelings of dissatisfaction through complaining to service providers or even showing response behaviours such as informing friends and relatives about their experience of service failures (Hai-Ming *et al.*, 2020). Therefore, this highlights the need for designing and providing proper recovery strategies that can act as promises to the customers (Tarofder *et al.*, 2016).

On the other hand, the psychological contract fulfilment (PCF) will mean that the promises have been met. This means there is a link between psychological contract breach and customer dissatisfaction and between PCF and customer satisfaction. Thus, as long as

customers perceive that organization have adequately met their obligations, such as providing promised prices, quality products, proper services, etc., they will more likely feel inclined to take actions in favour of the organization by spreading PWOM to other customers, hence increasing the possibilities of repurchasing for those customers who switched to other products. Most importantly, it is vital to consider the influence of psychological contracts on BL creation and PWOM because some negative incidents between customers and organizations may influence the customers' overall perception of the products, which in turn affects BL and makes NWOM spread so quickly.

To emphasize customers' repurchase intention, it is imperative to build a more comprehensive understanding of customer–organization relationships by examining how PCF results in BL, PWOM and customer repurchasing intention. Aside from that, given its role in compelling organizations to provide promised services and strengthening customer–organization relationships, one would expect psychological contracts to receive special attention from marketing scholars and practitioners. However, very little is known about how this concept can be used in customer psychology studies. In addition, the challenges relating to customer satisfaction, particularly concerning customer intention to repurchase, as presented earlier, have not been well cultivated in the literature.

Since most of the available studies are based on the repurchasing intention as a result of customer satisfaction, which has been found not to be more effective in the current modern business environments, this study has several rationales to add to the body of literature. First, it looks at how PCF can result in PWOM and BL among customers, which have been documented to be a higher level of customer psychological state of mind than customer satisfaction. Second, introducing PWOM and BL as critical mediators of the relationship between PCF and customer repurchasing intention provides a unique and new theoretical and empirical understanding of how business organizations can reduce customer switching intentions through increasing customer repurchasing intentions. This is important because, in most cases, the perceptions of the customer on the fulfilment of the psychological contracts by the business organization increase the chances of developing BL toward the product (i.e. I love this brand) as well as increasing positive recommendations due to the trust they have from their close friends (i.e. I trust friends before I trust companies). Given to the presented gap in the literature, the researcher is motivated by the fact that some customers' repurchasing intentions can be attributed to a combination of several factors, among which PCF, BL and PWOM can provide new insight in the literature than considering only customer satisfaction. The general research question is as follows: what are the effects PCF has on customer repurchasing intention when mediated by BL and PWOM?

Theoretical review

The social exchange theory governs the course of this study. This theory is characterized by voluntary actions among individuals driven by the returns they expect from others, which in most cases bring such returns to others. The theory emphasizes the importance of social and economic exchanges based on the obligations involved in the exchanges. Throughout the exchange process, the theory strongly emphasizes the general expectation of some future benefit (Blau, 1964). In marketing, the interactions between customers and organizations involve material transactions, which are typically accompanied by monetary episodes in ongoing social relationships. Products, resources, transactions and profits are all subject to the laws of supply and demand, which are explained in the exchange (Emerson, 1976). A study by Lambe *et al.* (2001) highlights that exchange interaction involves social and economic outcomes that determine the exchange relationship's dependence. If partners have good social and economic outcomes over time, it can make them more committed and keep the exchange relationship going. According to Amani (2022b), the exchange approach views social interactions as a series of social or economic exchanges. Therefore, social exchanges

are “voluntary activities” that may be triggered by a company’s treatment of its consumers, with the expectation that the consumers will be required to repay the marketing company’s good deeds. In this case, customers will increase their BL and PWOM among prospective customers. For the most part, the exchange perspective views the customer–organization relationship as a series of social or economic exchanges between the two parties involved in the process of marketing. When customers and marketing companies enter into economic exchange relationships, both parties will be committed to exchanging economic benefits. Therefore, the study proposes that customers attach themselves in exchange for specific marketing strategies, such as price reductions and other promotional rewards that the organizations offer. Based on this point of view, customers’ impressions of a beneficial transaction are likely to increase commitment on the part of organizations in terms of delivering the products promised. However, this is possible if organizations fulfil the promises “signed” in the psychological contracts. In that case, customers will feel that they have been attended to, which will increase BL and PWOM, hence increasing customer repurchasing intention.

Literature review and hypothesis development

Psychological contracts fulfilment and brand love

Typically, when promises are kept, individuals are satisfied and develop feelings of affection. Literature suggests that addressing customer needs and actively engaging with their emotions generates brand loyalty. Consequently, it is generally acknowledged that there is a positive relationship between PCF and BL among customers. According to Liu *et al.* (2020a, b), psychological contracts encapsulate customers’ organized knowledge of the resource exchange patterns between customers and organizations in a relationship. Customers establish expectations about a brand during the relationship-building process. Customer satisfaction indicates that psychological contracts have been met (expectations are fulfilled), and subsequently, they will develop a greater sense of brand trust and gratitude for the organization, resulting in a rise in emotional attachments for the brand.

As noted by Hai-Ming *et al.* (2020), the psychological contract is made up of transactional and relational psychological contracts. Hence, in transactional psychological contract (TPC) fulfilment, it is expected that organizations understand how economic exchange makes customers increase their BL. The tangible inducements based on self-interest, such as price cuts and other promotional activities, might increase BL among customers. In most cases, TPCs are easily observed and monitored and thus require only a minimal amount of contracting party involvement.

Furthermore, relational psychological contracts (RPCs) are typically dynamic, subjective, relationship-oriented and based on mutual trust to be successful. In most cases, customers wish the organization to be stable and create a reliable marketing environment. In this approach, the fulfilment of a relational psychological contract leads to consumer satisfaction, trust and commitment by establishing a shared psychological contract (Yekaterina, 2015). A customer’s affection for a brand might grow even more when they have a psychological contract fulfilled with the service provider with whom they do business. Again, if customers feel that organizations have fulfilled their obligations, they will feel satisfied and reduce complaints against organizations. Therefore, they will increase commitment and trust, thus increasing the possibility of creating BL. Based on the analysed importance of psychological contracts, the study hypothesized that

H1. TPCs significantly influence BL.

H2. RPCs significantly influence BL.

Psychological contracts fulfilment and positive word of mouth

The foundation of marketing success is a mutually beneficial relationship between businesses and customers. Psychological contracts, which are typically based on social contracts, are based on unwritten, informal agreements founded on trust, good faith and goodwill. Because psychological contracts are based on trust, once they are broken, the person who did it cannot be sued. As a result, customers always retaliate by spreading NWOM by saying bad things about brands in front of potential customers and switching to competitors' brands (Lin *et al.*, 2015). On the other hand, PWOM is based on good recommendations about an organization due to psychological contracts being fulfilled. This indicates that it is the act of informing other customers about a customer's positive experience with a certain marketing company, their services or products (Mehmood *et al.*, 2018).

Generally, the limited available empirical evidence shows a positive relationship between PCF and the PWOM. For example, a study by Yekaterina (2015) indicates that when customers perceive that the service provider has kept a promise by providing them with great service and preferential treatment after they pay for the offered services, they invariably promote PWOM. This is mostly due to fulfilling the relational psychological contract, under which satisfied customers begin referring new customers or spreading PWOM. The connection between the customers and the providers of services will then develop into one of long-term trust and future promises. This is supported by Theotokis *et al.* (2012), who also noted a correlation between parties' feelings in reciprocal interaction, such as organizations and customers, and behavioural responses, such as PWOM. This demonstrates that if psychological contracts are not positively fulfilled, negative behavioural responses, including the intention to switch, will result from psychological contract violations (Lin *et al.*, 2015).

Apart from that, good social relationships among customers and organizations, which is a crucial component of psychological contracts, may result in emotional intelligence that can further influence word of mouth (WOM) complaints, and purchase intention (Boxer and Reket, 2011). Therefore, organizations should monitor consumers' WOM because both relational and transactional contract violations directly impact customer recommendations. Furthermore, consumers' willingness to promote products and services may not decline if organizations can handle contract violations as quickly as possible. In other words, to preserve a durable consumer-brand relationship, organizations should pay attention to the early stages of a contract breach, provide convenient interaction channels and monitor customers' WOM activity (Liu *et al.*, 2020a, b).

H3. TPCs significantly influence PWOM.

H4. RPCs significantly influence PWOM.

Brand love and customer repurchasing intentions

Repurchase intent has traditionally been used as a lone indicator of customer satisfaction and product performance. Customer repurchasing intent refers to the propensity of customers to purchase products from the same companies. Customers prefer to repurchase products from the same companies for a variety of reasons. Customers believe that the organization has improved its standards for a variety of reasons, including their prior purchase experience with the products and its recovery strategies. Customers form strong repurchase intentions if they perceive value and are pleased with their previous purchases from the same organizations (Ali and Bhasin, 2019). However, regardless of the reasons one could mention, BL is said to be the most important attribute of repurchasing intention. BL presents the emotion that customers hold in respect to brands. The bond between the customer and the product makes customers intend to repurchase the product Rubin (1973) describes love as a

person's attitude toward another person, which includes predispositions to feel, think and behave in certain ways toward that person.

Regarding this concept, BL can be defined as a satisfied customer's deep emotional attachment to a particular brand name (Carroll and Ahuvia, 2006). Empirical studies have shown a positive association between BL constructs and various marketing variables (Carroll and Ahuvia, 2006). A study by Huber *et al.* (2015) has shown that BL gives strong rational connections in emotionally driven constructs and rational attributes, such as the partner's physiology, age and other demographic characteristics. All these constructs are related to the intention to repurchase products. This is supported by Garg *et al.* (2015), who noted that different cognitive elaborations of quality information and brand engagement of BL are more relevant for repurchase intention among customers. Therefore, it can be hypothesized that

H5. BL significantly influences repurchase intention.

PWOM and customer repurchasing intentions

Occasionally, communications sent by businesses through advertisements cannot always be trusted. In English, there is a proverb that "good things sell themselves; bad things advertise." Thus, while this is not always the case, there is a belief that some businesses advertise because their products lack the necessary traits to sell themselves. Based on this, most customers will rely on messages from relatives and friends whom they trust more than messages from business organizations (I trust people I know before I trust companies). When a consumer's interest in a product or service is reflected in their everyday contacts, this is referred to as "WOM." In essence, it is free advertising generated by consumer experiences and by something that surpasses their expectations more often than not. It is the interchange of marketing information in which customers play a significant part in influencing specific actions by altering their views or attitudes toward the services or products (Amani, 2022a).

