Modeling intellectual capital-based intrapreneurial ability of working professionals through servant leadership and self-efficacy

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Abstract

Purpose – Intrapreneurial ability (IA) of employees strengthens an organization's internal as well as external growth. Employees' IA makes innovation a continuous practice and augments organization's intellectual capital (IC). This intellectual capital-based intrapreneurial ability (ICIA) helps professionals to effectively handle changes in the business ecosystem by creating innovative solutions. The onus of assessing and inculcating ICIA is a joint responsibility of both academia and industry. In academia, teacher as a servant leader (TASL) contributes towards building ICIA of working professionals (WP) by enhancing their self-efficacy (SE). The paper aims to strengthen the industry–academia interface by analyzing the role of TASL and SE in influencing the ICIA of WP.

Design/methodology/approach – Using a stratified sampling technique, data from 387 WP is analyzed on SmartPLS-4 to study the interrelationship between the stated constructs and the role of SE as a mediator between TASL and ICIA. PLSpredict is used to study the predictive relevance of the proposed model.

Findings – High $R^2 = 0.654$ shows that 65% of ICIA is determined by SE and TASL; reflecting model's robustness. SE partially mediates the relationship between TASL and ICIA. Results reported a higher ICIA of male WP than their female counterpart. The results indicate the low predictive accuracy of the model.

Practical implications – The proposed model of industry–academia partnership allows assessment of ICIA for enhancing corporate value in the present gig economy. The study also highlights the relevance of ICIA, particularly, for developing economies. In knowledge-driven economy, exploring the new ICIA will help organizations to draft a more robust performance measurement system.

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Originality/value – This unique industry–academia partnership studies the role of TASL towards enhancing SE and ICIA of WP. The novelty of ICIA would enrich and provide a new perspective in IA literature. Additionally, the study also examines the role of gender in the ICIA of WP.

Keywords Intellectual capital, Intrapreneurial ability, Intellectual-based intrapreneurial ability, SmartPLS-4, PLSpredict, Self-efficacy, Teacher as a servant leader

Paper type Research paper

There is no future in any job. The future lies in the person who holds the job- George Crane

1. Introduction

Erratic changes over the globe have redefined the role of working professionals (WP) in an organization (Neessen, 2019). The growing hyper-connectivity of technologies in the present gig economy has transformed the nature of work from linear and mechanistic to collaborative and cross-functional networks (Balakrishnan, 2022). This transformation demands professionals to innovate (Bowen, 2016; Opland *et al.*, 2022) and act as change agents (Battilana and Casciaro, 2012). Thus, employees' Intrapreneurial Ability (IA) becomes important to respond effectively to these changes, especially in the post-pandemic era (Ambos and Tatarinov, 2022; Yashin-Shaw and Morrison-Beedy, 2022). Thus, organizations capitalize on their internal resources-employees' IA to create an environment promoting rapid and sweeping innovations (Klofsten *et al.*, 2021; Morais *et al.*, 2021). Additionally, intrapreneurship holds greater relevance for organizations in developing economies that are modeled after standards of business set up by the developed economies (Antoncic, 2007). Explicitly, organizations expect professionals to bring a more "intrapreneurial" mode of working to convert innovative ideas into business success (Heinze and Weber, 2016; Moriano *et al.*, 2011). Employees' with IA act as innovative literates contributing to organization's intellectual capital (IC) (Yüksel *et al.*, 2022).

Organizations recognize IC as a "brainpower" influencing innovation (Pedro *et al.*, 2022), thereby continually leveraging their value (Asiaei *et al.*, 2018; Serenko and Bontis, 2017) and performance (Mubarik *et al.*, 2022; Ognjanovic *et al.*, 2023). Survival in a digitalized era marked with the unprecedented COVID crisis requires organizations to convert an environmental constraint into a valuable resource. This conversion depends on employees' IA and when concretized it contributes to an organization's IC. For instance, Google's famous 20%-time policy permits their professionals to devote approximately a day/week focusing on projects lying outside their designated responsibility area. Some of its main innovations, like, Gmail, Google Adsense, Google News, Google classes, Driverless Cars, etc. are the outcomes of its 20%-time policy. Extending these views, we propose that the employees' IA contributes towards building an organization's IC. Thus, we suggest that employees' Intellectual capital-based intrapreneurial ability (ICIA) is an indispensable economic resource which provides an inimitable competitive advantage to an organization (Rule and Irwin, 1988). Additionally, ICIA serves as a significant input in determining the internal as well as external growth of an organization.

To reap the benefits of ICIA, organizations should strive towards inculcating and strengthening this ability among the workforce. However, organizations pin their hope on academic institutions to provide such a workforce. In other words, fostering ICIA among WPs is a dual responsibility of both industry and academia. Across the globe, several factors like career and knowledge enhancement, career switching, societal trend, entrepreneurial venture, network building, etc., motivate WP to study further (Shetti, 2019). Our study focuses on such WP who join academia to upgrade their skills and thus, improve their career prospects without taking a break. Apart from imparting the requisite educational inputs, academia can play a vital role by assessing and fostering the requisite ICIA among WP. Within the educational context, the value of teacher leadership is well-established (Crippen and Willows, 2019). Over time, various styles of teacher leadership have been studied. Interestingly, Greenleaf's (1977) Servant Leadership (SL) is viewed as an apt style for instructor–student

relationship (Khatri *et al.*, 2021). A servant leader's focus on follower's growth and altruistic service orientation makes it a promising approach to teacher leadership (Crippen and Willows, 2019). Teacher as a servant leader (TASL) promotes innovation among students by stimulating their self-efficacy (SE) (Noland and Richards, 2015). Based on these encouraging results of TASL, the authors are prompted to study the influence of TASL on students' (in our case WP) SE and ICIA. The assessment of ICIA at the institute level will support the industry in selecting the right candidates for development programs. Consequently, such a progressive model of industry–academia partnership will foster the required ICIA among WP. This partnership will generate a synergistic effect and provide avenues to strike a match between the demand and supply of such an enterprising WP.

