Nurturing Innovative Work Behaviour through Workplace Learning among Knowledge Workers of Small and Medium Businesses

Syed Tanveer Hussain Shah[1] · Syed Mohsin Ali Shah[1] · Hatem El-Gohary[2]

Abstract

Organisations need to be innovative to be able to face the complexity and turbulence of the environmental forces and factors surrounding them. This is true in the case of all types of organisations, including SMEs, where innovations are essential for their survival and growth. As such, organisations need to nurture Innovative Work Behaviour (IWB) among their employees through different means. To achieve such ultimate goal, Workplaces Employees Learning can benefit many companies. Meanwhile, Workplace Learning (WPL) can improve the competencies and skills of employees and help their IWB. This research focuses on the role of WPL as a predictor of IWB among knowledge workers of SMEs in developing countries (i.e. Pakistan). Through convenient sampling technique, questionnaires were distributed among employees of 173 SMEs, resulting in 311 useable questionnaires. Data were analysed using Smart-PLS 3. The results indicated that WPL facilitated IWB among SME employees, with informal and incidental learning being the most critical predictors compared to formal means of learning. The research results reinforce the importance of WPL and IWB, and their implications are beneficial for SMEs and the academic society.

Keywords Workplace learning · Innovative work behaviour · Knowledge workers · SMEs · Pakistan

Introduction

Due to the increased uncertainty of business environments, greater competition and technological advancement, prearranged behaviours and formalised procedures cannot yield anticipated results (Alfy & Naithani, 2021). Organisations,

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therefore, need to be innovative to respond to the abrupt shifts in their business environment (Alfy & Naithani, 2021; Katz, 1964). Employee-driven innovations can help organization to differentiate itself from its rivals and achieve competitive advantage (Alfy & Naithani, 2021). Innovative Work Behaviour (IWB) refers to the contribution of individuals and groups in the organizations to introduce novel services/products, task, or work-related ideas to contribute to the overall innovativeness and produces desirable outcomes (Farrukh et al., 2021). IWB is of utmost importance for gaining a competitive advantage in the face of the rapidly changing and uncertain business environment. IWB aims to advance the organization's overall effectiveness and efficiency and its practices (Pukienė, 2016). IWB is important as employees are the primary source of innovation in any organisation; their innovativeness will work towards the organisation's success as a whole (Abstein & Spieth, 2014). Keeping in view the importance of IWB, organisations need to nurture innovative behaviour among their employees to prosper and survive in contemporary competitive environment.

Empirical research indicates that numerous factors can contribute to IWB (e.g. individual factors and organisational factors). Therefore, it could be stated that many factors can foster IWB among employees. Those factors include, supervisory behaviour (Scott & Bruce, 1994), job autonomy (Axtell et al., 2000), problem ownership (Dorenbosch et al., 2005), intrinsic interest (Yuan & Woodman, 2010), informal learning (Gerken et al., 2016), professionalism (Messmann, 2012), formal learning (Lundkvist & Gustavsson, 2018), work knowledge and skill (Miller & Miller, 2020), training, selective staffing and rewards (Farrukh et al., 2021), and knowledge sharing (Aldabbas et al., 2021).

Human capital theory stresses the importance of human resources for the economic gain of every organisation (Nafukho et al., 2004). In addition, Miller and Miller (2020) argued that related skills, knowledge, and competencies can enable inherent motivation and can produce positive job outcomes including IWB. Therefore, organisations should attempt to improve the competencies of their employees to enable them to produce positive job outcomes. In this context, Workplace Learning (WPL) is an important area of Human Resource Development (HRD) research, and it can produce positive job outcomes by improving employees' skills and knowledge (Short & Gray, 2018). In the same context, WPL could be considered as one of the potential predictors of IWB.

WPL is all the activities through which employees can acquire knowledge in the workplace, and it can take forms, i.e. formal, informal and incidental learning (Kyndt & Baert, 2013). Although formal learning is planned and conscious, informal learning is unplanned and unintentional. Meanwhile, incidental learning is perceived to be unconscious and a consequence of other actions and activities (Marsick & Volpe, 1999).

Research shows that WPL has been studied as a predictor and as an outcome in relations to numerous variable (Kunjiapu & Yasin, 2015; Kyndt & Baert, 2013; Rowden & Conine, 2005; Shah et al., 2019; Wang et al., 2010) etc. However, few attempts have been made to investigate the role of WPL as a facilitator of IWB. For example, Gerken et al. (2016) studied the role of informal learning as a predictor of IWB, Awang et al. (2019) tested the association of organisational learning and IWB

in small companies and found a positive association of organisational learning and IWB, Lundkvist and Gustavsson (2018) studied the association of formal learning and IWB. More recently, Cangialosi et al. (2020) found that a learning facilitating climate can facilitate IWB. Additionally, Coetzer et al. (2020) found positive influence of participation in training and development activities and IWB in small professional businesses.

Majority of these studies investigated one form of WPL as predictor of IWB. In addition, majority of the studies focused on larger organization with exception of a few (Awang et al., 2019; Coetzer et al., 2020). Small business are different from larger organizations due to resource constraints and lack of employee-sponsored training opportunites (Coetzer et al., 2020). Therefore, relying on formal training for skills development will not produce good results and other (informal) ways of improving employee skills shall be focused. Moreover, majority of the research concerning the nurturing role of WPL for IWB was carried out in developed nations (Awang et al., 2019; Cangialosi et al., 2020; Coetzer et al., 2020; Kunjiapu & Yasin, 2015; Rowden & Conine, 2005; Wang et al., 2010). The current research attempts to bridge the gap by investigating three forms of WPL (formal, informal and incidental) as potential facilitators of IWB in SMEs in Pakistan (developing country). The study will attempt to fill the three theoretical gaps identified and make theoretical contribution to HRD literature. The study also has practical implications for SMEs owner/managers.

