

The Institutional Foundations of Behavioural Control: Extending Behavioural Control Theory in Agricultural Entrepreneurship

Aiman Fayaz

daraiman9@gmail.com

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir

Abid Sultan

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir

Farhet A. Shaheen

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir

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Abstract

Agri-entrepreneurship is widely regarded as a pathway to rural economic transformation, yet the psychological mechanisms shaping students' agri-entrepreneurial intentions remain incompletely understood. Conventional applications of the Theory of Planned Behaviour treat perceived behavioural control as a single, unidimensional construct, overlooking distinct internal and external sources of control. Drawing on Behavioural Control Theory, this study examines perceived university support as an institutional antecedent that differentially strengthens covert (internally rooted) and overt (externally rooted) perceived behavioural control, and tests how these dimensions jointly predict agri-entrepreneurial intentions. Data from 390 university students in Jammu and Kashmir, India, collected via stratified random sampling, were analysed using Partial Least Squares Structural Equation Modelling. Results show that university support significantly strengthens both overt and covert control, which in turn positively predict agri-entrepreneurial intentions, supporting a dual-mediation pathway from institutional support to intention. Importance-Performance Map Analysis further reveals that university support, despite carrying the greatest importance for intentions, records the lowest performance score among the antecedents, exposing a critical implementation gap. By disaggregating perceived behavioural control into covert and overt dimensions, the study extends the Theory of Planned Behaviour beyond its unidimensional treatment of control and offers universities concrete, prioritised levers for cultivating agri-entrepreneurship.

1. Introduction

Agriculture continues to play a central role in economic development, particularly in developing economies where it supports livelihoods, ensures food security, and provides employment for a significant proportion of the rural population. India is designated as an "agriculture-dominated country," with agriculture as the primary source of livelihood (Katakwar, 2022). Yet, its structural composition raises serious sustainability concerns as Indian agriculture remains structurally dominated by smallholder farming systems. According to the Tenth Agriculture Census 2015–16, nearly 86.2 per cent of farming operations in India are conducted by small and marginal farmers cultivating less than two hectares of land (Government of India, GoI, 2016). While smallholder agriculture contributes significantly to rural livelihoods and national food systems, it is often characterized by various constraints. Fragmented landholding patterns, combined with persistent challenges of low productivity, inadequate market access, limited technology adoption, climate change-induced vulnerabilities, and declining terms of trade, have collectively weakened the economic position of smallholder agriculture over time (Amaran et al., 2025; Pingali, 2012). The contribution of agriculture to national GDP in India has correspondingly contracted, even as rural livelihoods continue to depend on farming as the primary occupational base. Traditional small-holder agriculture is, in general, considered "part-time" and is highly labour-intensive (Bisht et al., 2020). The structural transformation of agriculture in developing economies has intensified pressures on smallholder systems, requiring new institutional and market-oriented approaches to ensure their long-term sustainability (Pingali, 2012).

In response to these challenges, agri-entrepreneurship has attracted increasing scholarly and policy attention as a structural remedy for the stagnation of traditional agricultural systems. Developing entrepreneurial competencies among agricultural actors is considered essential for enabling innovation and competitiveness within modern agricultural value chains (Lans et al., 2013). Agri-entrepreneurship integrates entrepreneurial orientation with agricultural production and value chains, facilitating innovation, knowledge exchange, and the development of more dynamic agricultural systems (Klerkx et al., 2012). Entrepreneurs are introducing cutting-edge technologies, product portfolios, value additions, and innovative marketing techniques in all facets of the farming industry (Banerjee et al., 2024; Pindado & Sanchez, 2017; Secinaro et al., 2022). In recent years, agri-entrepreneurship has globally emerged as a promising mechanism for transforming traditional agricultural systems into dynamic and innovation-driven enterprises. The policy relevance of this transformation is considerable; both international development agencies and the Government of India have emphasised agri-entrepreneurship as a priority mechanism for achieving sustainable agricultural growth (GoI, 2017; Pathak, 2023). The growing complexity of global agri-food systems, driven by trade liberalization, evolving consumer preferences, technological advancements, and increasing environmental concerns have further intensified the need for entrepreneurial approaches within agriculture (Klerkx et al., 2012; Singh et al., 2023). As a result, agricultural entrepreneurship is increasingly viewed as a catalyst for transitioning from subsistence-based farming to more market-oriented and innovation-driven agricultural systems (Salam et al., 2025).

Despite this recognition, the agricultural sector faces a persistent and structurally consequential challenge: declining participation among educated youth. Young people, particularly in rural areas, increasingly perceive farming as economically unattractive, socially stigmatised, and professionally limiting compared with urban non-farm employment (Bisht et al., 2020; Geza et al., 2021). This perception drives rural-to-urban migration, contributes to the progressive ageing of the farming population, and erodes the human capital necessary for agricultural innovation (Bisht et al., 2020). Under such circumstances, ensuring the sustainability of traditional small-holder farming, restricting out-migration, and modernization of the agricultural sector besides encouraging youth participation in agri-entrepreneurship could represent a critical strategy. University students, who possess the educational exposure, technological literacy, and cognitive resources to drive entrepreneurial transformation in agriculture, represent a critically underutilised pool of potential agri-entrepreneurs (Amaran et al., 2025; Banerjee et al., 2020). Compared to traditional agricultural practice, agripreneurship attracts youth by offering a modern and economically viable route into agricultural careers (Parameswaranaik et al., 2020). Yet empirical attention has disproportionately focused on farmers or general entrepreneurial populations (Banerjee et al., 2025; Ihou & Mansingh, 2025; Lone & Baba, 2024), leaving the psychological and institutional mechanisms through which university students form agri-entrepreneurial intentions largely unexamined.

Entrepreneurial intentions are widely recognized as the most immediate predictor of entrepreneurship behaviour among individuals (Bird, 1988; Krueger et al., 2000). Theoretical perspectives such as the Theory of Planned Behaviour (Ajzen, 1991) have been central to the research focus, emphasizing that entrepreneurial intentions are shaped by key psychological factors including attitudes, perceived behavioural control (PBC), and subjective norms. In the entrepreneurship literature, PBC has received sustained attention because of its dual role as both a predictor of intention and a proxy for perceived self-efficacy and feasibility (Kolvereid, 1996; Krueger et al., 2000). However, a recurring criticism of mainstream PBC applications is the tendency to operationalise it as a single, undifferentiated construct—a simplification that obscures theoretically meaningful distinctions between control beliefs rooted in individual psychological processes versus those shaped by external structural conditions (Armitage & Conner, 2001; Lim & Weissmann, 2023; Terry & O'Leary, 1995). Lim and Weissmann's (2023) Behavioural Control Theory addresses this gap directly by proposing two analytically distinct categories of PBC: *covert*

PBC, referring to control that originates within the individual through cognitive processes such as self-belief, perceived agency, and internal attribution; and overt PBC, referring to control that emanates from external, observable conditions such as institutional frameworks, infrastructural availability, and resource accessibility. There are limited studies that have empirically tested this distinction within the agri-entrepreneurship domain (Ena & Huib, 2018) with no study emanating from J&K, representing a meaningful gap in both theoretical development and empirical knowledge. Equally underexplored is the role of universities as institutional architects of agri-entrepreneurship. While prior research confirms that perceived university support positively shapes entrepreneurial intentions (Galvão et al., 2025; Liu et al., 2022; Makai & Dóry, 2023; Trivedi, 2016), the mechanisms through which this support operates, specifically, whether it acts through internal psychological pathways (covert PBC) or through external structural enablement (overt PBC) have not been disentangled. This mechanistic ambiguity limits both theoretical precision and practical utility.