To strengthen the industry-academia interface, the paper aims to analyze the role of TASL and SE in influencing the ICIA of WP. Based on the outlined framework, the following research objectives are pursued:

(1) To identify the importance of inculcating ICIA among WPs.

(2) To highlight the role of academia towards building ICIA among WPs for stronger and guided industry–academia crossovers.

(3) To understand the role of TASL towards fostering SE and ICIA among WPs.

(4) To suggest and empirically test a framework establishing the linkages among the constructs under study, namely, TASL, SE and ICIA of WPs.

(5) To study the role of SE as a mediator between TASL and ICIA of WPs.

Thus, the study places ICIA as an internal monitor for assessing intangible knowledge assets. Our paper proposes ICIA as a new area of inquiry having potentially high relevance for the study of IA. To assess ICIA, a self-constructed scale, measuring market directedness, innovative resource utilization and responsible implementation is used in the present study. The valuation of ICIA will supplement the existing management practices of the organization. Additionally, this is one of the first studies to examine the role of gender in ICIA of WP, which is often overlooked in research work (Baena-Luna *et al.*, 2022). Sufficient empirical work on SL in organizational context is available, however, a gap exists with respect to its applicability in educational settings (Latif and Marimon, 2019). Existing research overlooked the influence of psychological variables, like SE, on ICIA. Studies focusing on solidifying the relationship between industry and academia are also limited. The stated gaps in existing literature are specifically addressed in the present study.

The rest of this paper is structured as follows. Section 2 elaborates on literature review in which the existing research related to TASL, SE and ICIA are discussed in detail. This is followed by Sections 3 and 4, Methodology and Result section, wherein details about the scales used and results of the analysis are provided. Then, Section 5 provides the discussion. Section 6 discusses the implications of our study for developing economies, industry and academia. Towards the end, conclusion, limitations and future agenda are discussed, in detail, in Sections 7 and 8.

2. Literature review

Organizational growth is contingent on the intrapreneurship potential of employees (Jayathilake *et al.*, 2021). Hence, building knowledge-based resources in the form of IC is indispensable for revitalizing business (Urbano *et al.*, 2013). Utilizing the knowledge-based view (KBV) of firm, an organization thrives to generate, transfer and transmute knowledge embedded in employees into competitive advantage (Curado and Bontis, 2006). This view emphasizes utilizing knowledge within an organization to create strategic capabilities through input-output transformation (Kengatharan, 2019). In line with the input–output

transformation of the KBV, leadership plays a pivotal role in fostering the development of an individual IC (Kengatharan, 2019). Placing IC as a core strategic resource, the KBV contends its role in improving organizational productivity and learning (Curado and Bontis, 2006).

Organizations in contemporary times are seen as knowledge and innovation communities (Lindkvist, 2005). Both environmental and cognitive elements are crucial for the development of knowledge-driven and innovative organizations. Social cognitive theory (SCT) views behavior as an interaction of personal and environmental factors (Wood and Bandura, 1989). In accordance with SCT, employees with high SE set challenging goals and work tenaciously to achieve them. Later, Lent *et al.* (1994), developed the Social Cognitive Career Theory (SCCT) using Bandura's SCT as a unifying framework. This theory aims to clarify the interaction among interests, aptitudes, environmental circumstances and other deeply entwined elements of career development. According to SCCT, individual's actions, choices, abilities and goals are influenced by background contextual effects and individual's SE beliefs.

Additionally, the knowledge transfer process underlines the essential role of a leader. Social exchange theory (SET) explains work relationships wherein the leader facilitates knowledge creation, organizational learning, performance and productivity (Cropanzano *et al.*, 2005). Socialization promotes "team climate" fostering knowledge sharing (Chernyak-Hai and Rabenu, 2018; Thomas, 2022; Thomas and Gupta, 2022a, b). Hence, drawing on the premises of KBV of firm along with SCCT and SET models, our framework proposes that the contextual factor (TASL) indirectly affects the ability (ICIA) via a socio-cognitive mechanism (SE) (see Figure 1).

2.1 Teacher as a servant leader and self-efficacy

A servant leader places well-being of followers over and above organizational goals and their own vested interest (Goroshit and Hen, 2016). This trait of putting the needs of others above their own complements the philosophy of being a teacher (Lu *et al.*, 2019). Urbano *et al.* (2013) highlight the importance of formal education as an essential component for developing the requisite abilities among WP. Amalgamation of teacher and SL accompaniment each other as both aspire to motivate, support and empower students (Alshammari *et al.*, 2019; Davis and Jones, 2018). The unique relational approach of TASL fosters collaborative work and enhances learning opportunities for students (Eva *et al.*, 2019; Khatri *et al.*, 2021).

