



30 INTRODUCTION

31 The contraction of the agricultural sector, spurred by limited resources and entrenched traditional  
32 practices, has significant economic, social, and environmental consequences for rural  
33 communities. These impacts have been extensively documented in academic research (Van der  
34 Ploeg, 2018). Modern approaches to rural development now emphasize the importance of  
35 engaging rural communities in various supportive activities. These endeavors provide additional  
36 revenue and enhance the villagers' overall well-being (Dinis et al., 2019). Among such initiatives,  
37 agritourism is emerging globally as a vibrant and expanding industry (Zhao et al., 2022).

38 Agritourism's global rise in popularity stems from its potential to diversify farmers' incomes (Zhao  
39 et al., 2022). This innovative tourism model forges a connection between agriculture and tourism,  
40 creating avenues for enhanced income and rural development (Bhatta et al., 2024). In 2019,  
41 agritourism's contribution as an alternative income stream for rural areas was valued at an  
42 impressive \$69.24 billion. It has gained traction in developed nations like the United States, Italy,  
43 Germany, the United Kingdom, France, and Spain, as well as in developing countries, including  
44 Indonesia and Malaysia (Bhatta et al., 2019; Togaymurodov et al., 2023). Agritourism thrives on  
45 the concept that farmsteads, nestled within the tranquility of nature, offer more than just lodging  
46 to travelers. These village farms provide a genuine and immersive rural experience, allowing  
47 guests to delve into the daily life of a working farm. Visitors can partake in agricultural activities,  
48 forge a bond with the natural world and its fauna, and savor farm-fresh produce alongside  
49 traditional local cuisine (Ammirato et al., 2020). Essentially, agritourism farms form a vibrant  
50 tapestry of rural stakeholders—including non-profits, local enterprises, and governmental  
51 bodies—and the tourists who seek authentic rural engagements (Jamshidi et al., 2017; Ammirato  
52 et al., 2020).

53 The results of studies have shown that in recent years the relationship between tourism and  
54 agriculture has not been clearly defined (Fleischer and Tchetchik, 2005). The results of studies in  
55 some regions show that tourism is known as an additional and separate economic activity, and its  
56 development in villages can lead to the strengthening of infrastructure and the improvement of  
57 economic conditions of the agricultural sector in villages. On the other hand, study by Fleischer  
58 and Tchetchik (2005) found that the two sectors of tourism and agriculture compete for resources  
59 and infrastructure and that these two sectors cannot help each other to develop. Today, however,  
60 the phenomenon of agritourism has attracted the attention of agricultural experts and researchers

61 around the world (Togaymurodov et al., 2023). Agritourism has been visualized by linking the two  
62 sectors of agriculture and tourism as a solution for agricultural diversification, economic  
63 development, environmental protection and also rural infrastructure development (Susan and  
64 Kyunda; 2018; Togaymurodov et al., 2023). Research in agritourism has predominantly focused  
65 on regions such as Europe, North America, and Canada, exploring various facets of the field  
66 (Dimitrovski et al., 2019; Bhatta and Ohe, 2020). Attention has been given to identifying prime  
67 agritourism destinations (Sidali et al., 2019), and extensive literature reviews have shed light on  
68 the sector's development (Dimitrovski et al., 2019; Ammirato et al., 2020; Bhatta and Ohe, 2020).  
69 Moreover, studies have delved into the determinants of agritourism's growth, revealing that factors  
70 such as farmers' income, employment, education, and proximity to urban centers significantly  
71 influence the adoption of agritourism practices (Togaymurodov et al., 2023). Notably, there  
72 appears to be a gap in the research concerning farmers' intentions and behaviors toward embracing  
73 agritourism as a strategy.

74 The Theory of Planned Behavior (TPB) posits that behavior is a product of both intention and  
75 perceived behavioral control. Generally, TPB utilizes an individual's behavioral intention to  
76 predict their desired behavior, which in turn is influenced by attitudes, subjective norms, and  
77 perceived behavioral control. TPB stands as a prevalent and robust framework for forecasting  
78 human social behavior and is renowned in psychology for illustrating positive behavior  
79 (Yazdanpanah & Forouzani, 2015). Its applications span various domains, including  
80 environmental concerns (Savari and Khaleghi, 2024), food choice and consumer behavior  
81 (Yazdanpanah & Frouzani, 2015), innovation and technology (Waheed et al., 2022),  
82 entrepreneurship (Anwar & Herayono, 2024), health (Xu et al., 2024), and tourism (Zheng et al.,  
83 2023).

84 A critical aspect of the TPB is the discrepancy often observed between one's intentions and actual  
85 behaviors (Dinis et al., 2019). This divide may stem from tendencies like procrastination, doubts  
86 about the action, fear, or even an aversion to the action, all of which can obstruct the realization of  
87 one's intentions. Consequently, it's essential to consider exogenous variables that might influence  
88 the link between intentions and behaviors. In the context of farmers and farm owners, scrutinizing  
89 the gap between their intentions and behaviors is crucial, especially in identifying external factors  
90 that sway their willingness to adopt and develop agritourism. For instance, Dinis et al. (2019)  
91 explored the intentions and behaviors of rural hosts regarding the adoption of local development

92 strategies for rural tourism. Employing the TPB framework, the study acknowledged that while  
93 intentions play a significant role in shaping the behaviors of local hosts, they are not solely  
94 determinative. Additional elements such as the hosts' place of residence, educational background,  
95 prior work experience, and business success are also imperative in understanding their propensity  
96 to embrace rural tourism development strategies.

97 Acknowledging the intention-behavior gap within the TPB, researchers have incorporated  
98 emotional and psychological factors into the TPB framework to better understand farmers'  
99 behaviors across various domains (Cao et al., 2021). Enhancing TPB's predictive capability in  
100 farmers' decision-making processes, social psychologists have effectively highlighted the  
101 influence of self-identity. The impact of self-identity on behavioral intentions has been  
102 substantiated in diverse research areas, including public health, consumer behavior, environmental  
103 actions, and rural tourism (Zarbini et al., 2017; Cao et al., 2021).