The present study addresses these gaps by pursuing three interrelated objectives. First, it empirically validates the overt-covert PBC distinction as dual predictors of agri-entrepreneurial intentions among university students. Second, it positions perceived university support as an institutional antecedent of both PBC dimensions, testing a dual mediation model through PLS-SEM. Third, it deploys IPMA to generate prioritised, actionable insights for institutional stakeholders. The empirical context is Jammu and Kashmir representing a region where horticulture and allied agricultural activities constitute the backbone of the rural economy (Lone & Baba, 2024), yet where youth disengagement from agriculture and limited institutional infrastructure pose significant developmental challenges. By situating the analysis in this region, the study contributes contextually specific evidence to the broader literature on youth-driven agricultural entrepreneurship in emerging economies.

2. Review of Literature

2.1. Agri-entrepreneurship Intentions

Agri-entrepreneurship refers to the application of entrepreneurial processes within agriculture and allied sectors by leveraging innovative ideas and market-oriented approaches to transform traditional farming activities into viable business ventures (Fitz-Koch et al., 2018; Trivedi & Patel, 2024). It is distinguished from conventional farming by its emphasis on market orientation, technological innovation, and the commercial management of agricultural risk (Dollinger, 2003). In recent years, agri-entrepreneurship has gained increasing attention, particularly in emerging economies, where agriculture remains a primary driver of livelihoods and sustainable development (Kademani et al., 2024). Agri-entrepreneurship contributes to creation of jobs, technological innovation, and broader socio-economic empowerment, besides financial value creation (Gol, 2017). It represents a high-priority strategy for addressing the sector's current and future challenges (Pathak, 2023), strengthening agricultural economies by diversifying income streams besides creating business opportunities across rural and urban contexts (Trivedi & Patel, 2024).

Agri-entrepreneurship intentions, within this context, capture the conscious and directed motivation of individuals to engage with agriculture not merely as a subsistence activity but as an innovation-driven and market-oriented enterprise. Intentions are widely recognised as the single most proximate predictor of entrepreneurial action and constitute the appropriate dependent variable in studies examining entrepreneurial potential among populations that have not yet entered a venture creation process (Ajzen, 1991; Bird, 1988). Within the agri-entrepreneurship literature, most empirical work has concentrated on practising farmers or rural households (Ihou & Mansingh, 2025; Lone & Baba, 2024), while the entrepreneurial potential of university students- who are positioned at a formative career juncture, has received comparatively less attention (Amaran et al., 2025; Banerjee et al., 2020).

2.2. Perceived University Support and Youth Entrepreneurial Intentions

Development of agri-entrepreneurship in any economy is highly dependent on the active participation of youth, who represent a key driver of innovation and structural transformation in the agricultural sector (Amaran et al., 2025). Evidence suggests that the inclination of youth toward agri-entrepreneurship generally remains limited, which is often due to perceptions of high risk, low returns, and structural barriers including inadequate institutional support (Geza et al., 2021). In this regard, higher educational institutions play a pivotal role in shaping entrepreneurial orientations and career intentions among students (Galvao et al., 2025; Su et al., 2021). The university has long been acknowledged as a formative institution in shaping students' career orientations and entrepreneurial aspirations (Guerrero et al., 2016; Trivedi, 2016). Universities create entrepreneurial value not solely through curriculum design but through a broader ecosystem of support that encompasses mentoring, incubation, access to networks, exposure to market actors, and the cultivation of entrepreneurial mindsets through experiential learning (Shi et al., 2020; Zhang et al., 2014). Universities can provide support to young students in many ways. University education is recognized as a key factor in creating the understanding of entrepreneurship among students, develop an entrepreneurial mindset among them, and strengthen their perceived behavioural control toward this career (Aga, 2023). There has been a shift in the focus from traditional education within universities to the education of entrepreneurial spirit which increases students' confidence in being an entrepreneur and converting their entrepreneurial ideas into practice (Fayolle, 2013; Lindberg et al., 2017). Universities also contribute to the development of entrepreneurial competencies among students through formal education, business concept and skills development, incubation support, and by providing industry linkages (Saeed et al., 2025; Zhang et al., 2014). The ecosystem within universities enhances entrepreneurial awareness and motivation by offering practical experience through internships, workshops, and other programmes (Shi et al., 2020; Trivedi, 2016). Perceived university support, as a construct, thus captures students' subjective evaluation of the adequacy and accessibility of this institutional ecosystem, i.e., the degree to which their university provides conditions conducive to entrepreneurial exploration and action (Liu et al., 2022; Makai & Dóry, 2023). Empirical research consistently demonstrates that positive perceptions of university support are associated with stronger entrepreneurial intentions among students, both in general business contexts and in domain-specific settings (Bergmann et al., 2016; Galvão et al., 2025; Liu et al., 2022). Based on this, we hypothesize:

H1

Perceived University Support significantly and positively influences Agri-Entrepreneurship Intentions.

2.3. Perceived Behavioural Control: Theoretical Foundations

Perceived behavioural control (PBC) was introduced by Ajzen (1991) as an extension of the Theory of Reasoned Action (Fishbein & Ajzen, 1975) to accommodate behaviours that are not fully within volitional control. PBC reflects an individual's subjective assessment of how easy or difficult it is to perform a target behaviour, based on accumulated experience, available resources, and existing capabilities. Its inclusion in TPB was motivated by the observation that intention alone is an imperfect predictor of behaviour when individuals lack the capacity or means to act on their intentions (Ajzen, 1991; Armitage & Conner, 2001). Ajzen (1991) argued that resources and capabilities possessed by an individual directly affect the likelihood of achieving a desired behaviour. In line with this view, prior research suggests that when individuals perceive greater resources and fewer obstacles, their perceived behavioural control increases, which in turn strengthens their intention to perform the behaviour (Ajzen & Madden, 1986; Hardin-Fanning & Ricks, 2017).

The theoretical ancestry of PBC traces to Bandura's (1977) self-efficacy theory, which distinguished between *efficacy expectations* (beliefs about one's ability to perform a behaviour) and *outcome expectations* (beliefs that the behaviour will produce the desired outcome). Building on this distinction, Terry and O'Leary (1995) argued that PBC encompasses both internal capacity beliefs (analogous to self-efficacy) and external controllability beliefs, with the two dimensions having partially separable effects on intention. Since its introduction as a key component of reasoned action theory, the concept of behavioural control has been conceptualized and operationalized in many ways. Most scholars have undertaken a perceptual route to conceptualize behavioural control, through the factors of perceived power, perceived availability and perceived difficulty of control beliefs (Han and Stoel, 2017; Hassan et al., 2016; Kraft et al., 2005). Moreover, there is also some variation in the operationalization of behavioural control, being treated either as a unidimensional construct (Ajzen, 2002), or as a multidimensional construct. The multidimensional nature of PBC has been corroborated across numerous empirical contexts (Armitage & Conner, 2001; Sparks et al., 1997; Vermeir & Verbeke, 2006), and contemporary theoretical accounts treat PBC as reflecting the interplay of both individual-level psychological resources and situational-level structural conditions (Li et al., 2023). Despite this theoretical consensus on PBC's complexity, the majority of applied entrepreneurship research continues to operationalise PBC as a single factor. Lim and Weissmann (2023) formalised the distinction between internal and external sources of control through Behavioural Control Theory, proposing two categorically distinct and empirically separable forms of PBC that they term covert and overt control.

