THE ROLE OF INTELLECTUAL CAPITALS ON UNCONVENTIONAL ORGANIZATIONAL CAPITAL FORMS

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Abstract:
The dynamic relationship between positive psychological capital (PsyCap) and intellectual (IC) and social capital (SC) has gained increasing attention in the field of organizational behavior and management. Physical or financial capital previously were seen as an essential capital for organizations' success, but today with rapid change are seen insufficient to protect their sustainability, especially in competitive environment, thus, organizations have forced to adapt different alternative of resources such as intellectual, PsyCap and social capital that with the time are considered as essential capital to the sustainability of organizations. In this context, intellectual capital was regarded as an important additional source of competitive advantage in the workplace. This study aimed to examine the impact of the four dimensions of psychological capital—self-efficacy, hope, optimism, and resilience—on intellectual capital, which represents the intangible assets within organizations. Additionally, the study explored how these dimensions of psychological capital influence social capital, and how social capital, in turn, affects intellectual capital. Data was collected through a questionnaire distributed to employees at various positions across multiple service sector companies. Structural Equation Modeling (SEM) was employed to analyze the relationships between these variables. By exploring the connections and impacts between psychological, social, and intellectual capital, the study seeks to provide valuable insights for both academic researchers and business organizations, offering practical implications for enhancing organizational resources.

1. Introduction

In the fast-changing business environment of today, organizations increasingly recognize that relying solely on traditional financial resources is inadequate for sustaining a competitive advantage. Although financial capital remains fundamental to business success, companies must also utilize additional types of capital—social, psychological, and intellectual—to thrive in a complex and dynamic landscape. Competitive advantage relies not only on physical assets and financial performance but also on intangible resources that foster innovation, teamwork, and flexibility.

Among these intangible assets, positive psychological capital (PsyCap), social capital, and intellectual capital have emerged as vital forms of capital that organizations can leverage to enhance their competitiveness. These resources offer distinct advantages that financial assets alone cannot provide. Positive Psychological Capital, a concept introduced by Luthans (2007), refers to a set of psychological dimensions—self-efficacy, optimism, hope, and resilience—that improve individuals' well-being, motivation, and performance. When employees possess strong PsyCap, they are better equipped to face challenges, maintain motivation, and contribute effectively to organizational goals (Avey et al., 2010), highlighting positive outcomes at both individual and organizational levels.

Similarly, social capital reflects the resources embedded within organizational relationships, including the networks and connections that facilitate the exchange of information and resources. These networks enable individuals to

access complementary knowledge and skills, fostering collaboration (e.g., Burt, 1992; Loury, 1977). Social capital also encompasses shared language, norms, and values that guide behavior within organizations (e.g., Putnam, 1995; Coleman, 1990; Portes & Sensenbrenner, 1993).

Intellectual capital, introduced by Edvinsson (1997), refers to the collective knowledge, skills, organizational systems, and external relationships that enable organizations to access critical resources and enhance their responsiveness in dynamic environments. The current study aims to explore the interrelationships among these unconventional forms of capital, grounded in the existing literature. Prior research indicates that both social capital (SC) and intellectual capital (IC) influence self-efficacy, a core component of psychological capital (Badrinarayanan et al., 2011).

For instance, Yanli and Kaibo (2014) demonstrated how intellectual capital positively contributes to social capital, while Reiche, Harzing, and Kraimer (2009) highlighted the role of social capital in facilitating the development of intellectual capital. Bourdieu (1993) emphasized that social capital should not be examined in isolation but in relation to other forms of capital, as its value lies in the access it provides to broader resources. In line with this view, Nahapiet and Ghoshal (1998) argued that social capital is essential for promoting knowledge sharing, which in turn enhances intellectual capital.