TASL encourages a creative work approach (Baruah and Ward, 2015; Menzel *et al.*, 2007) by encouraging WP to adopt new abilities (Haider and Mushtaq, 2017). They promote ingenuity and SE of WP by endorsing their thought process. TASL augments the SE of WP which encourages them to convert their innovative initiatives into a reality (Haider and Mushtaq, 2017; Ji and Yoon, 2021). Thus, we propose the following hypothesis:

H1. TASL have a direct and positive influence on the SE of WPs.

2.2 Self-efficacy and intellectual capital-based intrapreneurial ability

SE is defined as belief in one's ability to perform a specific task (Bandura, 1986; Wood and Bandura, 1989). SE is essential to ensure effective performance of employees even in unfamiliar situations (Schmidt and DeShon, 2010), like COVID-19. From an organizational perspective, an investment in training programs will fructify maximum output when the

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Figure 1.
Conceptual model

employees' SE is enhanced. Individuals with low SE fall short of persistency in efforts and perceive the challenge as an undefeatable situation (Ji and Yoon, 2021). However, people with high SE persistently work to meet their goals (LaRose and Eastin, 2004).

Uncertainty in the business landscape demands employees to possess positive psychological resource, like SE, to introduce innovative ideas (Lee *et al.*, 2019). Implementation of innovative ideas requires the innovator to possess SE (Muavia *et al.*, 2022). For redefining and reorganizing the business, SE triggers intrapreneurial initiatives among employees (Chouchane *et al.*, 2023). This helps in identifying and capitalizing on opportunities thus, supporting an organization's IC (Asiaei *et al.*, 2020). Hence, we propose that SE of WP will augment ICIA among them and for this, the following hypothesis is formulated:

H2. SE has a direct and positive influence on ICIA of WPs.

2.3 Teacher as a servant leader (TASL) and intellectual capital-based intrapreneurial ability (ICIA)

In the era of knowledge-based economy, IC is documented as the critical factor for developing innovative organizational capacity. IC symbolizes the group of all knowledge-related resources of an organization. It is broadly classified as human capital, structural capital and relationship capital (Vargas-halabí and Rica, 2017). Human capital is the sum of knowledge, experience and intellectual capacity of employees. Intrapreneurial initiatives reside in the employees' mind (Shet and Giudice, 2022). However, for executing innovative ideas appropriate infrastructural support is essential. Knowledge residing in organizational systems, norms and processes constitutes its structural capital (Neessen, 2019; Vargas-halabí and Rica, 2017). Along with human and structural capital, the business ecosystem also requires relational capital. Relational capital comprises of the network which the organization develops with internal and external parties (Shet and Giudice, 2022) to facilitate knowledge sharing and innovation (Asiaei *et al.*, 2020; Thomas, 2022).

When an organization's IC rests on "*intrapreneurial way of working*" (Asiaei *et al.*, 2020), a unique synergistic effect is attained. This effect promotes innovation at both individual and organizational levels. Thus, ICIA is perceived as a quintessential ability for promoting organizational growth. Nurturing ICIA in organizations will upgrade the human capital to effectively utilize organization's structural and relational capital. Through ICIA organizations leverage their value even in testing times like the COVID-19 pandemic. Challenges brought forth by the pandemic aggravated the need of promoting ICIA (Mubarik *et al.*, 2022; Ognjanovic *et al.*, 2023).

ICIA directs organizational resources to foster innovation in every aspect of working (Baruah and Ward, 2015; Boon *et al.*, 2013; Thomas, 2021). We propose that the human capital can be oriented and trained to imbibe "market directedness." Such human capital is proficient in identifying market opportunities according to the latest market trends. In addition, they are good at using the organization's structural capital, thereby, promoting innovative resource utilization. Execution of innovative ideas originating in the mind, calls for effective implementation. Employees who can effectively harness the relational capital will be able to responsibly implement innovative ideas. Thus, harnessing ICIA is essential for the holistic development of organizations thriving on innovation.

Apart from organizational efforts, academia too can play a pivotal role in strengthening the ICIA of WP. TASL provides social and emotional resources motivating the WP to work towards their innovative pursuits. Although the influence of teacher leadership and SL have been separately linked to students' IA (Barnes, 2015; Boon *et al.*, 2013; Kimakwa *et al.*, 2021; Orchard *et al.*, 2018), research on the influence of TASL on ICIA is left unattended. In light of the above research gap, we propose the following hypothesis:

H3. TASL have a direct and positive influence on the ICIA of WPs.

2.4 Teacher as a servant leader, self-efficacy and intellectual capital-based intrapreneurial ability

Intrapreneurial process demands persistency of efforts in the face of setbacks and uncertainty. Appropriate conditioning and motivation are essential to bring the potential output of human capital. In such a scenario, intrapreneurs look for a leader to support their intrapreneurial journey (Orchard *et al.*, 2018). TASL's focus on the personal development of WP and thus, nurtures the innovator residing within them. TASL promotes innovative ideas and encourages its implementation by boosting employees' SE (Boon *et al.*, 2013). When employees' SE is enhanced, they eagerly implement intrapreneurial ideas, thus, benefitting the organizations by supporting their ICIA. Based on the literature we propose:

H4. SE mediates the relationship between the TASL and ICIA of WPs.