104 Social capital serves as a pivotal element in bridging the gap between farmers' intentions and  
105 behaviors within the TPB framework. It encompasses aspects of social organizations such as trust,  
106 values, and networks, which can enhance the efficacy of communities by fostering collaborative  
107 efforts (Cao et al., 2021). Studies across various settings have demonstrated that social capital  
108 significantly shapes individuals' attitudes and intentions to act. Notably, Cao et al. (2021)  
109 examined emotional connection and interpersonal trust as components of social capital that  
110 influence tourists' waste segregation behaviors, applying the TPB model to their analysis.  
111 Agritourism is recognized as an eco-friendly practice (Zhao et al., 2022). Consequently,  
112 environmental values that reflect individuals' perspectives on the environment influence farmers'  
113 intentions to engage in this sector. Zhao et al. (2022) have integrated these environmental values,  
114 including the benefits to the environment and the principle of human-nature harmony, into the  
115 conventional TPB to study behavioral intentions toward agritourism. Additionally, the perception  
116 of risk is a significant factor that can bridge the gap between intention and action. The challenges  
117 posed by climate change, water scarcity, and other environmental, social, and economic threats  
118 have heightened concerns about the future of traditional agriculture. This sense of threat prompts  
119 a heightened sense of responsibility and concern, leading to protective behaviors. To enhance the  
120 predictive accuracy of TPB, researchers have incorporated this aspect of risk perception into the  
121 model (Yazdanpanah et al., 2014; Rezaei et al., 2019; Savari & Gharechae, 2020).

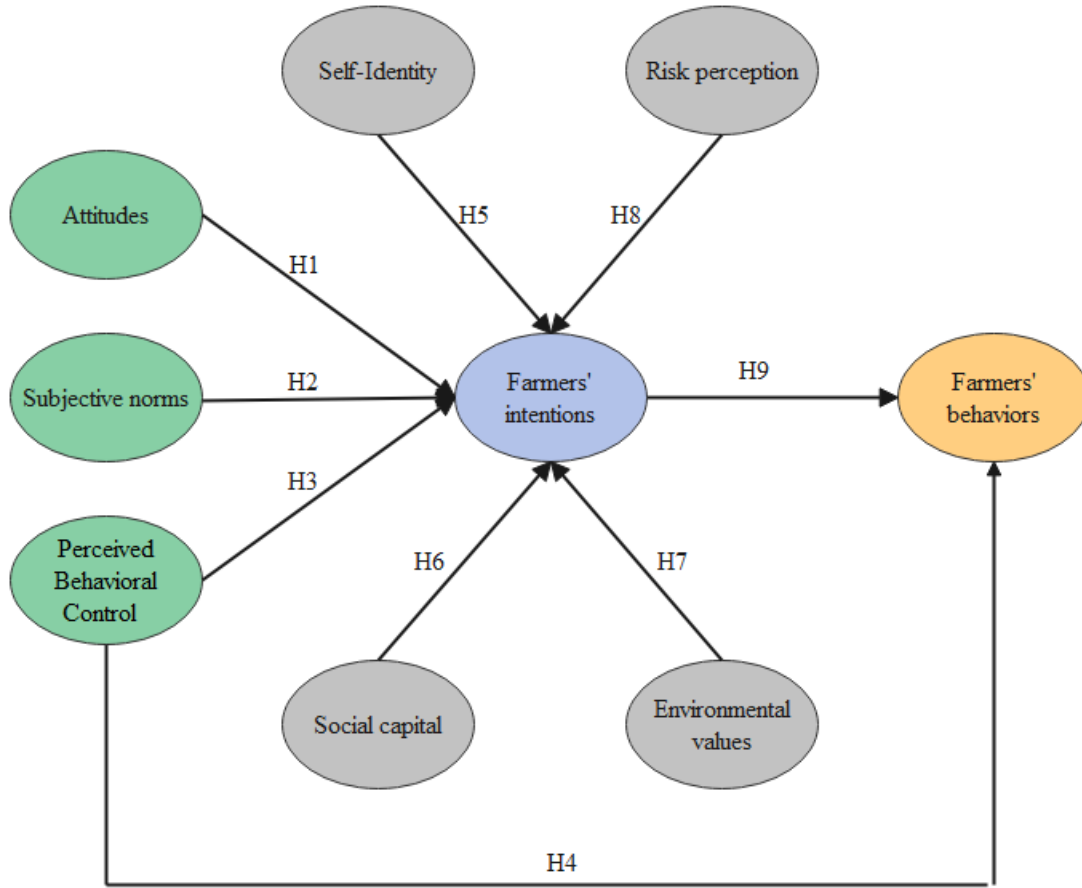
122 The Marvdasht region in Fars province, renowned for its geographical location, favorable climate,  
123 and rich agricultural heritage, holds significant potential for agritourism development. As a key  
124 agricultural hub in Iran, Marvdasht boasts diverse horticultural and agricultural products, including  
125 citrus fruits, pomegranates, grapes, wheat, and vegetables, offering unique experiences for tourists  
126 seeking farm activities and fresh produce. Its proximity to world-famous historical sites like  
127 Persepolis and Pasargadae, combined with stunning natural landscapes, modern farms, and a  
128 vibrant local culture enriched with traditions, further enhances its appeal as a premier agritourism  
129 destination (Fars Cultural Heritage and Tourism Organization, 2020). However, challenges such  
130 as limited awareness among farmers regarding the benefits of agritourism, insufficient  
131 accommodation and transportation infrastructure, and issues related to water scarcity underscore  
132 the need to address key determinants for developing agritourism as a complementary economic  
133 activity for farmers in the region.

134 According to the content described, in this study, alongside the traditional structure of the Theory  
135 of Planned Behavior (TPB), four additional constructs—personal identity, social capital,  
136 environmental values, and risk perception—were incorporated to evaluate farmers' behavioral  
137 intentions toward the acceptance of agritourism. This comprehensive and integrative framework  
138 has not been previously documented in any other study, thereby making a significant contribution  
139 to the enrichment of the existing literature in this field. The primary objective of this study is to  
140 investigate whether farmers operating active farms are aware of the risks associated with the  
141 scarcity of production resources, such as water, in agriculture, and whether they are inclined to  
142 adopt agritourism as a supplementary activity. This research focuses on five villages in Iran's Fars  
143 province, which are recognized for their strong agricultural output and diversity. Within this  
144 context, farmers' intentions and behaviors regarding engagement in agritourism are analyzed using  
145 an extended version of the Theory of Planned Behavior (TPB). This study is pioneering in its  
146 approach, as such a comprehensive analysis has not been previously documented in the existing  
147 literature.