Social capital thus acts not only as a mechanism for knowledge exchange but also as a conduit through which intellectual capital can be utilized to create a competitive edge. These scholars underscore that an organization's intellectual capital is closely interwoven with its social fabric. Consequently, leveraging both social and intellectual capital is fundamental for organizations striving to build sustainable competitive advantages. Integrating Bourdieu's sociological framework with the organizational theories of Nahapiet and Ghoshal offers a richer understanding of how social and intellectual assets can be mobilized strategically.

1.1 Social Capital

Capital is defined as any resource that is valuable enough to be used to produce other assets. For example, physical capital consists of products and resources. Social capital, though less tangible than physical capital, also facilitates productive activities. Social support is often embedded within networks, and the extent and quality of these relationships significantly influence one's ability to solve problems. The smaller and more restricted the relationships one has, the more limited their social capital becomes, thereby reducing the likelihood of successfully resolving issues (Engincan, 2012).

Adler and Kwon (2002) noted that social capital differs from other forms of capital in that it resides not within individuals but in the relationships between them. Emphasizing these distinguishing features, Lyons (2002) argued that social capital deserves recognition as a fourth form of capital, alongside financial, human, and physical capital.

The foundational understanding of social capital is grounded in the seminal work of Pierre Bourdieu (1986) and James Coleman (1988). Bourdieu defined social capital as "the aggregate of current and potential resources associated with sustaining a lasting web of established relationships characterized by mutual recognition and understanding," highlighting that access to resources stems from ongoing relational networks. Coleman (1988) extended this view, emphasizing that social capital contributes to the formation of human capital through "communal representations, interpretations, and meaning frameworks among individuals." Both scholars underline that social capital emerges from sustained interaction and mutual understanding.

Building on these views, Robert Putnam (1993) described social capital as "elements of social organization such as norms, networks, and trust that enable coordinated actions and enhance societal effectiveness." This conceptualization stresses the critical role of trust and shared norms in enabling collective action and enhancing outcomes in both social and organizational contexts.

Nahapiet and Ghoshal (1998) proposed that social capital can be analyzed through three interrelated dimensions: structural, cognitive, and relational. The structural dimension refers to the configuration and pattern of connections among actors in a network (Wasserman & Faust, 1994; Scott, 2000). It encompasses the density, connectivity, and hierarchy of relationships (Krackhardt, 1989), and depends on how networks are used and how frequently actors interact (Rulke & Galaskiewicz, 2000). Structural capital enables access to information, encourages collaboration and innovation, and is closely linked to both psychological and intellectual capital, making it integral to organizational success. For instance, robust social networks can support psychological resilience and knowledge sharing, thereby enhancing overall effectiveness and competitive edge.

The cognitive dimension includes shared codes, language, narratives, and meaning systems that enable individuals to communicate and understand one another (Cicourel, 1973). These shared interpretations facilitate learning and knowledge creation, helping individuals make sense of their environments (Nonaka, 1994).

The relational dimension, the third component, focuses on the nature of personal relationships developed through historical interactions (Granovetter, 1992). It encompasses elements like trust, respect, and friendship that develop over time and influence behavior. These ties fulfill social needs such as sociability, approval, and prestige, reinforcing cooperation and shared identity within networks. Trust, in particular, is central to this dimension. Nahapiet and Ghoshal (1998) emphasized that trust acts as a social mechanism that gives individuals confidence to engage in cooperative behavior, knowing that vulnerabilities will not be exploited and future commitments will be honored (Uzzi, 1999; Ouchi, 1980).

Empirical research has confirmed that social capital fosters collaboration and contributes to the formation of innovative and high-performing organizations (Jacobs, 1965; Putnam, 1993; Fukuyama, 1995). As such, the concept plays a vital role in understanding how organizations generate value and shape their internal dynamics.

1.2 Positive Psychological Capital

Positive psychological capital (PsyCap), as described by Luthans, Avolio, Walumbwa, and Li (2005), is grounded in positive psychology and emphasizes the development of personal strengths that enhance individual performance. It revolves around two central inquiries: "Who are you?" and "What do you wish to accomplish?" (Luthans, Norman, Avolio, & Avey, 2008), highlighting the importance of self-awareness and goal orientation in personal development.

