Analysis of farmers' intentions and behavior towards agritourism as a complementary activity to agriculture

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Abstract

Traditional farming faces significant challenges to sustainable development due to climate change, water scarcity, and environmental, social, and economic threats. Adopting complementary activities like agritourism can help address these challenges and promote sustainable village development. This study examines farmers' behavioral intentions and willingness to participate in agritourism as a supplementary activity. Data were collected through questionnaires using stratified random sampling with proportional assignment from farmers in five agriculturally diverse villages in Marvdasht County, Fars Province, Iran. The data were analyzed using the extended Theory of Planned Behavior (TPB), which explained 78.8% of farmers' behavioral intentions and 61.8% of their actual behavior. The results show that attitudes, subjective norms, and perceived behavioral control—traditional TPB constructs—significantly influence farmers' intentions to adopt agritourism. Additionally, self-identity, social capital, environmental values, and the perception of farmer's risks enhance the predictive power of farmers' behavioral intentions. However, perceived behavioral control did not significantly impact farmers' actual behavior, while their intentions had the strongest positive influence on agritourism adoption. These findings suggest that promoting farmers' attitudes, beliefs, and self-confidence through training and information campaigns can increase their engagement in agritourism. Policymakers should implement cultural programs, incentives, and social networks to enhance agritourism's occupational value and encourage collaboration within the agricultural sector. Furthermore, measures should ensure agritourism aligns with environmental goals and educate farmers about the risks of traditional farming practices. Such efforts can foster sustainable development and strengthen the role of agritourism as a complementary activity to traditional farming.

Keywords: Agritourism, Perceived behavioral control, Social capital, Theory of Planned Behavior (TPB).

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INTRODUCTION

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

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

The results of studies have shown that in recent years the relationship between tourism and agriculture has not been clearly defined (Fleischer and Tchetchik, 2005). The results of studies in some regions show that tourism is known as an additional and separate economic activity, and its development in villages can lead to the strengthening of infrastructure and the improvement of economic conditions of the agricultural sector in villages. On the other hand, study by Fleischer and Tchetchik (2005) found that the two sectors of tourism and agriculture compete for resources and infrastructure and that these two sectors cannot help each other to develop. Today, however, 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 & Gharechaee, 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 intensions 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.
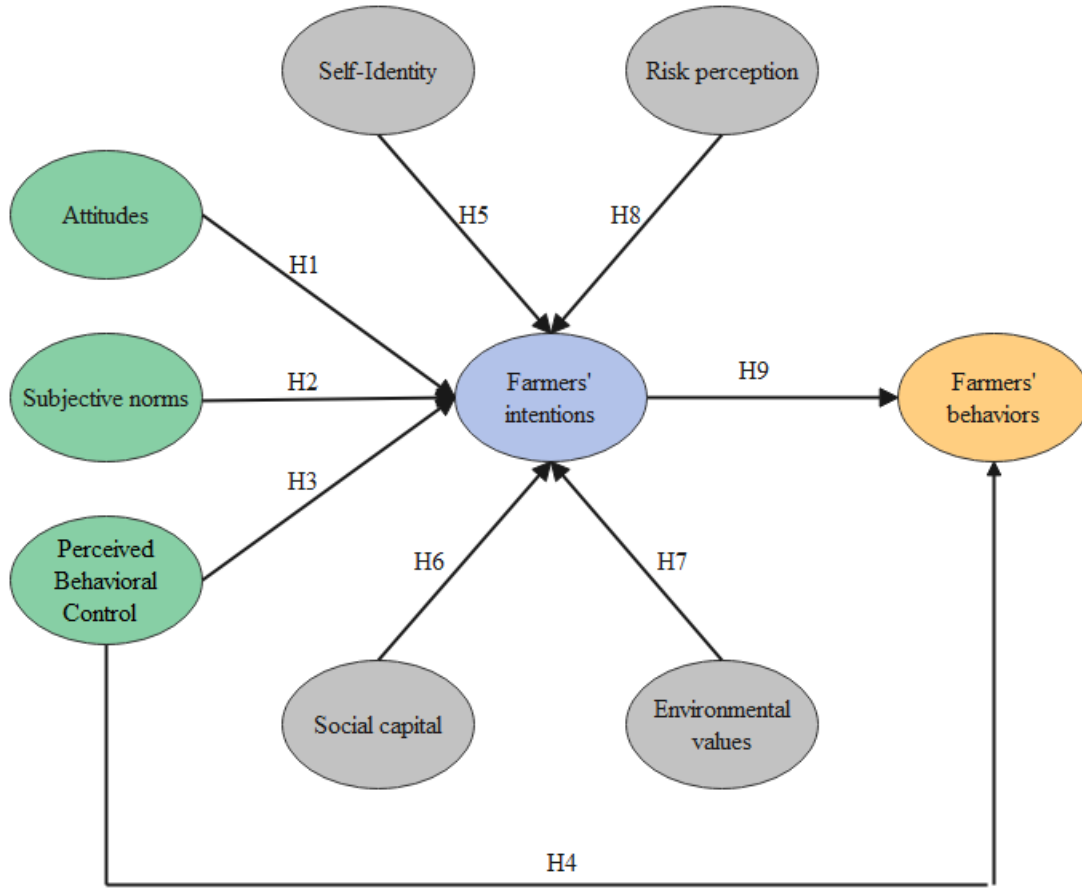
172
173   **Figure 1.** An integrated conceptual framework for predicting farmers' intentions and behavior to
174   change from agricultural activities to agritourism activities.
175

