

## Women's entrepreneurial behavior in Saudi Arabian SMEs: A study based on Ajzen's theory of planned behavior



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### ABSTRACT

This study aims to investigate women's entrepreneurial behavior (WEB) within the context of small and medium enterprises (SMEs) in Saudi Arabia, utilizing Ajzen's theory of planned behavior. A conceptual model comprising four latent variables—attitudes towards behavior (ATB), subjective norms (SN), perceived behavioral control (PBC) as exogenous factors, and behavioral intention (BI) as a mediating factor—was examined. Additionally, WEB was evaluated as an endogenous outcome. Data analysis relied on 97 usable responses gathered via a Likert scale-based questionnaire. The findings underscore the significant influence of planned behavior components—attitudes towards entrepreneurship, subjective norms, and PBC—on both women's entrepreneurial intentions and actual behavior. Notably, the study reveals a substantial mediating role played by BI in linking independent variables (attitudes, subjective norms, and PBC) to WEB. These results advance the understanding of entrepreneurial behavior (EB) prediction, offering insights to decision-makers. Strategies to enhance women's entrepreneurial intentions include fostering positive attitudes, ensuring favorable social incentives, and bolstering perceptions of control through skill development. Moreover, recommendations are made for a national campaign to raise awareness about the role of social support in entrepreneurship success, aligning with the aspirations of Saudi Arabia's Vision 2030 initiative.

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### 1. Introduction

Small business Entrepreneurship is one of the pivotal pathways of the national transformation program like Saudi Vision 2030. Hence, scholars and practitioners are interested in predicting individuals' entrepreneurial behavior (EB). One of the most useful theories to predict human behavior is Ajzen's (2020) theory of planned behavior (TPB) with its accent focus on three main factors: Attitudes toward behavior (ATB), subjective norms (SN), and perceived behavior control (PBC) (Ajzen, 2020; Wach and Wojciechowski, 2016; Zheng et al., 2023). TPB has been utilized to predict human behavior in numerous domains such as entrepreneurship business among the youth (Mann et al., 2023), pro-environmental behavior (Gansser and Reich, 2023;

Al-Tit, 2016), speeding behavior (Ding et al., 2023), business EB (Morales-Pérez et al., 2022; Pidduck et al., 2023), micro and small business behavior (Srimulyani and Hermanto, 2022), public transport use (Ali et al., 2023), car-sharing use (Li and Zhang, 2023), energy-saving behavior in Saudi Arabia (Hamouri, 2023) as well as acceptance of industrial small business by Saudi women (Almohaimmed et al., 2020). Previous related works confirm that TPB elements have significant effects on human behavioral intentions (BIs) (Joensuu-Salo et al., 2021; Zheng et al., 2023; Almohaimmed et al., 2020). In the entrepreneurship domain, human BIs refer to individuals' intentions to start up new ventures and conceive to do so someday in the future (Wach and Wojciechowski, 2016). Human BIs are affected by numerous factors such as individuals' favorable attitudes toward the behavior, their experience of strong SN concerning that behavior as well as their perceptions about their abilities to carry out the behavior successfully (Carr and Sequeira, 2007; Al-Tit, 2020) and exert at the same time a significant impact on individuals' actual behavior (Ajzen, 2020; 1991). Therefore, some

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studies were conducted to investigate the effects of TPB components on BIs as well as the mediating role of the BIs between those components and the substantial behavior. However, the studies that took place to investigate such effects on Saudi women's perceptions are still rare.

Consequently, this study aims to investigate the effects of TPB components on women's entrepreneurial BIs and their entrepreneurial actual behavior. Moreover, the study examines the mediating part of women's entrepreneurial BI in the effects of these three components of their entrepreneurial actual behavior. Conducting such a study contributes to the literature as it fills a research gap on women's entrepreneurial behavior (WEB) in Saudi Arabia and highlights the key antecedents of boosting women's BIs toward entrepreneurial ventures, which assists in making good decisions regarding women's entrepreneurship in the small business domain.