PsyCap is composed of four key dimensions: self-efficacy, optimism, hope, and resilience (Luthans, Avolio, & Youssef, 2007). Self-efficacy is the belief in one's ability to complete challenging tasks. Optimism refers to the tendency to expect positive outcomes and view challenges as opportunities for growth. Hope involves the setting of goals, and the strategic planning needed to achieve them, while resilience reflects the capacity to recover from setbacks and persist through adversity. Together, these components promote a positive psychological state that supports persistence and performance in the face of challenges (Luthans, Avolio, & Youssef, 2007, p. 3).

Self-efficacy, rooted in Bandura's social cognitive theory (Avey, Patera, & West, 2006), reflects individuals' confidence in their capacity to influence outcomes and handle difficulties. It encompasses self-perceptions of competence and agency (Avey, Luthans, & Jensen, 2009; Hayek, 2012). Individuals with high self-efficacy tend to set ambitious goals, face adversity head-on, and sustain their efforts in the face of obstacles. These individuals are also characterized by their autonomy, patience, and resilience, often performing at high levels even under pressure (Youssef, Luthans, & Avolio, 2007). Although they exhibit a strong sense of independence, they also understand the value of collaboration and know when to seek support to optimize outcomes.

Closely tied to self-efficacy is optimism, a positive attributional style that enables individuals to interpret experiences in ways that enhance resilience. According to Seligman (1998), optimists attribute positive events to internal, stable causes and negative events to external, temporary ones. This perspective sustains motivation and enthusiasm even in adverse situations. Carver and Scheier (2002) further differentiate optimists from pessimists by emphasizing that optimists maintain a hopeful outlook and demonstrate greater perseverance when facing difficulties. Their belief that future successes will outweigh past failures helps them stay focused and engaged (Luthans, Avey, Peterson, & Avolio, 2010).

Resilience, another core component of PsyCap, describes how individuals respond to stress and adversity. It is the capacity to recover effectively from difficulties and adapt constructively to unexpected challenges (Luthans, Avey, & Jensen, 2009; Avey, Nimnicht, & Pigeon, 2009, p. 388). Strümpfer and Kellerman (2005) explain resilience through a range of adaptive responses, including positive coping strategies, emotional recovery after negative experiences, and proactive preparedness to face potential disruptions (Cascio & Luthans, 2013).

Hope, as articulated by Snyder et al. (1991), represents a positive motivational state that is anchored in the desire to achieve goals and in identifying viable pathways toward those goals (Luthans, Luthans, & Luthans, 2004). It is a dynamic force that drives individuals to persist in their efforts (Avey, Luthans, & Jensen, 2009; Clapp-Smith, Vogelgesang, & Avey, 2009). Hope is also strongly connected to the concept of internal locus of control, which refers to the extent to which individuals believe that their actions, experiences, and abilities can influence outcomes in their environment (Hayek, 2012; Wang, Tomlinson, & Noe, 2010; Roy & Gupta, 2012). Campbell (2000) notes

that both hope and internal locus of control are associated with high levels of intrinsic motivation, psychological well-being, and overall life satisfaction.

1.3 Intellectual Capital

Organizations can improve their standing in competitive business environments by managing both tangible and intangible resources efficiently (Lin & Cheng, 2010). Tangible resources typically include financial capital, land, equipment, and buildings (Bontis, 1999). In contrast, intangible resources refer to assets such as employee skills, knowledge, customer loyalty, and corporate reputation, which are difficult to observe directly or quantify in financial terms (Tan, Plowman, 2008; Derun, 2013).

According to Su (2014), intellectual capital (IC) encompasses any non-physical resources that provide businesses with a competitive advantage and enhance profitability. In the literature, most definitions of intellectual capital focus on three primary components: human capital, structural capital, and customer or relational capital (Ruta, 2009; Walsh et al., 2008; Yang & Lin, 2009; Shaban, 2013).