This study establishes the theoretical position that if positive WOM is spread from one consumer to another, there is a possibility that positive WOM signals will generate positive responses for repurchasing among customers. The premise is that most customers believe and trust the comments of their friends more than those of businesses. In general, WOM has a substantial impact on customer behaviour and attitudes and the formation of loyalty. WOM behaviour is believed to originate in this fashion due to satisfaction or dissatisfaction with consumption. The majority of previous research has identified the positive effect of WOM as the most influential element affecting corporate performance (Amani, 2022a; Curtis *et al.*, 2011; Dinh and Mai, 2016; Duan *et al.*, 2008; Moslehpour *et al.*, 2018), suggesting that WOM can help to facilitate repurchase intent among customers. According to Kitapci *et al.* (2014), if a customer recommends a service or product to others, this is considered PWOM. However, if a customer complains to others about a service or product, this is considered an NWOM. Thus, PWOM recommendations from a satisfied customer result in repurchasing behaviour. Additionally, customers who believe that the services meet or surpass their expectations due to WOM will disseminate the pleasant experience and impression and suggest the services to other prospective customers. These favourable experiences and impressions benefit other potential consumers and customers' future repurchase intentions (Leonnard *et al.*, 2017; Liu and Lee, 2016; Serra Cantallops and Salvi, 2014).

According to statistics, WOM communication is nine times more effective than print and media communication at rapidly disseminating information (Chang *et al.*, 2013). This means that the more PWOM spreads, the more social commerce platforms can share their experiences, opinions and information with potential customers (Meilatinova, 2021). Also, Kageyama and Barreda (2018) suggest that PWOM can encourage customers to become loyal and behave favourably toward the brand through repeated purchases, brand revisits and higher prices. In summary, the facts presented above bolster the assumption that customers

who distribute favourable remarks and evaluations about a brand are more likely to repeat purchases. Based on this, it is possible to hypothesize that

H6. PWOM significantly influences repurchase intention.

The mediation effect of BL and PWOM on customer repurchasing intentions

The revised literature has suggested that there is a link between PCF and customer psychological outcomes, such as BL and PWOM. Also, BL and PWOM influence repurchase intention. Generally, the fundamental reason for proposing that BL and PWOM influence the association between PCF and customer intention to repurchase is that previous literature suggests that BL emphasizes emotions among customers and brands. BL results from a high-intensity engagement between organizations and customers (Fournier and Alvarez, 2012). It reflects a customer's level of emotional attachment to a certain brand. Thus, if promises are kept, there is a probability that BL will develop among customers, resulting in repurchasing habits. This is because customers generate various pleasant emotions associated with the brand during the BL creation process. These emotions are critical in determining repurchase intentions.

Similarly, PWOM communications are critical in mediating the relationship between PCF and repurchasing intention. It follows that when an organization fulfils psychological contracts, customers tend to share information with other consumers that highlights a product's or service's merits and encourages other consumers to adopt the product or service. This will increase the customer's intent to purchase other products. Customer delight must typically be expressed in good messages and reviews before positively influencing customers to repeat their purchasing patterns (Kageyama and Barreda, 2018). The primary issue is that not all satisfied consumers express a strong desire to repurchase from the business. As a result, both BL and PWOM are likely to play a critical role in mediating the interaction between psychological contracts and the customer's intention to repurchase. Therefore, it is reasonable to hypothesize that

H7. BL significantly mediates the relationship between psychological contracts fulfilment and repurchase intention.

H8. PWOM significantly mediates the relationship between psychological contracts fulfilment and repurchase intention.

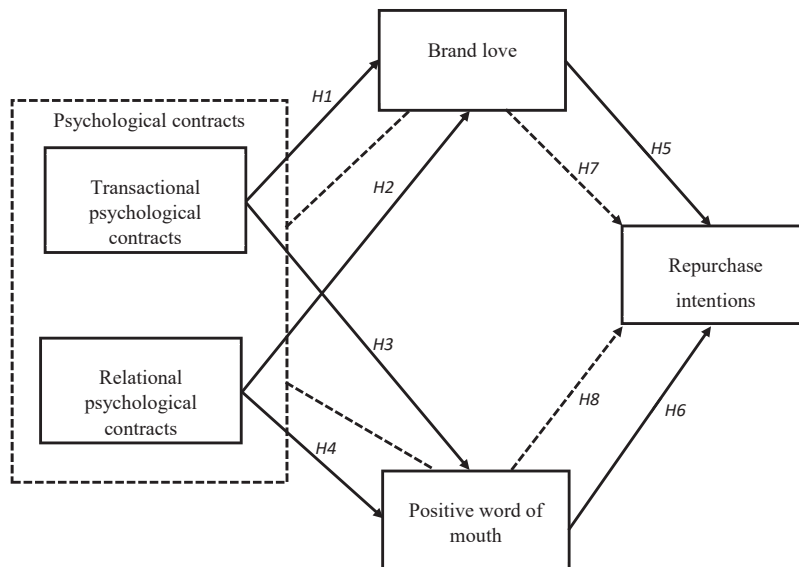
Theoretical model

This theoretical model is meant to explain the relationships underlying this study. The main idea is that fulfilling psychological contracts, such as transactional contracts and relational contracts, is a necessary step for BL and good word-of-mouth. Moreover, BL and PWOM are regarded as significant predictors of customer repurchase intent. Because of this, BL and PWOM may play a key role in connecting PCF and customer plans to buy again (see Figure 1).

Methodology

Study area, design, sample size and sampling procedures

This study used a cross-sectional survey research approach. The Dodoma region of Tanzania was a suitable area for this study. This is because Dodoma is the capital city, having just been relocated from Dar-es-Salaam. Although the problem of customer repurchases intentions cuts across all businesses, the study was interested in looking at beauty salons. This is because, since the relocation of the capital city to Dodoma, the number of women's beauty salons has increased as has the number of customers. The growing demand for women's beauty salon



Note(s): Solid lines denote direct effects and dotted lines denote mediation effects

Figure 1.
Conceptual model

services has created an opportunity for beauty assistants and other new business personnel to open their own beauty salons. At the moment, there is a mushrooming interest in mastering beauty salon management abilities. As a result, data collection for the study was easy to manage. Further, women's beauty salons were chosen for this study because they are rapidly growing businesses in a highly competitive market. Each beauty salon strives to maintain a satisfied customer base and hopes to return multiple times through repurchase intentions.

Due to the diverse nature of customers of beauty salons, the specific population is unknown. Therefore, 500 customers of beauty salon were initially invited to complete a structured questionnaire. However, only 400 questionnaires were returned, resulting in an 80% response rate. In addition, the study employed a convenience sampling in which face-to-face contact with customers of beauty salons was used first, followed by the drop-off and pick-up (DOPU) technique. The DOPU technique was appropriate because the beauty salons were used as the DOPU centres. A study by Steele *et al.* (2001) found that the DOPU technique has the potential to increase survey response and can improve researchers' ability to determine eligibility compared to mail-based data collection techniques. This method also assisted in reducing potential non-response bias (Allred and Ross-Davis, 2011). Finally, the researcher carried out a formal test for early and late responses despite the fact that the high response rate gives the impression that the researcher is confident that non-response is not an issue (Armstrong and Overton, 1977). As suggested by Weiss and Heide (1993), non-response bias can be examined by comparing early and late responses. Thus, the early responses were defined as the initial 75% of the first returned questionnaires, and the late responses were defined as the final 25% of the late returned questionnaires. The comparison between early and late responses was conducted using a *t*-test that included all variables. The results showed that there were no significant differences between early and late responses ($p > 0.05$). Therefore, in this study, non-response bias was not an issue.

Measurement items and data analysis

The items used in this study were adopted from a careful review of the extant literature to identify relevant items to fit with the context of a beauty salon. A slight modification of items was done to fit the beauty salon, methodologies and Tanzania's context during the process. The survey was divided into four sections: the first section was based on the items related to psychological contract fulfilment; of which, this construct was further divided into two parts, i.e. TPC and RPC. Three items (tpc1–tpc3) for TPCs were adopted and modified from Liu *et al.* (2020a, b), whereas three items (rpc1–rpc3) defining RPCs were adopted and modified from Liu *et al.* (2020a, b). The second section involved BL. Seven items (bl1–bl7) were adopted and modified from Albert *et al.* (2008) and Junaid *et al.*, (2019). The third section consisted of PWOM; of which, the five items (pwom1–pwom5) were adopted and modified from (Laroche *et al.*, 2005; Talwar *et al.*, 2021).

Finally, five items (cpi1–cpi5) of customer purchasing intention (CPI) were adopted and modified (Leonard *et al.*, 2017). A complete list of items is presented in Table 1. The items were measured using a five-point Likert scale, ranging between 1 = “strongly disagree” and 5 = “strongly disagree”. The data analysis was done using structural equation modelling (SEM). Confirmatory factor analysis (CFA) was used to confirm a measurement model, and path analysis was used to test for causal relationships between independent and dependent variables. A process macro test was conducted to test the mediation effects.

Common method bias

The study also included statistical controls to assess the prevalence of common method bias. Harman's single factor test is a frequently used technique (Podsakoff *et al.*, 2003). According to Harman's single factor score, which demands that all items be loaded into a single common factor with a total variance of less than 50%, the findings suggest that all single factors were less than 50% (41.56%). This validates that the data are free of the most frequent types of common method bias. To follow the recommendation by Podsakoff *et al.* (2003) that the common bias problem can also be managed during data collection, the study did not inform sampled customers of the study's aim but assured them that their responses would remain anonymous and confidential.

Table 1.
Demographic
characteristics of
customers

Items	Frequency	Percentage (%)
<i>Age groups</i>		
18–38	132	33
39–59	246	61.5
60+	22	5.5
<i>Total</i>	<i>400</i>	<i>100</i>
<i>Level of education</i>		
Secondary level	58	14.5
College level	342	85.5
<i>Total</i>	<i>400</i>	<i>100</i>
<i>Nature of the job</i>		
Self-employment	101	25.3
Employed in private firms	243	60.8
Government employment	56	13.9
<i>Total</i>	<i>400</i>	<i>100</i>

Results

Social-economic characteristics of respondents

Most of the customers of beauty salons have an average age of 39–59, 246 (61.5%). This is followed by 18–38, 132 (33%). This indicates that sampled customers have enough experience to respond to the questions related to psychological contract fulfilment, BL, PWOM and intention to repurchase. This is also supported by the level of education; of which, the majority have a college level of education with 342 (85.5%). This level of education justifies that sampled customers have enough education to provide reasonable answers to the items in the structured questionnaire. Finally, most respondents are employed in private firms, with 243 (60.8%) (Table 1).

Measurement model assessment

Before performing a path analysis to test structural relationships, a CFA was conducted. The results indicate that all factor loadings ranged between 0.681 and 0.921 (factor loaded >0.6); hence, it can be concluded that all items were acceptable for path analysis. Apart from that, the reliability test of all items was tested using coefficients of Cronbach alpha and construct reliability. The results also suggested that all constructs had values >0.7 . The recommended value should be >0.70 (Nunnally and Bernstein, 1994). Additionally, Root Mean Square Error of Approximation (RMSEA) was found to be 0.054 ($0.05 \leq \text{RMSEA} \leq 0.08$), the measurement model fit was $\chi^2/\text{df} = 1.298$ ($1 \leq \chi^2/\text{df} \leq 3$), AGFI = 0.957 (Close to 1), CFI = 0.961 (Close to 1), IFI = 0.954 (Close to 1) and TLI = 0.949 (Close to 1). These values indicate that measurement fitness is very good (Hair *et al.*, 2006).