2.4. Covert Perceived Behavioural Control:

According to Lim and Weissmann (2021) covert PBC refers to a form of behavioural control in which the source of control of behaviour under consideration resides primarily within the individual rather than in external structures or constraints. Covert control operates through internal cognitive processes, such as beliefs, perceptions, self-evaluation, and personal agency. In this sense, the behaviour is shaped through internal interpretations of capabilities and the individual becomes both the locus and executor of control. The concept also resonates with the construct of internal locus of control given by Julian Rotter (Rotter, 1966), which suggests that individuals who perceive outcomes as contingent upon their own actions exhibit greater initiative and persistence. Lim and Weissmann (2021) argue that covert behavioural control is rooted in the internal assignment of power, meaning that individuals intentionally construct perceptions that enable or constrain their behaviour. In other words, the source of power is the "perception of the individual" rather than any external factor. From a theoretical perspective, covert PBC can therefore be conceptualized as perception-driven process through which individuals regulate behaviour by drawing upon internal beliefs about capability, responsibility, and influence. Thus, covert PBC represents the psychological dimension of control that complements observable or structural factors. Research shows that when people perceive events as being under their personal control, they demonstrate higher motivation, responsibility, and goal orientation (Mazaheri et al., 2012). Such individuals are more likely to engage in intentional behaviour because they believe their actions meaningfully affect outcomes. Therefore, we hypothesize:

H2

Covert PBC significantly affects agri-entrepreneurship intentions

2.5. Overt Perceived Behavioural Control

Overt behavioural control refers to control mechanisms wherein the power of control lies externally and is therefore not held by the individual (Lim and Weissmann, 2021). In this form, behaviour is shaped by explicit, observable, and externally imposed conditions, such as institutional frameworks, infrastructural availability, policy environments, and market structures. From the lens of Theory of Planned Behaviour, the role of external environment has long been acknowledged through the idea of control beliefs, where the availability of resources and the presence of barriers influence behavioural performance (Ajzen, 1991). This conceptualization finds support in behavioural research on parental influence, where overt control has been operationalized as explicit restrictions and externally imposed pressures that shape behavioural outcomes through direct intervention (Nowicka et al., 2014). The concept resonates with external locus of control (Rotter, 1966) and could be instrumental in understanding how institutional, structural, and environmental factors explicitly enable or restrict behaviour. Studies emphasize that improved institutional support, better infrastructure, access to finance, and strong market linkages contribute to enabling environments that foster agri-entrepreneurship among individuals especially youth (Ramappa & Pyage, 2025). Enabling conditions could reduce external constraints and increase the feasibility of entrepreneurial action. Therefore, we hypothesize:

H3

Overt PBC significantly affects agri-entrepreneurship intentions

Research highlights the significant influence of contextual and situational factors on entrepreneurial intentions of individuals (Gulzar & Fayaz, 2023; Tolentino et al., 2014). Within this context, higher education institutions constitute an important component of the entrepreneurial ecosystems (Guerrero et al., 2016). Universities can shape both psychological and structural readiness for entrepreneurial action; indeed, research suggests that higher education institutions contribute not only by enhancing students' skills and knowledge (Silva et al; 2021) but also by fostering confidence and positive self-perceptions through

structured education, training, and supportive environments (Krueger et al., 2000; Liñán, 2004). In particular, exposure to entrepreneurship education, mentoring, and institutional support mechanisms has been found to positively influence self-efficacy and perceived behavioural control among students (Fayolle & Gailly, 2015). When individuals have access to useful resources, knowledge, and support services that they can actually use, they start to feel more capable and confident in their abilities. This not only boosts their self-efficacy but also strengthens their internal locus of control over outcomes, which plays an important role in shaping entrepreneurial and innovative attitudes (Bandura, 1982; Borsi & Dori, 2020; Makai & Dori, 2023). Over time, this supportive environment is cognitively translated into stronger self-beliefs (Shi et al., 2020). These internalized beliefs form the core of covert control, as individuals come to perceive behavioural outcomes as contingent upon their own efforts. Thus, perceived university support can play a significant role in shaping individuals' covert perceived behavioural control as it influences the internal cognitive processes through which students interpret their capabilities and agency.

At the same time, universities also shape overt perceived behavioural control of students by providing tangible and externally accessible forms of support. Literature underscores the influence of quality of university environment along with support system in determining the entrepreneurship intentions of individuals (Makai & Dóry, 2023). Such support is more influential during nascent stages of entrepreneurship, where individuals are more dependent on external facilitation (Bergmann et al., 2016). University support systems comprising observable and structural enablers such as access to legal and financial information, investment opportunities, entrepreneurial exposure, industry linkages, and marketing support have been found to positively influence perceived behavioural control of aspiring entrepreneurs (Makai & Dóry, 2023). These external supports reduce situational constraints and foster a conducive environment for entrepreneurial action. Thus, perceived university support simultaneously operates at both the psychological and structural levels, enhancing covert control through internalized beliefs and overt control through the availability of external resources and opportunities. Accordingly, the following hypotheses are proposed:

H4a

Perceived university support (PUS) positively influences agri-entrepreneurship intentions through overt PBC.

H4b

Perceived university support (PUS) positively influences agri-entrepreneurship intentions through covert PBC.

3. Methodology

This study adopts a quantitative, cross-sectional research design to examine the factors influencing agri-entrepreneurship intentions of students. A survey-based approach was employed to collect primary data from students enrolled in nine universities across Jammu and Kashmir. The J&K context was selected on substantive grounds: the region's economy is heavily anchored in horticulture, floriculture, and allied agricultural activities, yet youth participation in agri-entrepreneurship remains demonstrably low (Gulzar & Fayaz, 2023; Lone & Baba, 2024). The presence of both agricultural universities and general universities provides structural variation in the institutional support environment, making the region a particularly appropriate empirical setting.

Stratified random sampling was employed to ensure proportional representation across university types (agricultural and general), degree programmes (undergraduate and postgraduate), and academic disciplines. Data was collected through self-administered questionnaires from respondents administered in both offline and online modes to ensure broader reach and representation. Since this study involved human participants, informed consent was obtained from all participants prior to their enrolment in the study. Consent was obtained through the introductory consent statement provided to participants before completion of the questionnaire. Participants were informed of the purpose of the study, their right to withdraw at any point, and that their responses would be anonymised prior to analysis.

From an initial distribution of 478 questionnaires across offline and online channels, 409 were returned and 19 subsequently excluded due to incomplete or inconsistent responses, yielding a final analytic sample of 390 respondents and a usable response rate of 81.6 per cent. This sample size exceeds the minimum recommended for PLS-SEM with the present model complexity, as established by the ten-times rule (Hair et al., 2019). Data cleaning through various preliminary screening tests including missing values, outlier detection, and respondent misconduct yielded a clean dataset of 390 respondents put to rigorous statistical testing for further analysis.

3.1. Measures

All measurement items were adapted from validated scales in the existing literature and contextually refined to suit the agri-entrepreneurial setting in J&K. Agri-entrepreneurship intentions (AEI) were measured using five items adapted from Krueger et al. (2000) and Liñán and Chen (2009), capturing willingness of students to start and grow an agricultural venture. Overt PBC was measured using six items drawing on the external controllability dimension of PBC scales in Terry and O'Leary (1995) and Lim and Weissmann (2023), capturing perceptions of the availability of external resources and structural enablers. Covert PBC was measured using six items drawn from the internal efficacy and agency dimensions of the same theoretical sources. Perceived university support was measured using five items adapted from Liu et al. (2022) and Makai & Dóry (2023), capturing students' assessments of their institution's provision of entrepreneurship education, mentoring, networking support, and practical resources. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Although variations in cultural contexts may, in some cases, necessitate exploratory factor analysis (EFA), its application is not mandatory when constructs are well-established, reflective in nature, and measured using previously validated scales (Hair et al., 2019). In line with the recommendations of Hair et al. (2019), the use of PLS-SEM allows researchers to proceed directly to confirmatory assessment of the measurement model under such conditions, involving rigorous evaluation of convergent and discriminant validity through various measures. This was done through detailed confirmatory analysis discussed in section 4.2.