Human capital, as explained by Hendriks and Sousa (2012), includes employees' knowledge, abilities, experience, attitudes, and skills. To contribute to competitive advantage, these attributes must be rare, valuable, and difficult to replicate or replace (Arafat & Shahimi, 2013). Stewart (1997) elaborated on this by asserting that "money communicates but lacks thought; machines execute, frequently surpassing human performance, yet lack creativity." He emphasized that innovation is the core function of human capital, whether through refining organizational processes or developing new products and services (p. 86).

Structural capital encompasses an organization's systems, structures, culture, procedures, rules, databases, and knowledge management systems (Zeglat & Zigan, 2014). These internal frameworks enable organizations to support and leverage their human capital more effectively.

Customer or relational capital is rooted in the organization's network of relationships with both internal stakeholders (e.g., employees) and external parties such as customers, suppliers, regulators, partners, and competitors (Longo & Muro, 2011). These relationships embed valuable knowledge and trust, enhancing the organization's ability to create value (Arafat, 2013). Through these interactions, customer capital boosts financial performance by fostering customer loyalty, increasing commitment, and reducing transaction costs (Partanen & Möller, 2013).

2. Research Methodology

The current study targeted employees at various position levels within the service sectors of Gulf companies. A total of 350 employees participated, with data collected via an online survey. The survey employed a convenience sampling method, allowing the researchers to gather responses from accessible participants across the organizations.

To assess Positive Psychological Capital (PsyCap), the study used the 23-item scale developed by Çetin and Basım (2012), which is based on the original scale by Luthans et al. (2007a). The scale evaluated the four dimensions of PsyCap: self-efficacy, optimism, hope, and resilience. The reliability of these dimensions was measured using Cronbach's alpha, yielding coefficients of 0.786 for self-efficacy, 0.730 for optimism, 0.720 for hope, and 0.717 for resilience.

For Social Capital, the survey utilized the 8-item scale by Karabey (2009), which draws on frameworks developed by Liao and Walsh (2005) and Tsai and Ghoshal (1998). The scale covered the structural, cognitive, and relational dimensions of social capital. The reliability coefficients for the structural and relational dimensions were 0.807 and 0.802, respectively.

To evaluate Intellectual Capital, the study applied the Yıldız (2011) scale, which is based on Bontis' original scale (1998). This scale contains 38 items that assess human, structural, and relational capitals. The reliability coefficients for intellectual capital dimensions were 0.83 for human capital, 0.85 for structural capital, and 0.88 for customer capital.

Each item in the survey was rated on a 5-point Likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement. The survey was divided into two sections: the first section included 72 items related to psychological, social, and intellectual resources, while the second section gathered demographic information, such as gender, age, experience duration, and educational level.

2.1. Data Analysis

The current study employed the statistical analysis tool SPSS version (26), the Analysis of Moment Structures (AMOS 21.0), and the structural equation modeling (SEM) to examine the relationship between variables.

SPSS was used for descriptive statistics, while AMOS was used for confirmatory factor analysis (CFA), which was used to validate the appopriate structural model and support the conceptual framework of the study.
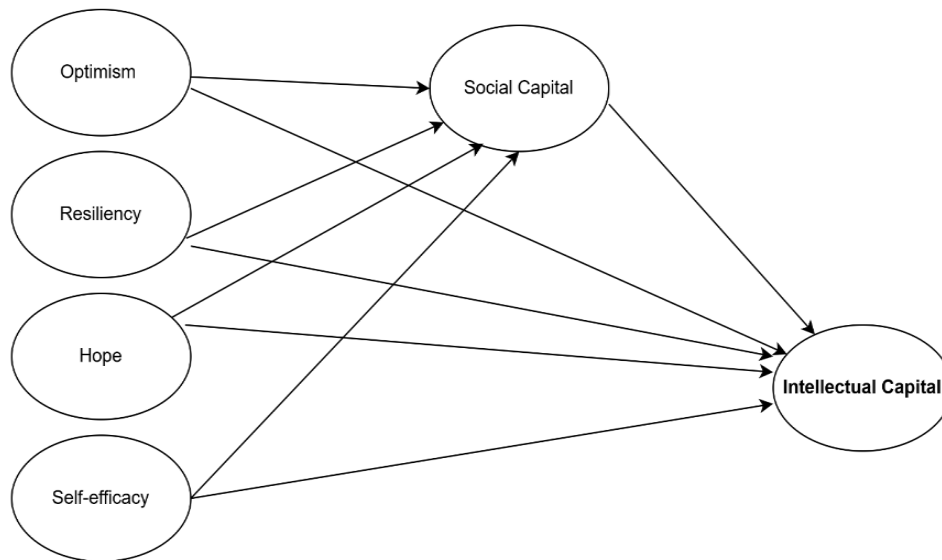