#### 148 149 **Conceptual framework**

150 The expanded Theory of Planned Behavior (TPB) model in this study is designed to examine  
151 farmers' behavioral shift from traditional agricultural practices to agritourism. This is depicted in  
152 Figure (1). Accordingly, the study tests the following hypotheses:

- 153 H1: Farmers' attitudes are directly and positively associated with their intentions to participate in  
154 agritourism as an adjunct to traditional agriculture.
- 155 H2: Farmers' subjective norms are directly and positively associated with their intentions to  
156 participate in agritourism as an adjunct to traditional agriculture.
- 157 H3: Farmers' perceived behavioral control is directly and positively associated with their intentions  
158 to participate in agritourism as an adjunct to traditional agriculture.
- 159 H4: Farmers' perceived behavioral control is directly and positively associated with their actual  
160 engagement in agritourism as an adjunct to traditional agriculture.
- 161 H5: Individual or personal identity is directly and positively associated with farmers' intentions to  
162 participate in agritourism as an adjunct to traditional agriculture.
- 163 H6: Social capital is directly and positively associated with farmers' intentions to participate in  
164 agritourism as an adjunct to traditional agriculture.
- 165 H7: Environmental values are directly and positively associated with farmers' intentions to  
166 participate in agritourism as an adjunct to traditional agriculture.
- 167 H8: Farmers' risk perceptions regarding the current state of the agricultural sector are directly and  
168 positively associated with their intentions to participate in agritourism as an adjunct to traditional  
169 agriculture.
- 170 H9: Farmers' intentions are directly and positively associated with their actual engagement in  
171 agritourism as an adjunct to traditional agriculture.



172  
173 **Figure 1.** An integrated conceptual framework for predicting farmers' intentions and behavior to  
174 change from agricultural activities to agritourism activities.  
175

## 176 MATERIALS AND METHODS

### 177 Study area

178 In this study, villages in the Marvdasht region were ranked based on the criteria essential for  
179 realizing agritourism, as defined by experts. These criteria included the diversity of agricultural,  
180 livestock, and horticultural products; natural scenery; cultural attractions; accommodation  
181 facilities; and man-made tourist attractions such as paved streets and bridges. The ranking was  
182 determined to assess each village's potential for developing agritourism effectively. The ranking  
183 was determined to assess each village's potential for developing agritourism effectively.  
184 Consequently, five villages with superior rankings— Qasemabad-e Sarui, Garmabad, Kenareh,  
185 Dorudzan and Eslamabad in Marvdasht County—were identified as having the highest potential  
186 for agritourism development and were selected as the study's statistical population. The location  
187 of these villages is presented in Figures 2 A to 2 C.

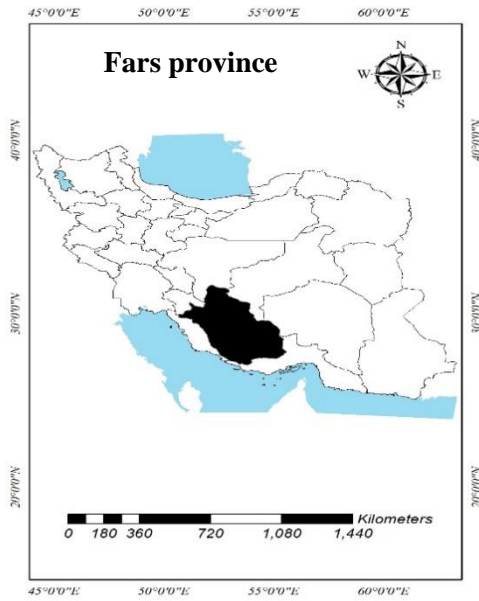


Figure 2 A. Map of Iran by province.

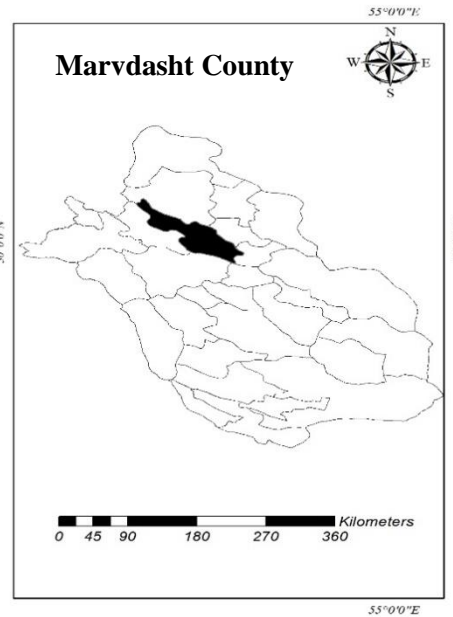


Figure 2 B. Map of Fars Province by county.

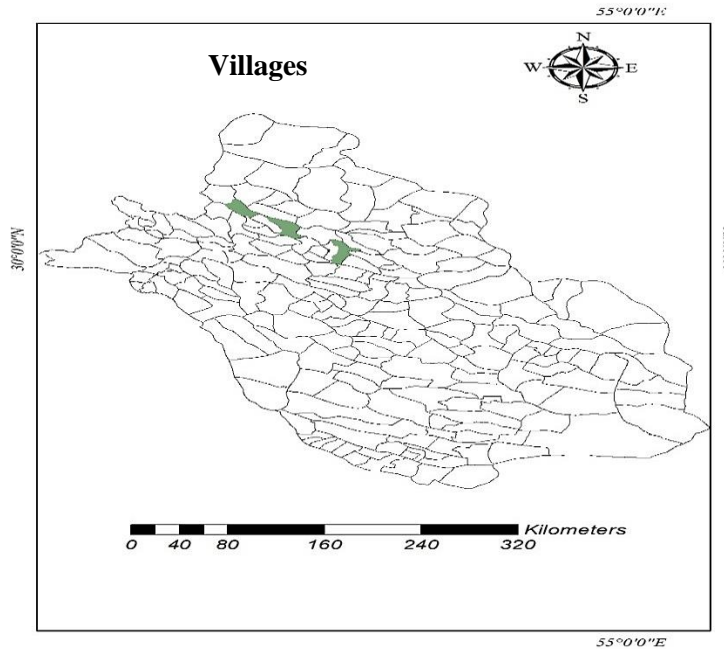


Figure 2 C. Map of Fars Province by villages

188 **Study design**

189 This study, in terms of its nature, was a quantitative research endeavor, and in terms of its goal, it  
190 was classified as practical research, aiming to provide actionable insights for promoting  
191 agritourism. In terms of data collection, it was a descriptive research study, specifically of the  
192 correlational type, as it sought to examine relationships between variables such as farmers'



193 behavioral intentions and their willingness to adopt agritourism. Additionally, it should be noted  
194 that this study was designed as a single cross-sectional study.