Apart from that, the AVE obtained ranged between 0.607 and 0.704, greater than 0.50 (Table 2). This means convergent validity of all items was achieved (Fornell and Larcker, 1981). Also, Maximum Shared Variance (MSV) was found to be less than AVE, and the squared correlation values among constructs were less than AVE, indicating that the measurement model met the criterion for discriminant validity (Fornell and Larcker, 1981). Based on these results, it can be concluded that all latent items involved in the analysis of beauty salon had convergent and discriminant validity (Table 3). Apart from that, Table 3 reveals that the mean scores of the items included in the confirmatory factor analysis range from 0.356 to 0.452. This suggests that nearly all of the items are essential for explaining the particular constructs. In addition, the findings indicate that the standard deviation (SD) ranges between 0.043 and 0.121.

Hypothesis testing

As depicted by Table 4, the path coefficients for the direct relationships indicate that there are positive and significant relationships in all relationships involved in the path analysis. Specifically, TPCs and BL have ($\beta = 0.317$, $t > 1.96$, $p = 0.013$) and RPCs (RPC) and BL has ($\beta = 0.199$, $t > 1.96$, $p < 0.001$), thus supporting H1 and H2. The coefficient of multiple determinations (R^2) for BL is 0.51. This means, TPCs and RPCs explain the proportion of variance in BL as a dependent variable by 51%. This also indicates that the proportion that remains ($1 - R^2$) = 49% is the variance that is not predicted by TPC and RPC dimensions. The remaining 49% could be explained by perceived personalization, consumer brand engagement, consumer brand connection and brand self-expressiveness (Tran *et al.*, 2021).

Also, TPCs and PWOM have ($\beta = 0.294$, $t > 1.96$, $p = 0.003$) and RPC and PWOM have ($\beta = 0.425$, $t > 1.96$, $p < 0.001$), therefore supporting H3 and H4. The coefficient of multiple determinations (R^2) for PWOM is 0.6. This means, TPC and RPC explain the proportion of variance in PWOM as a dependent variable by 60%. It further shows that the remaining 40% is the variance that could explain variability of PWOM if other variables were included in the model. This 40% could be explained by other variables such as trust and satisfaction (Meilatinova, 2021).

Constructs/Items	Loadings	AVE	MSV	Cronbach alpha	Construct reliability
<i>Transactional psychological contracts (TPC)</i>		0.594	0.260	0.729	0.813
• Competitive prices of my current beauty salon compared to other companies (tpc1)	0.683				
• The price of my current beauty salon is tied to the level of service performance (tpc2)	0.847				
• Prices of my current beauty salon decreased to maintain my needs (tpc3)	0.773				
<i>Relational psychological contracts (RPC)</i>		0.610	0.102	0.713	0.824
• The extent to which my current beauty salon treats me is fair and impartial (rpc1)	0.837				
• The extent to which am respected by my current beauty salon (rpc2)	0.761				
• The amount of all kinds of support I received from my current beauty salon (rpc3)	0.742				
<i>Brand love (BL)</i>		0.704	0.176	0.816	0.943
• I feel personally satisfied to buy the service from my current beauty salon (bl1)	0.809				
• I am very attached to services from my current beauty salon (bl2)	0.826				
• I take pleasure in buying and using the services and products of my current beauty salon (bl3)	0.726				
• There is nothing more important to me than my relationship with my current beauty salon (bl4)	0.909				
• I am always happy to use products and services from my current beauty salon (bl5)	0.856				
• This brand makes me feel good, totally awesome and purely delighted (bl6)	0.877				
• I love this brand so much and am very attached to this brand (bl7)	0.856				
<i>Positive word of mouth (PWOM)</i>		0.607	0.152	0.819	0.884
• I will say positive things about this beauty salon to other people (pwom1)	0.921				
• I will recommend this beauty salon to someone who seeks my advice (pwom2)	0.821				
• I will encourage friends and relatives to visit this beauty salon restaurant (pwom3)	0.694				
• My current beauty salon provides me with information relevant to my need (pwom4)	0.718				
• My current beauty salon provides me with sufficient information (pwom5)	0.718				
<i>Customer purchasing intention (CPI)</i>		0.657	0.260	0.863	0.905
• I will keep using services from this beauty salon over others (cpi1)	0.881				
• I always prioritize services from this beauty salon for future use (cpi2)	0.817				
• I will keep using services from this beauty salon, although other brands are more famous (cpi3)	0.774				
• I will remain loyal to this beauty salon without thinking of other competitors (cpi4)	0.681				
• If there is a shortage of beauty salon services, I do not directly switch brands (cpi5)	0.883				

Table 2.
Measurement items,
model validity and
reliability

Apart from that, BL and CPI have ($\beta = 0.254, t > 1.96, p = 0.029$) and PWOM and CPI have ($\beta = 0.446, t > 1.96, p < 0.001$), hence supporting H5 and H6. The coefficient of multiple determinations (R^2) for CPI is 0.56. This means, BL and PWOM explain the proportion of

variance in CPI as a dependent variable by 56%. This means that, there is 44% of the variance that was not projected by the model. This 44% could be explained by other variables such as trust and satisfaction (Meilatinova, 2021), perceived value and attitude (Asti *et al.*, 2021).

Testing of mediation effect

The study tested the mediation effect of BL and PWOM using the process macro test as proposed by Preacher and Hayes (2004). This is aimed at testing the hypotheses H7 and H8. However, before conducting a test, the items define transactional and RPCs (tpc1–tpc3 + rpc1–rpc3) from PCF. As shown in Table 5, the bootstrap upper (BootULCI) and lower limit (BootLLCI) CI are 0.1336 and 0.2791, respectively, implying that the 95% CI contains no zeros. This means H7 was supported. Additionally, as shown in Table 6, the BootULCI and BootLLCI are 0.1644 and 0.3771, respectively, suggesting no negative values within the 95% CI. This means H8 was supported.

Discussion

Consumer psychology research has demonstrated the significance of customer satisfaction as a primary determinant of customer intention to repurchase. Nevertheless, as stated

	MEAN	SD	CR	AVE	MSV	PWOM	TPC	RPC	BL	CPI
PWOM	0.452	0.121	0.884	0.607	0.152	0.779				
TPC	0.397	0.083	0.813	0.594	0.260	0.270	0.771			
RPC	0.412	0.103	0.824	0.610	0.102	0.230	0.320	0.781		
BL	0.356	0.043	0.943	0.704	0.176	0.320	0.420	0.230	0.839	
CPI	0.417	0.109	0.905	0.657	0.260	0.390	0.510	0.190	0.260	0.811

Table 3.
Discriminant validity

Path Models	Path coefficient	s.e.	t-statistics	p-value	Decisions
H1 TPC → BL	0.317	0.089	3.561	0.013	Supported
H2 RPC → BL	0.199	0.034	5.852	***	Supported
H3 TPC → PWOM	0.294	0.071	4.141	0.003	Supported
H4 RPC → PWOM	0.425	0.065	6.538	***	Supported
H5 BL → CPI	0.254	0.098	2.591	0.029	Supported
H6 PWOM → CPI	0.446	0.074	6.027	***	Supported

Note(s): Structural model fit indices: AGFI = 0.917, CFI = 0.961, IFI = 0.974, TLI = 0.901, RMSEA = 0.055 and χ^2/df = 1.935; *** p -value < 0.001

Table 4.
Path analysis

Direct effects	Coeff	t	p	LLCI	ULCI
PCF → BL	0.6071	17.1675	***	0.5376	0.6766
BL → CPI	0.3342	6.9951	***	0.2403	0.4281
PCF → CPI	0.1957	4.2476	***	0.1052	0.2863
Mediation effect	Coeff			BootLLCI	BootULCI
PCF → BL → CPI	0.2029			0.1336	0.2791

Note(s): *** p < 0.001

Table 5.
Process mediation for
brand love

previously, even satisfied customers frequently switch brands. Therefore, there is a need to look into other relationships that can help to develop a long-lasting emotional relationship between organizations and their customers. This study contributes to the understanding of the role of BL and PWOM as mediators of the relationship between PCF and customer repurchase intentions. In general, the study hypothesized that customers who have developed BL and PWOM as a result of the fulfilment of psychological contracts tend to repurchase products and services on purpose. In these exchange relationships, the fulfilment of relational and TPCs may be a determining factor. Some beauty salons, for instance, employ fair, impartial and considerate strategies to assist their clients in enhancing their relationship with them.

In addition, they employ transactional strategies, such as offering competitive pricing relative to other beauty salons and attempting to link prices to the quality of service rendered. Aside from that, they maintain low prices to meet the needs and expectations of their customers. Thus, the customers of beauty salons whose psychological contracts have been fulfilled have developed a strong attachment to their preferred brands, preventing them from engaging in switching behaviour. As a result, they will typically prefer to re-purchase the services.

As well, most customers who develop BL tend to remain loyal to the brand and are constantly thinking about defending their beloved brand. To them, switching to another brand would constitute a betrayal of their beloved brands. These findings match Javed *et al.* (2015), who noted that customers who have developed a brand attachment to a particular product or organization would undoubtedly defend it through extra-role behaviours such as brand defense. In most cases, these customers do not switch, and if they do, it is a temporary act before they intend to repurchase a beloved brand. This is also supported by Fournier and Alvarez (2012), who noted that BL results from an organization's high-intensity engagement with its customers. That is, BL is reflected in the actions taken by an organization to increase a customer's emotional attachment to a particular brand. So, if promises are kept, customers will always have a strong emotional connection to the brand. This makes customers resistant to competitive forces and makes them more likely to buy from the brand again.

Furthermore, the findings suggest that fulfilling psychological contracts involves generating PWOM. The majority of beauty salon customers receive PWOM from their friends, family and relatives based on their own personal experiences and impressions of a product or service. If psychological contracts are fulfilled, word-of-mouth can be the most effective information source for increasing customers' intent to repurchase at a beauty salon. This is similar to the study by Kageyama and Barreda (2018), which revealed that when an organization fulfils psychological contracts with its customers, those customers are more likely to positively recommend the brand to other consumers, primarily their relatives and friends. That is to say, they never fail to highlight the positive aspects of a product or service and encourage other consumers to start using them.

