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Empirical study on big data of workplace spirituality theory method and computational simulation

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Abstract

Workplace spirituality, job engagement, and perceived organisational support have become the themes over which heated discussion is held in the fields of management and public research. With the development of science and technology and the arrival and upgrading of burgeoning technologies, the competition among enterprises has been aggravated, while the employee's job engagement has become one of the key aspects to keep the competitive edge. By taking workplace spirituality as the premise variable of job engagement and perceived organisational support, the influences of workplace spirituality, perceived organisational support, and job engagement are discussed in this paper. In addition, by taking perceived organisational support as the regulated variable, a theoretical model was built and the regulating effect of perceived organisational support on workplace spirituality and job engagement was discussed. The empirical data of the model was obtained through 187 questionnaires. Data analysis and research hypothesis was implemented through SPSS23.0, theory method, and computational simulation. In sum, workplace spirituality and job involvement are remarkable and are positively associated with each other. Perceived organisational support plays a role in regulating the job engagement. These results provide new perspectives for exploring unemployment problems existing due to lack of job engagement. The organisation can intervene in employees' work by cultivating workplace spirituality.

Keywords: workplace spirituality, job engagement, theory method, computational simulation

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1 Introduction

Workplace spirituality and job engagement have always been problems to be concerned about in the field of business. There are many kinds of workplace spirituality, while there also exist differences and association among inner life, meaningful work, and sense of community. Besides, it is required to improve the organisational performance, facilitate emotion positively, and provide workers with appropriate workplace spirituality and perceived organisational support. All these take a leading role in the development of an organisation through

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lofty professional ethics, enhancing employees' work attitude and enabling the company to have a bright future with improved productivity and passion.

Workplace spirituality is concerned with employees. When employees have high organisational efficiency, the company and its employees will gain higher satisfaction, which will enhance employees' enthusiasm. When changing sharing and relationship type truth, workplace spirituality is seen to play a synergistic effect among employees and leaders.

Therefore, an increasing number of studies show the influence of individuals to improve organisational competitiveness through individual performance. Inner life, meaningful work, and a sense of community are the personal characteristics of sustainability. In addition, Western enterprise managers are being encouraged to integrate and manage the "work ethos" so that employees can work more efficiently and greater enterprise success could be achieved. The new focus of study on workplace spirituality is regarded as one of the solutions to some problems caused by fast change in individuals and organisations in modern society. More and more studies show that there is a tendency for workplace spirituality to have an influence on the individual, team, and organisation. Employees can help create behaviour decision and efficient operation. Therefore, employees' behaviours have a thorough influence on the enterprise's operation.

2 Theoretical background and research hypotheses

2.1 Workplace spirituality

It cannot be simply said that workplace spirituality indicates persuading one to accept the specific belief in the workplace, but instead enabling the individual in the organisation to know about the existence of its foundational spirits and cultivating spirituality in his work, so that the individual's workplace skills are developed (Campbell & Hwa, 2014). However, the individual life is also taken into account to facilitate the activation of the inside life and find the significance of life during his work. Daniel (2010) believed that it should include three aspects such as inner life, meaningful work, and organisation. Against the background that individuals pursue life, meaningful work, and intrinsic nature, such an organisation is connected by people on a one on one basis.

2.2 Perceived organisational support

Eisenberger (2003) comprehended perceived organisational support (POS) to be the core concept of the social exchange process. Provided that an organisation puts emphasis on employees' contribution and cares about their welfare, it becomes obligatory for employees to join the said organisation under the principle of reciprocity. When an organisation treats its employees well, the overall trust in employees is formed. In addition, there forms a corresponding sense of responsibility toward effort and loyalty. Then, the overall belief further forms POS to determine these obligations (Seppänen, 2016).

2.3 Job engagement

Avery, McKay and Wilson (2017) defined job engagement as "the organization members control self to combine the self with job role." Harter and James (2012) supposed that it included three dimensions, including vigour, dedication, and absorption. Vigour indicates that the individual possesses much energy, strong psychological resilience, is willing to work for his organization, does not feel fatigued, and keeps his resolution when facing difficulties. Dedication indicates that the individual has a strong sense of meaning and pride and great enthusiasm for work; he is devoted to his work wholeheartedly and bravely meets the challenges encountered in his work. Absorption indicates that the individual is absorbed in his work, takes delight in it, and is not willing to be distracted from his work, thus feeling that the time passes by too quickly.