2.5 Role of gender in intellectual capital-based intrapreneurial ability (ICIA)

In organizational context, a gender perspective is important for the continuity of intrapreneurship (Adachi and Hisada, 2017). There exist studies examining the relationship between gender and intrapreneurship (Kacperczyk, 2013; Martiarena, 2013). Men's higher involvement in intrapreneurial actions than women (Baena-Luna *et al.*, 2022) is attributed to their task-oriented approach coupled with a willingness to take more financial risk (Bin Shmailan, 2016). Men are quick decision-makers as they require less information compared to women (Adachi and Hisada, 2017). Such gender differences motivate the authors to extend this analysis in relation to the added dimension of IC, that is ICIA. This perspective will add a new dimension to the existing knowledge of two emerging fields (intrapreneurship and gender), which are often overlooked in research (Baena-Luna *et al.*, 2022). Thus, the present research aims to study gender differences in the ICIA of WP, for which the given hypothesis is formulated:

H5. ICIA of male WPs will be greater than their female counterparts.

3. Methodology

3.1 Procedure and participants

In India and abroad, WP use education as a powerful medium to capitalize on various career opportunities. The fast pace of knowledge expansion demands professionals to synchronize with state-of-the-art. The existing workplace needs innovative professionals capable of identifying and structuring information for problem-solving (Boyaci and Atalay, 2016). Therefore, the organizations promote professionals to learn the latest concepts through professional courses. Undoubtedly, this improves the professional's chances of promotion by acquiring knowledge through such courses. Increasing number of WP entering into academia to equip themselves with the latest abilities, motivated authors to conduct a study on them. Thus, the research scope comprises professionals pursuing executive MBA programs/courses in public, private and deemed universities in Delhi-NCR. List of the stated three categories of universities is taken from the University Grant Commission's website. Using a stratified sampling technique, data from a sample of 387 (204-Male and 183-Female) executive MBA students is obtained and further analyzed using SmartPLS-4 (Partial Least Square). A number of executive MBA students from public, private and deemed universities in Delhi-NCR were 129, 147 and 111, respectively.

3.2 Measures

3.2.1 Teacher as a servant leader (TASL). For measuring the construct, TASL, a self-constructed questionnaire is used. TASL's scale comprises three sub-dimensions, namely;

(1) Associability (AS-11 items) which reflects teacher's relationship with students. TASL focuses on positive communication and motivates students to learn from challenges. Examples of items include: "I feel connected to my Institute because of my teacher," "My teacher has prepared me to handle the challenges of life in a better manner."

(2) Selfless Disposition (SD-6 items) highlights the selflessly serving attribute of TASL. They place the needs of their followers before themselves. Examples of items include: "My teacher places my interest ahead of his/her own," "My teacher works selflessly to bring an improvement in me." The third-dimension

(3) Social Responsiveness (SR-4 items) caters to the social responsibility of a teacher. TASL is inclined towards making a societal impact through their work. TASL imparts moral and social values among their students to create responsible citizens of tomorrow. Exemplary items include, "My teacher tries to sensitize us towards the societal issues," "My teacher motivates us to engage in some social cause/program/initiative." Cronbach's alpha for the TASL scale is 0.911 ($\alpha = 0.911$); an acceptable value lying below 0.95 (Diamantopoulos *et al.*, 2012; Drolet and Morrison, 2001).

3.2.2 Self-efficacy (SE). SE of WP is determined using Schwarzer and Jerusalem (1995) General self-efficacy scale (GSE). GSE, a 10-item scale, is extensively used to measure the general SE of college students (Posadzki *et al.*, 2010; Scherbaum *et al.*, 2006; Strobel *et al.*, 2011). Each item discusses fruitful handling and suggests an internal-stable attribute of success. Thus, representing an individual's competence to effectively handle demanding situations. No items were dropped from the original scale while adopting it for the Indian population of WP. Cronbach's alpha is 0.909 which is within the acceptable range (Diamantopoulos *et al.*, 2012; Drolet and Morrison, 2001).

3.2.3 Intellectual capital-based intrapreneurial ability (ICIA). A scale to measure ICIA of WP is developed by the authors. ICIA's scale comprises three dimensions, namely; a) Market Directedness, b) Innovative Resource Utilization and c) Responsible implementation. Conceptualization of ICIA views the concept of IC comprising human, structural and relational capital with an intrapreneurial lens. Whereby, the human capital is skilled at identifying and leveraging the opportunities for taking up intrapreneurial initiatives. These employees are characterized by identifying innovative and practical gaps in the existing operations of the firm. Authors have identified this dimension as market directedness (MD-8 items), with items like, "I'm good at taking advantage of changes occurring in the business environment," "Usually, I'm able to identify opportunities in the changing business environment for the growth of my department." Structural capital, traditionally viewed as the non-human storehouse of knowledge, is conceptualized as innovative resource utilization (IRU-4 items). Employees with IA are able to utilize all the knowledge in the form of business processes and structures to aid their innovative ideas. Such employees have detailed knowledge of the existing business processes and are skilled to mold them for favoring their innovation. Examples of items include, "Matching the right resources according to the project comes easy to me," "I am able to plug in gaps in organization's working with the available resources."

Additionally, relational capital is conceptualized as responsible implementation. This indicates the employees' potential to execute their innovative ideas with the help of organization's relational capital. An organization's relational capital includes relationships with all the stakeholders. This enables the intrapreneurs to gather support and effectively pitch their innovation. Responsible implementation (RIMP-9 items) includes items, like: "My network ensures a smooth completion of my task," "I am skilled at collaborating within the department to manage the ongoing projects." We have a satisfactory Cronbach alpha score of 0.93 for this scale.