Direct effects	Coeff	<i>t</i>	<i>p</i>	LLCI	ULCI
PCF → PWOM	0.7670	22.7696	***	0.7008	0.8332
PWOM → CPI	0.3529	6.7323	***	0.2499	0.4559
PCF → CPI	0.4292	7.8151	***	0.3212	0.5371
Mediation effect	Coeff			BootLLCI	BootULCI
PCF → PWOM → CPI	0.2706			0.1644	0.3771

Note(s): ****p* < 0.001

Table 6.
Process mediation
for PWOM

The results on the relationship between BL and repurchasing intention have also been suggested by Gómez and Pérez (2018) who emphasized the significance of satisfying consumers' emotions and suggested that BL has a positive effect and a favourable load on the emotional attitude component of consumers, such as repurchasing intentions. Most of the time, if psychological contracts are met, it means that the customer will develop a strong attachment to the product or service and be happy to keep buying it. Also, while previous research suggests that the intention to switch is one of the greatest challenges for businesses due to ineffective strategies to retain loyal customers, the results of this study indicate that fulfilling psychological contracts is essential for generating positive referrals. The findings are consistent with Leonnard *et al.* (2017) who noted that positive WOM typically generates repurchasing intent, particularly when service quality is involved. Consequently, customers who think that fulfilling psychological contracts is a good quality of service can tell others about their good experience through word-of-mouth and good impressions. Additionally, Liu and Lee (2016) found a correlation between positive recommendations and repurchase intent.

Conclusion

The study's primary objective was to examine the mediating effects of BL and PWOM on the relationship between PCF and customer intention to repurchase. The study used beauty salons as an example of the problem it identified. With all eight hypotheses supported, it can be concluded that the study's findings outline the optimal strategy for resolving the current customer return problem. By strengthening psychological contracts, companies can increase brand loyalty and PWOM, which makes it more likely that customers will want to buy again.

Implications for theory

This study aimed to determine if BL and PWOM could mediate the relationship between PCF and customer repurchase intent. This is a response to a recent call in the literature for a better understanding of the various customer management problem solutions. All eight hypotheses are strongly supported by the findings, indicating that BL and PWOM are crucial mediators of the relationship between PCF and customer repurchase intent. These findings have contributed to the body of literature. First, the findings reveal that proper management of transactional and relational contracts can increase the likelihood of creating customers with positive emotions and, consequently, BL. In addition, fulfilling transactional and relational contracts increases the likelihood that customers will spread PWOM. Both brand loyalty and PWOM are essential for increasing customer intent to repurchase. These findings also suggest new ways of handling customers by decreasing customer switching intentions through increasing customer repurchase intentions.

Intriguingly, the findings suggest that PCF appears to be more significant in social exchange contexts, such as customers' and organizations' general expectations of future benefits. However, PCF increases customer repurchase intent more effectively when other customer-related variables are included. According to the study, incorporating variables such as BL and PWOM increases the effectiveness of psychological contracts. BL and positive referrals are impacted by the extent to which psychological contracts are met. When customers do things with their friends that make them feel closer to a brand emotionally, they become more loyal to that brand.

Implications for management practice

The findings of the study highlight the importance of recognizing PCF, cultivating BL and emphasizing positive recommendations from customers with repurchasing intentions. The managerial implications are developed based on the findings of the specific hypothesis.

The findings of the influence of PCF on BL and PWOM imply that organizations must improve and fulfil their transactional and relational contracts in order to increase BL and PWOM among customers. Proper strategies relating to monetary-related rewards and relational strategies such as enhancing customer care will result in a marketing strategy that aims to convert customers into brand advocates and loyal customers.

Second, organizations are urged to develop appropriate short- and long-term training for their employees as well as support them in attending entrepreneurial-related workshops in order for them to have effective customer service strategies. This is important because developing BL and PWOM is a long-term strategy that necessitates strong organization–customer relationships. Similarly, organizations must improve their ways of handling service failures. Despite the fact that it is common that service failure is unavoidable under normal circumstances, PCF must be a top priority for recovery strategies. For example, companies can solve customer problems by giving them money through promotions and improving their customer support.

Limitations and suggestions for future studies

This survey sampled beauty salons solely. Given that each type of organization may have a unique way of fulfilling psychological contracts, future studies may include more categories, such as restaurants and craftsmanship, to broaden the sample. Additionally, this study utilized female beauty salons. Therefore, future research could include salons that cater to women and men to boost the sample's generalizability. Also, apart from the fact that this is a cross-sectional study and not based on time series data, future research can examine how customer intention to purchase habits vary over time. This is critical because customer behaviour is a dynamic process influenced by other factors other than just psychological contract fulfilment. Additionally, this study concluded that BL and PWOM are the most effective variables for resolving consumer satisfaction challenges. However, additional variables may also serve as mediating variables. These variables can include perceived brand values, brand self-expression, consumer brand engagement and consumer brand connection. Moreover, future research may consider BL and PWOM as moderators of the relationship between psychological contract fulfilment and customer repurchasing intent.

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Thank you for sharing! Unravelling the perceived usefulness of word of mouth in public procurement for small and medium enterprises

Unravelling the
perceived
usefulness of
WOM

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Abstract

Purpose – Over time, the concept of word of mouth (WOM) has spread beyond marketing into other disciplines. This is because WOM is important in decision-making at both the individual and organisational levels. Also, people are more likely to trust recommendations from their peers than those from companies. Therefore, the purpose of this study is to investigate the perceived usefulness of WOM messages for small and medium-sized enterprise (SME) suppliers in participating in Tanzanian public procurement opportunities.

Design/methodology/approach – The study collected cross-sectional data from 214 SME suppliers who supply common use items to public procuring organisations in Dodoma City, Tanzania. Structural equation modelling was used to test the direct relationships between study variables, and Hayes' PROCESS macro was used to test for the indirect effect of WOM message delivery on WOM attributes and the perceived usefulness of WOM.

Findings – WOM attributes that include expertise differential, perceptual homophily, and trustworthiness are related to the perceived usefulness of WOM. Also, WOM message delivery mediates the relationship between the WOM attributes and the perceived usefulness of WOM in enhancing public procurement participation. Therefore, the study's findings revealed that WOM is applicable in the public procurement context, under which public buyers act as senders and suppliers act as receivers. The latter finds out about public procurement opportunities and responds to them, while the former gives suppliers whatever information they need to respond to public procurement tenders that have been advertised.

Research limitations/implications – Because the study was cross-sectional, it was difficult to determine whether the opinions gathered over time remained consistent. Furthermore, only suppliers who are parties to framework contracts under Government Procurement Services Agency were included in the study. Therefore, the sample was limited to only suppliers supplying common use items to various public organisations in Dodoma City, Tanzania.

Originality/value – This paper integrates the concept of WOM from the marketing discipline and public procurement. As a result, the study adds to the understanding of the use of information transmission in terms of the contribution of WOM messages from public buyers to suppliers to enhance small and medium enterprises' participation in public procurement opportunities.

Keywords Expertise differential, Perceived usefulness, Procurement, Public buyers, Public procurement, Small and medium enterprises, Suppliers, Trustworthiness, Word of mouth, Word of mouth delivery, Word of mouth messages, Tanzania

Paper type Research paper

1. Introduction

The concept of Word of Mouth (WOM) has captured the interest of researchers and practitioners from different fields (Farzin *et al.*, 2021; Lisjak *et al.*, 2021; Mehrad and Mohammadi, 2017; Rajendran and Arun, 2021a; Taheri *et al.*, 2021). Past studies have recommended it as an



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incredibly effective strategy for marketing purposes (Amani, 2022a; Rajendran and Arun, 2020; Trusov *et al.*, 2009). WOM has risen in popularity because individuals have become more reliant on their friends or companions for information since messages from them are more likely to have an impact than commercial advertisements. From a business perspective, consumers who seek purchasing advice believe that advice from friends and family members is useful in purchasing decisions (Siddiqui *et al.*, 2021). Therefore, consumers are more likely to trust people they know, especially their friends, when it comes to making purchase decisions (Cooley and Parks-Yancy, 2019). On the other hand, a message delivered involuntarily may be viewed more favourably by recipients than a mass advertising campaign. Also, WOM can be considered a tremendous advantage to consumers when making a risky purchasing decision (Murray, 1991). Talwar *et al.* (2021) confirmed that the higher the risk is perceived by consumers, the more likely for them to spread negative WOM so as to help others. Our current study centres on the aspect that WOM can be used to reduce various risk categories, including socio-psychological and financial risks associated with business decisions. Furthermore, a stream of literature shows that WOM can be used as a risk reduction tool (Bartschat *et al.*, 2022; Bastos and Moore, 2021).

Small and medium-sized enterprises (SMEs) participation in public procurement is not a new thing in the literature (Ancarani *et al.*, 2019; Israel and Kazungu, 2019; Orser *et al.*, 2021; Saastamoinen *et al.*, 2018). Participation of SMEs in public procurement is related to their decisions on bidding or involvement in supplying or providing goods and services to organisations in the public sector. One would be inclined to assume that SMEs participate effectively in public procurement and meet the objectives of supporting the domestic economy (Israel and Kazungu, 2019; Di Mauro *et al.*, 2020; Panga and Kazungu, 2015). However, their participation in public procurement opportunities is considered a risky decision as, sometimes, the total contract value allocated to SME suppliers falls short of their proportion of economic turnover. Generally, SMEs are more vulnerable because of the nature of their business and the environment in which they operate (Caraka *et al.*, 2021; Ismail, 2022a; Loader, 2015; Orser *et al.*, 2021; Ye and Tekka, 2020). Thus, selecting a public procuring organisation to engage with is a risky decision that SME suppliers must overcome to obtain the perceived benefits. The risks facing SME suppliers can be examined when they respond to the identified public procurement tenders and throughout the whole procurement process. For example, some SME suppliers face publicity limitations, overly limited pre-qualification standards, limitations in access to relevant information, emphasising previous experience or size of the business, uncompetitive bidding processes and contract size challenges (Gitari and Kabare, 2014; Israel and Kazungu, 2019; Loader, 2015; Tesha and Nsimbila, 2021). This may result in unresponsive or uncompetitive bids, which might cause a failure to secure public tenders, rejected tenders or sometimes a failure to provide the required level of quality of supplies.

SME suppliers face documentation challenges (Medzhybovska and Lew, 2019; Slijepčević *et al.*, 2015). Some may include excessive documentation requirements and bureaucracy, bid security deposits, failure to offer adequate time for quotation preparation, unclear selection criteria, difficulty making a formal bid or proposal and excessive information requirements. On the other hand, at the post-selection stage, suppliers are involved in negotiations (Mwagike and Changalima, 2022). At this stage, SME suppliers experience institutionalised discrimination; a price focus unrelated to product value; unsatisfied rationale for tender awards; lack of feedback shared for future learning and unsuitable offered payment terms. Most SME suppliers fail to secure tenders, and those who do complain about the fairness of prices against the value of the products offered and delays in payments, which accelerate the costs of conducting business.