## 2. Literature review and hypotheses development

### 2.1. ATB, BI, and WEB

ATB refers to people's evaluations of a target behavior (Spence et al., 2018). It has been defined as individuals' psychological appraisal of a target behavior based on the positive prospects of such a behavior that results in a positive motivation to trigger BIs (Zheng et al., 2023). Consequently, attitudes toward a given behavior increase individuals' involvement in EBs (Joensuu-Salo et al., 2021). In a recent study conducted by Almohaimmeed et al. (2020) on Saudi women's behavior towards the acceptance of industrial small businesses, it was found that their attitudes towards the behavior had a significant effect on their BI, which in sequence influenced their actual behavior to accept small business initiatives. To predict Saudi women's attitudes toward entrepreneurial small business, the following hypotheses were suggested:

**H1:** There is a significant effect of ATB on WEB.

**H2:** BI is significantly mediating the effect of ATB on WEB.

### 2.2. SN, BI, and WEB

SN describes the perceived social pressure from influential others such as family members and friends (Joensuu-Salo et al., 2021). According to Zheng et al. (2023), SN represents individuals' perceived social pressure when performing a behavior. Such social pressure comes from family members, relatives, and friends. It was acknowledged that SN increases or decreases people's BIs to conduct a specific behavior. In a study by Carr and Sequeira (2007), family business exposure has direct and indirect effects on Individuals' entrepreneurial intention. Zheng et al.

(2023) found that SN has direct effects on individuals' saving intentions. Almohaimmeed et al. (2020) added that BI is positively related to individuals' BIs to accept small business initiatives. Therefore, it was assumed that:

**H3:** There is a significant effect of SN on WEB.

**H4:** BI is significantly mediating the effect of SN on WEB.

### 2.3. PBC, BI, and WEB

PBC refers to an individual assessment of the easiness or complexity of doing a behavior (Ajzen, 1991). This term refers to individuals' perceptions of the prospects or difficulties of adopting a particular behavior and, if encouraging, is positively related to an individual engaged in that behavior (Zheng et al., 2023). It was acknowledged that perceived behavioral control (PBC) is a key predictor of individuals' BIs (Baker and White, 2010). Previous related works in Saudi Arabia such as Almohaimmeed et al. (2020) study revealed significant and positive effects of the PBC on both BI and the behavior of Saudi women to accept small business ventures as well as women's BI mediated the effect of their PBC on their actual behavior. Therefore, the following hypotheses were assumed:

**H5:** There is a significant effect of PBC on WEB.

**H6:** BI is significantly mediating the effect of PBC on WEB.

## 3. Methodology

### 3.1. Research sample and data collection

The current research population comprises Saudi women entrepreneurs in the Ha'il region in Saudi Arabia. Using a survey-based questionnaire and following a convenience sampling technique, an electronic questionnaire was sent to research respondents and 123 completed questionnaires were returned. A total of 97 responses were usable for data analysis.

### 3.2. Research measures

Research data was gathered from a questionnaire developed for the purpose of this research based on previous related works (Ajzen, 2020; Rueda et al., 2015; Carr and Sequeira, 2007; Baker and White, 2010; Dunn et al., 2011; Tsordia and Papadimitriou, 2015; Almohaimmeed et al., 2020; Lihua, 2022; Obschonka et al., 2012; Al-Tit, 2020). It involved fifteen items distributed to five variables: ATB (items ATB1, ATB2, ATB3), SN (items SN1, SN2, SN3), PBC (PBC1, PBC2, PBC3), BI (items BI1, BI2, BI3), and actual behavior (BH1, BH2, and BH3). The questionnaire was anchored using a Likert five-point scale in which one refers to "strongly disagree" and five refers to "strongly agree." Results of factor

analysis as shown in Table 1 indicate that the outer loadings (OL) of research items were higher than 0.70 as recommended when using Partial Least Square Structural Equation Modeling (PLS-SEM), which was performed by Smart-PLS 3.0 software. Moreover, Table 1 shows that the outer (O-VIF)

values of variance inflation factor (VIF) were less than 3, except one item (PBC2) surfaced with an outer VIF value close to 3 (i.e., 3.09). Such an item was retained as its outer VIF is less than 5. In terms of the inner VIF (I-VIF) values the results pointed out that such values were less than 3.