4. Results

4.1 Measurement model assessment

Measurement model summarizes the relationship between a construct and its equivalent indicator(s). A measurement model's assessment requires examination of reliability, convergent and discriminant validity (Hair *et al.*, 2017). To establish the internal consistency reliability, Cronbach Alpha (α) and Composite Reliability (CR) are studied. For both α and CR, a value exceeding 0.7 is acceptable (Fornell and Larcker, 1981; Nunnally and Bernstein, 1994). In the current work, reliability is well established since values of α and CR exceed 0.7 (Table 1).

To measure the convergent validity, values of Factor loadings and Average Variance Extracted (AVE) are examined (Hair *et al.*, 2017). Values given in Table 1 indicate a satisfactory measurement of both measures. All items have factor loadings>0.7; while their AVE values are>0.5 (Hair *et al.*, 2014, 2017; Henseler *et al.*, 2009).

To examine the nomological validity of the proposed structural model, focus group interview with experts from industry and academia was conducted. A focus group discussion with industry experts indicated the ability desired by organizations to attain an inimitable competitive advantage. While a focused discussion with academia experts helped us to understand the mindset of the WP pursuing executive MBA course. Empirical analysis established the proposed model's discriminant validity. To assess the discriminant validity, heterotrait-monotrait ratio of correlations (HTMT), a robust technique preferred over Fornell and Larcker approach is used (Henseler *et al.*, 2015). The discriminant validity of our model is well established as all values of HTMT (Table 2) lie below the threshold value of 0.90 (Teo and Noyes, 2010).

Satisfactory assessment of all model's indices encouraged the authors to assess the structural model. Multicollinearity of the measurement model is assessed through the variance inflation factor (VIF). In the present work, all VIF values lie within the acceptable cut-off <5; implying that our structural model is free from the problem of multicollinearity (Hair *et al.*, 2011, 2019; Henseler *et al.*, 2009).

Constructs	Items	Factor loadings	α	CR	AVE
TASL (Reflective-reflective)			0.911	0.971	0.642
	AS	0.975	0.861	0.961	0.719
	SD	0.899	0.916	0.918	0.704
	SR	0.895	0.892	0.893	0.755
Self-Efficacy			0.909	0.95	0.687
ICIA (Reflective-reflective)			0.93	0.971	0.618
	RIMP	0.963	0.848	0.95	0.684
	IRU	0.874	0.869	0.876	0.719
	MD	0.947	0.94	0.941	0.705

Source(s): Created by author(s)

Table 1. Measurement model output

	TASL	SE	ICIA
TASL		0.844	0.753
SE			0.826
ICIA			

Source(s): Created by author(s)

Table 2. Heterotrait-monotrait ratio (HTMT)

4.2 Structural model assessment

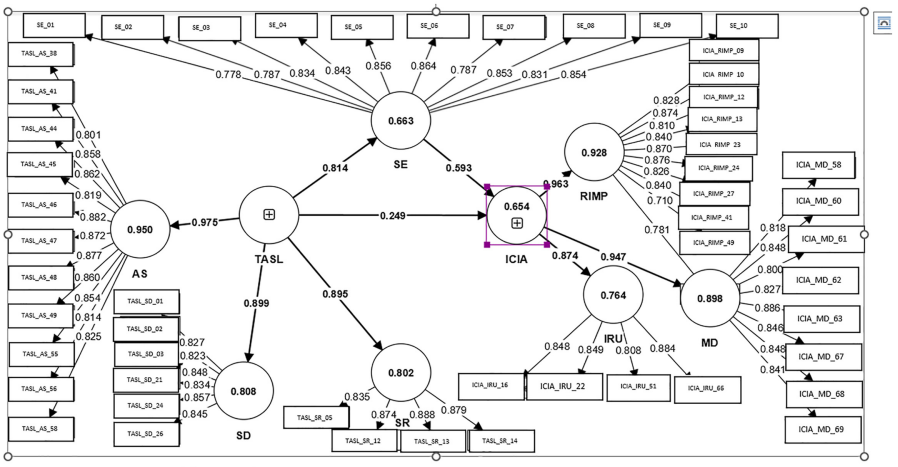
Relationship between latent constructs is captured by the structural model (Hair *et al.*, 2017). Assessment of the structural model rests on the size and significance of the path coefficient, coefficient of determination (R2), effect size (f2) and values of Standardized Root Mean Square Residual (SRMR). In SmartPLS, the statistical significance of path coefficients and t-values calculation is achieved through bootstrapping technique (Wong, 2015). Evaluation of the path model's results involves testing the significance of all relationships proposed in the model by assessing t-statistics, p values and bootstrap confidence intervals. In the present work, results are analyzed with $p < 0.01$ as the significance level. The relationship between TASL and SE is found to be significant ($p < 0.01$) with a t-statistic of 34.595 (greater than 2.57) and β (original sample) equal to 0.814 (H1: accepted). Relationship between SE and ICIA is significant ($p < 0.01$) and t-statistic = 10.536 (greater than 2.57) and β (original sample) equal to 0.593 (H2: accepted). Similarly, the relationship between TASL and ICIA is significant ($p < 0.01$) and t-statistic = 4.147 (greater than 2.57) and β (original sample) equal to 0.249 (H3: accepted).

Therefore, all the above hypotheses (H1, H2 and H3) of our study are accepted with $p < 0.01$ as the significance level.