Review of the Literature

Workplace Learning (WPL)

The notion of WPL has its roots in social constructivist theory, which clarifies that the acquisition of knowledge incorporates both individual and social factors (Marsick & Volpe, 1999). WPL helps individuals to acquire job-related knowledge and improve their job performance and job-related behaviour which in turn contributes to the overall success of the organisation (Cerasoli et al., 2018).

Meanwhile, WPL is a broad term, which is not confined to formal training opportunities only but also incorporates informal processes in work settings (Coetzer et al., 2020; Lundkvist & Gustavsson, 2018). Due to the complexity associated to WPL, it has no single definition agreed by all (McCormack, 2000). Hence, researchers define the term according to their research context and objectives, and there are various definitions of the concept (Park et al., 2020). For example, Watkins and Marsick (1992) conceptualised WPL to include formal, informal, and incidental learning as its three forms. Rowden (2007) labelled WPL to take place through training programmes (formal) and social interactions (informal) among employees, which let them obtain knowledge, skills, and competencies related to their job.

Kyndt and Baert (2013) described WPL as the participation of employees (and their groups) in formal and informal learning actions to gain or refine skills, attitudes, and knowledge, which can improve the performance of an organisation individual on current or future jobs. These activities could take place both on the job or

off the job. This definition suggests that WPL is not restricted to only instructive and training situations; it is a perpetual alteration aimed at accomplishing personal and collective goals (Crouse et al., 2011).

This view refers to WPL as the most appropriate word for labelling various means of obtaining novel skills and knowledge related to a person's job. In this context, WPL incorporates a wide range of actions to get job-related knowledge and is not restricted to the term training. This has traditionally been considered a cautious and structured effort initiated to attain skills and knowledge to carry out a job effectively (Jacobs, 2003). Hence, Watkins and Marsick (1992) conceptualisation of WPL is adopted in this research and assumes that all the three forms complement each other and contributes to the development of job-related skills, information, and ability of the employees (Marsick et al., 2017).

Formal learning is organised, intentional and institutionally sponsored (Eraut, 2000). It has pre-determined learning outcomes, a fixed time frame and is usually directed by an instructor (Eraut, 2000; Malcolm et al., 2003). Formal learning takes place both on and off the job (Kyndt & Baert, 2013). Meanwhile, informal learning is unstructured, unintended and not sponsored by the institution (Marsick & Volpe, 1999). Researchers argued that it is a necessary form of learning and represents most of the learning occurring in organisations (Marsick et al., 2006). This is supported empirically as research results showed that more than 70% of learning in the workplace occurs through informal means (Cross, 2007; Yeo, 2008; Cerasoli et al., 2018). Moreover, informal learning is embedded in everyday work routines and it has a greater potential to enhance the work related skills and competencies of employees (Coetzer et al., 2020; Marsick & Volpe, 1999).

Likewise, incidental learning is unintentional and typically an outcome of another activity (Watkins & Marsick, 1992). Incidental learning signifies the unanticipated fragment of the description of informal learning. It involves a high level of unconsciousness, implicit and embedded in routine work activities; it lacks institutional support (Marsick & Watkins, 2001). It is implicit learning and is not realised by the learners (Eraut, 2004).

Innovative Work Behaviour (IWB)

IWB is about the involvement of individuals and groups in bringing about innovation in organisations (Messmann & Mulder, 2011). Katz (1964) argued that IWB is related to less formalised actions and procedures to respond to, deal with problems, and capitalise on the opportunities in the business environment. It is essential for survival and increasing the efficiency of the organisation (Coetzer et al., 2020). While investigating innovations at the individual level, IWB is considered a background means; innovation is subject to individual activity (Madrid, 2013).

Many researchers and academics have defined IWB to be a multistage and multidimensional construct incorporating many activate intending to bring about innovations in the organisation (Abstein & Spieth, 2014; Anderson et al., 2014; Cangialosi et al., 2020; Coetzer et al., 2020; Kanter, 1988; Messmann, 2012; Park et al., 2014;

Scott & Bruce, 1994). For example, Messmann (2012) abstracted IWB as a situation-based active idea and described it as the totality of all cognitive and physical actions conducted by individuals or groups in their work conditions to attain tasks to attain innovations. Likewise, Xerri and Brunetto (2013) labelled IWB as an intended process to improve the success of solving problems in the workplace. Similarly, Park et al. (2014) also considered IWB as a process having multiple stages and looking for new ideas, their development, and application for improving the current state of affairs.

Hence, this research adopts Messmann (2012) definition of IWB and considers it a multidimensional construct. The study adopts Messmann and Mulder (2012) model of IWB. Messmann and Mulder (2012) reviewed the existing models of IWB (Amabile, 1988; Kanter, 1988; West & Farr, 1990; Scott & Bruce, 1994; Kleysen & Street, 2001; Janssen, 2000 De Jong & Den Hartog, 2007), and developed an IWB model incorporating five stages. The five stages of IWB are:

Opportunity exploration (OE),
Idea generation (IG),
Idea promotion (IP), and
Idea realization (IR).
Reflection (Ref)

The first four dimensions of the model match the widely cited and researched dimensions in the literature related to IWB. The fifth dimension i.e. reflection, is about the assessment of the innovation process, evaluation of the activities and personal advancement during the innovation process (Middleton & Hall, 2021). In the current study, the first four dimensions of this model are considered to explain the process of IWB among knowledge workers of SMEs. This model is the shorter version of the IWB scale developed by them (Gerken et al., 2016). Alongside previous models, this model includes OE dimension to refer to the innovation development process in work settings. The rest of the dimensions are similar to previous models, i.e. Kanter (1988) and Janssen (2000) model.