195

### 196 **Statistical population and sampling method**

197 The statistical population for this research included all individuals over the age of 15 in the villages  
198 of Qasemabad-e Sarui, Garmabad, Kenareh, Dorudzan and Eslamabad in Marvdasht, Fars  
199 Province. Using the Krejcie & Morgan (1970) table, the sample size was determined to be 351  
200 people. The stratified random sampling method with proportional allocation was utilized for  
201 sampling. Following the determination of the required sample size, the sample was distributed  
202 across the five study areas in proportion to their respective populations. Data collection was carried  
203 out through questionnaires and field interviews with the selected sample.

204

### 205 **Measurements**

206 The current study's measurement items for the Theory of Planned Behavior (TPB) model  
207 components include attitudes (5 items), subjective norms (3 items), perceived behavioral control  
208 (4 items), self-identity (3 items), social capital (4 items), environmental values (3 items), and risk  
209 perception (5 items). These serve as independent variables, while intention is both an independent  
210 and dependent variable (3 items), detailed in Table 1 in the Appendix A1. A 5-point Likert scale  
211 ranging from "very little" to "very much" was employed to assess all questionnaire items. Notably,  
212 as the study's participants were all Persian speakers, the questionnaire was developed and  
213 administered in the Persian language.

214

### 215 **Validity and reliability of instrument**

216 To ascertain the validity of the variables and indicators, draft questionnaires were assessed by a  
217 panel of university experts prior to the interview phase with the sample farmers. This panel  
218 included professors specializing in rural development, agricultural extension and education,  
219 agricultural economics, environmental science, psychology, social sciences, and agricultural  
220 sciences. Additionally, the Average Variance Extracted (AVE) index, Cronbach's alpha  
221 coefficient, and Composite Reliability (CR) were employed to evaluate the reliability and validity  
222 of the indicators. These statistics are presented in Table 2.

223

224

225 **Data analysis**

226 For data analysis, both SPSS and Smart PLS software were utilized to perform descriptive and  
 227 inferential statistical analyses. This research employed Structural Equation Modeling (SEM) for  
 228 both modeling and statistical examination (Hair & Alamer, 2022). SEM techniques are employed  
 229 to quantitatively evaluate the validation or refutation of theoretical constructs. The Partial Least  
 230 Squares (PLS) approach, a third-generation SEM technique, is applied to explore the relationships  
 231 between latent variables as measured by observable indicators. A key rationale for selecting this  
 232 method is SEM's comprehensive capability to test theoretical frameworks within a study (Hair &  
 233 Alamer, 2022).

234  
 235 **RESULTS AND DISCUSSION**

236 **Descriptive Statistics of Variables**

237 The data presented in Table 1 indicates that the construct of risk perception is the only one above  
 238 the average level (theoretical median of 3), with the highest mean score of 3.57 among the  
 239 constructs evaluated. This suggests that farmers in the study areas are well aware of the potential  
 240 risks and threats that traditional agricultural activities may face in the future. Conversely, the  
 241 construct of perceived behavioral control has the lowest mean score of 1.74, highlighting the  
 242 farmers' struggle due to inadequate facilities, knowledge, and resources to implement agritourism  
 243 on their farms. Therefore, enhancing educational methods, as well as providing funding and  
 244 financial resources, could facilitate the growth of agritourism. Overall, the descriptive statistics  
 245 reveal that the farmers in the surveyed regions generally lack a favorable attitude and intention  
 246 toward pursuing agritourism as a supplementary activity to traditional agriculture.

247  
 248 **Table 1.** Descriptive statistics of constructs.

Constructs	Average	Standard deviation
Attitudes	2.15	0.611
Subjective norms	2.58	0.724
Perceived behavior control	1.74	0.321
Self-identity	2.36	0.687
Social capital	2.04	0.463
Environmental values	2.85	0.715
Risk perception	3.57	0.882
Intentions	2.16	0.531
Behavior	2.93	0.623

249 Source: research findings.

250

251 **Results of the Measurement Models**

252 The validity of the model fit was evaluated using first-order confirmatory factor analysis (CFA),  
 253 as shown in Table 2. The results indicated that all items had statistically significant factor loadings  
 254 (above 0.6) with a 1% error level ( $p < 0.01$ ), confirming the unidimensionality of the items. This  
 255 suggests that the items selected to measure the model's components were appropriate and measured  
 256 accurately. Furthermore, the Average Variance Extracted (AVE), Composite Reliability (CR), and  
 257 Cronbach's alpha ( $\alpha$ ) values were calculated to be greater than 0.5, 0.6, and 0.7, respectively,  
 258 indicating that all latent variables in the proposed model demonstrated sufficient validity and  
 259 reliability. Lastly, Table 3 revealed that the square root of AVE for the research constructs ranged  
 260 from 0.83 to 0.97, exceeding the correlation coefficients between the constructs ( $0.37 < r < 0.62$ ),  
 261 thereby confirming the discriminant validity of the model's constructs.

262 **Table 2.** The results of fit of measurement models.