A stream of empirical studies shows that most SME suppliers do not perform well and are limited in their access to getting public tenders (Namagembe *et al.*, 2021; Panga and Kazungu, 2015). The latter can be associated with limited access to information related to public procurement opportunities (Ancarani *et al.*, 2019). Therefore, various efforts must be made for these SME suppliers to participate in bidding to get new public tenders. WOM is popular in

other literature, especially in marketing (Amani, 2022a; Lisjak *et al.*, 2021). However, literature regarding the application of WOM to SME suppliers in public procurement is limited. This may be due to the regulatory framework governing procurement activities and how public buyers interact with suppliers (Changalima *et al.*, 2021a; McKevitt and Davis, 2014). It is thought that this will make public buyers less likely to share with suppliers what they need to know about available public procurement opportunities.

WOM has a number of advantages over traditional forms of marketing communication, such as traditional promotions. Empirical evidence shows that insights from WOM recommendations have a significant impact on consumer attitudes and purchase intentions (Rajendran and Arun, 2021a; Yuan and Peluso, 2021). Also, when compared to traditional mass advertising, WOM can significantly reduce expenditure on traditional mass advertising. Furthermore, it is more important in various contexts, as a study conducted at a higher learning institution by Amani (2022a) revealed that WOM is necessary for assisting students in choosing a university to attend because, this risky decision has long-term implications for students' self-image and identity, as well as employment opportunities. A study conducted by Farzin *et al.* (2021) discovered that mobile banking adoption is linked to user behaviour via WOM. Additionally, another study confirmed that WOM can be used to supplement tourism marketing efforts by influencing residents' attitudes toward the tourist destination (Šegota *et al.*, 2021).

It should be noted that WOM relies on the sharing of information (Amani, 2022a; Bastos and Moore, 2021; Mainolfi and Vergura, 2022). Similar to this, the buyer-supplier relationship entails the act of exchanging necessary information between suppliers and buyers (Mushi *et al.*, 2021; Ried *et al.*, 2021). In this regard, there is no doubt about the importance of sharing necessary information between buyers and suppliers in procurement and supply chain endeavours. Given that the concept of WOM entails the source of information sharing between people of varying levels of experience, whether through traditional or electronic communication, buyer-supplier relationships can benefit from the same. In the existing literature, sharing of information can be done through social media (Amani, 2022b; Bartschat *et al.*, 2022) which enhances the electronic WOM (Farzin and Fattahi, 2018; Mukhopadhyay *et al.*, 2022; Park *et al.*, 2021), particularly in business-to-business contexts (Mai and Liao, 2022; Tóth *et al.*, 2022). Therefore, benefits revealed in the existing marketing literature on the perceived usefulness of the concept of WOM necessitate the development of a more extensive body of literature on the perceived usefulness of WOM in other disciplines, which will complement the existing ones.

Learning experiences through existing studies from the marketing discipline provide a way for WOM to effectively influence the engagement decisions of SME suppliers in public procurement tenders, as these suppliers can exchange information with public buyers that may enhance their engagement in public procurement. This is the research gap that we intend to fill, and therefore, the main purpose of this study is to investigate the following general research question: *Can WOM influence SME suppliers' participation in public procurement opportunities?* To address this question, our study focuses on examining the perceived usefulness of WOM messages from public buyers as senders to SME suppliers as receivers from the receivers' perspective. So, the study adds to the literature on marketing and public procurement by looking at how the WOM concept can make it easier for SME suppliers to take part in the public procurement opportunities. In addition, since the nature of transactions between SME suppliers and public organisations falls under the umbrella of business-to-business marketing, the study contributes to the existing literature on business-to-business WOM (Mai and Liao, 2022; Molinari *et al.*, 2008).

2. Review of literature and hypotheses development

2.1 Prospect theory

According to the prospect theory, prospective investors typically place a different value on gains and losses depending on the type of investment they are considering. They place a greater

emphasis on perceived gains in comparison to perceived losses (Kahneman and Tversky, 1979). Prospect is a loss aversion decision-making theory that considers the risk and uncertainty that investors must contend with Abdellaoui *et al.*, (2007). Under normal circumstances, making an investment decision is a high-risk business endeavour; consequently, one needs sufficient information before making a choice that is rational. Prospect theory is a behavioural economic theory that describes how individuals choose between risky probabilistic options when the probabilities of the outcomes are known (Yoon *et al.*, 2017). Therefore, based on the theoretical perspectives of other previous studies that have applied the prospect theory in researching WOM in different contexts (Amani, 2022a; Ismail, 2022b; Park and Chang, 2022; Yoon *et al.*, 2017; Zhang *et al.*, 2020), the theory is relevant to the current study as the decision to bid on a contract is hypothesised to be one fraught with risks for SME suppliers.

This is due to the fact that the bidders have to pay a number of costs in order to participate in the bidding process (Ancarani *et al.*, 2019; Di Mauro *et al.*, 2020). Thus, the submission of bids to respective public procuring organisations increases the transaction costs for bidders. If SME suppliers do not win the particular bid, then they may experience problems with their performance. WOM can be a key marketing initiative for investors to make risky buying decisions such as bidding, because the majority of high-paying business activities are associated with high psychological and financial risks. Specifically, WOM allows SMEs to weigh the benefits of participating in the decision of whether or not to participate in bidding while also comparing other options. Consequently, it is theoretically expected that prospect theory can provide a theoretical understanding of how SMEs can choose to participate in bidding while using WOM from public buyers of different procuring organisations as the primary means of avoiding risk.

2.2 Elaboration likelihood model of persuasion

This model of persuasion provides a somewhat generic framework for organising and understanding the fundamental processes that drive persuasive communication success, and it may be applied to a wide range of scenarios. The model suggests that, depending on the amount of thinking or elaboration, the attitude can change (Rajendran and Arun, 2021b). Therefore, incorrect attitudes that are acquired by SMEs as a result of inadequate persuasive messages from procuring organisations have the potential to cause detrimental effects on the receiver's behaviour, affect and cognitive processes. It is hypothesised in this study that the information provided by the procuring organisations may be limited. In this scenario, it's possible that SMEs may do not have sufficient information to help them make responsive bids. However, through WOM, SMEs have the opportunity to have positive experience from close friends, which can assist them in effectively bidding on contracts. That is to say, when SMEs believe that certain issues carried by a message from the public procuring organisations are limited, WOM messages from other different public buyers with more experience in public procurement opportunities can encourage these SME suppliers to enhance their participation in the public tendering process. It is assumed that three factors are responsible for determining the effectiveness of messages (Petty and Cacioppo, 1986): First, the strength of the message itself; second, the ability to persuade and third, the disposition of the person receiving the message. This is supported by the strength of WOM messages in creating the proper quality of message delivered to SMEs, which consequently increases the ability of evaluation of messages among SME suppliers.

2.3 WOM and SME supplier participation in public procurement

The nature of business transactions between SMEs and public procuring organisations falls under the category of business-to-business relationships. This is due to the fact that registered SME suppliers doing business with public procuring organisations provide the goods, services and works necessary for these public organisations to provide service to the public (Israel and

Kazungu, 2019; Panga and Kazungu, 2015; Changalima *et al.*, 2022). Despite this, the application of WOM in the context of public procurement is limited. The WOM is an important form of information sharing not only for business-to-customer but also business-to-business relationships (Mai and Liao, 2022; Tóth *et al.*, 2022). The application of WOM in a business-to-business context has recently been cited as an important means of boosting suppliers' sales performance (Mai and Liao, 2022). In this regard, the current study focuses on the role of WOM in increasing the participation of SME suppliers in public procurement opportunities.

2.3.1 Expertise differential between public buyers and SME suppliers and WOM message delivery. WOM effectiveness is assumed to be influenced by both the sender's and the recipient's expertise (Amani, 2022a). The level of knowledge possessed by the receiver can impact the communication model employed (Sweeney *et al.*, 2012). It may impact the decision, but it can also impact the recipient's perception of risk and how actively the recipient seeks out WOM information. On the other hand, the sender's expertise is a major source of message quality and dependability (Amani, 2022a). In this study, sender expertise refers to the extent to which a WOM message is perceived to have the ability to provide useful information to the point where the SME supplier has no cause to cross-check the received messages. Because most people do not have an incentive to test the veracity of a sender's assertions by recalling and rehearsing their ideas, the degree to which the sender is perceived as capable of providing accurate information is likely to induce persuasion (Amani, 2022a). An individual who has received a WOM message may have a high level of knowledge from the recipient's perspective if that individual is in an advantageous position (Sweeney *et al.*, 2012). For example, public buyers from organisations that specialise in public procurement undertaking and have had special training are more likely to know more about how public procurement works.

This is the case in Tanzania, where procurement practitioners participate in training sessions led by the professional board and regulatory authority (Israel, 2021; Mahuwi and Panga, 2020). These training sessions result in procurement practitioners who are capable and knowledgeable about managing procurement affairs in their respective organisations. Based on the current study's focus, it is assumed that these buyers are involved in disseminating information to potential suppliers because they are aware of procurement undertakings. They are more likely to have more expertise than SME suppliers because their expertise is centred on acquired knowledge and skills through education and experience in public procurement matters. As a result, the degree of difference in public procurement expertise between public buyers and SME suppliers may improve the transmission of reliable and quality messages to SME suppliers, increasing their participation in public procurement opportunities.

Therefore, SME suppliers seeking public procurement information will seek out such knowledge and rely on the recommendations of public buyers who are experts. If potential SME suppliers choose to seek WOM information from public buyers, they are more likely to assume that the gain will be significantly greater from public procuring organisations and believe that buyers are more knowledgeable in the field in which the WOM information is sought. For example, suppose knowledge of public procurement for public buyers is high. In that case, the SME supplier will aggressively seek information from advertised public procurement opportunity while also attempting to gain information through WOM. In contrast, if the level of expertise of public buyers in other public procuring organisations is perceived to be low, the WOM message delivery (WMMD) will be poor. Hence, the SME suppliers will be less likely to request information. As a result, it is conceivable to hypothesise that:

H1. Expertise differential (EXDI) between public buyers and SME suppliers significantly influences WMMD.

2.3.2 Perceptual homophily between public buyers and SME suppliers and WOM message delivery. There is widespread agreement that strong connections between the sender and the recipient effectively deliver WOM messages (Amani, 2022a). Homophily is the most effective

covariate-based process in network evolution. Many studies have been conducted to confirm the prevalence of homophily in communication and WOM (Brown and Reingen, 1987; Le *et al.*, 2018; Mladenović *et al.*, 2021). Homophily has been demonstrated by age, education, gender, values and general conduct. Based on how close or familiar they are, this study defines homophily as the strength of the link or bond between a sender (public buyer) of WOM messages and a receiver (SME supplier).