2.4 Workplace spirituality and job engagement

Employees often engaged in and with workplace spirituality may manifest their attitude in the proper work environment and they may increasingly show involvement in their work (Milliman, Czaplewski & Ferguson, 2013). Such a viewpoint emphasises the job attitude that the employee forms during his daily work and it is the same as the interaction of cognition and behaviours (e.g. job involvement) as the time passes by (Fachrunnisa, 2014). More importantly, Daniel (2010) proposed that the frontline service employees of the enterprise would change the way of working according to the job requirements when they had workplace spirituality. For instance, Daniel (2010) supported this argument by using the sample of an enterprise's employees, suggesting that they should manifest higher job engagement when using workplace spirituality behaviours. Meanwhile, the enterprise employees with higher workplace spirituality may work harder to change their feelings to combine with the job expectations, enhance job engagement, and reduce the turnover intention (Keenoy, 2013).

To be specific, when the enterprise's employees adopt workplace spirituality strategies, they will keep active in their inner heart and hope that they could have a positive response among colleagues, and it is helpful for building harmonious employee relations (Fachrunnisa, 2014). Under such circumstances, they can obtain a stronger sense of self-efficacy and satisfaction, so that they can make up for the emotional resources they have lost and the positive response from the colleagues (Harter, James, 2012). On the contrary, when an employee adopts low workplace spirituality strategy, there may be a great difference between his inner feeling and external emotional expression (Moss, 2015). In such a circumstance, he may have negative behaviours, including low job engagement (Keenoy, 2013). If he cannot eliminate such negative emotions rationally and effectively, he may have the turnover intention.

Based on the above discussions, the following hypothesis is made:

H1: Workplace spirituality is positively correlated with job engagement.

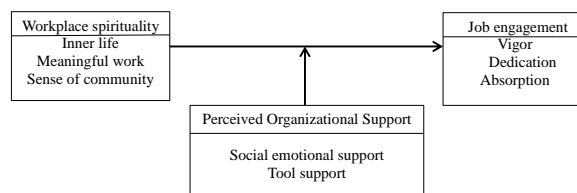
2.5 The moderating effects of POS

According to the research carried out by Garcia-Zamor (2013), workplace spirituality is manifested by employees' behaviours. They are satisfied with their organisation psychologically and physically. When the employees obtain high-level support from their organisation, they usually feel emotionally associated with their organisation (Eisenberger, 2003). The employees will have less turnover intentions when they obtain appropriate emotional and tool support, due to which they will have a positive attitude towards their organisation and enhance their job involvement with their organisation (Chung, Dae-Yong & Jin-Hyuk, 2016).

There is limited research on the role of POS in the relationship between workplace spirituality and job engagement. Mohammadi (2009) studied the role of POS in the relationship between workplace spirituality and job engagement. The results showed that POS fully adjusted the relationship between each of these variables and job engagement of the organisation. He discovered that POS led to a positive correlation among social emotional and tool support and job engagement (Seppänen, 2016). In a bid to illustrate the adjusting effect of the POS between workplace spirituality and job engagement, the following analysis is made.

Previous research shows that the correlation between workplace spirit and job engagement is still a subject that is not fully explored. However, current literature reveals that the result is quite complicated. Some researches manifest that employees with low workplace spirituality choose to resign or have low-efficiency job engagement to end unfairness (Garcia-Zamor, 2013). Compared to those with high workplace spirituality, they may benefit faster from the organisation than those with low workplace spirituality (Kolodinsky, Giacalone & Jurkiewicz, 2015). Others report that workplace spirituality exceeds any specific result, for it manifests personal decisions such as job engagement (Jurkiewicz & Giacalone, 2004).

The research carried out by Hobfoll (2011) revealed that workplace spirituality had a significant influence on the job engagement of an enterprise's employees. Thus, it could be rationally predicted that the enterprise's employees will tend to reduce job engagement if they think they receive unfair treatment, according to the results provided by POS.

**Fig. 1** Theoretical model.**Table 1** Sample characteristics

Category		Proportion (%)	
Gender	Male	102	54.5
	Female	85	45.5
Age	<25	45	24.1
	26–35 years old	76	40.6
	36–45 years old	43	23.0
	>45	23	12.3
Education	High school	36	19.3
	Undergraduate	112	59.9
	Master's degree	25	13.4
	Doctoral degree	14	5.9
Position	General position	96	51.3
	Basic manager	56	29.9
	Middle manger	24	12.8
	Top manager	11	5.9
Company type	State-owned business	43	23.0
	Business personnel	39	20.9
	Official	25	13.4
	Private business	80	42.8

According to the above argument, it can be observed that workplace spirituality and job engagement are regarded by employees as based on their own behaviours and that of the organisation's (Jurkiewicz & Giacalone, 2004). Provided that the influence of workplace spirituality on job involvement is logical, the employee's ability can be improved through POS to reduce their intention of leaving the organisation and thus enhance job engagement (Macey, 2018). The emphasis of the research is laid on two aspects, social emotional support and tool support representing the PSO. The hypothesis is made as below:

H2a: Social emotional support will moderate the relationship between workplace spirituality and job engagement.