Constructs	Measurement item	$\lambda$	$t$	Reliability and Validity statistics
Attitudes	Att1	0.538	5.421	AVE: 0.535 CR: 0.890 $\alpha$ : 0.859
	Att2	0.790	15.123	
	Att3	0.731	12.416	
	Att4	0.718	10.439	
	Att5	0.608	8.365	
Subjective norms	SN1	0.928	35.185	AVE: 0.741 CR: 0.894 $\alpha$ : 0.822
	SN2	0.701	6.346	
	SN3	0.933	41.420	
Perceived behavior control	PBC1	0.853	29.730	AVE: 0.783 CR: 0.915 $\alpha$ : 0.861
	PBC2	0.914	33.384	
	PBC3	0.886	31.726	
	PBC4	0.842	24.786	
Self-identity	SI1	0.843	25.095	AVE: 0.854 CR: 0.932 $\alpha$ : 0.901
	SI2	0.832	22.664	
	SI3	0.913	36.948	
Social capital	SC1	0.843	20.020	AVE: 0.741 CR: 0.920 $\alpha$ : 0.884
	SC2	0.873	28.729	
	SC3	0.847	22.663	
	SC4	0.879	31.741	
Environmental values	EV1	0.731	10.209	AVE: 0.605 CR: 0.892 $\alpha$ : 0.861
	EV2	0.798	12.618	
	EV3	0.734	10.661	
Risk perception	RP1	0.943	65.095	AVE: 0.871 CR: 0.950 $\alpha$ : 0.921
	RP2	0.932	62.664	
	RP3	0.913	36.948	
	RP4	0.868	20.628	
	RP5	0.859	16.542	
Intentions	Int1	0.865	26.797	AVE: 0.760 CR: 0.927 $\alpha$ : 0.895
	Int2	0.887	30.419	
	Int3	0.889	30.891	

264 SRMR=0.08; D\_G1= 0.765; D\_G2 =0.795; NFI =0.98; RMS\_Theta =0.08.

265 Source: research findings.

266

267

**Table 3.** Discriminant validity of constructs.

Constructs	Intention	Attitude	SN	PBC	SI	SC	EV	RP
Intention	0.97 <sup>a</sup>							
Attitude	0.42**	0.95 <sup>a</sup>						
SN	0.52**	0.48**	0.94 <sup>a</sup>					
PBC	0.62**	0.39**	0.53**	0.83 <sup>a</sup>				
SI	0.51**	0.41**	0.55**	0.48**	0.85 <sup>a</sup>			
SC	0.38**	0.64**	0.54**	0.48**	0.42**	0.94 <sup>a</sup>		
EV	0.46**	0.42**	0.48**	0.41**	0.39**	0.37**	0.89 <sup>a</sup>	
RP	0.38**	0.54**	0.42**	0.44**	0.46**	0.52**	0.44**	0.96 <sup>a</sup>

268

<sup>a</sup> The square roots of the AVE estimate.

269

\*\* Correlation is significant at the <0.01 level

270

Source: research findings.

271

272

### Results of the Structural Model

273

The structural model's fit was assessed using suitable indices, as detailed in Table 5. The findings presented in Table 4 indicate that the extended TPB model exhibits a good fit.

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275

276

**Table 4.** Summary of goodness of fit indices for the structural model.

Fit index	SRMR	D-G1	D-G2	NFI	RMS-Theta
Suggested Value	<0.1	>0.05	>0.05	>0.90	≤0.11
Extended TPB	0.07	0.739	0.798	0.97	0.07

277

Source: research findings.

278

279

The outcomes detailing the final effect of variables on behavioral intentions are depicted in Figure 3. The bootstrapping method, with sample sizes of 100 and 300, was employed to assess the significance of the path coefficient or beta (Savari and Khaleghi, 2024). The analysis revealed consistent significance in the parameters across both sample sizes, with the only variation occurring in the t-statistic values. Consequently, the hypotheses can be examined using a regression model framework. According to Figure 3, the extended TPB model accounts for 78.8% of the variance in behavioral intentions and 61.8% of the variance in farmers' behaviors. Subsequent hypothesis testing results are presented in Table 5. These findings confirm all the study's hypotheses except for H4, indicating that the direct and positive impact of perceived behavioral control on farmers' actual engagement in agritourism is not supported. Despite this, the influence of this variable on farmers' intention to participate in agritourism is both positive and significant. This suggests that while resources, knowledge, time, and opportunities positively shape farmers' intentions towards agritourism, these factors alone do not directly translate into actual behavior in this domain.

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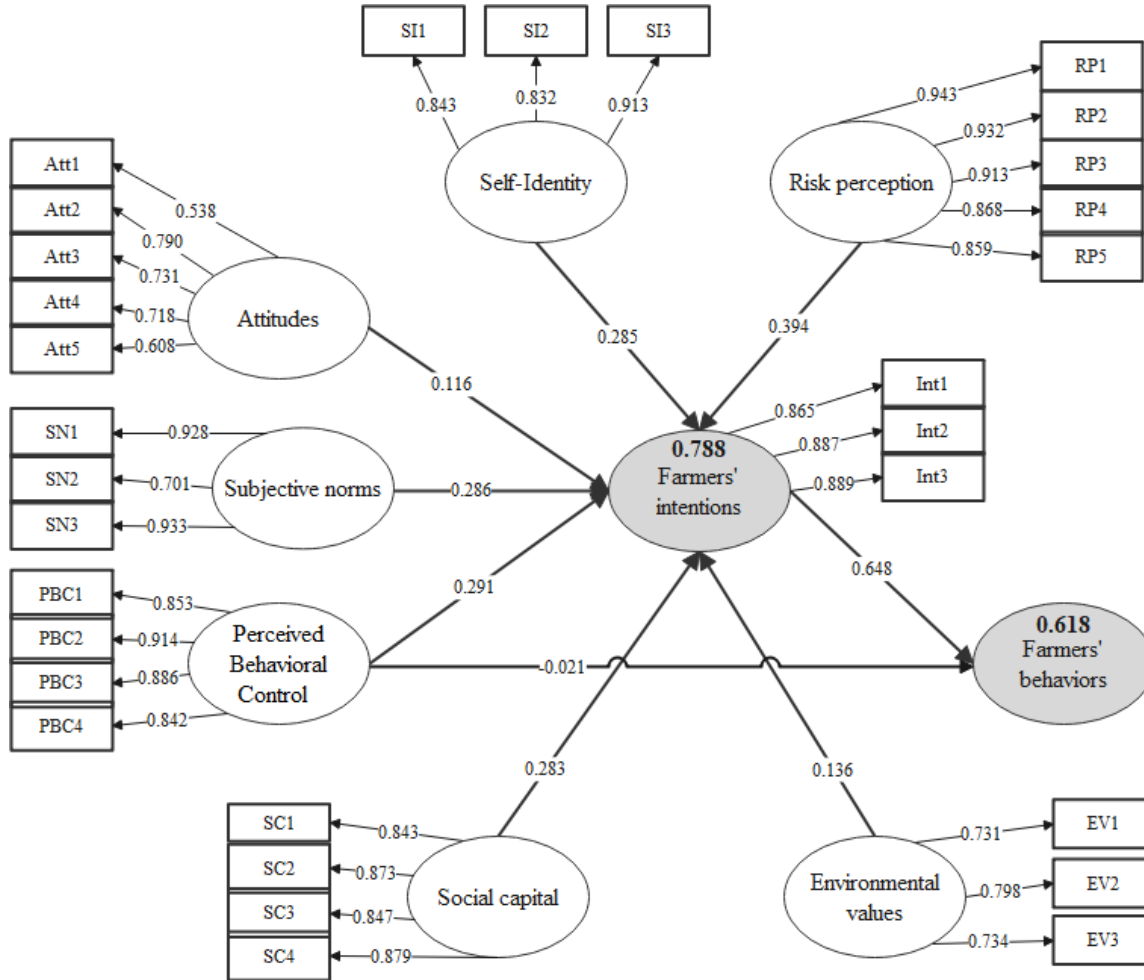