Currently, literature has associated homophily with the effectiveness of WOM (Amani, 2022a). This link suggests that a strong connection between sender and recipient may have a beneficial effect on WMMD (Amani, 2022a; Chawdhary and Weber, 2021). Depending on the specified link, proximity or intimacy between a sender and a receiver, the recipient can rely on the recommendations made by WOM sources regarding specific services. This is supported by Chawdhary and Weber (2021) who revealed that recommendations from WOM sources with similar values to the WOM receiver are more effective in influencing the WOM receiver's decision-making process than recommendations from sources with dissimilar values. This perceived similarity between homophily and dissimilar individuals stems from the logic of homophily, or the love of people who are identical in some ways. While more research into the relationship between WOM sources and message delivery is needed, it is known that the WOM source's degree of homophily can influence message quality judgements (Amani, 2022a; Dalla-Pria and Rodriguez-de-Dios, 2022).

In the context of public procurement, the homophily between public buyers and SME suppliers indicates the prospect of getting up-to-date tender information whenever the general procurement notice is announced. Because individuals in their respective organisations pull their friends from foci, and foci bring homogeneous groups of people together, homophily between them is a likely outcome of the tender process, despite legal regulations governing it. From this vantage point, the dynamics of preference and opportunity are coupled, allowing WOM messages to be successfully delivered to their intended audiences. Given these arguments, the current study hypothesises that:

H2. Perceptual homophily (PERH) between public buyers and SME suppliers significantly influences WMMD.

2.3.3 Trustworthiness between the public buyers and SME suppliers and WOM message delivery. The literature has demonstrated that the extent to which recipients trust the sender of WOM messages impacts message delivery significantly (Amani, 2022a). A sender's trustworthiness (TRUS), as among a sender's characteristics, has been connected to various factors to assess the credibility of communication between a sender and a receiver (Asada and Ko, 2016). As a general rule, for the receivers to trust information from the sender, the information must be consistent, honest, compassionate, kind, resourceful and humble in its presentation (Ohanian, 1990). People will also trust information if it has the potential to give them high-quality service, a high level of satisfaction, a sense of value, a good relationship and the ability to make them want to decide on something.

WOM's strength stems from the fact that consumers trust communications from peers more than those from advertisers; thus, recommendations made by close friends are more trustworthy (ShabbirHusain and Varshney, 2022). The foundation of the concept of TRUS as a factor influencing message delivery is founded on source credibility. WOM essentially measures the degree to which the sources of WOM messages are regarded as credible and trustworthy by the message recipients, given that WOM sources have nothing to lose in comparison to direct advertisements from a company. Furthermore, Kim *et al.* (2018) proposed that, similar to advertisers who promote their products "which are not always as superior as they are promoted," electronic WOM entails text-based recommendations from unknown individuals. As a result, customers frequently have difficulty determining the credibility of sources and, place a higher value on trusting offline WOM messages from

family, relatives and associates. WOM is seen as a reliable factor that affects a consumer's decision to buy or buy again because it comes from close friends and associates in social communities (Park *et al.*, 2021).

Trust between public buyers and SME suppliers appears to be the greatest answer to accurate tender information, especially given the growing concern about private sector participation in public procurement (Harland *et al.*, 2013). SME suppliers benefit from trusts banding together to participate in procurement activities that improve prospects for SME suppliers with public-sector organisations. TRUS can be the essential public procurement characteristic, impacting both the social and practical procurement functions of a WOM message's utility. Therefore, it is hypothesised that TRUS has consequences for WMMD.

H3. TRUS between public buyers and SME supplier significantly influences WMMD.

2.3.4 Message delivery and perceived usefulness of WOM. Generally, the receiver's response is intimately associated with the quality of the message, and as a result, it is an important factor in determining the way he or she will respond. Therefore, it is critical to understand the process of developing appropriate, effective and relevant messages in WOM (Makvandi and Farzin, 2022). Also, it is necessary to consider the message delivery and the influence or effect of WOM. Perceived usefulness of WOM is associated with the influence or effect of WOM on the receiver's perspective. The extent to which the message that is delivered to the receiver is considered useful, as the focus of WOM is to influence the decision-making for choices surrounding the receiver. The way a message is delivered relates to the manner in which it is delivered. The message delivery can be done in a reliable, friendly or relaxed manner (Sweeney *et al.*, 2012). Also, this is quite related to the message quality, as if the message is informative, clear, specific and reliable (Le *et al.*, 2020).

The quality of messages has an influence on WOM on the perspective of the receiver. Also, the quality of messages plays a role in the relationship between source characteristics and WOM influence (Le *et al.*, 2018). Empirical evidence from different contexts revealed that the WMMD was considered to be related to the perceived usefulness of university selection among undergraduate students in Tanzania (Amani, 2022a). Also, WOM messages that are considered to be positive and more effective significantly affect the willingness of people to use the service (Sweeney *et al.*, 2014). In this aspect, our study assumes that the message delivery from the public buyer as a sender to the SME supplier as a receiver may be considered useful for making decisions in relation to participation in public procurement opportunities. To reflect this relationship, our study hypothesises the following:

H4. WMMD between public buyers and SME suppliers significantly influences the perceived usefulness of WOM.

2.3.5 Mediating role of WOM message delivery on the attributes of WOM and perceived usefulness of WOM. As noted in the elaboration likelihood model of persuasion, the effectiveness of the message is predetermined by the persuasive nature of the message from the sender and the quality of the message (Petty and Cacioppo, 1986). Therefore, message delivery can explain the relationship between message attributes and the perceived usefulness of a WOM message. A WOM message that is not communicated and delivered correctly may negatively influence the recipient's decisions (Amani, 2022a). So, the attributes of WOM messages, like expertise, homophily and TRUS can be important for the right transmission of WOM messages and, hence, the positively perceived usefulness of WOM.

It has been documented in the literature that there is a relationship between WOM factors and WMMD and between WMMD and the perceived usefulness of WOM (Amani, 2022a). In another way, attributes of WOM messages such as EXDI, PERH and TRUS have been shown to affect the receiver's decision-making process. Similarly, it is argued that the outcome of WMMD on the perceived usefulness of WOM impacts various behaviours,

particularly on the decisions of organisations such as SME suppliers in public procurement. In this regard, the current study proposes the following hypothesis:

- H5. WMMD significantly mediates the relationship between WOM attributes and the perceived usefulness of WOM.

3. Methodology

3.1 Study area, research design and sample size

The study employed a cross sectional research design to collect data from SMEs' managers in Dodoma City, Tanzania. The cross sectional research designs are considered cheap as data are only collected once (Saunders *et al.*, 2019). The focus of choosing cross sectional design relies on the aspect that we wanted to include variation of opinions from different people and organisations. As opined by Bryman and Bell (2011), variation can be established only when more than one case is being examined, and this is the case for cross sectional studies. Dodoma, the capital city, was deliberately selected as the area of study. In recent years, the government has relocated its main offices from Dar es Salaam to Dodoma city. Since then, Dodoma city has emerged as the new city of the country with an adequate number of public procuring organisations and SME suppliers (Changalima *et al.*, 2021b).

The population of the current study was SME suppliers. This population was obtained from Government Procurement Service Agency (GPSA) as the agency is responsible for maintaining the list of suppliers for each financial year under framework agreements (Siwandeti *et al.*, 2021). The study inquiry was with managers of SME suppliers. Managers of SME suppliers are involved in bidding decisions for most public procurement opportunities. Slovin's formula was used to calculate the sample size (see equation (1)). This formula's strength is that it allows for sampling with a degree of accuracy, i.e. confidence levels and margins of error (Yamane, 1967).

The formula is given by:

$$n = \frac{N}{1 + N(e^2)} \quad (1)$$

Whereby:

n = number of surveyed SME suppliers;

N = total population size (in this case, N = 459); and

e = margin error (e = 0.05)

Therefore:

$$n = \frac{459}{1 + 459(0.05^2)} \quad (2)$$

$$n = \frac{459}{2.1475} \quad (3)$$

$$n = 213.737 \quad (4)$$

3.2 Sampling design and data collection

Therefore, the total number of 214 SME suppliers (from approximated value of equation (4)) was included in our study. Also, the simple random sampling technique selected 214 respondents from 459 SME suppliers through a lottery technique. It should be noted that each

unit of the population has an equal chance of being included in the sample with random sampling (Bryman and Bell, 2011). Thus, the techniques ensured that no biases in the selection of units of inquiry. We collected cross sectional data between early October 2021 and mid-December 2021 from managers of surveyed SMEs. Therefore, each manager at the selected SME was asked to fill out the structured questionnaire. The self-administered questionnaires were employed as it is relative cheap and do not include the interviewer effects when respondents are filling them (Bryman and Bell, 2011).

3.3 Measurement of study variables

Measurement items adapted from previous studies were employed in this study. The variable EXDI between public buyers from public procuring organisations and SME suppliers was measured in only three items from Le *et al.* (2018) and Sweeney *et al.* (2014). PERH was measured in four items from Asada and Ko (2016) and Sweeney *et al.* (2014), and TRUS was measured in four items adapted from Asada and Ko (2016), Le *et al.* (2018) and Ohanian (1990). Also, the measurement items for WMMD were adapted from Sweeney *et al.* (2012), and the perceived usefulness of WOM messages (PUWM) was regarded as the influence of the WOM message or WOM effect, and three items were adapted from Asada and Ko (2016), Hao *et al.* (2010) and Le *et al.* (2020). On the other hand, these measurement items were modified to account for the general purpose of the study, the specific nature of SME suppliers and the public procurement context in Tanzania. Finally, survey data was collected for all main variables in a 5-point Likert scale.

3.4 Data analysis

The analysis of the data was conducted through SEM. It is a multivariate technique that integrates the observed variables (measuring) and unobserved variables (latent) (Ryan, 2020; Smeda *et al.*, 2018). It combines the simultaneous performance of diverse multivariate methods, for instance, factor analysis and regression analysis. In addition, SEM accommodates quantitative measures and behavioural measures such as perceptions, opinions and feelings (Babin and Svensson, 2012). SEM included two components in this study, namely the measurement and structural models. First, the measurement model was done by confirmatory factor analysis (CFA). The pattern of observed variables for the latent construct hypothesised models of EXDI, TRUS, PERH and WMMD between public procuring organisations and SME suppliers was portrayed. Through CFA, reliability and validity were determined by using factor loadings and average variance extracted (AVE). Secondly, SEM employed regression analysis to test the developed hypotheses and determine the influence of WOM attributes on the message delivery and perceived usefulness of WOM. Furthermore, the PROCESS macro as recommended by Hayes (2018) was used to test the mediating effect of WMMD on the relationship between the attributes of WOM and PUWM.

4. Results

4.1 General characteristics of respondents

As shown in Table 1, there are 31 (14.5%) SME supplier managers who are between the ages of 25 and 36 years, 125 (58.4%) who are between the ages of 37 and 48 years, and 58 (27.1%) who are beyond the age of 48 years. Furthermore, according to the statistics, 50 (23.4%) and 164 (76.6%) of those who answered the survey had completed their secondary and college level of education, respectively. Thus, they can effectively process information from public procurement tendering processes and WOM messages. Meanwhile, the study revealed that most surveyed SME suppliers provide furniture, consumables and office equipment, accounting for 184 (86%) SME suppliers. These items are mostly considered important common use items (CUIS) in the public procurement environment of Tanzania.