Messmann and Mulder (2012) model of IWB as adopted in this study, explains IWB as containing four stages (OE, IG, IP, and IR) to bring about innovations in the workplace. This model has been used in empirical studies for the computation of IWB. For example, it was used by Gerken et al. (2016) to investigate the association of IWB with informal WPL. The dimensions of IWB are explained in the following section.

Operationally, OE is about identifying problems, understanding them and the requirement of improvement or change in the work setting of an employee (Middleton & Hall, 2021). OE serves as a base for the other stages of the process. Next, IG is about forming novel and valued thoughts or ideas in a work area or procedure (Janssen, 2000). IG is connected with thinking about problems and creating solutions for such problems, opportunities, and matters in the OE stage. IG is about creative thinking at work and about (Madrid, 2013). IP stage is about finding support for the newly created idea and promoting it all over the organisation. Lastly, IR is the practical implementation stage

where innovations as made as part of the routine work procedures (Kleysen & Street, 2001). IR is the explicit efforts of executing innovative ideas into actual work settings.

Hypotheses Development

This section is about linking the different dimensions of WPL and IWB with the help of previous literature and formulating the research hypotheses.

WPL and OE

OE is related to recognising problems, a necessity for enhancement and change the context of work (Messmann & Mulder, 2012). It means that the innovation process begins with a chance based on a problem or looking for an opportunity to make improvements. The chance could improve a current state of affairs or might be about a threat that needs to be solved immediately (Kanter, 1988). Sources for opportunities could be a gap between current and desired state of affairs, failure, identification of problems and cause of failure, change in the market structure of the business environment, change in lifestyle of demographics or perception or new information (Drucker, 1985). Exploring opportunities is the starting point of the innovation process. Learning can help employees to recognise problems and opportunities in their work environment and look for their solution (Cangialosi et al., 2020). In addition, Coetzer et al. (2020) argued that different forms of workplace learning could influence multiple stages of IWB. Hence, it is argued that WPL (formal, informal and Incidental) will help individuals explore potential opportunities for improvement in their work setting. Hence, the following relationships are proposed.

> **H1a:** Formal learning positively affects OE.
> **H2a**: Informal learning positively affects OE.
> **H3a:** Incidental learning positively affects OE.

WPL and IG

This stage is about generating ideas for capitalising on the opportunities or solving the problems recognised in the first stage. It is about looking for new ideas in operating areas (Janssen, 2000). IG means thinking about and looking for new ways out for the problems, opportunities, and issues identified in the OE stage. It means thinking creatively at work (Madrid, 2013). In addition, employees who are able to carry out more tasks and are thoughtful about the whole situation of the organisation can also harvest valuable ideas. New ideas could be generated by reorganising existing ideas to solve issues and to improve work performance (Pukienė, 2016).

Messmann and Mulder (2012) explained IG as the stimulation point of innovation process, which intends to create novel ideas related to process, products and to capitalise the opportunities or respond to threats in work context. According

to Cangialosi et al. (2020) learning opportunities in the workplace can influence different stages of IWB. Likewise, Middleton and Hall (2021) argued that innovative learning which is a form of WPL could positively influence different stages of IWB including IG. Therefore, it is supposed that three forms of WPL will help employees to generate new idea to solve the gaps and opportunities identified in their work setting. In this context, the following hypotheses are proposed.

H2a: Formal learning positively affects IG.
H2b: Informal learning positively affects IG.
H2c: Incidental learning positively affects IG.

WPL and IP

IP stage comes into play after the news is generated. The generated ideas must be put into actual practice, and IP is about all those actions and activities aimed to promote the created ideas through the organisation to seek support for their realisation (Pukienė, 2016). Getting support for new ideas is necessary. It includes making alliances with relevant people inside the company, including supervisors, subordinated and co-workers, to get support for the created idea (Madrid, 2013). IP is championing ideas by convincing people about the anticipated change or idea and creating an alliance with people who can ensure the necessary information, support, and the required resources to execute ideas (Messmann & Mulder, 2012).

IP stage is essential as it seeks the support of co-workers and approval of the management that is necessary for new ideas (Pukienė, 2016). A sound IP stage will result in smooth and easy implementation of ideas; however, it will not be possible to implement ideas effectively if this stage is practical. The novel skills and competencies learned through work can boost the confidence and one's ability and help to overcome the status quo and get support for new ideas (Cangialosi et al., 2020). Furthermore, informal learning mostly occurs through networking and social interaction in the workplace and therefore can have a positive influence on getting support for the newly created ideas (Coetzer et al., 2020). It is therefore argued that WPL will help employees to promote new ideas in a better and effective way, and therefore, the following relationships are proposed:

H3a: Formal learning positively affects IP.
H3b: Informal learning positively affects IP.
H3c: Incidental learning positively affects IP.

WPL and IR

The last stage of the process of IWB is IR. This stage is about creating a logical or physical innovation model, evaluating and correcting its importance, and making plans for its amalgamation into practical work context (Messmann & Mulder, 2012). It is related to making explicit attempts to practically implement new ideas to improve or correct current work settings. Employees put in

substantial effort to bring in practical change in the work setting by introducing novel ideas (Madrid, 2013).