Figure 3. Results of the final effect of variables on behavioural intentions.

Table 5. Results of SEM.

Hypothesis	$\gamma$	t	Result
H1: Att $\longrightarrow$ Intention	0.116	2.093	Confirm
H2: SN $\longrightarrow$ Intention	0.286	2.884	Confirm
H3: PBC $\longrightarrow$ Intention	0.291	3.063	Confirm
H4: PBC $\longrightarrow$ Behavior	-0.021	---	Reject
H5: SI $\longrightarrow$ Intention	0.285	2.830	Confirm
H6: SC $\longrightarrow$ Intention	0.283	2.725	Confirm
H7: EV $\longrightarrow$ Intention	0.136	2.214	Confirm
H8: RP $\longrightarrow$ Intention	0.394	3.713	Confirm
H9: Int $\longrightarrow$ Behavior	0.648	8.392	Confirm

Source: research findings.

The results of this research indicate that the TPB was highly effective in analyzing farmers' intentions in adopting agritourism. This is evidenced by the substantial variance explained for both intention and behavior (0.788 and 0.618 respectively), demonstrating the success of the model in assessing agritourism as a complementary activity to traditional farming practices. The

301 comparative analysis of studies across diverse fields such as organic agriculture, forest  
302 conservation, and rural tourism indicates that the variance figures obtained for intention and  
303 behavior using the TPB are notably high. This underscores the robustness of TPB in capturing the  
304 nuances of farmers' intentions and behaviors within these sectors.

305 The results of the study affirm that within the traditional TPB framework, the three elements -  
306 attitudes, subjective norms, and perceived behavioral control - exert a positive and significant  
307 influence on farmers' intentions to adopt agritourism as an adjunct to their agricultural activities.  
308 The significant effect of attitudes on farmers' behavioral intentions suggests that farmers with  
309 positive attitudes towards agritourism activities are more likely to engage in them. In most TPB  
310 studies related to rural tourism, the importance of the effect of attitude on behavioral intention has  
311 been demonstrated (Zhang and Chen, 2020; Zhao et al., 2022; Chen et al., 2023). For example, the  
312 study by Joo et al. (2020) concluded that the attitude factor had no significant effect and the two  
313 factors of subjective norms and perceived behavioral control had a significant effect on people's  
314 intention to benefit from sustainable rural tourism. The concept of subjective norms is about how  
315 a person perceives the views of significant others - such as family and friends - about whether they  
316 should or shouldn't perform a certain action. This suggests that if key people in a farmer's rural  
317 community have a positive view of agritourism, this may increase the farmer's willingness to  
318 engage in such activities. The influence of this factor on intention has been consistently validated  
319 in studies related to the Theory of Planned Behavior in various fields, as seen in the works of  
320 Rezaei et al. (2019), Savari and Gharechae (2020), and Savari and Khaleghi (2024). Rural tourism  
321 studies have concluded that this factor has a significant impact on the behavioral intentions of  
322 tourists and local hosts (Zhao et al., 2022, Chen et al., 2023).

323 The importance of perceived behavioral control reflects the fact that people with greater self-  
324 confidence who believe they are capable of undertaking agritourism activities are more likely to  
325 do so. This finding is consistent with the results of studies conducted by Gao et al. (2017), Hu et  
326 al. (2018), and Savari et al. (2023) in different areas. In contrast, Zhao et al. (2022) reported a  
327 different result, where perceived behavioral control did not significantly affect tourists' intentions  
328 to engage in agritourism. Broadly speaking, the influence of the three core factors identified by  
329 the traditional TPB - attitudes, subjective norms and perceived behavioral control - has been  
330 confirmed in studies across multiple tourism sectors, including general tourism, mountain tourism

331 (Hu et al., 2019), cycling tourism (Han et al., 2017), volunteer tourism (Lee & Lina Kim, 2018),  
332 medical tourism (Boguszewicz-Kreft et al., 2020) and rural tourism (Chen et al., 2023).

333 In this study, in addition to the traditional TPB structures, four new structures were added to this  
334 model, including self-identity, social capital, environmental values and risk perception, as well as  
335 positive and significant effects on farmers' behavioral intentions to adopt agritourism as a  
336 complementary activity. The significant role of self-identity in farmers' behavioral intentions to  
337 adopt rural tourism was demonstrated in the study by Cao et al. (2021). This finding indicates that  
338 if agritourism is not valued and is perceived as a low-status profession, it can deter farmers from  
339 engaging in agritourism activities. Given that the intention to adopt agritourism as a  
340 complementary activity to agriculture is collectivist in nature, the social capital factor should be  
341 assessed to gain a comprehensive understanding of farmers' decision-making processes (Cao et al.,  
342 2021).