**Table 1: Research variables and measurements**

Variables	Code	Items	OL	O-VIF	I-VIF
ATB	ATB1	I am motivated to benefit from small business visions	0.890	2.32	1.39
	ATB2	I have positive views towards small business failure	0.893	2.30	
	ATB3	I am inspired to take small business risks	0.832	1.71	
SN	SN1	I trust my family's suggestions on business initiatives	0.908	2.83	1.38
	SN2	My friends have a major influence on my job decisions	0.915	2.74	
	SN3	Support from my relatives encourages me	0.876	2.13	
PBC	PBC1	I am confident about my ability to manage the business	0.910	2.79	1.41
	PBC2	I can lead and collaborate with others	0.926	3.09	
	PBC3	I am already trained to deal with small ventures	0.881	2.28	
BI	BI1	I prefer to be self-employed	0.883	1.81	1.00
	BI2	Entrepreneurial ventures reassure my inspiration	0.758	1.35	
	BI3	I plan to start my own business in the future	0.785	1.54	
EB	BH1	Having my small business makes me happy	0.851	1.61	-
	BH2	I have an entrepreneurial business behavior	0.809	1.56	
	BH3	I participate in commercializing business ideas	0.814	1.51	

### 3.3. Reliability and validity

Reliability was measured using Cronbach's alpha coefficients ( $\alpha$ ) and composite reliability (CR) and validity was measured based on items' outer loadings and values of their average variance extracted (AVE). It was recommended that alpha coefficients and composite reliabilities should be higher than 0.70, outer loadings are preferable to be higher than 0.70, and AVE values should be greater

than 0.50 (Al-Ayed and Al-Tit, 2021). The results of reliability and validity, as depicted in Table 2, indicate that the measurements that were used to assess research variables showed acceptable indicators of reliability and validity of ATB ( $\alpha=0.842$ , CR=0.905, AVE=0.761), SN ( $\alpha=0.882$ , CR=0.927, AVE=0.809), PBC ( $\alpha=0.890$ , CR=0.932, AVE=0.820), BI ( $\alpha=0.736$ , CR=0.851, AVE=0.656), and behavior ( $\alpha=0.765$ , CR=0.864, AVE=0.680).

**Table 2: Results of reliability and validity**

Variables	Items	OL	O-VIF	I-VIF	$\alpha$	CR	AVE
ATB	ATB1	0.890	2.32	1.39	0.842	0.905	0.761
	ATB2	0.893	2.30				
	ATB3	0.832	1.71				
SN	SN1	0.908	2.83	1.38	0.882	0.927	0.809
	SN2	0.915	2.74				
	SN3	0.876	2.13				
PBC	PBC1	0.910	2.79	1.41	0.890	0.932	0.820
	PBC2	0.926	3.09				
	PBC3	0.881	2.28				
BI	BI1	0.883	1.81	1.00	0.736	0.851	0.656
	BI2	0.758	1.35				
	BI3	0.785	1.54				
EB	BH1	0.851	1.61	-	0.765	0.864	0.680
	BH2	0.809	1.56				
	BH3	0.814	1.51				

### 3.4. Research conceptual model

As argued in Section 1, the current research is concerned with testing the mediating role of BI between ATB, SN, and PBC on one side and entrepreneurial behavior (BH) on the other side. Fig. 1 encompasses six hypotheses, i.e., the effect of attitude toward behavior on BI (H1a), the mediating role of BI between attitude toward behavior and behavior (H1b), the effect of SN on BI (H2a), the mediating role of BI between SN and behavior (H2b), and the effect of PBC on BI (H3a), the mediating role of BI between PBC and behavior (H3b).