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

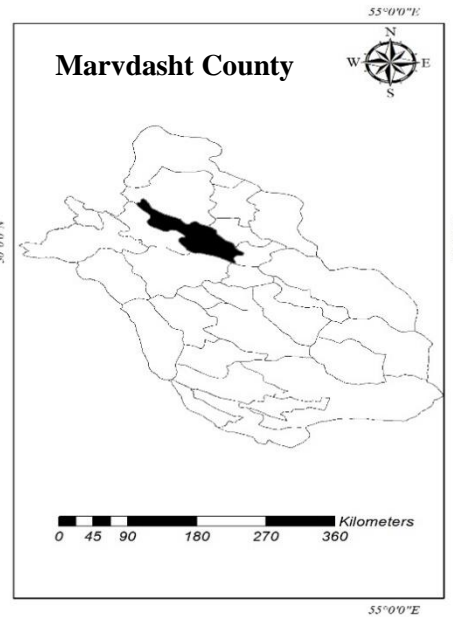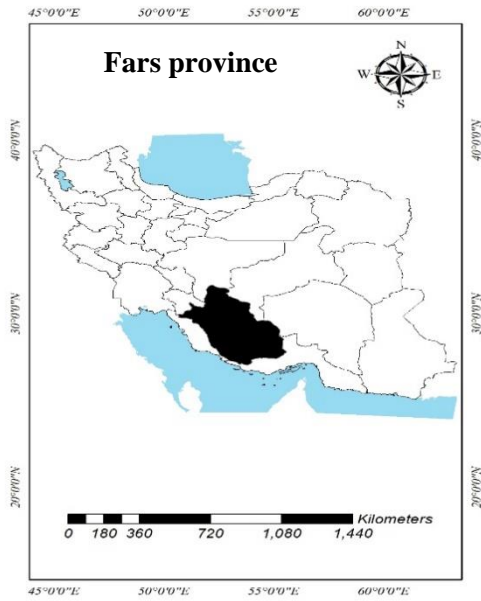187   of these villages is presented in Figures 2 A to 2 C.

Figure 2 A. Map of Iran by province.   **Figure 2 B.** Map of Fars Province by county.
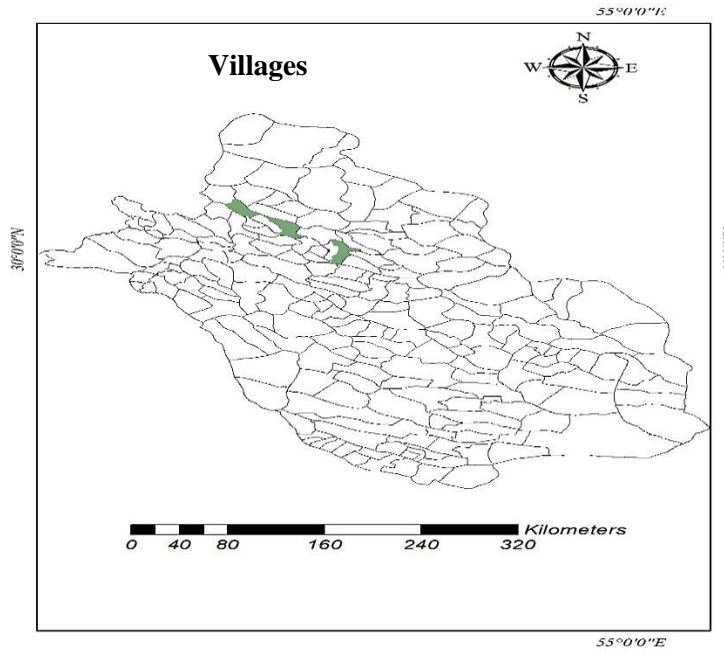
Figure 2 C. Map of Fars Province by villages

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 (α) 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

263

Table 2. The results of fit of measurement models.

