





# “Workplace agility, intrinsic motivation, and role congruence antecedents of innovative work behavior: Evidence from Saudi Arabian organizations”

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# WORKPLACE AGILITY, INTRINSIC MOTIVATION, AND ROLE CONGRUENCE ANTECEDENTS OF INNOVATIVE WORK BEHAVIOR: EVIDENCE FROM SAUDI ARABIAN ORGANIZATIONS

## Abstract

This study investigates the impact of workplace agility, intrinsic motivation, and role congruence on innovative work behavior in private and public organizations. This empirical study used a quantitative research method and collected data from 358 employees in Saudi Arabian organizations. The data were gathered through a questionnaire distributed to the sample via social media groups. For this purpose, four standardized and validated questionnaires were used to measure the variables of interest. Since all the fit indices have robust fit, the proposed model qualifies for conducting Structural Equation Modeling (SEM). The results revealed a significant positive relationship, at a remarkable 0.01 level, between all the examined variables and innovative work behavior. This suggests that workplace agility, intrinsic motivation, and role congruence are positively associated with employees' tendency to engage in innovative work behavior. Moreover, the study's findings supported the hypotheses formulated for the research. All t-values exceeded 1.96, indicating statistical significance for all proposed variables. Theoretically, the study contributes to enhancing the current dynamic knowledge of the variables that influence the work environment. Practically, this study offers guidance to employees on innovative work behavior.

## Keywords

employee behavior, innovation, work environment,  
Saudi Arabian organizations

## JEL Classification

D23, O15, O30

## INTRODUCTION

Innovation and innovative work behavior (IWB) is a panacea to deal with the competition arising from the current volatile and uncertain business world. Innovation enables organizations to stay ahead of the competition by developing unique products, services, or processes that differentiate them from others in the market. Moreover, being competitively creative and innovative is essential to gaining an advantage in the present market. Thus, organizations must innovate their processes, approaches, products, and behaviors to be successful. Identifying the importance of innovative work behavior, this study's purpose is to examine a few of its antecedent variables. First, the study examines the collective effect of prosocial behavior, adaptability, and resilience, collectively known as workforce agility (WA), on innovative work behavior. In addition, the impact of intrinsic motivation (IM) and role congruence (RC) on innovative work behavior is also examined. Workforce agility is of considerable importance in organizations as it can provide a wide range of benefits such as qual-

ity improvement, better customer service, learning-curve acceleration, economies of scope and depth (Sherehiy et al., 2007), high quality (Hopp & Oyen, 2004), and greater job satisfaction (Melnik & Maurer, 2006). Another antecedent, intrinsic motivation, stems from organismic requirements for competency and autonomy (Deci & Ryan, 1985). Intrinsic motivation is inspired to accomplish a task without being forced. Khan et al. (2020) assert that there is more than adequate justification for avoiding using incentives to control people's behavior. The next antecedent, role congruence, is a job resource that recognizes people's essential psychological needs, such as connectedness, linked to people's progress and growth (Deci & Ryan, 2000). It assists in aligning employee behaviors with the company's vision, purpose, aim, ambitions, and achievements.

## 1. LITERATURE REVIEW

Social Identity Theory (Tajfel, 1978), Self-determination Theory (Deci & Ryan, 1958), and Social Exchange Theory (Blau, 1964; Homans, 1958) serve as the foundation for the research's theoretical framework. Social identity theory (SIT) is critical in the emergence of intragroup prejudice and intergroup conflict (Tajfel, 1981; Turner et al., 1987). SIT is beneficial for numerous factors. First, it has led to many research studies in various nations (Sandhya & Sulphrey, 2021). Second, its core findings have been repeatedly replicated, including establishing ingroup bias under minimal conditions (Sulphrey, 2020). In addition, it has developed testable ideas that can be applied to various groups, including those associated with politics (Hogg, 2016).

On the other hand, social exchange theory offers a starting point for analyzing and comprehending human behavior (Homans, 1958). SET is a necessary framework for investigating workplace interactions, ultimately determining behavioral intentions. Employee attitudes and behavioral patterns in the workplace have been identified regarding connections with organizations through social exchange and reciprocity (Gouldner, 1960; Blau, 1964). According to Wilson (2019), social exchange theory supports the relationship between HRM practices and organizational behavior.

Self Determination Theory is a meta-theory that leads to six sub-theories: cognitive evaluation theory, causality orientations theory, basic needs theory, goal contents theory, organismic integration theory, and relationships motivation theory (Ryan & Deci, 2017). SDT is a valuable application of theory for adopting more sustainable behavior (Osbaldiston & Sheldon, 2003). SDT posits that an employee has an internal requirement that is in-

dependent and thus capable and related to their environment. According to SDT, if the environment supports an employee's individuality, a more solitary appearance of motivation will result (Deci & Ryan, 2000). The above theories proved the required theoretical backdrop and guidance for the study.

Organizations recognize that they must constantly adapt to changes in today's competitive and dynamic environments. As a result, researchers seek to boost workplace agility in response to rapid environmental changes. Agility is increasingly linked with the success of organizations (Revutska & Maršíková, 2021). McMackin and Heffernan (2021) stated that agility of the workforce is a quality or behavior that is required of employees in a global economy that is constantly changing. Furthermore, workforce agility has various advantages for firms and employees, including increased job satisfaction (Melnik & Maurer, 2006), increased well-being, improved performance (Braun et al., 2017), more creativity, adaptability, and efficiency (Dyer & Shafer, 2003).