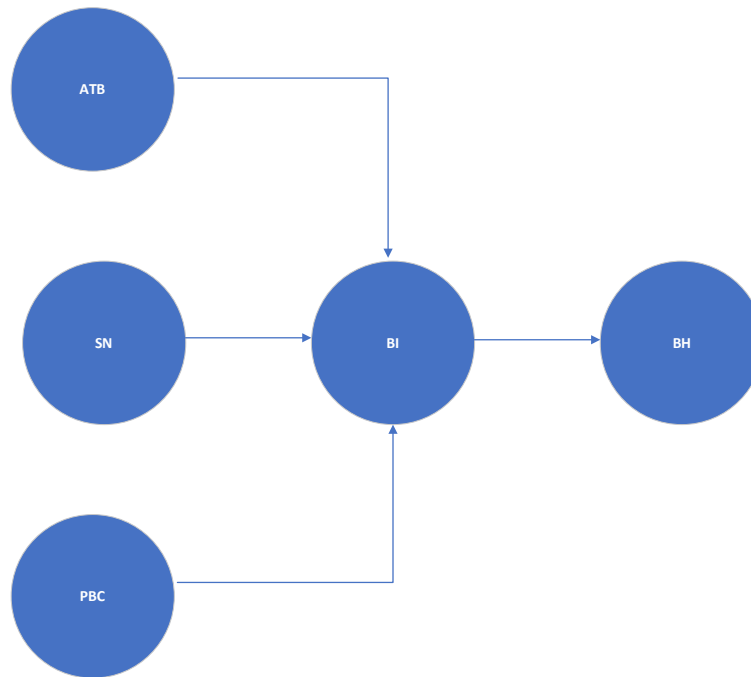
### 4. Data analysis and results

Structural equation modeling partial least squares (SEM-PLS) using Smart-PLS 3.0 software guided the current research data analyses keeping in

mind twofold aims: Examining the model fit and testing research hypotheses.

#### 4.1. Model fit

Four indicators were used to test model fit: Values of the determination coefficients ( $R^2$ ), the values of the effect size ( $f^2$ ), Stone-Geiser's ( $Q^2$ ), and the overall value of the model goodness of fit (GoF) value. For good models, a value of  $R^2$  higher than 0.33 and lower than 0.67 indicates a medium to high explanatory power of the exogenous variable (Pangesti et al., 2016), a value of  $f^2$  higher than 0.02 and lower than 0.15 point to a low to medium effect size while a value of  $f^2$  higher than 0.35 designates a high effect size (Wong, 2013). Moreover, values of  $Q^2$  as an indicator of model predictive power should be higher than zero (Hair et al., 2011).



**Fig. 1:** Research conceptual model

The results of model fit as illustrated in Table 3 show that the three exogenous variables (ATB, SN, and PBC) explained about 46% of the variance in BI, which in turn explained about 33% of the variance in BH. Such values imply a medium to high explanatory power of ATB, SN, and PBC of BI and BI of HB. The results in Table 3 demonstrate that the effect sizes of ATB and SN on BI were low to medium ( $f^2=0.141$  and  $0.042$ , respectively). Notably, the effect size (ATB  $\rightarrow$  BI) is close to medium, the effect size (SN  $\rightarrow$  BI) is

close to low, and the effect size (PBC  $\rightarrow$  BI) was medium to high ( $f^2=0.153$ ). Besides, Table 3 clarifies that the effect size (BI  $\rightarrow$  BH) was high ( $f^2=0.498$ ). In terms of model predictive power, values of Stone-Geiser's indicators were higher than zero ( $Q^2=0.221$  and  $0.229$ ). Finally, the overall goodness of fit value was more than 0.38 (GoF=0.437). Hence, the current model shows a satisfactory ability to test research hypotheses.

**Table 3:** Results of model fit

Research variables		$f^2$	$R^2$	$Q^2$	GoF
ATB	$\rightarrow$ BI	0.141	0.457	0.292	0.437
SN	$\rightarrow$ BI	0.042			
PBC	$\rightarrow$ BI	0.153			
BI	$\rightarrow$ BH	0.498	0.332	0.221	

#### 4.2. Hypotheses testing

The structural model of the current research in which ATB, SN, and PBC were linked to BI, which in turn was linked to BH. The model shows the path coefficients between research variables. As listed in Table 4, ATB shows a total direct effect on BI ( $\beta=0.326$ , T-value=7.39, P-value=0.000), a total direct effect of SN on BI ( $\beta=0.176$ , T-value=3.66, P-value=0.000), a total direct effect of PBC on BI ( $\beta=0.337$ , T-value=5.64, P-value=0.000), and a total direct effect of BI on BH ( $\beta=0.254$ , T-value=4.06, P-value=0.000).