MANM
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Table 1.
Respondents' general
characteristics

Items	Frequency	Percentage (%)
<i>Age of manager of SME supplier</i>		
25–36 years	31	14.5
37–48 years	125	58.4
49+ years	58	27.1
<i>Total</i>	<i>214</i>	<i>100</i>
<i>Level of education</i>		
Secondary level	50	23.4
College level	164	76.6
<i>Total</i>	<i>214</i>	<i>100</i>
<i>Type of SME suppliers</i>		
Furniture suppliers	91	42.5
Motor vehicle and spare parts suppliers	12	5.6
Consumable and office equipment	93	43.5
Food and refreshments	12	5.6
Kitchen appliances	6	2.8
<i>Total</i>	<i>214</i>	<i>100</i>

Source(s): Survey data (2021)

4.2 Preliminary analysis

To examine the internal consistency reliability, Cronbach's alpha coefficients were used, under which values of 0.7 and above were considered to be reliable (Tavakol and Dennick, 2011). Table 2 shows that all the constructs have values above the threshold, and hence internal consistency was considered to be achieved. Construct reliability that assumes values of 0.7 and above was achieved as all values of the study constructs were above 0.7 (Hair *et al.*, 2011). Also, convergent and discriminant validity were achieved after running the CFA, under which the values of AVE were considered within the range. Convergent validity is achieved when the value of AVE is greater than 0.5. Results in Table 2 show that all AVE values are within an acceptable range (furthermore, factor loadings from all measured items are above 0.5; see Figure 1 and Table 2). On the other hand, discriminant validity was achieved as the square roots of AVE of all variables in the diagonal element (italicised values in Table 3) were greater than the correlation between variables (Fornell and Larcker, 1981). Moreover, the value of maximum shared variance (MSV) for each construct was less than the value of its respective AVE, indicating that discriminant validity was achieved (see Table 3) (Fornell and Larcker, 1981). Results on the CFA show that CMIN/DF (chi-square fit statistics/degree of freedom) = 1.332, CFI (comparative-of-fit index) = 0.980, TLI (Tucker-Lewis index) = 0.975, IFI (incremental fit index) = 0.980, RFI (relative fit index) = 0.908, NFI (normed fit index) = 0.925, GFI (goodness-of-fit index) = 0.925, and RMSEA (root mean square error of approximation) = 0.039. These model fit indices from the CFA are within an acceptable range (Fabrigar *et al.*, 1999; Hooper *et al.*, 2008).

4.3 Structural model and testing of hypotheses

Path analysis was used in this study to evaluate and validate the proposed structural model, as well as to evaluate the relationship between the variables of the study (see Figure 2). The model fit indices are CMIN/DF = 1.441, CFI = 0.972, TLI = 0.967, IFI = 0.972, RFI = 0.900, NFI = 0.915, GFI = 0.914, RMSEA = 0.046, which indicate the adequacy of the structural model goodness of fit (Hooper *et al.*, 2008). Therefore, the results support the proposed structural model, and as a result, the model has been accepted. Using path analysis, we established the structural relationship and tested the first four study hypotheses we had developed.

					Unravelling the perceived usefulness of WOM
Constructs/Indicators	Loadings	AVE	Cronbach alpha	Construct reliability	
<i>Expertise differential (EXDI)</i>		0.654	0.842	0.849	197
• I describe the person who provided me this information as an expert (EXDI1)	0.745				
• I describe the person who provided me the information as experienced (EXDI2)	0.914				
• I describe the person who gave me information as knowledgeable (EXDI1)	0.756				
<i>Perceptual homophily (PERH)</i>		0.558	0.832	0.834	
• We share a similar outlook on life, both me and the person who gave me the message (PERH1)	0.665				
• We have similar likes and dislikes, both me and the person who gave me the message (PERH2)	0.729				
• We share common interests, both me and the person who gave me the message (PERH3)	0.856				
• We share a similar experience, both me and the person who gave me the message (PERH4)	0.726				
<i>Trustworthiness (TRUS)</i>		0.541	0.824	0.825	
• The person who provided me the message was honest (TRUS1)	0.718				Table 2. Measurements of constructs, factor loadings, AVE, reliability and validity
• The person who provided the message was reliable (TRUS2)	0.688				
• The person who provided the message was sincere (TRUS3)	0.789				
• The person who provided the message was trustworthy (TRUS4)	0.746				
<i>WOM message delivery (WMMD)</i>		0.765	0.927	0.929	
• The received message was delivered in a reliable manner (WMMD1)	0.820				
• The received message was delivered in a friendly manner (WMMD2)	0.861				
• The received message was informatively (WMMD3)	0.937				
• The received message was delivered in a descriptive way (WMMD4)	0.877				
<i>Perceived usefulness of WOM (PUWM)</i>		0.709	0.876	0.879	
• My decision to participate in public procurement opportunities was influenced by the provided recommendation (PUWM1)	0.819				
• The message mentioned useful things that I had not thought of when participating in public procurement opportunities (PUWM2)	0.901				
• I was able to participate in public procurement opportunities thanks to the recommendation I received (PUWM3)	0.803				
Source(s): SPSS output					

4.3.1 *Expertise differential and WOM message delivery.* The study hypothesised that *H1: EXDI between public buyers and SME suppliers significantly influences WMMD*. Results presented in Table 4 show that the EXDI between public buyers (senders) and SME suppliers (receivers) is statistically significant and positively related to WMMD ($\beta = 0.198, p = 0.020$). A unit increase in EXDI between the parties (public buyers and suppliers) increases WMMD by 19.8%.

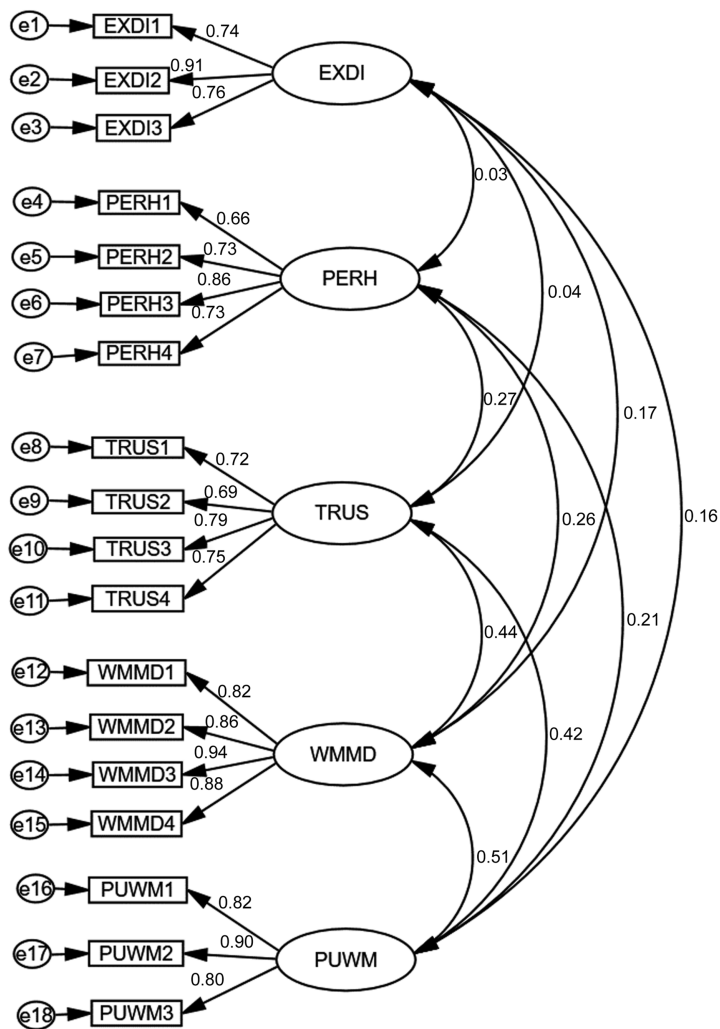


Figure 1.
The CFA for study
constructs

Source(s): AMOS Output

Table 3.
Discriminant validity
(Fornell-Larcker
criterion)

	AVE	MSV	EXDI	PERH	TRUS	WMMD	PUWM
EXDI	0.654	0.030	0.809				
PERH	0.558	0.073	0.033	0.747			
TRUS	0.541	0.197	0.035	0.270	0.736		
WMMD	0.765	0.257	0.172	0.258	0.444	0.875	
PUWM	0.709	0.257	0.158	0.208	0.419	0.507	0.842

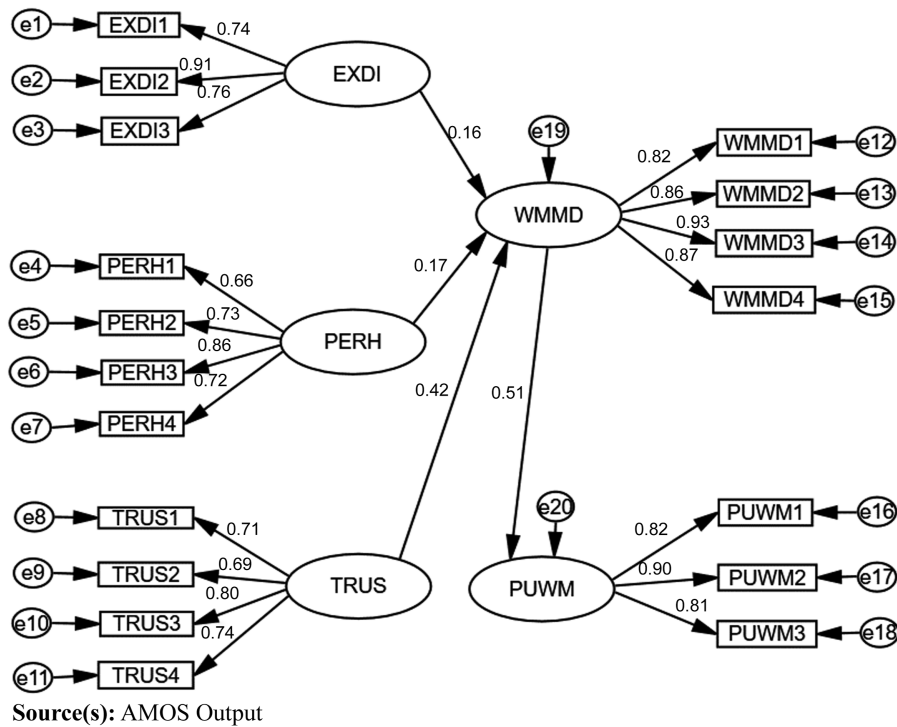


Figure 2.
Structural model for
study variables

Relationships between study variables			Estimate	S.E.	C.R.	P
WMMD	←	EXDI	0.198	0.085	2.322	0.020
WMMD	←	PERH	0.209	0.088	2.380	0.017
WMMD	←	TRUS	0.665	0.123	5.391	***
PUWM	←	WMMD	0.455	0.065	6.948	***

Note(s): *** denotes $p < 0.001$
Source(s): SPSS output

Table 4.
Regression weights for
relationships between
study variables

4.3.2 Perceptual homophily and WOM message delivery. Also, “H2: PERH between public buyers and SME suppliers significantly influences WMMD” is accepted as results in Table 4 show that the relationship between PERH and WMMD is positive and significant ($\beta = 0.209$, $p = 0.017$). WMMD goes up by 20.9% for every unit of increased PERH between public buyers and SME suppliers.