Different scholars state various definitions of workforce agility. For example, Plonka (1997) defined an agile workforce as having a positive learning and self-development mindset, strong problem-solving abilities, a relaxed attitude toward change, the capacity to be inventive, and the willingness to take on new responsibilities. Another definition of workforce agility is the ability to respond proactively to anticipated and unexpected events in a company's environment. Saeed and Khan (2007) characterized agile people as being proactive, flexible, and resilient in their activities and judgments. Finally, Sherehiy (2008) says that an agile workforce is more significant than technology because it helps people to be flexible.

A three-dimension model of workforce agility, proactivity, adaptability, and resilience, was established by Sherehiy (2008). Studies on workforce agility utilized this three-dimensional model and indicated that organizational learning, structure, and decision-making decentralization positively relate to workforce agility (Alavi et al., 2014). In contrast, Braun et al. (2017) also list teamwork, collaboration, and exchanging of knowledge as behaviors related to agility. They, however, stick to the definition of Charbonnier-Voirin et al. (2010), who included proactivity and adaptation as agility aspects.

Recent research has shown a significant relationship between workforce agility and emotional intelligence and positively correlated with adaptive, contextual, and task performance (Revutska, 2021). Furthermore, organizations focusing on agility will help employees handle uncertainty because it creates a supportive environment for workers (Jager et al., 2019). In addition, Pulakos et al. (2019) stated that organizations may benefit from emphasizing simplicity and transparency when implementing initiatives to boost their agility. For instance, Sherehiy and Karwowski (2014) argue that for small organizations, workforce agility is about how people accomplish their responsibilities and the employee's potential to acquire new skills, innovate, and perceive their career potential.

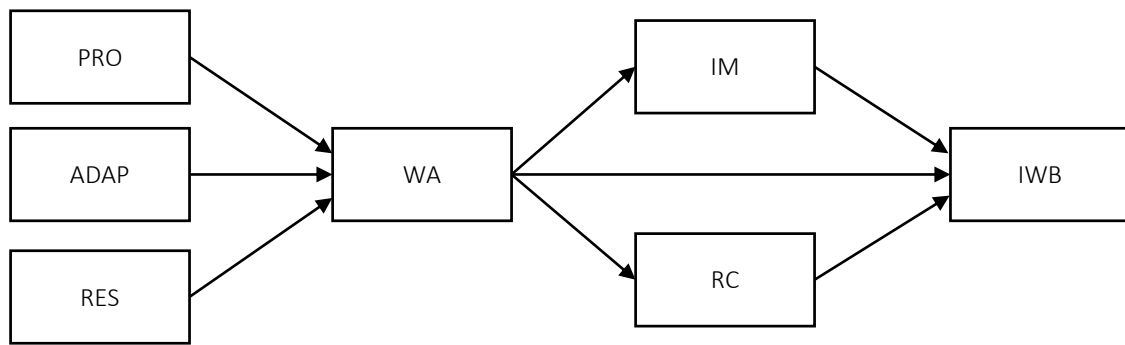
Tseng and Lin (2011) identified workforce agility to induce flexibility, sensitivity, and speed. Further, workforce agility enhances identification with the organization and resultant role congruence (Zhang et al., 2012). In summary, workforce agility impacts a wide-ranging organizational behavior spectrum, bringing in the necessary change to foster innovation in the workplace.

Intrinsic motivation is intended to encompass most human motivation, and understanding the complexities of intrinsic motivation is necessary to address fundamental human psychological requirements (Deci & Ryan 1985). Deci and Ryan stated that "Cognitive Evaluation Theory (CET) is made of intrinsic motivation." On the other hand, extrinsic is defined as motivation, anything that causes someone to act with the intent to attain some separable outcome. DeSimone and Popoff (2000) assert that although extrinsic forces are more reactive, intrinsic forces are more proactive. Understanding intrinsic

and extrinsic motivations, when an extrinsic benefit is provided, the drive becomes extrinsic, and the work activity is less enjoyable. When extrinsic incentives are removed, the activity loses tangible value. Extrinsic reasons on the organizational or individual level, according to Doddas (2022), include compliance, social pressure, brand, and rewards. Therefore, an extrinsic motivator for organizations is the requirement to comply with regulations (Dodds et al., 2013).

Al Harbi et al. (2019) examined the relationship between intrinsic motivation and creativity in Saudi Arabia. Zhang and Bartol (2010) looked at the link between leadership that gives people power and creativity. Shin and Zhou (2003) looked at intrinsic motivation as a link between transformational leadership, conserving resources, and being creative in Korea. According to SDT, motivation is intrinsically or extrinsically driven or engages in the behavior entirely. Further, satisfying the psychological desire for competence, autonomy, and relatedness might improve self-determination towards intrinsic objectives or the internalization of extrinsic goals (Deci & Ryan, 2000). In other words, SDT proposes that one's behaviors are not learned but based on human nature. SDT also prioritizes necessities above drivers (Deci & Ryan, 2000).

In organizational psychology, role congruence is highlighted as a critical job element. Congruence is the degree of convergence of individual and organizational goals. It is an essential aspect of fit between an individual and their organisational objectives. Role congruence is a job resource as employees are driven to and remain in businesses with comparable aims since it allows them to fulfil their work goals (Schneider, 1987). The majority of studies on role congruence have concentrated on the management and employee (Jauch et al., 1980), manager and enterprise (e.g., Bouillon et al., 2006), director and subordinate (Vancouver & Schmitt, 1991), between organizational members (Kristof-Brown & Stevens, 2001), association and institution (Chen et al., 2005), or among organizations (Scott & Gable, 1997). Therefore, Klein and Colauto (2020) claimed that role congruence directly influences individuals' attitudes and behaviors, increasing satisfaction, engagement, enhanced efficiency, and reducing turnover. In management literature, congruence of objectives is defined as the matching of individuals'



**Figure 1.** Initial model

interests with those of the organization, and this reflects different aspects, which include a perception of fairness, employee reliability, effectiveness in the institutional climate, feelings of belonging, turnover decrease, task performance, and so on (Klein & Colauto, 2020). Therefore, a lack of congruence is a fundamental agency problem that significantly affects design, symbolism, and acceptability. In addition, some researchers have employed attitude congruence in P-O fit studies (Westerman & Cyr, 2004).