In terms of the mediating effects, the results in Fig. 2 and Table 4 indicate that the total effect of ATB on BH ( $\beta=0.311$ , T-value=5.78, P-value=0.000) is divided into a significant direct effect ( $\beta=0.228$ , T-value=4.00, P-value=0.000) as well as a significant indirect effect ( $\beta=0.083$ , T-value=3.39, P-value=0.001). Likewise, it was found that the total effect of SN on BH ( $\beta=0.223$ , T-value=4.20, P-value=0.000) is distributed into a significant direct effect ( $\beta=0.178$ , T-value=3.48, P-value=0.000) and a

significant indirect effect ( $\beta=0.045$ , T-value=2.55, P-value=0.000). Similarly, the total effect of PBC on BH ( $\beta=0.277$ , T-value=5.11, P-value=0.000) is allocated into a significant direct effect ( $\beta=0.191$ , T-value=3.38, P-value=0.001) and a significant indirect effect ( $\beta=0.086$ , T-value=3.32, P-value=0.001). These results indicate that the research hypotheses were completely accepted.

Hence, there were significant direct effects of ATB, SN, and PBC on BI and BH, and there was a significant effect of BI on BH. Plus, BI exerted a significant mediating role in the effects of ATB, SN, and PBC on BH.

#### 5. Discussion, conclusion, and implications

The aim of this research was to predict Saudi women's perspectives on their actual behavior to adopt and perform small business entrepreneurship based on their behavioral entrepreneurial intentions in line with Ajzen's TPB components, attitude toward behavior, SN, and PBC. Along with the results of previous related works, the current research

hypotheses were accepted. The results support the first two hypotheses (H1 and H2), which means that attitudes toward behavior have a significant direct effect on BI and a significant indirect effect on entrepreneurial behavior through BI. Such a result

was echoed in the literature as attitudes toward a given behavior represent a key motivator of individuals' BIs, which boosts their engagement to perform a specific action (Ajzen, 2020; Joensuu-Salo et al., 2021; Rueda et al., 2015).