4.3.3 Trustworthiness and WOM message delivery. The hypothesis that states that “H3: TRUS between public buyers and SME suppliers significantly influences WMMD” is accepted ($\beta = 0.665$, $p < 0.001$). This means that if SME suppliers on the WOM make public buyers more trustworthy by one unit, the WMMD goes up by about 66.5%.

4.3.4 WOM message delivery and the perceived usefulness of WOM. Table 4 shows that WMMD is significantly and positively related to PUWM ($\beta = 0.455$, $p < 0.001$). This result implies that the hypothesis “H4: WMMD between public buyers and SME suppliers

significantly influences the perceived usefulness of WOM" is accepted. As a result, a unit increase in WMMD increases PUWM by 45.5%.

4.3.5 Testing of mediation effect. A simple mediation was conducted to test *H5: WOM significantly mediates the relationship between WMMD and the perceived usefulness of WOM*, whereby EXDI, PERH and TRUS were aggregated to formulate a new score for WOM attributes regressed to WMMD and PUWM. Results presented in Table 5 show the direct and indirect effects of the variables under study. So, to determine the indirect effects through the mediator variable of the study (WMMD), bootstrap confidence intervals were estimated based on 5,000 bootstrap samples.

In the first regression, WOM attributes as a variable are statistically significant and have a positive relationship with WMMD ($\beta = 0.7598, p < 0.001$). So, the value of $\beta = 0.7598$ shows that WOM attributes have a direct effect on WMMD in the path model. Both WOM attributes ($\beta = 0.3042, p = 0.0083$) and WMMD ($\beta = 0.4046, p < 0.001$) are statistically significant and positive predictors of PUWM in the second regression. Therefore, the values of β from both variables present direct effect on PUWM within the path model.

Furthermore, bootstrap and confidence intervals were used to ascertain the indirect effect. As a result, the unstandardized indirect effect (0.3074) of WMMD is obtained (the product of 0.7598 and 0.4046) from the previous two models. Furthermore, with the bootstrapping confidence intervals ranging from BootLLCI = 0.1796 to BootULCI = 0.4516. Since the produced bootstrap confidence intervals are entirely above zero, it indicates a statistically significant and positive indirect effect (0.3074, BootCI 0.1796 to 0.4516) of WMMD to support the mediation of WMMD on the relationship between WOM attributes and PUWM.

5. Discussion and conclusion

The primary purpose of this study was to examine how the concept of WOM is useful in the context of SME suppliers' participation in public procurement. The purpose of the study was to contribute to the growing body of empirical research on the concept of WOM in marketing and usefully in other fields (Amani, 2022a; Lisjak *et al.*, 2021; Zhang *et al.*, 2022) and adding to the nature of market interactions between public buyers and suppliers (Holma *et al.*, 2022). This was accomplished by including SME suppliers in the context of public procurement in Tanzania. The current study produces interesting conclusions regarding the concept of WOM. EXDI, PERH and TRUS as important attributes of WOM relate to WMMD and later to PUWM. Getting SME suppliers involved in public procurement could help public procurement practitioners and researchers who want to learn more about how information is shared and how SME suppliers are involved in public procurement.

Structural path	Unstandardized coefficients	Standardised coefficients	P	95% CI
<i>Direct effects</i>				
WOMAttr→WMMD	0.7598	0.4067	****	0.5287–0.9909
WOMAttr→PUWM	0.3042	0.1714	0.0083	0.0790–0.5294
WMMD→PUWM	0.4046	0.4260	****	0.2841–0.5252
	Effect	BootSE	BootLLCI	BootULCI
<i>Indirect effects</i>				
WMMD	0.3074	0.0699	0.1796	0.4516

Note(s): **** denotes $p < 0.001$
Source(s): SPSS output

Table 5.
Direct and indirect
effects of study
variables

While previous studies have focused on applying WOM to ensure that there is an increase in the level of communication in the form of information sharing among customers in relation to their personal experiences after using the product or service, the findings from this study focus on SMEs' role in public procurement. As a result, the findings of this study can have a variety of benefits, one of which is that they can provide an avenue for procurement practitioners to facilitate the sharing of necessary information through the provision of positive WOM, thereby enabling suppliers to participate in public procurement opportunities. Second, because studies on WOM in public procurement are scarce, this study can provide empirical evidence for theoretical development, particularly by extending the applicability of prospect theory in public procurement in the Tanzanian context, and in precise by demonstrating that it can be applied to WOM concerning SME suppliers in public procurement. Considering that individuals in SME suppliers in public procurement react differently depending on how valuable they believe WOM is, the theory contributes to empirical evidence in understanding why perceived advantages are favoured over losses. According to the study's findings, the EXDI, PERH and TRUS between public buyers and SME suppliers improve the perceived gains for high-quality message delivery and, as a result, the perceived usefulness of WOM from the receiver's point of view.

The study conducted by Amani (2022a) revealed that WOM determinants significantly determine the WMMD for the choice of pursued university degree among undergraduate students. Also, the message delivery determines the perceived usefulness of WOM among the surveyed students. Though the results from this study align with our findings, this study was conducted in a different context (higher learning institutions in Tanzania). The context is different because we conducted the study on the influence of WOM attributes on the WMMD and also the influence of WMMD on the perceived usefulness of WOM. The study was conducted in the context of public procurement in Tanzania, where there is scant evidence for the application of WOM due to regulatory constraints. Through the use of WOM, the study contributes to the on-going debate in Tanzania about the participation of SMEs in public procurement (Israel and Kazungu, 2019; Panga and Kazungu, 2015).

Therefore, the uniqueness of our study is in the context under which it was conducted. The study cemented the application of WOM in the context of public procurement to SME suppliers. Since WOM is considered a form of referral communication among members, this study suggests that suppliers can receive information that makes them refer to a certain public procurement opportunity that is advertised. The use of reference information is important in business and specifically in marketing, as reference information has been associated with the decision-making process (Salminen and Möller, 2004). Hence, our findings pave the way for the applicability of WOM to the involvement of SME suppliers in public procurement.

This study emphasises that SME suppliers are more likely to participate in public procurement tenders when they perceive that information from public buyers is positive towards their quest. Information sharing between public buyers and suppliers is paramount (Callens *et al.*, 2022; Changalima *et al.*, 2021a). These studies support the findings of our study as they highlight the importance of information sharing between public buyers and SME suppliers. In a similar context, WOM communication is considered a form of information sharing between people (Lee *et al.*, 2013; Sweeney *et al.*, 2008), sometimes excluding formal communications (Mehrad and Mohammadi, 2017). The results of the current study give people who work in public procurement a way to make it easier for SMEs to get the information they need through positive WOM so that they can take part in public procurement opportunities.

6. Theoretical implications

We investigated the perceived usefulness of WOM in increasing the participation of SMEs in Tanzanian public procurement opportunities. Therefore, this study contributes to the existing

literature on the participation of SMEs in public procurement opportunities (Akenroye *et al.*, 2022; Liu *et al.*, 2020; Di Mauro *et al.*, 2020; Orser *et al.*, 2021; Soong *et al.*, 2020) and how suppliers and buyers interact in public procurement (Changalima *et al.*, 2021a; Holma *et al.*, 2022; McKevitt and Davis, 2014). Furthermore, our findings contribute to the growing body of literature on the application of the WOM concept from marketing to other disciplines.

This study was done in Tanzania to find out how important WOM is to SME suppliers when it comes to making decisions related to public procurement participation. This adds to the already existing body of knowledge about WOM (Amani, 2022a; Farzin and Fattahi, 2018; Le *et al.*, 2018, 2020; Makvandi and Farzin, 2022; Šegota *et al.*, 2021; Siddiqui *et al.*, 2021). Prospect theory emphasises the decision-making process, which is based on choosing between options and can be influenced by biases. Our findings contribute to the theory by demonstrating how WOM can help SMEs decide whether or not to participate in public procurement opportunities. When competing for public procurement opportunities, SMEs can make better decisions if public buyers share information with them effectively.

7. Managerial implications

In general, the current study has important managerial implications in the context of public procurement for both suppliers and buyers. Managers of SMEs who participate in public procurement opportunities should consider the information obtained from public buyers during the procurement process, both formal and informal. Our findings suggest that using WOM marketing in the context of public procurement can help achieve this. Public buyers from public procuring organisations should also make sure that they are sharing the necessary information with willing suppliers. Similarly, information about available public procurement opportunities can be disseminated at official and unofficial gatherings where such information is made available.

It is suggested that procurement practitioners interact with suppliers in a way that does not detract from the overall goal of public procurement in this context. Therefore, extreme caution should be exercised to ensure that these interactions and gatherings do not have a negative impact on the legal framework in question. Furthermore, as revealed in previous studies, WOM is also advantageous and is considered a new form of advertising. Therefore, using WOM can help to resolve the problem of a lack of competitive bids and a smaller number of participants, particularly for SMEs in public procurement opportunities. Public organisations can make sure that SMEs are well represented in the bidding process by spreading information and encouraging them to bid by spreading positive WOM to them.

8. Limitations and future research suggestions

Even though we successfully achieved the overall goal of our study, it has some limitations that need to be addressed. The use of cross-sectional research design limited our study in terms of its impossibility of determining whether collected opinions persist over time as we collected cross-sectional survey data. Additionally, we investigated the receiver perspective of WOM, in which SME suppliers who only supply CUIS (furniture, motor vehicle and spare parts, consumables and office equipment, food and refreshments, and kitchen appliances) were contacted to obtain information about their opinions on the subject. Although we attempted to reach as wide a range of representatives as possible in the survey areas, we could not do so due to a lack of reliable data, limiting the number of participants in our sample.

In this regard, future research should emphasise the application of longitudinal studies to establish the consistency of estimations taken over a given period, as previously stated. This may provide important findings to supplement the current study's findings in areas where the current study's findings are limited. Furthermore, as our study centres on the receiver's

perspective, future research can be done by considering opinions from the sender's perspective (public buyers). This may provide an avenue for obtaining opinions from the sender on the applicability of WOM in public procurement. Future studies could focus on involving tenderers for the procurement of works, primarily large construction firms that participate in procurement for works by public procuring organisations in the context of construction projects, to broaden the range of bidders in the field. Furthermore, other studies may look at suppliers of different lines of products than those we contacted during the data collection period.

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