343 The results indicate that interaction and social trust, including interpersonal relationships between  
344 farmers (farm owners) and between farmers and tourists, may significantly influence farmers'  
345 behavioral intentions to adopt agritourism. The effectiveness of social capital in explaining  
346 behavioral intentions related to the adoption of environmental activities has been demonstrated in  
347 various studies (Cao et al., 2021). According to the obtained results, the importance of  
348 environmental values in influencing farmers' intentions to engage in agritourism activities can be  
349 confirmed. This finding suggests that farmers' belief in agritourism as an environmentally friendly  
350 activity can lead to the expansion of agritourism, as demonstrated in the study by Zhao et al.  
351 (2022). Additionally, the results indicated that the most significant factor influencing farmers'  
352 behavioral intentions to adopt agritourism activities is the fear of the future of agricultural activities  
353 or the perception of future risk. The importance of the risk perception variable in enhancing the  
354 predictive power of the TPB model has also been demonstrated in the studies by Yazdanpanah et  
355 al. (2014) and Savari & Gharechae (2020).

## 356 357 **CONCLUSIONS**

358 Farmers often seek additional and sustainable income sources due to agriculture's heavy reliance  
359 on water resources and weather conditions. Agritourism offers a solution by providing tourists  
360 with authentic agricultural experiences, creating employment opportunities, improving local  
361 infrastructure, and generating sustainable income for farmers. This study utilizes the Theory of

362 Planned Behavior (TPB), enhanced by incorporating four new constructs—self-identity, social  
363 capital, environmental values, and risk perception—to analyze farmers' intentions and behaviors  
364 in adopting agritourism as a complementary activity to traditional farming. The results revealed  
365 that all examined factors significantly influenced farmers' behavioral intentions. Traditional TPB  
366 factors—attitudes, subjective norms, and perceived behavioral control—were found to increase  
367 the likelihood of agritourism adoption. Therefore, implementing effective promotional policies to  
368 foster positive attitudes among farmers and key agricultural stakeholders is essential. Additionally,  
369 information and educational programs are crucial to boosting farmers' self-confidence in  
370 undertaking rural tourism activities.

371 The study also highlighted the importance of self-identity, emphasizing the need for  
372 acculturation to position agritourism as a professional and valuable activity. Social capital was  
373 identified as vital for expanding agritourism, with social networks, media, conferences, and rural  
374 cooperatives playing key roles in fostering farmer-tourist interactions. Environmental values were  
375 another critical factor, underscoring the role of environmental institutions in helping farmers  
376 appreciate these values. Finally, the study found that farmers' awareness of agricultural risks—  
377 such as water scarcity, climate change, price fluctuations, and pests—was the most significant  
378 factor driving agritourism adoption. Policymakers should recognize these risks and create  
379 conditions to expand complementary activities like agritourism through appropriate incentives and  
380 support tools.

381 Despite its important contributions, this research has several limitations that should be considered:  
382 (i) The study was conducted in five villages in Marvdasht County, Fars Province. The findings  
383 may not be generalizable to other regions with different cultural, economic, or environmental  
384 contexts. Future studies should expand the geographical scope to include diverse regions to  
385 confirm the findings. (ii) The sample size may not fully reflect the diversity of farmers in the  
386 region, especially farmers with different levels of agricultural potential, types of production, and  
387 socioeconomic backgrounds. A larger and more diverse sample could provide stronger insights.  
388 (iii) While the expanded TPB model included additional variables such as personal identity, social  
389 capital, and environmental values, other potentially influential factors such as financial constraints,  
390 market access, or government policies were not explored. Future research should consider  
391 combining these variables to provide a more comprehensive understanding. (IV) This study used  
392 a cross-sectional design, which limits the ability to infer causality or observe changes in farmers'



393 intentions and behavior over time. Longitudinal studies could provide deeper insights into the  
394 dynamics of behavioral change. (V) The study is strongly influenced by the cultural and social  
395 norms of the region, which may not apply in other cultural settings. Comparative studies in  
396 different cultural contexts can help identify global versus context-specific factors influencing the  
397 acceptance of agritourism.

398 Future research should replicate this study in diverse regions, both within Iran and internationally,  
399 to assess the generalizability of the findings and identify region-specific factors influencing  
400 agritourism adoption. Additionally, exploring variables such as financial incentives, market  
401 access, government policies, and technological advancements could deepen the understanding of  
402 their role in shaping farmers' intentions and behaviors. Combining quantitative methods with  
403 qualitative approaches, such as interviews and focus groups, would offer richer insights into  
404 farmers' motivations, challenges, and perceptions regarding agritourism. Furthermore, comparing  
405 farmers' intentions and behaviors across different cultural, economic, and environmental contexts  
406 could help identify universal drivers and barriers to adoption. Future studies could also evaluate  
407 the effectiveness of specific policies, incentives, and training programs in promoting agritourism,  
408 providing evidence-based recommendations for policymakers. While the study emphasizes  
409 environmental values, further research could specifically examine the environmental impacts of  
410 agritourism activities and their alignment with sustainable development goals. Exploring how  
411 farmers perceive risks associated with traditional farming versus agritourism could also yield  
412 valuable insights into decision-making processes and barriers to adoption. Moreover, investigating  
413 the role of collaboration among farmers, local communities, and government agencies could  
414 enhance efforts to promote and sustain agritourism. Finally, examining the role of digital tools and  
415 platforms, such as online marketing and virtual tours, could provide innovative strategies for  
416 engaging farmers and attracting tourists. By addressing these limitations and pursuing these  
417 research directions, scholars can contribute to a more comprehensive understanding of agritourism  
418 as a sustainable complement to traditional farming.