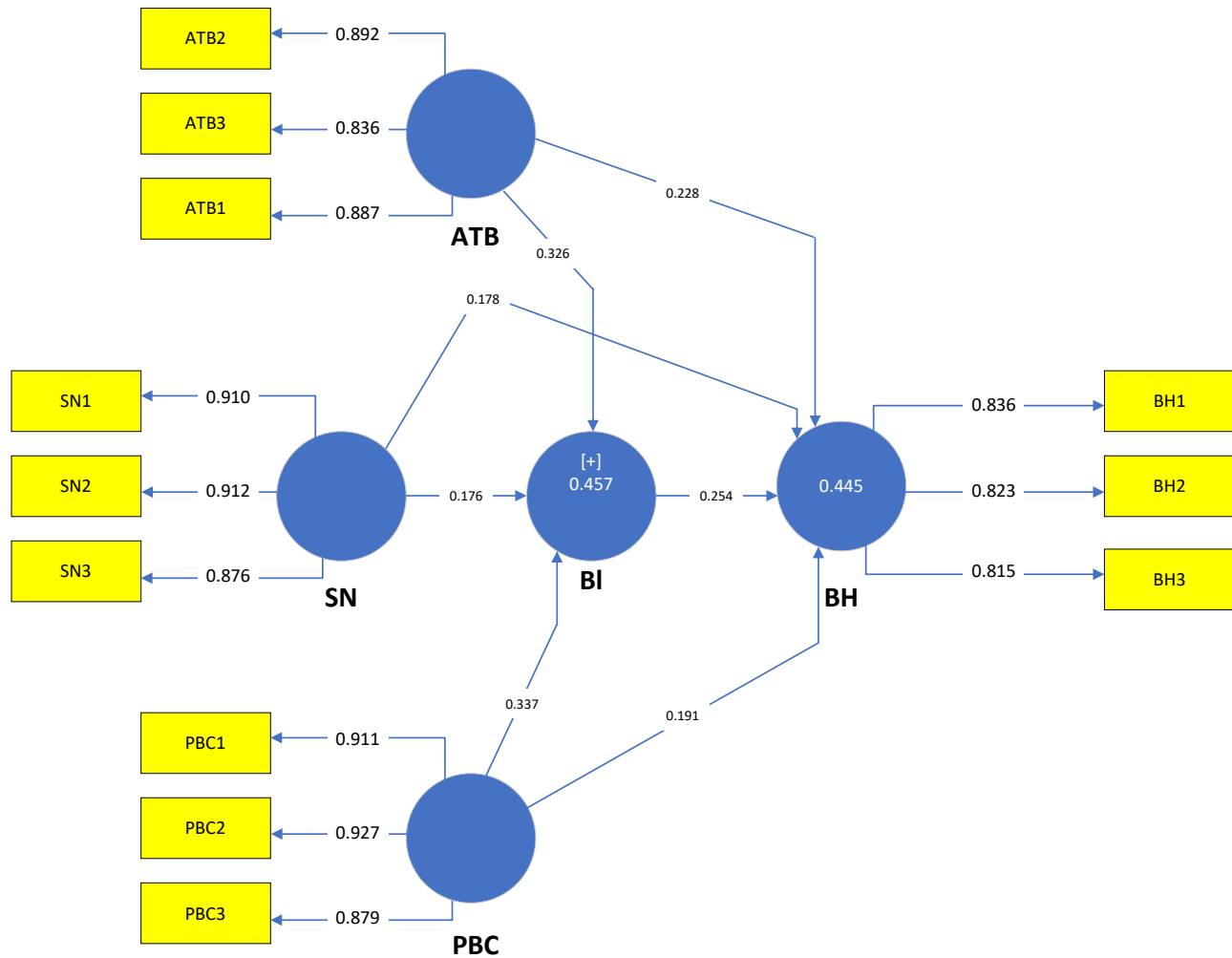


Fig. 2: Research statistical model

Table 4: Results of hypotheses testing

Research variables and effects				Total effects			Direct effects			Indirect effects			
				β	T	P*	β	T	P*	β	T	P*	
ATB	→	BI		0.326	7.39	0.000	0.326	7.39	0.000	-	-	-	
ATB	→	BI	→	BH	0.311	5.78	0.000	0.228	4.00	0.000	0.083	3.39	0.001
SN	→	BI		0.176	3.66	0.000	0.176	3.66	0.000	-	-	-	
SN	→	BI	→	BH	0.233	4.20	0.000	0.178	3.48	0.001	0.045	2.55	0.011
PBC	→	BI		0.337	5.64	0.000	0.337	5.64	0.000	-	-	-	
PBC	→	BI	→	BH	0.277	5.11	0.000	0.191	3.38	0.001	0.086	3.32	0.001
BI	→	BH		0.254	4.06	0.000	0.254	4.06	0.000	-	-	-	

\*: P-value is significant at  $\alpha \leq 0.05$

Moreover, in with Ajzen (2020) and Rueda et al. (2015), the results verify the hypotheses (H3 and H4) that SN has significant direct effects on BI and behavior. Meanwhile, the BI is positively related to the behavior, which means that it mediates the effect of SN on WEB. A similar result was found by Almohaimmed et al. (2020) who pointed out a significant mediating role of women's BIs in the effect of the SN that businesswomen experience and their EB. Finally, the hypotheses (H5 and H6) that women's PBC exerts a major influence on their BI and so their EB was accepted. Ajzen (2002) indicated that individuals perceived BI as having an indirect

effect on behavior through their BI. Such a result means that women's BI mediates the effect of their PBC on their actual behavior. This result agreed with previous results (Tommasetti et al., 2018; Almohaimmed et al., 2020).

On the basis of these results, it was concluded that motivating individuals to accept business EB depends on their BIs, which are affected by three factors: Two personal factors, women's attitudes towards the EB, and their perceptions of their abilities to control that behavior, and one impersonal factor related to the others' inspirations that motivate them to accept such a behavior.

Theoretically, the study extends the literature on behavior adoption using Ajzen's TPB by providing empirical evidence on Saudi WEB. Practically, the study informs decision-makers to promote women's BIs by encouraging their attitudes, ensuring positive social incentives, and increasing their perceptions of their abilities to control the EB. These requirements can be accomplished through women's training to acquire entrepreneurial skills, conducting a national campaign to promote community awareness of the importance of social encouragement for entrepreneurship projects' success, and highlighting the importance of adopting the EB for attaining Saudi Vision 2030 as well as differentiating the Saudi economy and lessening youth unemployment.

### 5.1. Limitations and future work direction

The results of the current study are limited to its cross-sectional design, which may result in common method bias. Therefore, researchers should avoid such an issue by collecting data from various sources as the current study collected data from the Ha'il region only. Hence, further studies are required to generalize the current results by surveying the perceptions of Saudi women from other regions of Saudi Arabia.

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### Compliance with ethical standards

### Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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