Figure 1: Model of Research

Based on the research's conceptual framework and the details provided in the literature, the hypotheses are suggested as:

H1: Social capital positively impacts Intellectual capital.
H2: Optimism positively impacts social capital
H3: Optimism positively impacts social capital
H4: Resilience positively affects social capital.
H5: Self-efficacy positively affects social capital.
H6: Optimism positively impacts Intellectual capital.
H7: Optimism positively affects Intellectual capital.
H8: Resilience positively affects Intellectual capital.
H9: Self-efficacy positively affects Intellectual capital.

2.2 Sample Description

Out of the 350 respondents, 30% were males, whereas 70% were predominantly females. The majority of participants were between the ages of 30-39 (37.4%), while those in the 20-29 (29.1%) and 40-49 (20.6%) age followed. In the sample, 49.4% had a university degree, whereas 5.1% had a lower level of education. 21.1% held positions as leaders and executive managers, whereas 29.7% were in entry-level or staff roles.

2.3 Measures of Validity

First, Cronbach's Alpha coefficients were calculated to evaluate each construct's internal consistency and reliability. The Cronbach's Alpha values must exceed 0.70. One of the constructs related to optimism, hope, and resilience was removed because Cronbach's alpha values were greater than the previous value of deleted items.

Table 1. presents the number of items to each construct as well as the Cronbach Alpha values.

Table 1: Cronbach Alpha of Scales

Constructs	No. of Items	Cronbach's Alpha
Psychological Capital	21	,81
Hope	5	.72
Self-efficacy	6	.78
*O*ptimism	5	.73
*R*esilience	5	.71
Social Capital	9	,85
Relational	3	.81
Structural	6	.80
Intellectual Capital	39	,90
Structural	12	.85
Human	12	.83

This study employed Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA) to explore the relationships among the dimensions of social, intellectual, and psychological capital, while also establishing construct validity. The analysis followed the two-step approach outlined by Anderson and Gerbing (1988), which involves first examining the measurement model and then evaluating the structural model.

In the first step, CFA was used to assess the measurement model, focusing on the validity and reliability of the constructs. This step ensured that the constructs were accurately measured, providing a foundation for testing the relationships between them. The second step involved the creation of the structural model to examine the hypothesized relationships between the constructs. The model fit was assessed using criteria recommended by Hu and Bentler (1999). The chi-square/degrees of freedom ratio (X^2/df) were used to evaluate the fit, with a value of X^2/df $\leq$ 3 indicating a strong model fit. Additionally, the Goodness of Fit Index (GFI) was used, where a GFI value of $\geq$ 0.90 indicates a good fit. The Adjusted Goodness of Fit Index (AGFI) was also considered, with values $\geq$ 0.80 reflecting an acceptable fit, and values approaching 1.0 suggesting a superior model fit.

 The Comparative Fit Index (CFI) is seen as a good indicator when CFI $\geq$ 0.90, while values exceeding 0.95 are viewed as excellent. Root Mean Square Residual (RMR) is usually considered acceptable when RMR $\leq$ 0.10, with lower values being more desirable. when value of RMR equal 0.05 or less is regarded as optimal. Root Mean Square Error of Approximation (RMSEA) is deemed an acceptable fit when RMSEA $\leq$ 0.10, while lower values <0.05 are preferred for indicating a robust model fit.