H2b: Tool support will moderate the relationship between workplace spirituality and job engagement.

3 Research methods

3.1 Research model and analytical methods

This study adopts the questionnaire with frontline employees as the research objects.

Analysis of reliability and validity of workplace spirituality

To verify the validity and reliability of the questionnaires used in the research, factor and reliability analysis

is carried out using SPSS23.0. The measurement result shows that the scale value of Cronbach's workplace spirituality (inner life, sense of meaning in work, and team contact), PSO (social emotional and tool support) and job involvement (vigour, dedication, and absorption) (0.878, 0.830, 0.885), (0.848, 0.841), (0.851, 0.840, 0.857), and KMO value are (0.889), (0.851), (0.829). Bartlett's Test Sphericity is significant ($P < 0.000$) and the reliability and validity are higher than 0.6, which shows that the scale features good reliability and validity.

Table 2 Reliability and validity

Variable	Items	Factor loading	Percentage of variance explained (%)	KMO	Cronbach's alpha
IL	1. I agree with the values advocated by the unity.				
	2. My company shows its concern to vulnerable employees.	0.821			
	3. My company cares about each of its employees.	0.774	21.725		0.885
	4. My company is an organisation with moral integrity and a social conscience.	0.765 0.729			
WS MW	1. I take delight in work.				
	2. I gain great spiritual motivation from the work.	0.820			
	3. My current work coincides with my life ideals.	0.799 0.772	18.206	0.889	0.878
SOC	1. The cooperation with my colleagues is very helpful for my work.				
	2. I can feel that I am treated as one of the members of the team.	0.733			
	3. I believe that colleagues should support each other.	0.705	16.717		0.830
	4. In conversation with my colleagues, I feel free to express my views and ideas.	0.691 0.688			

The correlation analysis

Correlation coefficient is carried out through Pearson's correlation analysis method. It is found from the table that there is no abnormality in the average value and standard deviation of each variable, which indicates that the variable shows the following correlation above the significant level of 0.01: (1) there exists a positive correlation between MW and V ($r = 0.256$, $P < 0.01$); there exists a positive correlation between SOC and V ($r = 0.234$, $P < 0.01$); there exists a positive correlation between IL and V ($r = 0.262$, $P < 0.01$). Therefore, H1 is preliminarily supported. (2) There exists a positive correlation between MW and dedication ($r = 0.291$, $P < 0.01$); there exists a positive correlation between SOC and dedication ($r = 0.268$, $P < 0.01$); there exists a positive correlation between inner life and dedication ($r = 0.305$, $P < 0.01$). Therefore, H2 is preliminarily supported. (3) There exists a positive correlation between MW and absorption ($r = 0.209$, $P < 0.01$); there exists a positive

Table 3 Reliability and validity

Variable	Items	Factor loading	Percentage of variance explained (%)	KMO	Cronbach's alpha
SES	1. My company ignores the dissatisfaction I have proposed.				
	2. Although I have worked to the utmost of my ability, the company still does not show its understanding.	0.842			
	3. My company hardly cares about me.	0.763	31.427	0.851	0.848
POS	1. My company says that my contribution to the company is worthy.	0.825			
	2. My company supports me in trying my best to finish my work.	0.793	30.772		
	3. My company is willing to do me a favour when I ask for help to pull over.	0.778			

correlation between SOC and absorption ($r = 0.300$, $P < 0.01$); there exists a positive correlation between inner life and absorption ($r = 0.284$, $P < 0.01$). Therefore, H1 is preliminarily supported.

3.2 Hypothesis testing

Validation for H1

H1: Workplace spirituality is positively correlated with job engagement.

WS, workplace spirituality; JE, job engagement; IL, inner life; MW, meaningful work; SOC, sense of community; V, vigour.

The result indicates that the standardised regression coefficient β of the meaningful work and vigour is 0.152, so meaningful work and vigour have a positive influence ($\beta = 0.152$, $P < 0.05$); that of sense of community and vigour is 0.122, so the sense of community and vigour have a positive influence ($\beta = 0.122$, $P < 0.05$); that of inner life and vigour is 0.158, so the inner life and vigour have a positive influence ($\beta = 0.158$, $P < 0.05$).