Constructs	Measurement item	λ	t	Reliability and Validity statistics
Attitudes	Att1	0.538	5.421	AVE: 0.535 CR: 0.890 α: 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 α: 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 α: 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 α: 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 α: 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 α: 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 α: 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 α: 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[a]							
Attitude	0.42[**]	0.95[a]						
SN	0.52[**]	0.48[**]	0.94[a]					
PBC	0.62[**]	0.39[**]	0.53[**]	0.83[a]				
SI	0.51[**]	0.41[**]	0.55[**]	0.48[**]	0.85[a]			
SC	0.38[**]	0.64[**]	0.54[**]	0.48[**]	0.42[**]	0.94[a]		
EV	0.46[**]	0.42[**]	0.48[**]	0.41[**]	0.39[**]	0.37[**]	0.89[a]	
RP	0.38[**]	0.54[**]	0.42[**]	0.44[**]	0.46[**]	0.52[**]	0.44[**]	0.96[a]

268 [a] The square roots of the AVE estimate.
269 [**] Correlation is significant at the <0.01 level
270 Source: research findings.
271

Results of the Structural Model

273 The structural model's fit was assessed using suitable indices, as detailed in Table 5. The findings

274 presented in Table 4 indicate that the extended TPB model exhibits a good fit.

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

280 3. The bootstrapping method, with sample sizes of 100 and 300, was employed to assess the

281 significance of the path coefficient or beta (Savari and Khaleghi, 2024). The analysis revealed

282 consistent significance in the parameters across both sample sizes, with the only variation

283 occurring in the t-statistic values. Consequently, the hypotheses can be examined using a

284 regression model framework. According to Figure 3, the extended TPB model accounts for 78.8%

285 of the variance in behavioral intentions and 61.8% of the variance in farmers' behaviors.

286 Subsequent hypothesis testing results are presented in Table 5. These findings confirm all the

287 study's hypotheses except for H4, indicating that the direct and positive impact of perceived

288 behavioral control on farmers' actual engagement in agritourism is not supported. Despite this, the

289 influence of this variable on farmers' intention to participate in agritourism is both positive and

290 significant. This suggests that while resources, knowledge, time, and opportunities positively

291 shape farmers' intentions towards agritourism, these factors alone do not directly translate into