Role congruence helps organizational members to feel relaxed. It also allows individuals to be proactive and engage in foresightful actions. Such foresightful actions help to develop creative and innovative ideas (Smollan & Morrison, 2019). Further, those with role congruence have proactive personalities, expressing their identities through innovative behaviours (Peng et al., 2020). Thus role congruence can be construed to relate to employee creativity. Therefore the next hypothesis is formulated as follows: Innovative work behavior is the “intentional development, introduction, and application of new ideas inside a job role, group or organisation for the suitable role of the group or organisational performance” (Momeni et al., 2014). It identifies modern means of accomplishing routine and other tasks (Siyal et al., 2021). Innovative work behavior involves initiating innovative and valuable concepts across the organization (De Jong & Den Hartog, 2007). Furthermore, it helps organizations achieve higher performance ratings (Konovsky & Pugh, 1994).

Furthermore, innovation helps identify innovative alternatives. Foss (2013) stated that leader support helps employees engage in innovative behaviors. Workers with inventive and creative potential are likelier to engage in innovative practices when they feel strong organizational encouragement (DiLiello

& Houghton, 2006). If companies can create an enjoyable climate, it is more likely to increase enthusiasm, commitment, and employee engagement, resulting in improved organizational performance. Moreover, according to Schmidt and Hayes (2002), creating an atmosphere encouraging and promoting employee innovation can significantly boost the likelihood of a successful business. Through innovative work behaviors, innovation exerts both direct and indirect effects on organizational performance (Schuh, 2018) and organizational climate (Shanker et al., 2017). Therefore, intrinsic motivation and role congruence are perceived to be essential requirements for innovative work behavior.

The literature review provides direction toward the current research, and the hypotheses are formulated accordingly. It is hypothesized that the identified variables are antecedents of innovative work behavior. Thus, the following hypotheses are formulated for the study:

- H1: Workforce agility has a significant positive relationship with intrinsic motivation.*
- H2: Workforce agility has a significant positive relationship with innovative work behavior.*
- H3: Workforce agility has a significant positive relationship with role congruence.*
- H4: Intrinsic motivation has a positive relationship with innovative work behavior.*
- H5: Role congruence has a positive relationship with innovative work behavior.*

Based on the hypotheses, the following initial model (Figure 1) is obtained.

## 2. DATA AND METHODOLOGY

Data were collected from employees in various Saudi Arabian organizations to test the proposed hypotheses and model. The questionnaire link was shared through social media groups. All the questionnaires had a five-point scale ranging from “strongly agree” to “strongly disagree”, and four standardized questionnaires were used for data collection. Workforce agility (WA) was measured using the scale developed by Alavi et al. (2014), consisting of three factors: Proactivity (Alpha 0.95), Adaptability (Alpha 0.93), and Resilience (Alpha 0.91), demonstrating strong reliability. Intrinsic motivation (IM) was assessed using a questionnaire adapted from Tierney et al. (1999). Role congruence (RC) was measured using a questionnaire developed by Klein and Colauto (2020). Innovative work behavior (IWB) was evaluated using a five-item tool developed by Veloso et al. (2021) with good reliability (Alpha 0.84).

The most challenging and vital phase of any statistical study is determining the sample size (Lenth, 2001), as an acceptable size is indispensable to have significant results from which appropriate statistical inferences can be made (Hinkin, 1995). The researchers gathered data from 358 employees across Saudi Arabia. Informed consent was obtained from the respondents through an introductory statement confirming the confidentiality of responses. The data collection process took around 45 days. All of the responses were accepted, as there were no missing data. The respondents' age ranged between 18 and 58, averaging 30.76 years. The experience was between less than a year to 34 years, and the average experience was 7.18 years. The other demographics are presented in Table 1. It can be seen that the sample has diversity.

**Table 1.** Demographics of the sample

No.	Details	Number	Percent	
1	Gender	Male	281	78.5
		Female	77	21.5
2	Nationality	Saudi	326	91.9
		Non-Saudi	32	8.9
3	Qualifications	Undergraduates	202	56.4
		Graduates	77	21.6
		Postgraduates	42	11.7
		Doctorates	37	10.3

Furthermore, the collected data met the rules of thumb proposed by various experts for estimating robust path models (Barclay et al., 1995). Further, the collected sample also meets the threshold limit of Krejcie and Morgan (1970). Based on this, the sample size can be assumed to be adequate. The respondents were of different demographics (Table 1), which aids validity.

Sample adequacy can be evaluated using the KMO and Bartlett's test (Kaiser, 1974). Olkkonen and Saastamoinen (2000) identified a KMO value of over 0.90 to be “excellent,” over 0.80 to be “good,” and over 0.70 as “moderate.” However, Hair et al. (2010) proposed a KMO value of over 0.90 to be best, and a value lower than 0.60 are statistically unacceptable. The KMO value of .864 in the present study shows that it is good and implies sampling adequacy for conducting factor analysis (Hair et al., 2010). Further, this sample size of 358 was collected based on the “golden standard” stipulated by Simon and Goes (2013). According to them, 364 is the required sample for having a sample error of 5 percent. Thus, the collected sample is adequate based on Simon and Goes (2013). Furthermore, the demographic breakup of the sample had good diversity.