Therefore, IP is about executing new ideas by putting them into valuable and practical use, i.e., physical or intellectual. The use of these new ideas could be later on extended to other people also. In this stage, the idea is converted to reality, a model, or a prototype of innovation which could now be felt, executed, converted into something beneficial, and it could also be produced in bulk in the organisation (Kanter, 1988). To cut it short, IR means a thoughtful struggle to introduce, develop or adopt new ideas into actual work roles, workgroups, or the whole company (West & Farr, 1990). Empirical research shows that different forms of WPL can help employees to realise the developed ideas into work (Gerken et al., 2016; Coetzer et al., 2020; Cangialosi et al., 2020; Middleton & Hall, 2021). Hence, it is proposed that WPL will help individuals to equip themselves with the necessary knowledge and skills to implement a new idea in their work setting, and the following hypotheses are proposed:

H4a: Formal learning has a positive influence on IR.
H4b: Informal learning has a positive influence on IR.
H4c: Incidental learning has a positive influence on IR.

Methodology

The Research Context and Sample

This research was guided by positivist research philosophy (Easterby-Smith et al., 2012). Keeping the nature of the current research, positivism was considered as a suitable approach for current research. Following the adopted philosophy, first literature was reviewed and gaps were identified. This was followed by formulation of research hypotheses and finally the hypotheses were tested with the help of quatitiative data analysis (Easterby-Smith et al., 2012). Previous sections discussed how hypotheses were developed and the upcoming sections will highlight how the data was collected and analysed using the adopted philosophical approach (Fig. 1).

The population of this research was based on knowledge workers (KW) working in knowledge-intensive SMEs in different industry sectors. SMEDA (2021) definition was adopted for SMEs, stating that organizations with an employment figure of 10–250 could be considered SMEs (SMEDA, 2021). Hence, organizations having 10–250 employees were considered. Second, SMEs working in the knowledge-intensive sector were considered. The selection of knowledge-intensive SMEs was guided by previous empirical research in the area (Gyarteng-Mensah et al. 2021; Zaki et. al., 2021; Hamad et al., 2018, 2015; Dosumu et al., 2017; El-Gohary, 2012; Giauque et al., 2010; Khalique et al., 2018; Ojala, 2009; Yusoff et al., 2016; Ramezan, 2012; Jeong et al., 2018). Hence, an organisation in sectors such as education, accountancy, consultancy etc., were adopted as knowledge-intensive SMEs for this study.
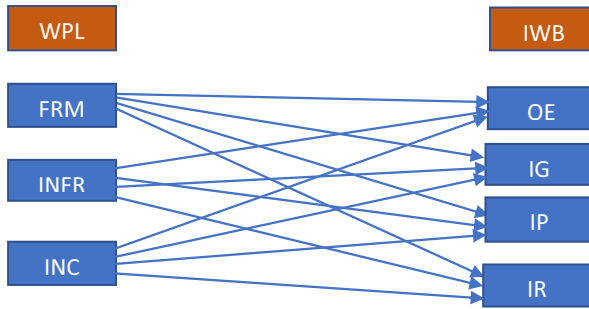
Fig. 1 The research framework

Third, employees who qualified as knowledge workers were selected for data collection. In this regard, someone who uses their minds more than their hands are regarded as a knowledge worker (Drucker, 1969). Despres and Hiltrop (1995) explained knowledge work as an organised information manipulation, data handling, and knowledge development activity. In addition, those whose work is knowledge work are called knowledge workers. Therefore, the employee who possess at least some minimum qualification and whose work qualified as a knowledge worker in this research (Brinkley, 2006; Wilczyńska et al., 2016). Based on these conditions, knowledge workers of knowledge-intensive SEMs were considered the population for the current study.

Following the above criteria, a research sample was considered for data collection following the non-probability convenient sampling technique (Bryman & Bell, 2015). Since the respondents for data collection had to meet certain conditions, convenient sampling was considered suitable for this research. In the case of probability sampling, such conditions would have been difficult to fulfil.

Next, the data collection phase was started in March 2020 and it lasted till the end of June 2020. The instrument was sent through electronic mail, postal means and in some cases through personal visits. The instrument was sent to 600 employees of 173 SMEs. A total of 321 questionnaires were got back. After thorough investigation, 311 questionnaires were found valid and complete, constituting a 51.3% response rate. SMEs, which participated in this research, were situated in Khyber Pakhtunkhwa and Punjab Provinces of Pakistan. The SMEs that participated in the current study were from the manufacturing and service sectors. The SMEs were from Accountancy, Consultancy, Insurance, Education, Engineering, Glass and ceramics, Healthcare, IT and Pharmaceutical/Chemical sectors. The following section discusses the technique used for data collection.

Measurement Instruments

Two scales were used to measure the two primary constructs included in this research. First, Messmann (2012) was used for measuring IWB. It measured four

sub-scales of IWB, including OE, IG, IP and IR. The questionnaire consisted of 17 items in total, with four items related to OE sample item (I keep myself informed of the recent developments in my company), five items each for the measurement of both IG sample item (I suggest improvements to the ideas expressed) and IP sample item (I make plans regarding putting novel idea into practical work), and three items related to the computation of IR with sample item (I introduce my co-workers to the development of a novel idea).

Second, Rowden (2000, 2002) SBWLS scale evaluated the three forms of WPL. In the Pakistani context, Shah et al. (2019) used and validated this scale for examining workplace learning in small businesses. The scale consisted of a total of 23 items. Out of which six items for FR leaning with sample item (when required training funds are available in my company), 10 for INF learning with sample item (I can get job related information to perform my job in a better way) and seven items for INC learning with sample item (I learn my job as a result of doing it and keeping myself busy). All the items were measured with the help of 5-point Likert scale.