3.2 Analytical Approach

Data was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4. PLS-SEM was selected in preference to covariance-based SEM for several reasons consistent with established guidelines (Hair et al., 2019; Ringle et al., 2020): the model includes a combination of reflective constructs with directional predictive goals; the sample size, while adequate, does not meet the more stringent requirements of CB-SEM with comparable model complexity; and the study prioritises predictive explanatory power alongside theory testing. Analysis proceeded in two sequential stages. First, the measurement model was assessed for indicator reliability, internal consistency, convergent validity, and discriminant validity. Second, the structural model was evaluated by examining path coefficients, their statistical significance via bootstrapping (5,000 resamples), R^2 values, Q^2 predictive relevance, and variance inflation factors for multicollinearity. Mediation hypotheses were tested using the indirect effects output with percentile-based bootstrap confidence intervals. IPMA was subsequently conducted to map the importance and performance of each predictor construct relative to the target construct (AEI).

To assess common method bias, a concern inherent in single-source, self-report surveys, Harman’s single-factor test was conducted. The single factor extracted accounted for 28.4 per cent of the total variance, well below the 50 per cent threshold, providing reasonable assurance that common method variance does not substantially distort the observed relationships (Podsakoff et al., 2003). Additionally, procedural remedies including guaranteed anonymity, reverse-coded items, and temporal separation between questionnaire administration rounds were employed to further mitigate this risk.

4. Results

4.1 Respondents Profile

The demographic composition of the sample (N = 390) reflects several structural features of Jammu and Kashmir’s higher-education and agrarian landscape that bear directly on the interpretation of the agri-entrepreneurial intention (AEI) model tested in this study. Male respondents constituted a majority (57.7%), a pattern broadly consistent with the gender skew observed in agricultural and allied science enrolment across J&K institutions. The age profile is concentrated in the 18–22 bracket (51.5%), with a further 36.7% falling between 23 and 27 years; together, these two brackets account for close to nine-tenths of the sample, indicating that the study captures the intentions of students at precisely the life stage where career and entrepreneurial choices are actively being formed, rather than a retrospective or post-decision population. A slight majority of respondents (52.3%) reported prior exposure to agriculture through a farm background or internship, against 47.7% without such exposure (see Table 1).

Table 1
Respondents’ Demographic Profile (N = 390)

Characteristic	Category	Frequency (%)
Gender	Male	225 (57.7%)
	Female	165 (42.3%)
Age (years)	18–22	201 (51.5%)
	23–27	143 (36.7%)
	28 and above	46 (11.8%)
Prior Agri-exposure	Yes	204 (52.3%)
	No	186 (47.7%)
Family Occupation	Salaried (Govt./ Private)	232 (59.4%)
	Business/Self-Employed	158 (40.5%)
Area of residence	Rural	254 (65.1%)
	Urban	136 (34.9%)
Note: Percentages may not sum to 100 due to rounding.		
Source: Primary data		

Family occupation was concentrated in salaried employment (59.4% Govt./Private), with the remaining 40.5% drawn from business or self-employment backgrounds. This distribution is consistent with the broader occupational transition documented in J&K’s Economic Survey and census-based literature, wherein salaried government and private-sector employment has increasingly displaced agriculture and informal enterprise as the modal household livelihood, even among families who retain land or informal business interests. Finally, the rural–urban split (65.1% rural, 34.9% urban) closely mirrors the population distribution reported in Census 2011 for Jammu and Kashmir (72.6% rural, 27.4% urban), with a modest urban over-representation attributable to the concentration of university campuses in semi-urban and urban centres. This proximity to the population baseline strengthens the claim that the sample is reasonably representative of the region’s student population.

4.2. Measurement Model Assessment

Results of the Confirmatory Factor Analysis for measurement model evaluation are presented in Fig. 1. All constructs demonstrate strong internal consistency reliability, with Cronbach’s alpha coefficients ranging from 0.896 to 0.947 and composite reliability (ρ_c) values ranging from 0.896 to 0.947 (see

Table 2), both well above the recommended threshold of 0.70 (Hair et al., 2019). Average Variance Extracted (AVE) values for all constructs exceed 0.50, ranging from 0.618 to 0.782, thereby confirming convergent validity. Individual indicator loadings range from 0.724 to 0.912, all meeting the minimum criterion of 0.70 for individual item reliability.

Discriminant validity was assessed using both the Heterotrait-Monotrait ratio of correlations (HTMT) and the Fornell-Lacker criterion. All HTMT values fall below the conservative threshold of 0.85 recommended by Henseler et al. (2015), with the highest observed value being 0.822 for the PUS-AEI pair (see Table 3). Although this value merits acknowledgement, it remains below the threshold and is consistent with the theoretically expected high association between an institutional antecedent and the intention it shapes. The Fornell-Lacker criterion is satisfied for all construct pairs, with the square root of each construct's AVE exceeding its correlations with all other constructs (see Table 4). These results collectively support adequate discriminant validity. Multicollinearity assessment via Variance Inflation Factors (VIF) yielded values between 2.135 and 3.243 for all predictors, well below the ceiling of 5.0, indicating that multicollinearity does not confound the structural estimates (see Table 5).

Source

PLS-SEM output

Table 2
Reliability Statistics: Cronbach's Alpha, Composite Reliability, and AVE values

Constructs	Items	Factor Loadings	Cronbach's alpha	Composite reliability (rho_c)	Average Variance Extracted (AVE)
Agri-entrepreneurship Intentions	AEI1	0.852	0.947	0.947	0.782
	AEI2	0.891			
	AEI3	0.870			
	AEI4	0.912			
	AEI5	0.895			
Overt PBC	OPBC1	0.784	0.907	0.906	0.618
	OPBC2	0.815			
	OPBC3	0.819			
	OPBC4	0.724			
	OPBC5	0.797			
	OPBC6	0.772			
Covert PBC	CPBC1	0.743	0.907	0.907	0.620
	CPBC2	0.817			
	CPBC3	0.835			
	CPBC4	0.811			
	CPBC5	0.750			
	CPBC6	0.762			
Perceived University Support	PUS1	0.811	0.896	0.896	0.634
	PUS2	0.806			
	PUS3	0.782			
	PUS4	0.787			
	PUS5	0.793			
Source: SmartPLS Output					

Table 3
Discriminant Validity (I)

Heterotrait-Monotrait Ratios				
	AEI	OPBC	CPBC	PUS
AEI				
OPBC	0.751			
CPBC	0.769	0.549		
PUS	0.822	0.735	0.728	
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control; PUS: Perceived University Support				
Source: SmartPLS Output				

Table 4
Discriminant Validity (II)

Fornell-Larcker Criteria				
	AEI	CPBC	OPBC	PUS
AEI	0.884			
CPBC	0.770	0.787		
OPBC	0.752	0.550	0.786	
PUS	0.822	0.729	0.735	0.796
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control; PUS: Perceived University Support				
Source: SmartPLS Output				

Table 5
Multicollinearity statistics

Variation Inflation Factor (VIF)	
	AEI
CPBC	2.135
OPBC	2.179
PUS	3.243
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control; PUS: Perceived University Support	
Source: SmartPLS Output	

4.3. Structural Model and Hypotheses Testing

Table 6 reports the model's explanatory power. The extended Behavioural Control Theory framework explains 78.3 per cent of the variance in agri-entrepreneurship intentions ($R^2 = 0.783$), a figure that substantially exceeds the explanatory power reported in most TPB-based entrepreneurial intention studies, which typically range between 0.40 and 0.65 (Ajzen, 1991; Krueger et al., 2000). Perceived university support accounts for 54.1 per cent of the variance in overt PBC ($R^2 = 0.541$) and 53.1 per cent of the variance in covert PBC ($R^2 = 0.531$), confirming that institutional support is a potent shaper of both dimensions of behavioural control. Q^2 predictive relevance values exceed zero for all endogenous constructs; AEI (0.572), OPBC (0.436), and CPBC (0.429) indicating that the model possesses predictive relevance beyond a simple mean-baseline prediction (Shmueli et al., 2019).