The data for the study were collected using self-reporting questionnaires. Therefore, issues could be related to Common method variance. CMV has a significant likelihood when the dependent and explanatory variables are collected from the same respondents (Podsakoff & Organ, 1986). CMV is examined using Harman's one-factor test (Scbriesheim, 1979). If CMV exists, a single component will emerge that accounts for most of the covariance, loading all the measures in the study into one variable during an exploratory factor analysis (Podsakoff & Organ, 1986). The FA of the variable items helps to investigate the CMV problem. The study helped extract seven factors, with the primary factor accounting for only 23.02% of the variance. The second factor accounted for only 7.39% of the variance. However, if CMV exists, the covariance of the primary component will account for over 50% (Podsakoff et al., 2003). Hence, the findings do not indicate CMV.

### 3. RESULTS

Cronbach's Alpha was used to evaluate the scale's internal consistency reliability. Table 2 presents the Alpha values, all within Nunnally's (1978) range of 0.70. Thus, the internal consistency reliability is supported (Raes et al., 2010). Additionally evaluated were the content, convergent, and criterion validities.

Further, exploratory and Confirmatory Factor Analysis (EFA and CFA) were used to examine the reliability and validity of the questionnaires used for the study, as Byrne (2016) proposed. Reliability and validity are prerequisites to performing SEM.

Validating statistical tools used in the study include average variance extracted (AVE) and composite reliability (CR). Table 3 provides the EFA and CFA results. From Table 3, it can be observed that factor loadings and reliability scores are robust. In addition, the standardized factor loading coefficients exceeded the thumb rule of 0.50 prescribed by Kline (2015) and Hair et al. (2013).

AVE and item loadings can be used to assess convergent validity (Hair et al., 2013). As a thumb rule, the AVE values need to be over 0.50 (Hair et al., 2013; Barclay et al., 1995). In this study, the AVE ranged between 0.667 and 0.782 (Table 3), confirming convergent validity. Composite reliability

**Table 2.** Reliability measures

No.	Code	Variables	Number of Items	Cronbach's Alpha
1	WA	PRO Proactivity	4	0.927
2		ADAP Adaptability	4	0.832
3		RES Resilience	4	0.885
4	IM	Intrinsic motivation	3	0.943
5	RC	Role congruence	7	0.839
6	IWB	Innovative work behaviour	5	0.805

**Table 3.** Convergent validity

Variables	Estimate	Item reliability	Delta	AVE	Sum of Estimate	Sum of Error (Delta)	CR
PRO1 ←	0.886	0.785	0.215	0.733	3.420	1.069	0.916
PRO2 ←	0.865	0.748	0.252				
PRO3 ←	0.883	0.780	0.220				
PRO4 ←	0.786	0.618	0.382				
ADAP1 ←	0.925	0.856	0.144	0.721	3.392	1.115	0.912
ADAP2 ←	0.846	0.716	0.284				
ADAP3 ←	0.817	0.667	0.333				
ADAP4 ←	0.804	0.646	0.354				
RES1 ←	0.843	0.711	0.289	0.732	3.420	1.073	0.916
RES2 ←	0.857	0.734	0.266				
RES3 ←	0.895	0.801	0.199				
RES4 ←	0.825	0.681	0.319				
IM1 ←	0.844	0.712	0.288	0.667	2.444	0.999	0.857
IM2 ←	0.735	0.540	0.460				
IM3 ←	0.865	0.748	0.252				
RC1 ←	0.765	0.585	0.415	0.719	5.926	1.969	0.947
RC2 ←	0.822	0.676	0.324				
RC3 ←	0.854	0.729	0.271				
RC4 ←	0.844	0.712	0.288				
RC5 ←	0.861	0.741	0.259				
RC6 ←	0.926	0.857	0.143				
RC7 ←	0.854	0.729	0.271				
IWB1 ←	0.897	0.805	0.195	0.782	4.410	1.090	0.947
IWB2 ←	0.997	0.994	0.006				
IWB3 ←	0.815	0.664	0.336				
IWB4 ←	0.846	0.716	0.284				
IWB5 ←	0.855	0.731	0.269				

**Table 4.** Discriminant validity

Factors		WA			IM	RC	IWB	Alpha
		PRO	ADAP	RES				
WA	PRO	0.83						0.927
	ADAP	0.15	0.78					0.832
	RES	0.04	0.45	0.85				0.885
	IM	0.21	0.02	0.03	0.79			0.943
	RC	0.05	0.26	0.11	0.39	0.81		0.839
	IWB	0.16	0.21	0.34	0.16	0.22	0.73	0.805

(CR) measures the overall reliability of the questionnaire items. Hair et al. (2013) stipulate a minimum CR value of 0.70. The present study's CR ranged between 0.857 and 0.947 (Table 3). These results show that AVE and CR are acceptable. Further, the values suggest the internal consistency (Fornell & Larcker, 1981; Hair et al., 2013). Thus, all the questionnaires used in the study are considered valid and reliable.

Discriminant validity examines whether the constructs in the model exhibit the needed variances as against other constructs (Hulland, 1999). The r values for all the constructed presented in the matrix (Table 4) do not exceed 0.70 (Anderson & Gerbing, 1988). In addition, as Fornell and Larcker (1981) stipulated, all the r values are less than the square root of AVEs (values presented in the diagonal). These results confirm discriminant validity.