To assess gender differences in ICIA among WP (H5), *t*-test is applied. A significant difference ($t = 7.53$; $p < 0.01$) in which males WP had higher ICIA (mean = 0.58) than females (mean = 0.42) support the acceptance of H5. A low intrapreneurial ability among women results in low ICIA, leading to the acceptance of H5.

Coefficient of determination (R^2) represents the main part of the evaluation of the structural model (Hair *et al.*, 2011). According to Chin (1998), R^2 may be considered as substantial, moderate or weak if its value is 0.67, 0.33 or 0.19, respectively. The estimation diagram of PLS path model (Figure 1) indicates value of $R^2 = 0.654$. Thus, high R^2 value confirms model's substantial explanatory power (see Figure 2).

Along with the above-reported indices, effect size (f_2) and Standardized Root Mean Square Residual (SRMR) are also observed. We can have large, medium or small effect size depending on whether the value of f_2 is 0.35, 0.15 and 0.02, respectively (Chin, 2010). If f_2's value falls below 0.02, it indicates an absence of effect (Hair *et al.*, 2017).



Source(s): Created by authors

Figure 2.
Structural model

Values in Table 3, indicate that TASL has a large effect on SE (1.968) and SE has a medium effect on ICIA (0.343). On the other hand, TASL has a small effect on ICIA (0.06).

Lately, a prevalent model fit index in PLS is SRMR (Henseler *et al.*, 2014). The satisfactory range of SRMR values lie between 0 and 1.0 (Diamantopoulos *et al.*, 2000). In the present model, SRMR value = 0.064, which falls within the given threshold value of 0.08 (Hu and Bentler, 1999).

Table 3.
Effect size (f_2)

	TASL	SE	ICIA
TASL		1.968	0.06
SE			0.343
ICIA			

Source(s): Created by author(s)

4.3 Mediation analysis

Mediation analysis is conducted on SmartPLS-4 following Hair *et al.* (2021) guidelines. The initial step involves checking specific indirect effects in the model. The specific indirect path TASL-SE-ICIA was significant with β = 0.483 (t-statistic = 10.443) (see Table 4).

Table 4.
Specific indirect effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T Statistics (O/STDEV)	*P* Values
TASL→SE→ICIA	0.483	0.481	0.046	10.443	0

Source(s): Created by author(s)

The next step involves checking the direct effect between TASL and ICIA in the presence of SE as the mediator. It was observed that the direct path TASL-ICIA with SE as the mediator was significant with β = 0.249 (t-statistic = 4.147) (see Table 5). Moreover, with the introduction of SE as the mediating variable, partial mediation is observed since the direct path continues to be significant (Table 6). Hence, hypothesis H4, SE mediates the relationship between TASL and ICIA is accepted.

Table 5.
Direct effect in the presence of mediator

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T Statistics (O/STDEV)	*P* Values
TASL→ICIA	0.249	0.252	0.06	4.147	0

Source(s): Created by author(s)

4.4 Assessing the predictive relevance using PLS predict

A straightforward and superior approach to evaluate a model's predictive validity is PLSpredict (Henseler *et al.*, 2015; Shmueli *et al.*, 2019). PLSpredict assesses the validity of the proposed model by using unrelated training and holdout samples. This is done by evaluating the model's parameters (like path coefficients, factor loadings and indicator weights) to produce case-level predictions at item or construct level. The dataset unused for model's estimation is labelled as holdout samples (Danks and Ray, 2018; Shmueli *et al.*, 2019).

Items of the dependent variable	PLS-SEM Q^2 predict	PLS-SEM RSME	LM RSME	PLS-SEM-LM RSME
EMP_09	0.284	1.193	1.242	−0.049
EMP_10	0.307	1.036	1.053	−0.017
EMP_12	0.284	1.079	1.063	0.016
EMP_13	0.314	1.041	1.018	0.023
EMP_16	0.279	1.172	1.239	−0.067
EMP_22	0.226	1.278	1.266	0.012
EMP_23	0.385	1.01	1.009	0.001
EMP_24	0.335	1.026	1.023	0.003
EMP_27	0.335	1.092	1.082	0.01
EMP_41	0.416	0.967	0.97	−0.003
EMP_49	0.28	1.027	0.992	0.035
EMP_51	0.195	1.263	1.31	−0.047
EMP_58	0.353	1.043	1.028	0.015
EMP_60	0.393	1.017	1.049	−0.032
EMP_61	0.307	1.094	1.078	0.016
EMP_62	0.307	1.039	1.07	−0.031
EMP_63	0.47	0.827	0.827	0
EMP_66	0.329	1.02	1.058	−0.038
EMP_67	0.355	0.925	0.926	−0.001
EMP_68	0.353	1.029	1.02	0.009
EMP_69	0.289	1.051	1.049	0.002

Source(s): Created by author(s)

Table 6. Predictive assessment for Intellectual capital-based Intrapreneurial Ability (ICIA)

In PLSpredict, the explanatory's construct suggestive values are used in the holdout sample. Subsequently, the model estimates of the training sample are used for predicting a specific dependent constructs' indicators (Shmueli *et al.*, 2019). The values of the training sample are predicated by employing in-sample prediction while for holdout samples we use out-of-sample prediction. An aberration between the predicted out-of-sample case values and actual values reflects high predictive power of the model. Inversely, the model has low predictive power when a noticeable deviation between the predicted out-of-sample case values and actual values is observed.