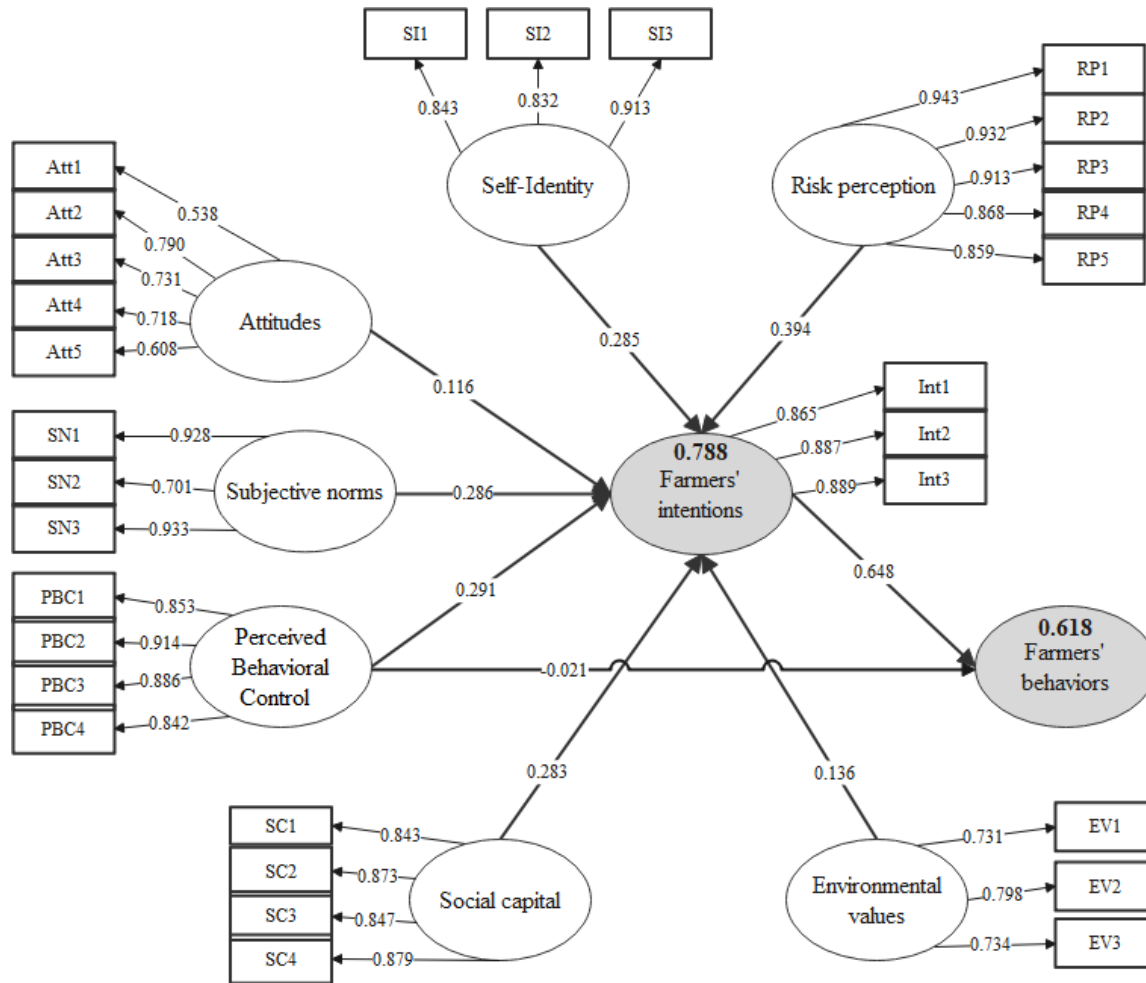292 actual behavior in this domain.

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

Table 5. Results of SEM.

Hypothesis		γ	t	Result
H1: Att ⟶ Intention		0.116	2.093	Confirm
H2: SN ⟶ Intention		0.286	2.884	Confirm
H3: PBC ⟶ Intention		0.291	3.063	Confirm
H4: PBC ⟶ Behavior		-0.021	---	Reject
H5: SI ⟶ Intention		0.285	2.830	Confirm
H6: SC ⟶ Intention		0.283	2.725	Confirm
H7: EV ⟶ Intention		0.136	2.214	Confirm
H8: RP ⟶ Intention		0.394	3.713	Confirm
H9: Int ⟶ 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 Gharechaee (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 & Gharechaee (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 acculturalization 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'

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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.

419

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533 1349.

534 # Appendix

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

Constructs	Measurement items	Sources
Attitudes	1. Engaging in agritourism as a complementary activity to agriculture increases my income. 2. Engaging in agritourism as a complementary activity to agriculture increases my employment opportunities. 3. Engaging in agritourism as a complementary activity to agriculture increases my life skill. 4. Engaging in agritourism as a complementary activity to agriculture improves rural infrastructure 5. Engaging in agritourism as a complementary activity to agriculture improves the variety of products	Wang et al. (2022) Togaymurodov et al. (2023)
Subjective norms	1. If I engaging in agritourism as a complementary activity to agriculture, my friends, relatives and neighbors will approve my work. 2. If I engaging in agritourism as a complementary activity to agriculture, the people who are important to me will approve my work. 3. If I engaging in agritourism as a complementary activity to agriculture, the society will approve my work.	Han et al. (2010) Azarm et al. (2022) Zhao et al. (2022) Savari and Khaleghi (2024)
Perceived behavior control	1. My farm has the necessary facilities for agritourism. 2. I have the time, opportunity and financial resources to engage in agritourism. 3. I have the knowledge, and ability to engage in agritourism. 4. If I want, I can engage in agritourism.	Han et al. (2010) Wang et al. (2022) Zhao et al. (2022) Savari and Khaleghi (2024)
Self-identity	1. I think of myself as a person interested in tourism. 2. To practice new activities such as agritourism is an important part of who I am. 3. I think of myself as a person who cares about agritourism.	Yazdanpanah and Forouzani (2015) Cao et al. (2021)
Social capital	1. I am very attached to visitors from my farm (Emotional bonding). 2. I feel visiting my farm is part of my life (Emotional bonding). 3. I trust visitors from my farm (Interpersonal trust). 4. I believe that my involvement in agritourism will encourage other residents to do the same (Interpersonal trust).	Li and Wu (2020) Cao et al. (2022)
Environmental values	1. I believe that agritourism will have positive impacts on the environment. 2. I believe that agritourism will play a significant role in preserving the natural environment. 3. I believe that agritourism will increase green and organic products.	Zhao et al. (2022)
Risk perception	1. The persistence of traditional farming practices without generating supplementary income amplifies the strain on resources, particularly water. 2. The absence of additional income from traditional agricultural activities jeopardizes the livelihoods and economy of farmers. 3. Continuation of traditional agricultural practices without generating extra income leads to an increase in farmer migration. 4. The absence of supplementary income from traditional agricultural activities poses a threat to food security. 5. The agricultural sector faces a dual threat from climate change and impending drought.	Bozorgparvar et al. (2018) Savari and Khaleghi (2024)
Intentions	1. I'd like to undertake agritourism as a complementary activity to agriculture. 2. I'd like to engage in agritourism as a complementary activity to agriculture with my family. 3. I plan to engage in agritourism as a complementary activity to agriculture.	Yazdanpanah and Forouzani (2015) Zhao et al. (2022)
Behavior	I participate in agritourism activities to adapt to the current conditions.	de Araújo et al. (2024)