The fit indices are presented in Table 5. The results presented in the Table confirm that all the fit indices' stipulations are met. Furthermore, the goodness of fit index (GFI) of 0.948 (Hair et al., 2013), comparative fit index (CFI) of 0.928 (Hu & Bentler, 1999), root mean square error of approximation (RMSEA) of 0.047 (Hu & Bentler, 1999), and TLI of 0.941 (Bollen, 1989) show robust model fit. Therefore, since all the fit indices have robust fit, the proposed model enjoys absolute fit and qualifies for conducting Structural Equation Modeling (SEM).

**Table 5.** Fit index

Model	GFI	RMSEA	RMR	CFI	IFI	TLI
Criteria	≥0.90	≤0.08<.1	≤0.08<.1	≥0.90	≥0.90	≥0.90
Obtained	0.948	0.047	0.038	0.928	0.937	0.941

The data were analyzed using SEM, and the structural model was run to test the tenability of the hypothesis framed for the study. This helps to determine the regression component of the model after the measurement model's results are validated. SEM has multiple advantages as it is comprehensive and can examine the complete, simultaneous, and complex relationships among all the various constructs (Hair et al., 2013). In addition, according to Becker et al. (2013), SEM evaluates the measurement and structural models for their predictive validity. Thus, as the present study has multiple research questions and variables, SEM is an ideal technique for the present study.

The hypotheses formulated for the study were tested at this stage by evaluating R<sup>2</sup>, effect magnitude, and predictive relevance. The structural model determines the direct association between the identified constructs and examines the effect among the variables (Hair et al., 2013). Based on the SEM analysis, the estimated structural model and t-values based on the hypothesis are presented in Table 6 and Figure 2. Figure 2 shows a fair understanding of the variables studied, the relationships between them, path coefficients, and regression weights. According to Hair et al. (2017), the significance of the path coefficient is examined by the t-values, with the recommended range being 1.96. Table 6 shows that all the t-values are well above this recommendation. Hence, based on the t-values, all the Standardized Path Coefficients are significant at a 0.01 level, denoting that all the hypotheses are supported.



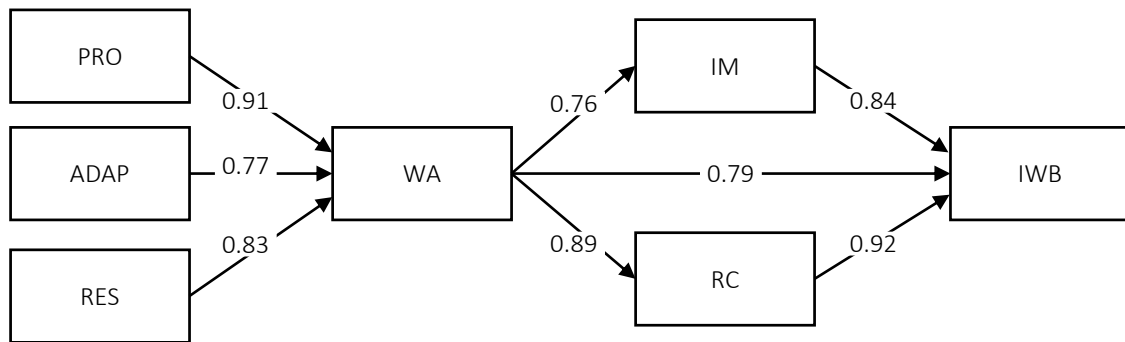


Figure 2. Measurement model

Table 6. Structural equation modelling results

Hypothesis				Standardized Path Coefficient	Robust t-value	Result
H1	WA	→	IM	0.971**	4.11	Supported
H2	WA	→	RC	0.984**	5.66	Supported
H3	WA	→	IWB	0.902**	5.24	Supported
H4	IM	→	IWB	0.884**	4.67	Supported
H5	RC	→	IWB	0.817**	4.96	Supported

Note: \*\*  $p$  at 0.01.

## 4. DISCUSSION

The study examined the relationship between workforce agility, intrinsic motivation, role congruence, and innovative work behavior. SEM analysis helped to address the study's objectives and research questions. The study's respondents included 358 gainfully employed samples from different industries in Saudi Arabia. Data were collected with four standardized and validated questionnaires. Scant research evidence exists about the impact of workforce agility on innovative work behavior in Saudi Arabia. The results of the study indicated acceptance of the initial model. In addition, all the hypotheses proposed for the study are accepted at a 0.01 significance level, showing positive relationships between all variables.

Studies (for example, Akram et al., 2020) have identified workplace innovation as essential for organizational survival and effectiveness. It is possible to establish a sustained competitive advantage through individual and organizational innovation (Bos-Nehles & Veenendaal, 2019). Innovation and innovative work behavior are unique to individuals and a particular organization. Still, the other variables studied, viz., workforce agility, intrinsic motivation, and role congruence, are generic and highly relevant.

Workforce agility is a relatively new concept that is receiving renewed empirical attention. This study has found that it is an antecedent of innovative work behavior. In addition, the study's findings align with many earlier studies. For instance, DeSimone and Popoff (2000) found that intrinsic motivation is related to innovative work behavior. Similarly, the study finding that role congruence is related to innovative work behaviour is in tandem with the earlier study of Peng et al. (2020). This empirical work goes beyond previous research, as earlier ones failed to examine the simultaneous relationship of workforce agility and the other constructs to motivate employee innovative work behavior. The study has found that workforce agility, intrinsic motivation, and role congruence influence innovative work behavior, which can contribute to competitive advantage in this volatile and uncertain business environment (Ployhart et al., 2011).