To measure the total prediction error, researchers use various prediction statistics, such as, Mean Absolute Error (MAE), Mean Absolute Percentage Error (MAPE) and Root Mean Squared Error (RMSE). RMSE's approach makes the statistics allot higher weights to big errors; augmenting its significance when big errors are to be overlooked. Hence, RMSE is the ideal "default" criteria often used in predictive modeling (Chica and Rand, 2017).

Shmueli *et al.,* (2019) approve an additional yardstick wherein PLS path model's input layer is accounted for by disregarding its actual structure. PLSpredict applies a linear regression model (LM) for predicting the variables (Evermann and Tate, 2016). Since such an analysis neglects any fixed structure made on structural and measurement theory, the predictions resulting from PLS-SEM are superior than the naïve LM standard.

Predictive power of the proposed model is assessed in accordance to the recommendations of Hair *et al.,* (2019) and Shmueli *et al.,* (2019). Using 10 folds (k = 10), the PLSpredict process is set as the conditions for creating sub-groups. The training sample in a single fold comprised of the least sample size requirement determined by G*Power. Initially, $Q^2_{predict}$ values of ICIA are substantiated to authenticate whether the predictions surpass the most naïve standard. As per the rule, the dependent construct's Q^2 values > 0 to establish PLS-path model's predictive relevance. After this step, an analysis of the prediction error's distribution provided in Histogram plots is done. Data's symmetry indicates the suitability of using the

RSME values in place of MAE (Shmueli *et al.*, 2019; Khatri *et al.*, 2023). Table 6 represents that RSME values for a minority number of indicators have smaller prediction errors when compared to LM. Thus, a low predictive power of the model is established (Shmueli *et al.*, 2019).

To summarize our results, high R_2 (0.654) shows that 65% of ICIA is determined by 2 constructs–SE and TASL; indicating that our study has successfully addressed its main antecedents. SE's significance as a partial mediator for understanding the interplay between TASL and ICIA is well established in our results. A significant difference ($t = 7.53$; $p < 0.01$) in which males WP had higher ICIA (mean = 0.58) than females (mean = 0.42) indicate that ICIA of male WP is greater than their female counterparts. In addition, the nomological and discriminant validity of our model is well established. Our model's low predictive power assessed using PLSpredict could be attributed to other organizational and environmental characteristics left unattended (Kumar and Parveen, 2021).

5. Discussion

The finding of this present study reflects consistency with previous studies which show that TASL promotes SE of WP by motivating them to transform their creative initiatives into a reality (Haider and Mushtaq, 2017; Ji and Yoon, 2021). The heightened SE helps them to identify and capitalize on opportunities thus, supporting the ICIA of WP (Asiaei *et al.*, 2020). Moreover, TASL creates a congenial environment high on social and emotional support to embark confidently on their intrapreneurial journey. A significant direct path TASL-ICIA with SE as the mediator is in line with existing literature which states that TASL provides a conducive work environment; promoting the innovative capacities of WP (Boon *et al.*, 2013; Greenleaf, 1977).

Additionally, ICIA of men is greater than that of women. Men's participation and involvement in intrapreneurial actions are higher than that of women (Baena-Luna *et al.*, 2022). Women lack confidence in their preparedness and abilities; implying a low SE (Bandura, 1992). This low SE limits women's ability to persevere in difficult tasks (Markham and Halverson, 2002), such as intrapreneurial pursuits. Risk-taking is a relative attribute inherent to intrapreneurs (Brøndum, 2019). However, women are risk averse (Adachi and Hisada, 2017) due to which they are more likely to believe that their idea is not an actionable one. Additionally, the presence of children carries a negative effect on intrapreneurship for women (Adachi and Hisada, 2017). Thus, a low intrapreneurial ability among women results in low ICIA.

6. Implications

6.1 Theoretical implications

Our study makes a vital contribution to IC, SL, TASL, SE and intrapreneurship literature. It also advances the literature on IC and Intrapreneurship to bring forth ICIA, a fresh area of investigation. The changing global business landscape demands a better understanding of the strategic relevance of IC (Lerro and Schiuma, 2013). The introduction of ICIA in the IC literature will help to formulate effective organizational strategies to thrive in testing times. To the best of our knowledge, ours is the first study to examine the role of gender in relation to ICIA. The study makes a significant contribution by converging the separate tracks of research to fit the need of modern business environment. Our work contributes to literature on intrapreneurial organization (Burger-Helmchen, 2013) which thrive on promoting ICIA to remain competitive in the business landscape. Entrepreneurial behavior is a well-researched area (Moriano *et al.*, 2011) but little research exists in relation to intrapreneurial behavior (Farrukh *et al.*, 2016). Presently the industry wants to grow with its own people. Our work brings a new perspective enabling organizations to grow outwardly by focusing on its

inward growth, that is, growth of professional's ICIA. To help organizations build ICIA of their professionals, our study provides an instrument with its three main constituents, namely, Market Directedness, Innovative Resource Utilization and Responsible implementation. The development of such an instrument will play a vital role in enriching the existing literature of IC.