Table 6
Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Constructs	R-square	R-square Adjusted	Q^2 Predict
AEI	0.783	0.781	0.572
OPBC	0.541	0.539	0.436
CPBC	0.531	0.530	0.429
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control			
Source: SmartPLS Output			

Table 7 presents the standardised path coefficients and their significance levels for the three direct hypotheses. The direct effect of perceived university support on agri-entrepreneurship intentions (H1) is supported ($\beta = 0.261$, $t = 5.357$, $p < 0.001$), indicating that students who perceive greater institutional support from their university report stronger intentions to pursue agri-entrepreneurial careers, independent of the mediated pathways (see Table 7). The effect of overt PBC on intentions (H2) is also supported ($\beta = 0.204$, $t = 4.806$, $p < 0.001$), confirming that perceptions of external structural enablement contribute meaningfully to the intention to engage in agri-entrepreneurship. The effect of covert PBC on intentions (H3) is supported with the largest path coefficient among the three direct predictors ($\beta = 0.306$, $t = 6.404$, $p < 0.001$), indicating that internal, perception-driven beliefs about capability and agency are the strongest proximal driver of intention within the model.

Table 7
Hypotheses Testing- Direct Effects

Hypotheses	Hypothesized Paths	Standardized Path Coefficients (β)	T-Value	P-Value	Results
H1	AEI $\Downarrow$ PUS	0.261***	5.357	0.000	Supported
H2	AEI $\Downarrow$ OPBC	0.204 ***	4.806	0.000	Supported
H5	AEI $\Downarrow$ CPBC	0.306***	6.404	0.000	Supported
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control					
Source: SmartPLS Output					

4.4 Mediation Analysis

The mediation hypotheses H4a and H4b were tested using bootstrapping with 5,000 resamples and percentile-based 95 per cent confidence intervals. Results are presented in Fig. 2.

Source

SMART-PLS output

Table 8
Mediation Analysis- Indirect Effects of PUS on AEI

Hypotheses	Paths	Total effect			Direct effect			Indirect effect			95% CI (Indirect)	
		Path Coefficients (β)	T-Value	p-Value	Path Coefficients (β)	T-Value	P-Value	Path Coefficients (β)	T-Value	P-Value	Lower	Upper
H4a	AEI $\Downarrow$ OPBC $\Downarrow$ PUS	0.822	37.866	0.000	0.335	5.393	0.000	0.229	6.185	0.000	0.168	0.292
H4b	AEI $\Downarrow$ CPBC $\Downarrow$ PUS	0.822	37.866	0.000	0.335	5.393	0.000	0.259	6.815	0.000	0.200	0.322
Note: AEI: Agri-entrepreneurship intentions; OPBC: Overt Perceived Behavioural Control; CPBC: Covert Perceived Behavioural Control; Indirect effect of PUS on AEI via OPBC: $\beta = 0.229$, $t = 6.185$, $p < .001$; via CPBC: $\beta = 0.259$, $t = 6.815$, $p < .001$. Bootstrapping with 5,000 resamples. CI = Confidence Interval.												
Source: SmartPLS Output												

The indirect effect of perceived university support on agri-entrepreneurship intentions through overt PBC is positive and significant ($\beta = 0.229$, $t = 6.185$, $p < 0.001$; 95% CI: 0.168–0.292), supporting H4a. The indirect effect through covert PBC is also positive and significant, and marginally stronger ($\beta = 0.259$, $t = 6.815$, $p < 0.001$; 95% CI: 0.200–0.322), supporting H4b. Since the direct effect of perceived university support on intentions remains significant after accounting for both mediators ($\beta = 0.335$, $p < 0.001$), both pathways constitute partial mediation, indicating that university support influences agri-entrepreneurial intentions both directly and through its dual effects on overt and covert behavioural control (see Table 8).

4.5. Importance-Performance Map Analysis (IPMA)

To complement the path coefficient results with actionable managerial insights, an IPMA was conducted in SmartPLS following the procedure outlined by Ringle and Sarstedt (2016). IPMA positions each predictor construct along two axes: importance (operationalised as total effects on the target construct) and performance (operationalised as the rescaled index score of the construct, reflecting its current mean performance across respondents on a 0–100 scale). Table 9 and Fig. 2 present the IPMA results.

Table 9
Importance-Performance Map Analysis (IPMA) – Target Construct: AEI

Construct	Importance (Total effects)	Performance (Index score)
Covert PBC	0.347	49.979
Overt PBC	0.309	50.159
PUS	0.758	49.693
Note: Importance = total effect of predictor on AEI (from structural model). Performance = rescaled mean score (0–100 scale).		

Source

SmartPLS Output.

Source

SMART-PLS Output

Perceived university support commands the highest importance score (total effect = 0.758), substantially exceeding both covert PBC (0.347) and overt PBC (0.309). This positions university support as by far the most consequential lever for enhancing agri-entrepreneurial intentions. However, PUS simultaneously records the lowest performance index score (49.693) among the three predictors, revealing a significant and practically important importance-performance gap. This gap indicates that while university support is the construct with the greatest potential to move intention scores, it is currently performing at below-average levels, meaning that the institutional ecosystem students encounter is failing to meet the standard required to realise that potential. Covert PBC (49.979) and overt PBC (50.159) display slightly higher, more balanced performance scores, suggesting that students possess a moderate baseline of both internal psychological readiness and perceived external enablement, even though their structural influence on intentions is smaller than that of PUS.

5. Discussion

5.1. The primacy of internal control beliefs

The finding that covert PBC exerts the strongest direct influence on agri-entrepreneurial intentions ($\beta = 0.306$) among all predictors within the structural model is theoretically significant. It suggests that, when university students contemplate agri-entrepreneurial careers, the decisive question they implicitly ask is not “what does the external environment offer me?” but rather “do I believe I am capable of doing this?” This pattern aligns with the foundational claims of self-efficacy theory (Bandura, 1977; 1982), which holds that internal belief structures function as proximal motivational regulators that are more immediately connected to behavioural intention than structural conditions. These must first be cognitively appraised before they influence motivation. The relative dominance of covert over overt PBC also carries a somewhat counter-intuitive implication for policy discourse in the agri-entrepreneurship domain. Much of the existing policy literature on youth agricultural entrepreneurship, particularly in India, concentrates on external barriers such as credit access, land rights, market infrastructure, and technology availability (Gol, 2017; Ramappa & Pyage, 2025). While overt PBC does contribute significantly to intention ($\beta = 0.204, p < 0.001$), the present findings suggest that addressing structural barriers alone is unlikely to be sufficient. Students who perceive their external environment as moderately supportive but who harbour weak internal beliefs about their own entrepreneurial capability will not translate perceived opportunity into intention. This implies that interventions targeting psychological readiness through confidence building, identity formation as an agri-entrepreneur, and the cultivation of internal locus of control should be considered as integral to entrepreneurial policy design, not as secondary concerns. These findings extend prior research in the general entrepreneurship intention literature (Kolvereid, 1996; Krueger et al., 2000) into the agri-specific domain and provide empirical support for the theoretical distinction Lim and Weissmann (2023) proposed between covert and overt PBC. This is a pioneering attempt to test this distinction in an agricultural entrepreneurship context, and the pattern of results with covert PBC more strongly predictive than overt PBC provides a theoretically coherent and practically meaningful signal.