Technique for Data Analysis

Data were analysed using Smart-PLS 3. PLS-SEM was used as this research aimed to examine the association of different latent variables (Hair et al., 2017). In addition, PLS-SEM shows more statistical power than CB-SEM carried out in AMOS (Hair et al., 2011, 2017). PLS techniques overcome the issues associated with the ML technique (Hair et al., 2017). Within this regard, measurement and structural models were developed and evaluated. A 500 resample of bootstrapping was run to generate the standard deviation and t-values of estimates (Hair et al., 2017).

Analysis and Results

Background Information

Three-hundred-forty-one useful questionnaires were returned, considered adequate for the running SEM (Kline, 2011). Table 1 illustrates the descriptive distribution of the sample. As the table indicates, 60.4% of the total respondents were from KPK, and 40.6% belonged to SMEs located in Punjab. 31.2% of the respondents were from manufacturing, and 68.8% were from the service sector. In addition, data was collected from SMEs in nine different industry sectors.

The majority of respondents were male respondents (73%), whereas 27% were female respondents. Meanwhile, most of the respondents were below 50 years old, with 43.1% having fewer than 30 years, 49.2% aged less than 50 years, and 7.7% of the total respondents aged over 50 years. Finally, 4.5% of the respondents were qualified equal to a college certificate or diploma, 58.2% had a graduate degree, and 37.3% had a postgraduate qualification.

Information	Category	Frequency (N = 311)	%age
Location	Punjab	126	40.6
	KPK	185	60.4
Industry	Manufacturing	97	31.2
	Service	214	68.8
Sector	Education	46	14.8
	Information Technology	40	12.9
	Healthcare	36	11.6
	Consultancy	34	10.9
	Engineering	33	10.6
	Accountancy	32	10.3
	Glass and Ceramics	32	10.3
	Pharmaceutical/Chemicals	32	10.3
	Insurance	26	8.3
Gender	Male	227	73.0
	Female	84	27.0
Age	Below 30 years	134	43.1
	30–49 years	153	49.2
	50 years and above	24	7.7
Education	College certificate/diploma	14	4.5
	University graduate	181	58.2
	Postgraduate	116	37.3

Table 1 Profile of participating SMEs and respondents

Measurement Model

In the SEM analysis, the measurement model was assessed in two steps (Anderson & Gerbing, 1988). Step 1 was based on the calculation of convergent validity and reliability. To achieve convergent validity, three necessary conditions should be met. First, factor loading should be greater than 0.5, and secondly, composite reliability should have a value of more than 0.7 (Bagozzi & Yi, 2012). Third, the value of AVE should be more than 0.5 (Fornell & Larcker, 1981). Some items having factor loading of less than 0.5 were removed for WPL (Formal 1, informal 6, 7, 8, 9 and incidental 1, 7) and IWB (ideGen 5 and IdePro 5) scales. The model was reassessed after removing these items and the values obtained were satisfactory and in line with the adopted criteria for convergent validity. The results presented in Table 2 indicate that the model has achieved convergent validity.

In step 2, the discriminant validity of the model was examined (Fornell & Larcker, 1981). The results of discriminant validity are highlighted in Table 3. These values indicate that the respondents knew about the purpose of the research and understood the distinctiveness of the constructs. Additionally, multicollinearity was checked by calculating VIF values and Table 5 highlights that all these values were less than 5, indicating that there was no issue of multicollinearity. Factor loading was also checked and reported in Table 4, which indicates that there was no issue

Table 2 Outcomes of the evaluation of measurement model

Dimension	Items	Loading	CR	AVE
FR	Formal 2: training is provided about the usage of new equipment bought by the organization	0.86		
	Formal 3: I am encouraged to look for T & D opportunities for myself	0.86		
	Formal 4: In case I need, resources to support training are available,	0.84		
	Formal 5: I am supported by organization when formal education is needed	0.82		
	Formal 6: Formal training is supported by high management in my company	0.84	0.92	0.71
INF	Informal 1: The basics of doing job were showed to me be someone I worked with	0.84		
	Informal 2: information about how to do my job could be get easily	0.80		
	Informal 3: Someone helped me about doing the job effectively when transferred to new job	0.85		
	Informal 4: in case of any dangerous situation faced, the supervisor discusses it with us	0.79		
	Informal 5: The supervisor considers helping employee learn a job to do it will as important	0.59		
	Informal 10: During work breaks, I talk about work with my co-workers	0.82	0.91	0.62
INC	Incidental 2: Supervisor helps in avoiding same mistakes repeatedly	0.83		
	Incidental 3: Encouragement of sharing work related expertise with co-workers	0.78		
	Incidental 4: provision to time to assess experience	0.82		
	Incidental 5: occasionally something important is found or learnt unintentionally	0.83		
	Incidental 6: opportunity to closely work with colleagues	0.83	0.91	0.67
OE	OppExp1: Share though with co-workers and customer on current events	0.62		
	OppExp2: Hang onto latest advancement in the company	0.89		
	OppExp3: try to have updated information in my professional area	0.89		
	OppExp4: try to know about recent updates about developments in other organizations	0.85	0.89	0.68
IG	IdeaGen1: Express my opinions about a situation	0.83		
	IdeaGen2: I Work on situation to be changed myself	0.86		
	IdeaGen3: I come up with new concepts	0.85		
	IdeaGen4: I Make critical queries	0.82	0.90	0.70

Table 2 (continued)