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534 **Appendix**

535 **Table A1. Research measurement concepts and variables.**

Constructs	Measurement items	Sources
<b>Attitudes</b>	<ol style="list-style-type: none"> <li>Engaging in agritourism as a complementary activity to agriculture increases my income.</li> <li>Engaging in agritourism as a complementary activity to agriculture increases my employment opportunities.</li> <li>Engaging in agritourism as a complementary activity to agriculture increases my life skill.</li> <li>Engaging in agritourism as a complementary activity to agriculture improves rural infrastructure</li> <li>Engaging in agritourism as a complementary activity to agriculture improves the variety of products</li> </ol>	Wang et al. (2022) Togaymurodov et al. (2023)
<b>Subjective norms</b>	<ol style="list-style-type: none"> <li>If I engaging in agritourism as a complementary activity to agriculture, my friends, relatives and neighbors will approve my work.</li> <li>If I engaging in agritourism as a complementary activity to agriculture, the people who are important to me will approve my work.</li> <li>If I engaging in agritourism as a complementary activity to agriculture, the society will approve my work.</li> </ol>	Han et al. (2010) Azarm et al. (2022) Zhao et al. (2022) Savari and Khaleghi (2024)
<b>Perceived behavior control</b>	<ol style="list-style-type: none"> <li>My farm has the necessary facilities for agritourism.</li> <li>I have the time, opportunity and financial resources to engage in agritourism.</li> <li>I have the knowledge, and ability to engage in agritourism.</li> <li>If I want, I can engage in agritourism.</li> </ol>	Han et al. (2010) Wang et al. (2022) Zhao et al. (2022) Savari and Khaleghi (2024)
<b>Self-identity</b>	<ol style="list-style-type: none"> <li>I think of myself as a person interested in tourism.</li> <li>To practice new activities such as agritourism is an important part of who I am.</li> <li>I think of myself as a person who cares about agritourism.</li> </ol>	Yazdanpanah and Forouzani (2015) Cao et al. (2021)
<b>Social capital</b>	<ol style="list-style-type: none"> <li>I am very attached to visitors from my farm (Emotional bonding).</li> <li>I feel visiting my farm is part of my life (Emotional bonding).</li> <li>I trust visitors from my farm (Interpersonal trust).</li> <li>I believe that my involvement in agritourism will encourage other residents to do the same (Interpersonal trust).</li> </ol>	Li and Wu (2020) Cao et al. (2022)
<b>Environmental values</b>	<ol style="list-style-type: none"> <li>I believe that agritourism will have positive impacts on the environment.</li> <li>I believe that agritourism will play a significant role in preserving the natural environment.</li> <li>I believe that agritourism will increase green and organic products.</li> </ol>	Zhao et al. (2022)
<b>Risk perception</b>	<ol style="list-style-type: none"> <li>The persistence of traditional farming practices without generating supplementary income amplifies the strain on resources, particularly water.</li> <li>The absence of additional income from traditional agricultural activities jeopardizes the livelihoods and economy of farmers.</li> <li>Continuation of traditional agricultural practices without generating extra income leads to an increase in farmer migration.</li> <li>The absence of supplementary income from traditional agricultural activities poses a threat to food security.</li> <li>The agricultural sector faces a dual threat from climate change and impending drought.</li> </ol>	Bozorgparvar et al. (2018) Savari and Khaleghi (2024)
<b>Intentions</b>	<ol style="list-style-type: none"> <li>I'd like to undertake agritourism as a complementary activity to agriculture.</li> <li>I'd like to engage in agritourism as a complementary activity to agriculture with my family.</li> <li>I plan to engage in agritourism as a complementary activity to agriculture.</li> </ol>	Yazdanpanah and Forouzani (2015) Zhao et al. (2022)
<b>Behavior</b>	I participate in agritourism activities to adapt to the current conditions.	de Araújo et al. (2024)

536 Source: research findings.

537

## تحلیل نیات و رفتار کشاورزان نسبت به گردشگری کشاورزی به عنوان یک فعالیت مکمل کشاورزی

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### چکیده

کشاورزی سنتی به دلیل تغییرات اقلیمی، کمبود آب و تهدیدات زیست محیطی، اجتماعی و اقتصادی با چالش‌های قابل توجهی برای دستیابی به توسعه پایدار مواجه است. اتخاذ فعالیت‌های تکمیلی مانند گردشگری کشاورزی می‌تواند به رفع این چالش‌ها و ارتقای توسعه پایدار روستا کمک کند. این مطالعه به بررسی نیات رفتاری کشاورزان و تمایل آنها به مشارکت در گردشگری کشاورزی به عنوان یک فعالیت تکمیلی می‌پردازد. داده‌ها از طریق پرسشنامه با استفاده از نمونه‌گیری تصادفی طبقه‌ای با انتساب متناسب از کشاورزان پنج روستای متنوع کشاورزی شهرستان مرودشت استان فارس جمع‌آوری شد. داده‌ها با استفاده از تئوری توسعه یافته رفتار برنامه‌ریزی شده (TPB)، که 78/8 درصد از نیات رفتاری کشاورزان و 61/8 درصد از رفتار واقعی آنها را توضیح می‌دهد، تجزیه و تحلیل شد. نتایج نشان می‌دهد که نگرش‌ها، هنجارهای ذهنی و کنترل رفتاری درک شده به عنوان سازه‌های سنتی TPB، به طور قابل توجهی بر قصد کشاورزان برای پذیرش گردشگری کشاورزی تأثیر می‌گذارند. علاوه بر این، هویت شخصی، سرمایه اجتماعی، ارزش‌های محیطی و درک ریسک کشاورز، قدرت پیش‌بینی نیات رفتاری کشاورزان را افزایش می‌دهد. با این حال، کنترل رفتاری درک شده به طور قابل توجهی بر رفتار واقعی کشاورزان تأثیر نمی‌گذارد، در حالی که نیات آنها قوی‌ترین تأثیر مثبت را بر پذیرش گردشگری کشاورزی داشت. این یافته‌ها نشان می‌دهد که ارتقای نگرش، باورها و اعتماد به نفس کشاورزان از طریق برنامه‌های آموزشی و اطلاع‌رسانی می‌تواند مشارکت آنها را در گردشگری کشاورزی افزایش دهد. سیاست‌گذاران باید برنامه‌های فرهنگی، مشوق‌ها و شبکه‌های اجتماعی را برای افزایش ارزش شغلی گردشگری کشاورزی و تشویق همکاری در بخش کشاورزی اجرا کنند. علاوه بر این، اقدامات باید تضمین کند که گردشگری کشاورزی با اهداف زیست محیطی همسو است و کشاورزان را در مورد خطرات شیوه‌های کشاورزی سنتی آموزش دهد. چنین تلاش‌هایی می‌تواند توسعه پایدار را تقویت کند و نقش گردشگری کشاورزی را به عنوان یک فعالیت مکمل کشاورزی سنتی تقویت کند.