The findings are of significance in theory and practice. The study has added further knowledge to management literature in multiple ways. Initially, the study, which derived its theoretical foundations from SIT (Tajfel, 1978), and SEY (Blau, 1964; Homans, 1958), has extended the knowledge about applying innovation based on the theories. The findings also broadened the understanding of

the positive impact of the variables studied on innovative work behavior. Next, the study enriches the current innovation literature, which is often considered an elusive concept. There should still be incongruity among researchers about the specific variables that facilitate innovative work behavior. In addition, the study has also empirically examined how certain organizational behavioral constructs and workforce agility can enhance innovative work behavior. Finally, the findings also advance the limited knowledge that intrinsic motivation and role congruence are ideal significant situational factors that significantly enhance innovative work behavior.

This study has many practical implications. In the current dynamic knowledge-intensive focused high-tech work environment, organizations need to have innovative work behavior, to enhance organizational competitiveness and adaptability in the uncertain environment (Bos-Nehles & Veenendaal, 2019). The study's findings imply that innovative work behavior can be attained through developing certain unique behavioral variables. Thus when organizations seek strategic ideas to enhance innovative outcomes in this dynamic globalized context, these findings guide the practitioners in enhancing innovative work behavior. Furthermore, appropriate comprehensive skill-based training and professional development could enhance the unique human capital of innovative work behavior. In addition, combining intrinsic motivation and congruence with organizational rewards (intrinsic and extrinsic) could

result in developing industry or firm-specific innovative outcomes (Youndt & Snell, 2004).

Like any other study, this current one has some limitations, which could provide directions for future research. For example, future studies can help generalize the findings by including samples from other nationalities, as this study included respondents only from Saudi Arabia. Furthermore, future researchers could also consider a comparative study with the same variables in different cultures, as Saudi Arabia has a unique culture with solid collectivist moorings (Alanzi et al., 2022).

The study did not include the impact of the variables on demographic and socioeconomic factors like age, income, and work experience. Therefore, further study might be conducted using the socioeconomic and demographic variables of the existing research model. Also, the study has yet to examine the factors that lead to innovative behavior based on the country and cultural contexts. Therefore, future studies could be carried out to validate the country and cultural contexts empirically. In addition, further exploratory studies could help identify other unique organizational behavioral constructs that could influence innovative work behavior. Finally, this study used self-administered questionnaires to collect data. Therefore, studies could be undertaken using neo-positivistic research methodologies like mixed and qualitative methods. Such a study would help explore the shortcomings of the tools used to collect data from the respondents.

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## CONCLUSION

In most commercial organizations, innovation is a fundamental component that, if present, paves the way for improved operational efficiency and profitability. It also helps to achieve continuous growth in the current uncertain business environment. The study presents a few antecedent constructs like workforce agility, intrinsic motivation, and role congruence that provide opportunities for organizations to strengthen their innovative work behavior capabilities. The results show significant positive relationships among all the constructs, and the proposed path diagram was accepted. These constructs are essential and would help organizations to strengthen their position in this highly competitive and dynamic business environment. In addition, the study advanced the understanding of the impact of the three variables on innovative work behavior. Thus, the study proposes that an agile and empowered work climate could provide value inputs to enhance innovative behavior at the workplace. Furthermore, the study expands the knowledge about the importance of intrinsic motivation in enhancing innovative work behavior. The present study's findings are expected to trigger further studies on how employers could foster innovative work behavior.

## AUTHOR CONTRIBUTIONS

Conceptualization: Sulphey Manakkattil.  
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 Investigation: Abdulaziz Alabood, Sulphey Manakkattil.  
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 Project administration: Abdulaziz Alabood.  
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 Validation: Sulphey Manakkattil.  
 Visualization: Abdulaziz Alabood, Sulphey Manakkattil.  
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 Writing – review & editing: Abdulaziz Alabood, Sulphey Manakkattil.

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## REFERENCES

1. Akram, T., Lei, S., Haider, M. J., & Hussain, S. T. (2020). The impact of organisational justice on employee innovative work behaviour: Mediating role of knowledge sharing. *Journal of Innovation & Knowledge*, 5(2), 117-129. <https://doi.org/10.1016/j.jik.2019.10.001>
2. Alanzi, A. A., Sulphey, M. M. & Jnaneswar, K. (2022). Can Knowledge of Administrative Law impact Constructive deviance and Task performance: Empirical Evidence from Saudi Arabia, *Vision: Journal of Business Perspectives*. <https://doi.org/10.1177/09722629221117192>
3. Alavi, S., Abd. Wahab, D., Muhammad, N., & Arbab Shirani, B. (2014). Organic structure and organisational learning as the main antecedents of workforce agility. *International Journal of Production Research*, 52(21), 6273-6295. <http://dx.doi.org/10.1080/00207543.2014.919420>
4. Al-Harbi, J. A., Alarifi, S., & Mosbah, A. (2019). Transformation leadership and creativity: Effects of employees psychological empowerment and intrinsic motivation. *Personnel Review*, 48(5), 1082-1099. <https://doi.org/10.1108/PR-11-2017-0354>
5. Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423. <https://doi.org/10.1037/0033-2909.103.3.411>
6. Barclay, D. W., Higgins, C., & Thompson, R. (1995). The partial least squares approach to causal modeling: Personal computer adoption and use as illustration. *Technology Studies*, 2(2), 285-309.
7. Blau, P. (1964). Exchange and power in social life. In *Schlüsselwerke der Netzwerkforschung* (pp. 51-54). Wiesbaden: Springer VS.
8. Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research*, 17(3), 303-316. <https://doi.org/10.1177/0049124189017003004>
9. Bos-Nehles, A. C., & Veenendaal, A. A. (2019). Perceptions of HR practices and innovative work behavior: the moderating effect of an innovative climate. *The International Journal of Human Resource Management*, 30(18), 2661-2683. <https://doi.org/10.1080/09585192.2017.1380680>
10. Charbonnier-Voirin, A., El Akreimi, A., & Vandenberghe, C. (2010). A multilevel model of transformational leadership and adaptive performance and the moderating role of climate for innovation. *Group & Organization Management*, 35(6), 699-726. <http://dx.doi.org/10.1177/1059601110390833>
11. De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19(1), 23-36. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>
12. De Simone, L. D., & Popoff, F. (2000). *Eco-Efficiency. The business link to sustainable development*. MIT Press.
13. Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
14. Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. [https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01)
15. Deng, S., Zhu, H., Peng, R., & Pan, Y. (2021). Development and validation of a cognitive model-based novel