Dimension	Items	Loading	CR	AVE
IP	IdeaPro1: Contact key individuals who arrange for the required approvals and allocation of resources	0.80		
	IdeaPro2: I Endorse ideas to co-worker for gaining their support	0.83		
	IdeaPro3: I Endorse ideas to my manager for gaining his/her support	0.84		
	IdeaPro4: In work settings, I endorse using new ways to doing things	0.82	0.89	0.68
IR	IdeaRea 1: Introduce the application of the developed solution to colleagues	0.88		
	IdeaRea 2: Test newly developed ideas sol for weaknesses in implementing them	0.89		
	IdeaRea 3: Analyse the undesired impact of the solution under development when executing them	0.90	0.92	0.79

AVE = $\sum$ (Factor loadings) ^{2} / { $\sum$ (factor loadings) ^{2} + $\sum$ (error variances)} CR = $\sum$ (Factor loadings) ^{2} / { $\sum$ (Factor loadings) ^{2} + $\sum$ (Error variances) ^{2}}

FR Formal, *INF* Informal, *INC* Incidental, *OE* opportunity exploration, *IG* Idea generation, *IP* idea promotion, *IR* idea realization, *CR* composite reliability, and *AVE* Average Variance Extracted

Table 3 Discriminant validity

	FR	IG	INC	INF	IP	IR	OE
FR	0.84						
IG	0.47	0.84					
INC	0.56	0.49	0.82				
INF	0.62	0.50	0.55	0.79			
IP	0.43	0.55	0.42	0.50	0.82		
IR	0.50	0.53	0.47	0.49	0.52	0.89	
OE	0.47	0.60	0.43	0.47	0.55	0.46	0.82

Diagonal = (AVE)1/2, off diagonal = correlation values

of cross-loading and the used items explained the latent variable they were intended to measure and explained a perfect pattern matrix (Hair et al., 2014). Overall, these results indicated that the model fulfilled all the requirements of attaining discriminant validity.

Structural Model

The results are highlighted in Fig. 2, Tables 5 and 6. Table 5 indicates that ten were accepted out of the 12 hypotheses developed, and two were not accepted. The first hypothesis was related to the association of WPL and OE. This hypothesis was divided into three sub-hypotheses to investigate the association of three forms of WPL with the OE dimension of IWB. The results indicated that formal learning had significant impact on OE ($\beta = 0.23$, $p < 0.05$), informal learning also had a significant impact on OE ($\beta = 0.23$, $p < 0.05$), and incidental learning positively influenced OE ($\beta = 0.18$, $p < 0.05$). Therefore, H1a–H1c were all accepted. The second hypothesis was related to the influence of WPL on the IG dimension of IWB, and it was divided into three subparts. The results indicated that formal learning had an insignificant association with IG ($\beta = 0.17$, $p \geq 0.05$), whereas informal and incidental learning had a positive influence on the IG dimension of IWB. These values indicated that H2a was not accepted, and H2b and H2c were accepted. The third hypothesis was about the impact of three forms of WPL on the IP dimension of IWB. Again, this hypothesis was divided into three sub-hypotheses. The results indicated that formal learning had insignificant relationship with IP ($\beta = 0.14$, $p > 0.05$).

However, informal and incidental learning both were significantly related to IP dimensions of IWB. The β values and p values were all in the acceptable range (see Table 5). Resultantly, H3a was rejected, and H3b, H3c were accepted. Finally, hypothesis 4 was related to the association of WPL with the IR dimension of IWB. The study found that all three forms of WPL positively influenced the IR dimension of IWB. All the three relationships have β values ranging between 0 and 1, t values above 1.96 and p values of < 0.05. Hence, hypotheses H4a–H4c were all accepted. Furthermore, the predictive relevance of the model was also examined. For this purpose, the values of Q^2 and R^2 were examined for

Table 4 Factor loadings

	FR	*INF*	*INC*	*OE*	*IG*	*IP*	*IR*
Formal2	0.86						
Formal3	0.86						
Formal4	0.84						
Formal5	0.82						
Formal6	0.84						
Informal1		0.84					
Informal2		0.80					
Informal3		0.85					
Informal4		0.79					
Informal5		0.59					
Informal10		0.82					
Incidental2			0.83				
Incidental3			0.78				
Incidental4			0.82				
Incidental5			0.83				
Incidental6			0.83				
OppExp1				0.62			
OppExp2				0.89			
OppExp3				0.89			
OppExp4				0.85			
IdeaGen1					0.83		
IdeaGen2					0.86		
IdeaGen3					0.85		
IdeaGen4					0.82		
IdeaPro1						0.80	
IdeaPro2						0.83	
IdeaPro3						0.84	
IdeaPro4						0.82	
IdeaRea1							0.88
IdeaRea2							0.89
IdeaRea3							0.90