5.2. The Institutional Role of Perceived University Support

The direct effect of perceived university support on agri-entrepreneurial intentions ($\beta = 0.261, p < 0.001$) confirms the university as an active institutional shaper of entrepreneurial career choices among students. This is consistent with prior evidence from Galvão et al. (2025), Liu et al. (2022), and Trivedi (2016), as well as with a growing body of research positioning universities as engines not merely of knowledge production but of entrepreneurial ecosystem development (Kordshouli et al., 2024; Villegas-Mateos & Amann, 2025). Amani et al. (2024) demonstrate in a comparable higher-education context that positive perceptions of institutional support significantly enhance students’ entrepreneurial self-efficacy, precisely the internal belief structures that covert PBC operationalises. What extends prior work, however, is the evidence that this influence operates through two distinct and separable behavioural control pathways. The indirect effect through covert PBC ($\beta = 0.259, p < 0.001$) is slightly stronger than the indirect effect through overt PBC ($\beta = 0.229, p < 0.001$), which mirrors the direct effect pattern and reinforces the argument that the most consequential action of institutional support is the transformation of students’ internal self-beliefs rather than the simple provision of external resources. This finding aligns with classical research on perceived organisational

support (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002) which demonstrates that institutional signals of investment and care are internalised by recipients as evidence of their own value and capability. This essentially represents a psychological mechanism that strengthens self-efficacy and internal locus of control over time. When universities communicate through curriculum design, mentoring relationships, dedicated entrepreneurship centres, and resource provision that they believe in students' entrepreneurial potential, students reciprocate by believing in themselves. This covert pathway is arguably the more durable and transfer-capable form of support, in that the internal beliefs it cultivates persist beyond the university context, accompanying students into venture creation and early-stage entrepreneurial activity (Farmer et al., 2011). Entrepreneurial identity formation processes, through which students progressively come to see themselves as potential agri-entrepreneurs (Fauchart & Gruber, 2011; Mei & Symaco, 2022), are likely to be activated by precisely this kind of institutionally-mediated psychological reinforcement, suggesting that the covert PBC pathway partially captures an identity-formation mechanism that the present model does not explicitly model but which warrants further theoretical attention.

The partial nature of both mediation pathways is also theoretically meaningful. The persistence of a significant direct PUS → AEI effect ($\beta = 0.335$, $p < 0.001$) after controlling for both PBC dimensions indicates that university support influences agri-entrepreneurial intentions through channels not captured by the overt-covert PBC framework. These additional channels likely include direct attitudinal shifts (students developing more positive evaluations of agri-entrepreneurship as a career), social norm updating (peer exposure to entrepreneurial activity within the university environment), and identity-level changes (students beginning to see themselves as potential agri-entrepreneurs). Future research incorporating these additional TPB components alongside the disaggregated PBC framework would allow a more complete account of the mediating architecture.

5.3 IPMA Implications: A Critical Implementation Gap

The IPMA results introduce a layer of practical urgency that purely statistical significance testing does not capture. Perceived university support (PUS) carries by far the largest total effect on AEI (0.758), more than double that of either PBC dimension, yet records the lowest performance score of the three (49.693). This divergence between strategic importance and current institutional delivery is particularly striking given that prior research in comparable developing-economy higher education contexts consistently identifies resource gaps, limited mentoring infrastructure, and weak entrepreneurship curricula as significant barriers to effective university support (Correia et al., 2024; Okello et al., 2024). This combination of high importance and low performance is precisely the configuration Ringle and Sarstedt (2016) identify as the most strategically consequential IPMA pattern, since it flags a construct with substantial leverage over the outcome that current practice is failing to capitalise on. In practical terms, this means that current university support ecosystems in J&K- and, by extension, in comparable developing-economy institutional settings are failing to deliver on what students and the agri-entrepreneurship agenda most need. The near-balanced performance scores of covert PBC (49.979) and overt PBC (50.159), combined with their lower importance values, indicate a different strategic message. These constructs are performing at moderate levels and are not where the marginal return to investment is highest. Improving the delivery of perceived university support, by contrast, would generate gains not only through the direct PUS → AEI pathway but also by cascading upward through both PBC dimensions simultaneously. This would eventually strengthen students' internal self-beliefs and improve their perception of the external resource environment in tandem. For university administrators and policymakers, this signals that institutional support infrastructure should be treated as the primary point of intervention rather than a background enabling condition, though this recommendation is offered as a strategic prioritisation based on the IPMA pattern, not as an estimate of intervention effect size.

The empirical setting of J&K adds important contextual texture to these findings. The region's agricultural economy, dominated by horticulture, saffron cultivation, and floriculture, presents a distinctive opportunity structure for agri-entrepreneurs who can integrate technology, cold-chain logistics, market linkages, and value-added processing into traditional farming systems (Lone & Baba, 2024). However, J&K also faces significant structural constraints including limited industrial infrastructure, post-conflict institutional disruption, geographic isolation, and, until recently, constrained access to national financial markets that make the role of universities in scaffolding entrepreneurial potential particularly critical. The finding that students in this setting respond strongly to perceived university support and that covert PBC is the dominant intention driver suggests that confidence and belief formation, rather than structural provision alone, may be the binding constraint on agri-entrepreneurial intent in such contexts. This finding has direct implications for SKUAST-K, SKUAST-J, and other higher education institutions operating in J&K, as well as for the broader portfolio of Centrally Sponsored Schemes aimed at promoting agricultural entrepreneurship in underserved regions of India.

6. Theoretical Contributions

This study makes three substantive contributions to the extant literature. First, it provides the empirical validation of Lim and Weissmann's (2023) overt-covert PBC typology within the agri-entrepreneurship domain in J&K. Prior applications of Behavioural Control Theory have remained largely conceptual or have been tested in consumer behaviour contexts (Lim & Weissmann, 2023). The present study demonstrates that the framework travels across domain boundaries and retains theoretical power in explaining entrepreneurial intentions in agricultural contexts (Ena & Huib, 2024). The finding that the two PBC dimensions are empirically distinguishable and differentially predictive of intentions contributes directly to the scholarly debate on the multidimensionality of perceived behavioural control (Armitage & Conner, 2001; Terry & O'Leary, 1995).

Second, the study advances the institutional antecedents' literature in entrepreneurship by establishing perceived university support as a construct that simultaneously shapes both internal and external dimensions of behavioural control. Existing research has typically examined the PUS → intention relationship as a direct or single-mediator path (Galvão et al., 2025; Liu et al., 2022). The present dual-mediation model reveals a more differentiated causal architecture, with clear implications for understanding how institutional environments translate into entrepreneurial motivation.

Third, the deployment of IPMA alongside PLS-SEM, a combination increasingly advocated in management research but still underutilised in entrepreneurship studies (Ringle & Sarstedt, 2016) demonstrates the value of complementing hypothesis testing with performance diagnostics. The IPMA reveals a theoretically consistent but practically critical importance-performance gap for PUS that pure structural path analysis does not surface. This methodological contribution has implications for how future agri-entrepreneurship studies design and report their analytical strategies.

7. Practical Implications

The findings carry concrete implications for universities, policymakers, and institutional designers operating in developing economy contexts. For university administrators, the most direct implication is the need to close the importance-performance gap identified by IPMA. Given the primacy of covert PBC, programmes that explicitly target psychological dimensions of entrepreneurial readiness such as structured confidence-building workshops, peer mentoring with successful agri-entrepreneur role models, and reflective entrepreneurial self-assessment exercises should be treated as core rather than supplementary offerings. These interventions strengthen students' internal locus of control and self-efficacy, which the present findings identify as the most influential drivers of agri-entrepreneurial intention. The significant effect of overt PBC suggests that structural interventions remain important but should be designed with intentionality. Agri-entrepreneurship incubation centres, funded pilot project schemes, market linkage platforms, and regulatory navigation workshops reduce the perceived external barriers that constrain overt PBC. When bundled with the psychological interventions described above, these structural supports create a reinforcing environment in which students develop both the belief that they can act and the resources to do so.