- questionnaire for measuring potential unsafe behaviors of construction workers. *International Journal of Occupational Safety and Ergonomics*, 1-8. <https://doi.org/10.1080/10803548.2021.2010408>
16. DeSimone, L. D., & Popoff, F. (2000). *Eco-efficiency: the business link to sustainable development*. MIT Press.
  17. DiLiello, T. C., & Houghton, J. D. (2006). Maximizing organizational leadership capacity for the future. *Journal of Managerial Psychology*, 21(4), 319-337. <https://doi.org/10.1108/02683940610663114>
  18. Dodds, R., Graci, S., Ko, S., & Walker, L. (2013). What drives environmental sustainability in the New Zealand wine industry? An examination of driving factors and practices. *International Journal of Wine Business Research*, 25(3), 164-184. <https://doi.org/10.1108/IJWBR-2012-0015>
  19. Dodds, R., Holmes, M., & Novotny, M. (2022). Because I believe in it: examining intrinsic and extrinsic motivations for sustainability in festivals through self-determination theory. *Tourism Recreation Research*, 47(2), 111-129. <https://doi.org/10.1080/02508281.2020.1841375>
  20. Doeze Jager-van Vliet, S. B., Born, M. P., & van der Molen, H. T. (2019). Using a portfolio-based process to develop agility among employees. *Human Resource Development Quarterly*, 30(1), 39-60. <https://doi.org/10.1002/hrdq.21337>
  21. Gable, G., Scott, J., & Davenport, T. (1998). Cooperative ERP life-cycle knowledge management. *Proceedings of ACIS'98*, 227-240. Retrieved from <https://eprints.qut.edu.au/4244/1/4244.pdf>
  22. Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988. [https://doi.org/10.1016/0149-2063\(95\)90050-0](https://doi.org/10.1016/0149-2063(95)90050-0)
  23. Hogg, M. A. (2016). Social identity theory. In *Understanding peace and conflict through social identity theory* (pp. 3-17). Cham: Springer.
  24. Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6), 597-606. Retrieved from <https://web.ics.purdue.edu/~hoganr/SOC%20602/Spring%202014/Homans%201958.pdf>
  25. Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
  26. Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195-204. [https://doi.org/10.1002/\(SICI\)1097-0266\(199902\)20:2%3C195::AID-SMJ13%3E3.0.CO;2-7](https://doi.org/10.1002/(SICI)1097-0266(199902)20:2%3C195::AID-SMJ13%3E3.0.CO;2-7)
  27. Jauch, L. R., Osborn, R. N., & Terpening, W. D. (1980). Goal congruence and employee orientations: The substitution effect. *Academy of Management Journal*, 23(3), 544-550. <https://doi.org/10.2307/255518>
  28. Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36. Retrieved from <https://link.springer.com/article/10.1007/BF02291575>
  29. Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The interplay of leadership styles, innovative work behavior, organizational culture, and organizational citizenship behavior. *SAGE Open*, 10(1), 215824401989826. <https://doi.org/10.1177/2158244019898264>
  30. Klein, L., & Colauto, R. (2020). Perceptions of organizational justice in incentive contracts and their effect on congruence between personal and organizational goals. *Review of Business Management*, 22(3). <https://doi.org/10.7819/rbgn.v22i3.4066>
  31. Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.
  32. Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal*, 37(3), 656-669. <https://doi.org/10.2307/256704>
  33. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
  34. Lenth, R. V. (2001). Some practical guidelines for effective sample size determination. *The American Statistician*, 55(3), 187-193. <https://doi.org/10.1198/000313001317098149>
  35. Li, Y. B., Zhang, G. Q., Wu, T. J., & Peng, C. L. (2020). Employee's corporate social responsibility perception and sustained innovative behavior: Based on the psychological identity of employees. *Sustainability*, 12(20), 8604. <https://doi.org/10.3390/su12208604>
  36. McMackin, J., & Heffernan, M. (2021). Agile for HR: Fine in practice, but will it work in theory? *Human Resource Management Review*, 31(4), 100791. <https://doi.org/10.1016/j.hrmr.2020.100791>
  37. Melnik, G., & Maurer, F. (2006, June). Comparative analysis of job satisfaction in agile and non-agile software development teams. In *International conference on extreme programming and agile processes in software engineering* (pp. 32-42). Springer, Berlin, Heidelberg.
  38. Momeni, A., Han, J., Montuschi, P., & Lombardi, F. (2014). Design and analysis of approximate compressors for multiplication. *IEEE Transactions on Computers*, 64(4), 984-994. <http://dx.doi.org/10.1109/TC.2014.2308214>
  39. Morrison, T. G., Morrison, M. A., & McCutcheon, J. M. (2017). Best practice recommendations for using structural equation modelling in psychological research. *Psychology*, 8(09), 1326. <https://doi.org/10.4236/psych.2017.89086>
  40. Olkkonen, R., & Saastamoinen, K. (2000). *SPSS perusopas*. Turun kauppakorkeakoulu.
  41. Plonka, F. E. (1997). Developing a lean and agile work force. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 7(1), 11-20. <https://doi.org/10.1002/9781118013047.ch1>