endogenous variables, which are required to examine predictive relevance (Hair et al., 2017). The value of R^2 was 0.29 for OE, 0.33 for IG, 0.29 for IP, and 0.33 for IR. These values indicated that all the three forms of WPL explained 29% change in OE, 33% participation in activities related to IG, 29% change in IP and 33% variation in IR. In addition, a blindfolding procedure was performed to get the values of Q^2 for all the endogenous constructs. The values of Q^2 were 0.18 for OE, 0.23 IG, 0.19 for IP, and 0.25 for IR. All these values were greater than 0 (Hair et al., 2017) and less than R^2. As a result, it could be claimed that the model attained predictive relevance.
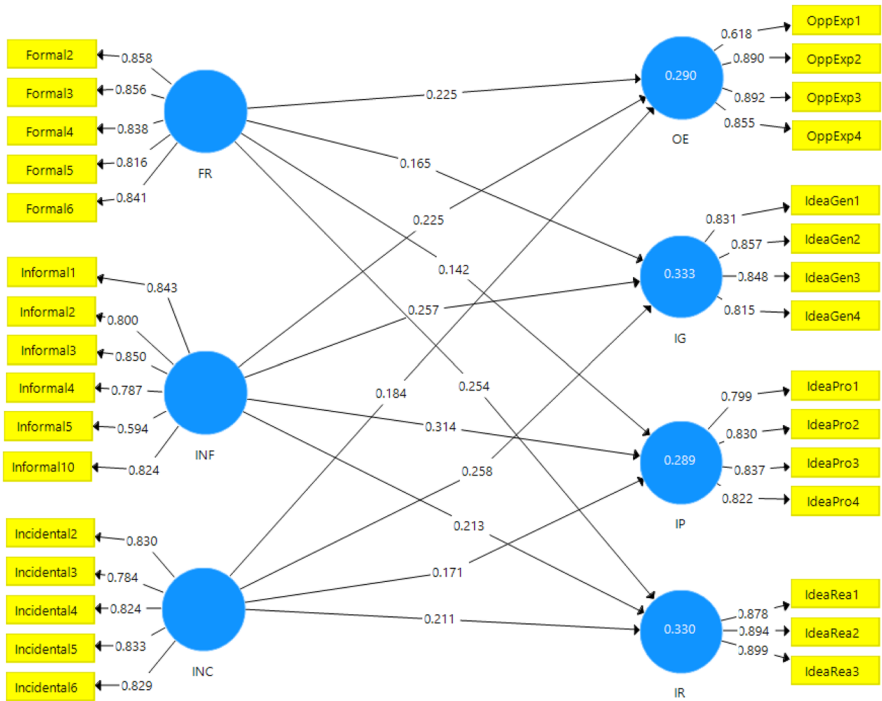
Fig. 2 Research framework with β value and R^2

Findings and Discussion

This research aimed to fill the research gaps by inspecting the role of WPL as a facilitator of IWB among knowledge workers of SMEs. To accomplish this objective, the

Table 5 Results of hypotheses testing

Hypothesis	Relationship	β value	(ST-DEV)	T statistics	P values	VIF	Accepted rejected
H1a	FR—> OE	0.23	0.08	2.96	0.00	1.81	A
H1b	INF—> OE	0.23	0.08	3.00	0.00	1.80	A
H1c	INC—> OE	0.18	0.06	2.92	0.00	1.61	A
H2a	FR—> IG	0.17	0.09	1.94	0.05	1.81	R
H2b	INF—> IG	0.26	0.08	3.34	0.00	1.80	A
H2c	INC—> IG	0.26	0.07	3.54	0.00	1.61	A
H3a	FR—> IP	0.14	0.08	1.82	0.07	1.81	R
H3b	INF—> IP	0.31	0.08	3.77	0.00	1.80	A
H3c	INC—> IP	0.17	0.06	2.69	0.01	1.61	A
H4a	FR—> IR	0.25	0.09	2.90	0.00	1.81	A
H4b	INF—> IR	0.21	0.08	2.73	0.01	1.80	A
H4c	INC—> IR	0.21	0.07	3.04	0.00	1.61	A

Table 6 Prediction values

	SSO	SSE	$Q^2 (= 1 - SSE/SSO)$	R^2
FR	1570.00	1570.00		
INF	1884.00	1884.00		
INC	1570.00	1570.00		
OE	1256.00	1025.38	0.18	0.29
IG	1256.00	969.51	0.23	0.33
IP	1256.00	1016.61	0.19	0.29
IR	942.00	702.62	0.25	0.33

Blindfolding done of reflective variables

influence of three forms of workplace WPL was investigated concerning four dimensions of IWB.

First, formal learning was found to influence OE and IR, whereas, it did not significantly influence IG and IP. The results were in line with some of the previous studies and were different from some of them. For instance, Abdullah et al. (2014) found a positive association of formal learning with OE, IG, IP and IG in Malaysian SMEs. In the current study, formal learning had insignificant relation with IG and IR, meaning that employees used their formal learning to explore innovation opportunities and practical implementation opportunities. At the same time, they did not rely on formal learning to generate new ideas to capitalise on those opportunities to seek support for implementing those ideas. This finding also contradicts the finding of Lundkvist and Gustavsson (2018), who found a positive association between formal learning and IG. Likewise, such findings also contradict the findings of Lecat et al. (2018), who also found formal learning to influence IG in Belgium positively. They also found an insignificant association of formal learning with IR, whereas formal learning has a significant influence on IR in this study. In addition, they found an insignificant relationship of formal learning with IP, which is similar to the current study finding. The finding is also partly consistent with the findings of Coetzer et al. (2020), who found participation in training and development (formal learning) activities to positively influence all the four stages of IWB among employees of small businesses in Australia. Hence, it could be argued that formal learning influenced IWB to some extent but not ultimately.

Second, informal learning was found to influence all the four dimensions of IWB. This goes in line with Noefer et al. (2009) findings that informal learning (feedback from supervisor) was associated with IG and idea implementation in this study IR in a positive way. Their study did not include the OE and IP stages of IWB. They also focused on one form of WPL (informal). These finding also supported the findings of Gerken et al. (2016), where informal learning influence OE, IG and IP stage of IWB. However, it did not influence the IR dimensions of IWB. Likewise, Lecat et al. (2018) reported a significant influence of informal learning on IP and IR dimensions whereas, it had no significant influence on the IG dimension. However, the mentioned studies were conducted in different settings compared to the industries, organisational size and country context.