SL is viewed as an anecdotal (Greenleaf, 1977), submissive and weak style; leading to its disregard in literature (Cerit, 2009). Limited research (Amey, 2006; Joseph and Winston, 2005) is insufficient to provide a meaningful clarification about how leaders in academia operationalize SL. Our findings will fill this research gap by encouraging its application in academia. Additionally, literature studying the influence of servant-teacher on student's outcomes is inadequate (Noland and Richards, 2015). The empirical examination of TASL and its influence on SE and ICIA is an initiative to address this research void. Existing research is silent about the progressive influence of TASL in strengthening SE and ICIA among WP. This gap is also filled through our empirical findings. Acknowledgement of the constructive role played by a teacher with a service motive will help India revive its forgotten glory of the '*gurukul*' mode of education in which the guru acts more than a teacher (Gavankar, 2016). To the best of our knowledge, no study has integrated SE and ICIA of WP, with SE mediating the relationship between TASL and ICIA. An instrument to measure TASL, with dimensions of associability, selfless disposition and social responsiveness, represents another fresh perspective in the field of servant leadership. Also, the use of PLSpredict to examine the model's predictive validity is a novel dimension as its applicability is still in its nascent stage.

6.2 Practical implications

Our study holds implications for the developing and transitioning economies at large. For these economies, ICIA of employees holds special relevance to ensure firm's survival and growth (Antoncic, 2007). For developing economies, the key challenge is to address responsible innovation which continuously addresses the mission of the organization in an innovative manner (Ambos and Tatarinov, 2022; Verma *et al.*, 2023; Cillo *et al.*, 2023). As developing economies are gradually adapting to the digital ecosystem, internal entrepreneurship is important in their journey of transitioning to a market economy (Monfared *et al.*, 2019; Jain *et al.*, 2022). The study has important implications for countries high on context sensitivity and which rely on leader's support and initiation (Sinha and Srivastava, 2015). Such countries may benefit from effective SL in both academic and industrial context, thereby fostering ICIA among employees of developing economies.

Since, knowledge is power, capitalizing IC of the employees is undeniably vital for organizational success. IC, like employees' IA, is an important factor promoting an organization's innovative capacities (Buenechea-Elberdin, 2017; Kianto *et al.*, 2016). Building on their IA would encourage internal innovation and adaptation capabilities, thus fostering firms' competitiveness and resilience in the long run.

Efforts by an organization to orient its IC based on IA creates a heightened synergistic effect. ICIA, an intangible asset, will help face numerous organizational changes by drafting innovative solutions. Thus, organizations should orient their training and development programs to inculcate and strengthen the ICIA of professionals. Academia too can shoulder this responsibility by aligning their course curriculum to help the organizations in this direction. In this way, academia can support the industry by providing a competitive workforce. Such careful planning and execution of courses directed towards fostering ICIA of WP will make industry-academia partnership successful. The unique blend of industry and academia for assessing and fostering ICIA of WP is the novel aspect of our study.

Moreover, within the educational context, a teacher as a leader holds a unique position capable of leading change (Lieberman and Miller, 2004). TASL can improve student's

outcomes (Crippen and Willows, 2019) and in our context, the TASL will positively influence SE and ICIA of WP. Thus, our results and findings of TASL's influence on SE and ICIA of WP would encourage academia to practice TASL style of teaching. Once the faculty acknowledges the benefits of servant teaching, their engagement in development programs designed for imparting the TASL's traits will increase. It will also positively influence their ability and willingness to act as a servant teacher.

7. Conclusion

Our study is an exemplary work of industry-academia partnership, benefitting both academia and industry. Organizations attach importance to developing strategies which internally endorse innovation (Asiaei *et al.*, 2020). IA inspires the formation of new business prospects and thus, contributes to an organization's IC.

It is evident from the results that interplay of environmental factor (TASL) and cognitive mechanism (SE) aid in promoting the innovative career endeavors (ICIA) of WP. Our study empirically extends the SCCT literature and its application in the knowledge-driven economy. The findings outline the key role of TASL in supporting the intrapreneurial process. In challenging times, SL will emerge as a "pull factor" (Blanka, 2019) in both academia and industry; facilitating the innovate endeavors in WP. Also, the study emphasizes the importance of SE for employees when embarking on their tumultuous intrapreneurial journey.

Exploring the new ICIA especially for the knowledge-driven economy is another unique contribution of our study. Our work is the first attempt to apply the prism of IA to view "modern" IC. ICIA will be the next sought-after criteria for assessing the existing and the future workforce. ICIA assessment will help organizations and practitioners to draft a more robust performance measurement system. Our study provides various theoretical and practical implications for both industry and academia in drafting appropriate training module and course curriculum to nurture the "intrapreneurial way of working" (Neessen, 2019).

8. Limitations and future agenda

The study has some shortcomings. There is an exclusive reliance on perceptual indicators oblivious of any objective measure for assessing ICIA. Moreover, the role of specific cultural differences is overlooked in our study. These limitations can serve as an interesting area of research for further exploration.

It is anticipated that future research will gain valuable insight by studying ICIA in detail. Future researchers may explore other antecedents of ICIA. Also, empirically examining the impact of ICIA on organization's performance would be an interesting area of research. Emergent countries such as India lack rigorous studies in the field of IC. Researchers can explore ICIA in other labor-intensive countries to understand its pivotal role in the overall development of a nation. Aspiring researchers can extend the scope of the present work by conducting a longitudinal study. Researchers may explore TASL's role in fostering budding intrapreneurs at the institutional level to have an ICIA-equipped future workforce. The incessant demand for innovation throughout the organization demands further exploration of ICIA from the perspective of both academia and industry.

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