WS, workplace spirituality; JE, job engagement; IL, inner life; MW, meaningful work; SOC, sense of community; D, dedication.

The result indicates that the standardised regression coefficient β of the meaningful work and dedication is 0.171, so the meaningful work and dedication have a positive influence ($\beta = 0.171$, $P < 0.05$); that of sense of community and dedication is 0.137, so the sense of community and dedication have a positive influence ($\beta = 0.122$, $P < 0.05$); that of inner life and dedication is 0.188, so the inner life and dedication have a positive influence ($\beta = 0.188$, $P < 0.05$).

WS, workplace spirituality; JE, job engagement; IL, inner life; MW, meaningful work; SOC, sense of community; A, absorption.

The result indicates that the standardised regression coefficient β of the meaningful work and absorption is 0.066, so the meaningful work and absorption have a positive influence ($\beta = 0.066$, $P < 0.05$); that of sense of community and absorption is 0.209, so the sense of community and absorption have a positive influence ($\beta = 0.209$, $P < 0.05$); that of inner life and absorption is 0.180, so the inner life and absorption have a positive influence ($\beta = 0.180$, $P < 0.05$).

Table 4 Reliability and validity

Variable	Items	Factor loading	Percentage of variance explained (%)	KMO	Cronbach's alpha
V	1. I am willing to go to work when getting up early in the morning.	0.794	22.436	0.851	
	2. I am much energetic when working.	0.782			
	3. I am patient enough even if my work is not going on well.	0.770			
	4. I can keep working for a long time.	0.738			
JE	1. I work to strive for what I can create for myself.	0.834	19.213	0.829	0.840
	2. I am fully enthusiastic so that the work can go on smoothly.	0.814			
	3. I am full of confidence about my work.	0.813			
A	1. I cannot feel that the time passes by quickly when I am working.	0.812	18.351	0.857	
	2. I can devote myself to the work when I am working.	0.790			
	3. I believe that my confidence cannot be without my duty.	0.770			

Note: WS, workplace spirituality; JE, job engagement; POS, perceived organisational support; IL, inner life; MW, meaningful work; SOC, sense of community; V, vigour; D, dedication; A, absorption; SES, social emotional support; TS, tool support.

Table 5 Correlation analysis

	MW	SOC	IL	SES	TS	V	D	A
MW	1							
SOC	0.350**	1						
IL	0.386**	0.377**	1					
SES	0.245**	0.297**	0.253**	1				
TS	0.307**	0.196**	0.260**	0.385**	1			
V	0.256**	0.234**	0.262**	0.161**	0.191**	1		
D	0.291**	0.268**	0.305**	0.325**	0.294**	0.182**	1	
A	0.209**	0.300**	0.284**	0.240**	0.142*	0.143*	0.139*	1
Mean	3.515	3.311	3.387	3.460	3.382	3.309	3.190	3.363
SD	0.844	0.742	0.789	0.903	0.899	0.803	0.926	0.944

Note: * $P < 0.05$; ** $P < 0.01$.

IL, inner life; MW, meaningful work; SOC, sense of community; V, vigour; D, dedication; A, absorption; SES, social emotional support; TS, tool support.

Table 6 Regression analysis of WS on JE

Dependent variable	Independent variable	B	SE	β	t-value	P-value
V	Constant	1.819	0.322		6.646	0.000
	MW	0.145	0.074	0.152	2.002	0.042
	SOC	0.132	0.084	0.122	2.570	0.018
	IL	0.161	0.080	0.158	2.003	0.047
$R^2 = 0.109$; VIF = 1.246						

Table 7 Regression analysis of WS on JE

Dependent variable	Independent variable	B	SE	β	t-value	P-value
D	Constant	1.220	0.364		4.351	0.000
	MW	0.187	0.084	0.171	2.233	0.027
	SOC	0.171	0.085	0.137	2.802	0.013
	IL	0.220	0.091	0.188	2.435	0.016
$R^2 = 0.144$; VIF = 1.246						

Validation for H2

H2a: Social emotional support will moderate the relationship between workplace spirituality and job engagement.

H2b: Tool support will moderate the relationship between workplace spirituality and job engagement.

WS, workplace spirituality; JE, job engagement; POS, perceived organisational support; SES, social emotional support; TS, tool support.