- [doi.org/10.1002/\(SICI\)1520-6564\(199724\)7:1%3C11::AID-HFM2%3E3.0.CO;2-J](https://doi.org/10.1002/(SICI)1520-6564(199724)7:1%3C11::AID-HFM2%3E3.0.CO;2-J)
42. Ployhart, R. E., & Moliterno, T. P. (2011). Emergence of the human capital resource: A multilevel model. *Academy of Management Review*, 36(1), 127-150. <https://psycnet.apa.org/doi/10.5465/AMR.2011.55662569>
  43. Podsakoff, N. P., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
  44. Pulakos, E. D., Kantowitz, T., & Schneider, B. (2019). What leads to organizational agility: It's not what you think. *Consulting Psychology Journal: Practice and Research*, 71(4), 305. <https://doi.org/10.1037/cpb0000150>
  45. Raes, F., & Williams, J. M. G. (2010). The relationship between mindfulness and uncontrollability of ruminative thinking. *Mindfulness*, 1(4), 199-203. <https://doi.org/10.1007/s12671-010-0021-6>
  46. Revutska, O., & Maršíková, K. (2021). *Agile approach in human resource management: focus on generation Y*. <https://doi.org/10.15240/tul/001/2021-2-005>
  47. Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publishing.
  48. Sandhya, S., & Sulphay, M. M. (2021). Influence of Empowerment, Psychological Contract and Employee engagement on Voluntary Turnover Intentions. *International Journal of Productivity and Performance Management*, 70(2), 325-349. <https://doi.org/10.1108/IJPPM-04-2019-0189>
  49. Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40(3), 437-453. <https://doi.org/10.1111/j.1744-6570.1987.tb00609.x>
  50. Schuh, S. C., Zhang, X. A., Morgeson, F. P., Tian, P., & van Dick, R. (2018). Are you really doing good things in your boss's eyes? Interactive effects of employee innovative work behavior and leader-member exchange on supervisory performance ratings. *Human Resource Management*, 57(1), 397-409. <https://doi.org/10.1002/hrm.21851>
  51. Shanker, R., Bhanugopan, R., Van der Heijden, B. I., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, 100, 67-77. <https://doi.org/10.1016/j.jvb.2017.02.004>
  52. Sherehiy, B. (2008). *Relationships between agility strategy, work organization and workforce agility*. University of Louisville.
  53. Sherehiy, B., & Karwowski, W. (2014). The relationship between work organization and workforce agility in small manufacturing enterprises. *International Journal of Industrial Ergonomics*, 44(3), 466-473. <https://doi.org/10.1016/j.ergon.2014.01.002>
  54. Sherehiy, B., Karwowski, W., & Layer, J. K. (2007). A review of enterprise agility: Concepts, frameworks, and attributes. *International Journal of Industrial Ergonomics*, 37(5), 445-460. <https://doi.org/10.1016/j.ergon.2007.01.007>
  55. Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal*, 46(6), 703-714. <https://doi.org/10.2307/30040662>
  56. Simon, M. K., & Goes, J. (2013). *Dissertation and Scholarly Research: Recipe for Success*. Seattle, WA: Dissertations Success LLC.
  57. Siyal, S., Xin, C., Umrani, W. A., Fatima, S., & Pal, D. (2021). How Do Leaders Influence Innovation and Creativity in Employees? The Mediating Role of Intrinsic Motivation. *Administration and Society*, 53(9), 1337-1361. <https://doi.org/10.1177/0095399721997427>
  58. Smollan, R. K., & Morrison, R. L. (2019). Office design and organizational change: The influence of communication and organizational culture. *Journal of Organizational Change Management*. <https://doi.org/10.1108/JOCM-03-2018-0076>
  59. Sulphay, M. M. (2020). Construction and Validation of Workplace Identity Scale (WIS). *Economics and Sociology*, 13(2), 53-69. <https://doi.org/10.14254/2071-789X.2020/13-2/4>
  60. Tajfel, H. E. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press.
  61. Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52(3), 591-620. <https://doi.org/10.1111/j.1744-6570.1999.tb00173.x>
  62. Tseng, Y. H., & Lin, C. T. (2011). Enhancing enterprise agility by deploying agile drivers, capabilities and providers. *Information Sciences*, 181(17), 3693-3708. <https://doi.org/10.1016/j.ins.2011.04.034>
  63. Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.
  64. Vaughan, G. M., Tajfel, H., & Williams, J. (1981). Bias in reward allocation in an intergroup and an interpersonal context. *Social Psychology Quarterly*, 37-42. <https://doi.org/10.2307/3033861>
  65. Veloso, A., Roque, H., Ferreira, A. T., & Gomes, J. (2021). Psychometric characteristics of an adapted measure of innovative behavior at work. *Revista Brasileira de Gestão de Negócios*, 23, 141-152. Retrieved from <https://www.scielo.br/j/rbgn/a/CX5LbZgDkq4gT3rKqzqm6Tv/>
  66. Wilson, J. Q. (2019). *Bureaucracy: What government agencies do and why they do it*. Hachette, UK.
  67. Youndt, M. A., & Snell, S. A. (2004). Human resource configurations, intellectual capital, and organizational performance. *Journal of Managerial Issues*, 337-360. Retrieved from <https://psycnet.apa.org/record/2004-20327-003>