For government and policy bodies, particularly those overseeing agri-educational institutions and the J&K agricultural development portfolio, the findings suggest that public investment in higher education support infrastructure for agri-entrepreneurship is not merely an educational choice but an economic growth strategy. The high total effect of PUS on AEI (0.758 in IPMA) implies that improvements in perceived university support would generate cascade benefits across the entire agri-entrepreneurial intention system. This argues for dedicated funding lines for university-based agri-entrepreneurship ecosystems, performance monitoring of institutional support delivery, and cross-institutional partnerships that embed agri-business mentorship within mainstream academic programmes.

8. Limitations and Future Scope

Several limitations of this study should be acknowledged. First, the cross-sectional design captures a snapshot of students' intentions at a single point in time, making it impossible to track whether these intentions translate into actual entrepreneurial behaviour. Longitudinal research designs, which follow student cohorts from intention measurement through to venture exploration and creation would substantially strengthen causal inference and allow examination of the intention-action gap in the agri-entrepreneurship context.

Second, the study is geographically confined to universities in Jammu and Kashmir, which, while internally heterogeneous, represents a specific institutional, ecological, and socio-economic setting. The generalizability of findings to other Indian states or to other developing economy contexts cannot be assumed without replication, particularly given the region's distinctive agricultural profile and institutional set up. Comparative studies across multiple agri-climatic zones and institutional environments would enrich understanding of the boundary conditions of the present model.

Third, despite procedural remedies and the Harman single-factor test, the single-source, self-report survey design introduces residual risk of common method bias. Future research might address this by triangulating intention data with peer-reported or institutional measures of entrepreneurial activity, or by employing experimental vignette methodologies to examine the causal mechanisms underlying effects of PUS on PBC dimensions.

Fourth, the present model does not include attitude toward behaviour and subjective norms, the other two components of TPB. Including these constructs would allow a fuller test of the extended framework, enable comparison of the relative predictive contributions of all TPB components alongside the disaggregated PBC dimensions, and potentially reveal additional mediation pathways through which PUS operates.

Finally, the study does not account for individual-level moderating variables that may condition the strength of the $PUS \rightarrow PBC \rightarrow AEI$ relationships. Factors such as prior agricultural exposure (a variable documented in the respondents' profile), family farming background, gender, and programme type (agricultural versus general university) may meaningfully moderate these relationships. Incorporating such moderators would enhance the practical specificity of findings and allow more targeted institutional intervention design.

9. Conclusion

This study set out to examine the psychological and institutional mechanisms underlying agri-entrepreneurial intentions among university students in Jammu and Kashmir, guided by an extension of Behavioural Control Theory that disaggregates perceived behavioural control into its covert (internal) and overt (external) dimensions. The results affirm that both forms of PBC independently predict agri-entrepreneurial intentions, with covert PBC, anchored in students' self-beliefs and perceived personal agency, emerging as the stronger driver. Perceived university support shapes both dimensions and exerts an additional direct effect on intentions, with IPMA revealing a substantial importance-performance gap that signals an unmet institutional opportunity.

The core message for universities and policymakers is practical: enhancing the quality, visibility, and accessibility of entrepreneurial support within higher education institutions is not only the most influential intervention available for raising agri-entrepreneurial intentions, but also the one currently most underdelivered. Institutions that invest in both the psychological scaffolding (mentoring, confidence-building, entrepreneurial identity formation) and the structural infrastructure (incubation, market access, funding) of entrepreneurial readiness are positioned to generate the next generation of agri-entrepreneurs that India's agricultural transformation demands. In a region like J&K, where agriculture remains both an economic foundation and an unmet development opportunity, this institutional responsibility carries particular weight.

Declarations

Data Availability: Data supporting the findings of this article are available from the corresponding author upon reasonable request.

Authors' Contributions

Competing Interests: The author(s) declare that they have no competing interests.