M1–M3 test whether social emotional and tool support plays a significant role in moderating the relationship between workplace spirituality and job engagement. M1 manifests that the social emotional and tool support and job engagement have a significant influence ($\beta = 0.512$). M2–M3 manifest that social emotional and tool support and job engagement play a role in moderating the relationship between workplace spirituality and job engagement ($\beta = 0.446, 0.128$ and $0.462, 0.100$). In addition, M2–M3 manifest that social emotional and tool support play a role in moderating the relationship between workplace spirituality and job engagement ($\beta = 0.216, 0.515, 0.186$ and $0.361, 0.711, 0.240$), while M2–M3 also manifest that social emotional and tool support play a role in moderating the relationship between workplace spirituality and job engagement. Additionally, R^2 and ΔR^2 during the relationship between social emotional and tool support and job engagement feature significance ($0.276, 0.031, 0.030$ and $0.276, 0.017, 0.047$). The result indicates that H4a and 4b are supported.

4 Conclusion and discussion

The purpose of the research is to verify the effect model of “workplace spirituality → job engagement” and the adjusting effect model by taking POS as the moderator variable. Through empirical research, it is found that the research result is the same as the hypothesis. Besides, the hypothesis is supported. The result indicates the

Table 8 Regression analysis of WS on JE

Dependent variable	Independent variable	B	SE	β	t-value	P-value
A	Constant	1.493	0.375		3.983	0.000
	MW	0.074	0.086	0.066	1.857	0.043
	SOC	0.266	0.098	0.209	2.720	0.007
	IL	0.216	0.093	0.180	2.315	0.022
$R^2 = 0.128$; VIF = 1.246						

Table 9 The moderating effect of POS (SES)

Variable	JE		
	M1	M2	M3
WS	0.512***	0.446***	0.216***
SES		0.128***	0.515**
WS*SES			0.186***
R^2	0.276	0.307	0.337
ΔR^2	0.276	0.031	0.030
F	71.863***	18.206***	16.717***

Table 10 The moderating effect of POS (TS)

Variable	JE		
	M1	M2	M3
WS	0.512***	0.462***	0.361***
TS		0.100***	0.711**
WS*TS			0.240***
R^2	0.276	0.293	0.340
ΔR^2	0.276	0.017	0.047
F	71.863***	39.594***	32.981***

following.

M1–M3 test whether social emotional and tool support play a significant role in moderating the relationship between workplace spirituality and job engagement. M1 manifests that the social emotional & tool support and job engagement has significant influence ($\beta = 0.512$). M2–M3 manifest that social emotional and tool support and job engagement play a role in moderating the relationship between workplace spirituality and job engagement ($\beta = 0.446, 0.128$ and $0.462, 0.100$). In addition, M2–M3 manifest that social emotional and tool support play a role in moderating the relationship between workplace spirituality and job engagement ($\beta = 0.216, 0.515, 0.186$ and $0.361, 0.711, 0.240$), while M2–M3 also manifest that social emotional and tool support play a role in moderating the relationship between workplace spirituality and job engagement. Additionally, R^2 and ΔR^2 during the relationship between social emotional and tool support and job engagement feature significance ($0.276, 0.031, 0.030$ and $0.276, 0.017, 0.047$). The result indicates that H2a and 2b are supported.

To sum up, research can not only enrich the theoretical research results but can also provide coping strategies for organisations in need of workplace spirituality. Theoretically, speaking of the introduction of POS as a moderator variable, the understanding of the adjusting effect of POS can be deepened. Besides, the organisation can be guided on how to choose proper POS strategies, manage employees efficiently, and intervene in employees' attitude towards their work.

5 Limitations and further research

First, although the research is scientific and rigorous, there still exist numerous deficiencies due to the restriction in many aspects such as time and resources.

Therefore, further efforts can be applied into the research on longitudinal and time series data. Second, although the investigation in the research through sampling questionnaire survey and questionnaire is implemented confidentially and anonymously to reduce doubts and wrong homologous filling as far as possible, there is still sample data collected. Due to deficiency in the self-assessment method and some biases of the respondents, they have some emotional biases when answering the questions. In order to better test the basic hypotheses proposed

in the research, more sample data can be obtained as far as possible through self-assessment and assessment by others in the further research. Besides, consideration can be given to implementing the longitudinal research to ensure the reliability of the conclusion.

Additionally, the emphasis of the research is the employee. That is, factors including workplace spirituality, POS, and job engagement can be selected to study employees' behaviours. Besides individual and organisational factors, the way other factors have an influence on the employee's job involvement can also be regarded as a direction worthy of exploration.

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