536 Source: research findings.

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

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541 **ایمان رنجبر، سید نعمت الله موسوی، و بهاءالدین نجفی**

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543 **چکیده**
544 کشاورزی سنتی به دلیل تغییرات اقلیمی، کمبود آب و تهدیدات زیست‌محیطی، اجتماعی و اقتصادی با چالش‌های قابل توجهی برای
545 دستیابی به توسعه پایدار مواجه است. اتخاذ فعالیت‌های تکمیلی مانند گردشگری کشاورزی می‌تواند به رفع این چالش‌ها و ارتقای توسعه
546 پایدار روستا کمک کند. این مطالعه به بررسی نیات رفتاری کشاورزان و تمایل آنها به مشارکت در گردشگری کشاورزی به عنوان یک
547 فعالیت تکمیلی می‌پردازد. داده‌ها از طریق پرسشنامه با استفاده از نمونه‌گیری تصادفی طبقه‌ای با انتساب متناسب از کشاورزان پنج روستای
548 متنوع کشاورزی شهرستان مرودشت استان فارس جمع‌آوری شد. داده‌ها با استفاده از تئوری توسعه یافته رفتار برنامه‌ریزی شده (TPB)،
549 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
550 که نگرش‌ها، هنجارهای ذهنی و کنترل رفتاری درک شده به عنوان سازه‌های سنتی TPB، به طور قابل‌توجهی بر قصد کشاورزان برای
551 پذیرش گردشگری کشاورزی تأثیر می‌گذارند. علاوه بر این، هویت شخصی، سرمایه اجتماعی، ارزش‌های محیطی و درک ریسک
552 کشاورز، قدرت پیش‌بینی نیات رفتاری کشاورزان را افزایش می‌دهد. با این حال، کنترل رفتاری درک شده به طور قابل توجهی بر رفتار
553 واقعی کشاورزان تأثیر نمی‌گذارد، در حالی که نیات آنها قوی‌ترین تأثیر مثبت را بر پذیرش گردشگری کشاورزی داشت. این یافته ها
554 نشان می‌دهد که ارتقای نگرش، باورها و اعتماد به نفس کشاورزان از طریق برنامه‌های آموزشی و اطلاع‌رسانی می‌تواند مشارکت آنها را
555 در گردشگری کشاورزی افزایش دهد. سیاست‌گذاران باید برنامه‌های فرهنگی، مشوق ها و شبکه‌های اجتماعی را برای افزایش ارزش
556 شغلی گردشگری کشاورزی و تشویق همکاری در بخش کشاورزی اجرا کنند. علاوه بر این، اقدامات باید تضمین کند که گردشگری
557 کشاورزی با اهداف زیست‌محیطی همسو است و کشاورزان را در مورد خطرات شیوه‌های کشاورزی سنتی آموزش دهد. چنین تلاش‌هایی
558 می‌تواند توسعه پایدار را تقویت کند و نقش گردشگری کشاورزی را به عنوان یک فعالیت مکمل کشاورزی سنتی تقویت کند.

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