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Figures

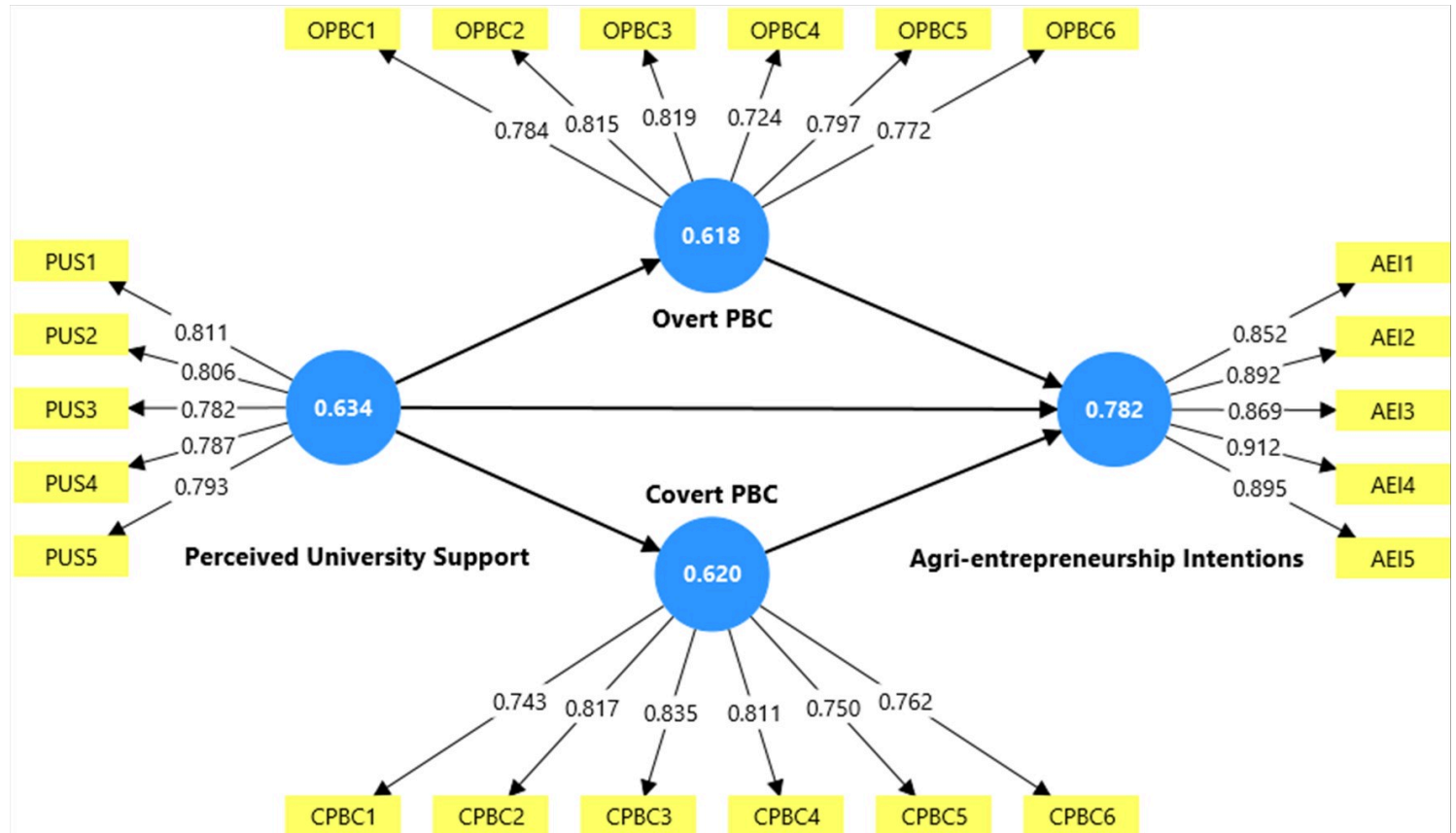


Figure 1

Measurement Model

Source: PLS-SEM output

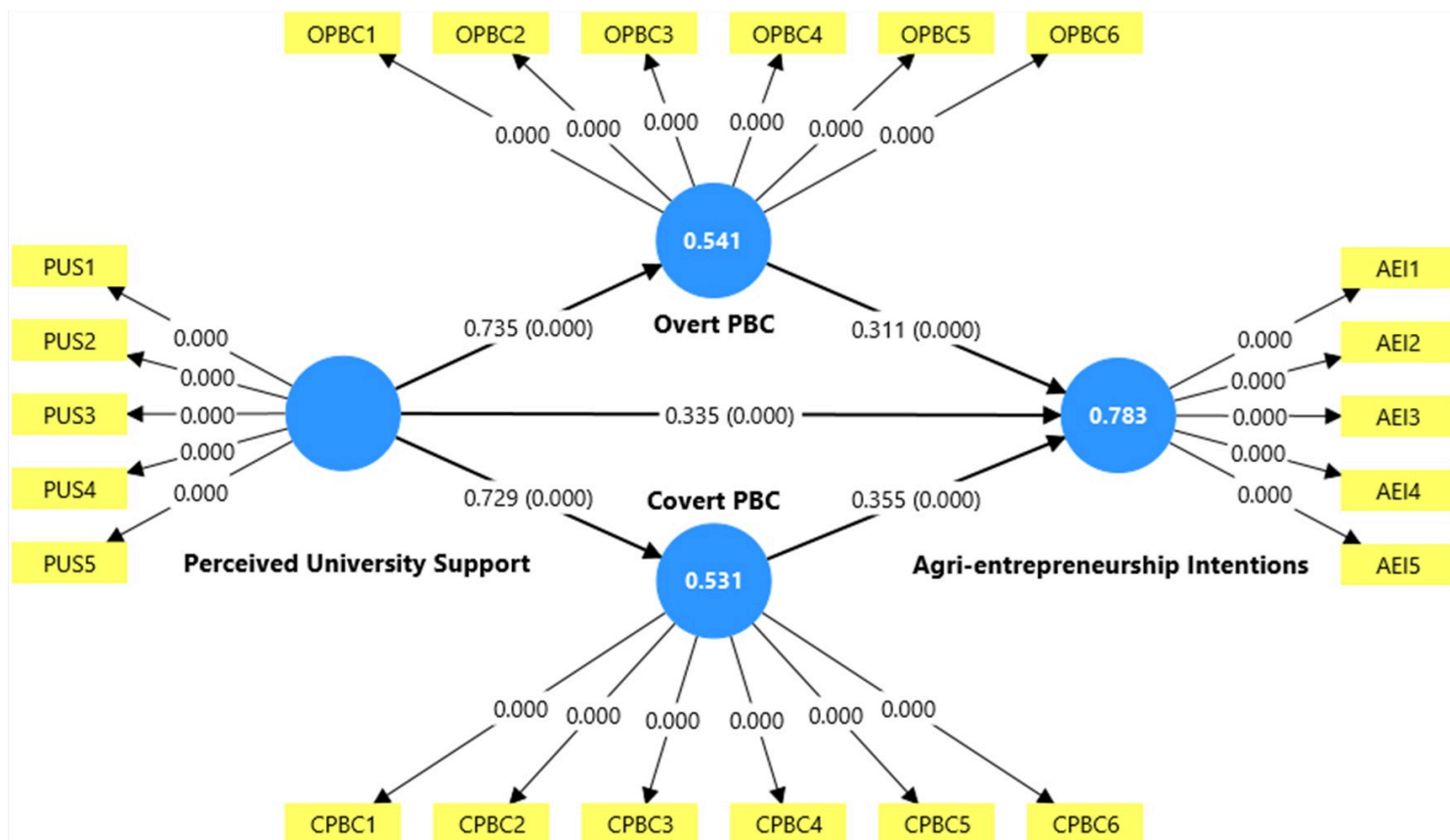


Figure 2

Structural Model

Source: SMART-PLS output

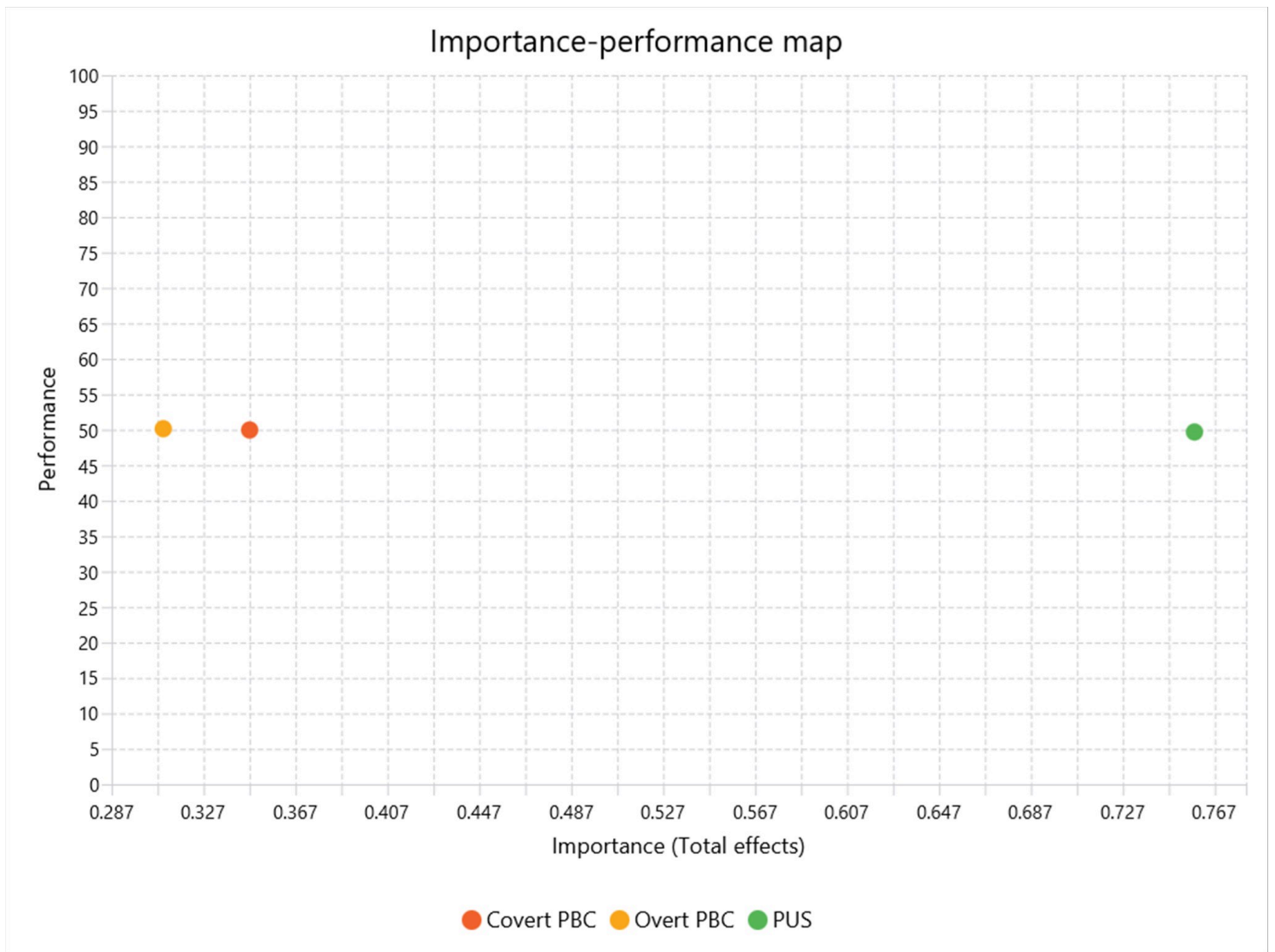


Figure 3

Importance-Performance Map

Source: SMART-PLS Output