In addition, the findings of this study are also in line with those of Middleton and Hall (2021), who found a positive influence of informal learning (Innovative learning and knowledge sharing) of different stages of IWB including creation of new OE, IG and IP. Information sharing to IG, IP and IR stages and innovative learning was related to IG and IP stages. Their study was qualitative in nature and based on case studies of organizations located in Europe. The findings of this study were loosely related to those of Lin and Lee (2017), who found that informal learning activities were not significantly related to IG, idea advocacy (IP) and idea Implementation (IR). However, those results were strongly mediated by employee engagement. It meant that employees engaged in their work would strengthen the association of informal learning and IWB. The findings are also in contradiction to those of Coetzer et al. (2020), who did not find a significant influence of informal learning on IWB among small businesses in Australia. In short, this finding is consistent with a number of studies carried out to investigate the relationship of informal learning and IWB in different contexts.

Third, the study found that incidental learning was positively related to all the four dimensions of IWB. This finding was novel as no study was found that investigated the association of incidental learning with IWB. By definition, incidental learning is unconscious, unanticipated learning, contributing to tacit knowledge (Babatunde, et al., 2021; Marsick et al., 2017; Watkins & Marsick, 1992). Employees' tacit knowledge is an essential part of human intelligence (Sternberg & Grigorenko, 2000). A person's capability to solve work-related problems is highly influenced by the tacit knowledge they possess (Sternberg, 2000). Through work tasks and social processes in the work settings, employees accumulate knowledge and skills, which increase possibility of finding new ways of performing things at work (Cangialosi et al., 2020). Such accumulation of knowledge will result in tacit knowledge, which is difficult to express, but could be used to solve work relation problems and issue and also contribute to IWB. This argument supports the finding of this study as incidental learning is found to positively influence IWB. Tacit knowledge helps employees to identify problem areas and opportunities for improvement in their work environment, look for ideas to solve those problems or capitalise on opportunities, seek support for the implementation of those opportunities through networking etc., and practically implement those ideas in the work context (Messmann & Mulder, 2012). Hence, tacit knowledge acquired through incidental learning can contribute to each stage of bringing innovations in work settings.

Based on the current research findings, it is argued that WPL does influence WPL of knowledge workers in knowledge-intensive SMEs located in Pakistan.

Theoretical Contribution

The research findings contribute to the HRD, WPL and IWB literature. The study enriches the literature by fulfilling the gaps identified in this research. First, the current research investigates matter in the context of developing where very few studies could be found that examine WPL and IWB in small businesses. In

addition, it was important to investigate multiple forms of workplace learning as predictor of positive job outcomes including IWB because small businesses are less inclined to provide employee with training and development opportunities (Coetzer et al., 2020). In such situations, informal and incidental learning can produce positive results. Second, the study focused on small businesses where there is dearth of research associated to WPL and its outcomes. Third, the study also explored the future directions in HRD and WPL research as proposed by Russ-Eft et al. (2014), who proposed to investigate WPL in different organizational and geographical contexts. Finally, the study further validated the WPL scale used by Shah et al. (2019) and the IWB scale in small businesses and developing country context. These scales could be further validated by replication of the current study and using different associated variables.

Practical Implications

The study also has practical implications for owners/managers of SMEs. First, as mentioned by Coetzer et al. (2020), small businesses face the problem of limited resource, small business owners and managers should be aware of the additional benefits of WPL besides skill and knowledge enhancement. Such benefits could include a variety of positive job and behavioural outcomes that can benefit the survival and success of the organization. Second, SMEs strive for innovations in uncertain environments and completion that is more substantial. If employees demonstrate IWB, they can contribute to the performance of the organisation for sustainability and growth (Van der Meij, et al., 2021). Therefore, owners/managers should look for ways to enhance the IWB of their employees, and WPL is of significant importance in this regard. Hence, owners/managers should motivate their employees' participation in WPL, which will enhance their ability to behave innovatively. In addition, informal learning and incidental learning are the most affordable forms of WPL, and this study has found that both these forms of learning significantly contribute to IWB. Hence, owners/managers should find ways to improve the learning of employees through informal means.

Conclusion and Recommendations

Overall, it could be claimed that research has achieved its objective and found that WPL does nurture IWB among knowledge workers of small businesses. In this regard, informal learning and incidental learning were found to be more significant predictors of IWB than formal learning.

Regardless of the practical research implications, it is subject to some limitations. First, this research was based on data collected from SMEs located in two country provinces; future research should attempt to investigate a more detailed sample based on the SMEs located in multiple country locations. Second, a more detailed

study investigating the three forms of WPL in more depth should be attempted to enrich the understanding of the subject matter. Third, it could be of greater interest if future research could investigate individual differences, i.e. gender, personality factors and their role in shaping the role of WPL as a facilitator of IWB. Finally, further research is required to investigate the role of individual factors and organisational variables concerning IWB within the context of small businesses in Pakistan to further the discussion related to the antecedents of IWB in developing countries and small businesses.

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Authors and Affiliations

Syed Tanveer Hussain Shah[1] · Syed Mohsin Ali Shah[1] · Hatem El-Gohary[2] 🔵

Syed Tanveer Hussain Shah
tanveer_shah84@yahoo.com

Syed Mohsin Ali Shah
syedmohsinali@awkum.edu.pk

[1]   Institute of Business Studies and Leadership, Abdul Wali Khan University, Garden Campus, Mardan 23200, Pakistan

[2]   College of Business and Economics, Qatar University, Doha 2713, Qatar