Table 2: Results of Measurements

Measurements	Standard	Before delete items	After delete items
X^2/df	$\leq$ 3	$\leq$ 3,31	$\leq$ 2,87

GFI	≥ 0.90	0,88	0,95
AGFI	≥ 0.80	0,70	0,86
RMR	≤ 0.10	0,07	0,061
RMSEA	≤ 0.10	0,087	0,071

The goodness of fit metrics for the measurement model were determined through confirmatory factor analysis. The baseline CFA model yielded an inadmissible outcome since a suitable fit could not be attained where X2/df ≤ 3.31; p<0.001, GFI=0,88; AGFI=0.70; CFI=0.88; RMR=0.070; RMSEA=0.087.

Table 3: Reliability of Construct

Constructs	Reliability	AVE
Hope	0,757	0,502
Self-efficacy	0,851	0,503
Optimism	0,872	0,578
Resilience	0,920	0,661
Relational	0,867	0,697
Structural	0,901	0,601
Structural	0,921	0,560
Human	0,941	0,545
Customer	0,913	0,522

Several items were removed from the measurement model due to their insufficient factor loadings and violations of standard residual covariances. Specifically, six items from the customer capital construct, two items from the optimism and structural social capital constructs, one item each from the resilience and hope constructs, and four items from both the structural intellectual capital and human capital constructs were excluded because their standardized factor loadings were below 0.5. Furthermore, four variables were deleted due to excessively high residual covariances. As a result, the final Confirmatory Factor Analysis (CFA) model consists of 51 measured variables.

The model's fit statistics were evaluated, with all values showing moderately satisfactory results. The fit statistics included a chi- square/degrees of freedom ratio (X2/df) of 2.87, a p-value less than 0.001, a Goodness-of-Fit Index (GFI) of 0.95, an Adjusted Goodness-of- it Index (AGFI) of 0.86, a Root Mean Square Residual (RMR) of 0.061, and a Root Mean Square Error of Approximation (RMSEA) of 0.071.

To assess internal validity, construct reliability and Average Variance Extracted (AVE) were used. Following the guidelines of Fornell and Bookstein (1982), and Fornell and Larcker (1981), the AVE values ranged from 0.522 to 0.697, and the construct reliability values ranged from 0.757 to 0.941, confirming the appropriateness of the measurements.

2.4 Measure Structural Model

At the second stage of examining data, a structural model was employed to test hypothesis. Several critical indicators suggest that the structural model fits well. The Chi-square/df= 2,45, CFI=0,93, GFI=0.92, RMR=,065 and RMSEA 0,069 values indicate that the model properly describes the connections between the variables. The AGFI = 0,87 is just slightly below the ideal threshold, indicating that there is space for improvement, but generally, the structural model displays acceptable convergent validity and an effective fit to the data.

3. Results

Table 4: Results of Hypothesis Test

EXAMINING THE RELATIONSHIP BETWEEN PSYCAP DIMENSIONS, SOCIAL AND INTELLECTUAL CAPITALS

NO.	Scales	S. Cofficient	S.of Error	t-value	Sig		Results
H1	Social Capital	(IC)	0,432	0,045	8,080	***	Is supported
H2	Optimism	(SC)	0,042	0,052	0,541	0,642	Is rejected
H3	Hope	(SC)	0,088	0,095	0,790	0,669	Is rejected
H4	Resilience	(SC)	0,201	0,089	2,61	***	Is supported
H5	Self-Efficacy	(SC)	0,367	0,104	4,35	***	Is supported

EXAMINING THE RELATIONSHIP BETWEEN PSYCAP DIMENSIONS AND INTELLECTUAL CAPITALS

NO.	Scales	S. Coefficient	S.of Error	t-value	Sig		Results
H6	Optimism	(IC)	0,37	0,061	0,481	0,642	Is rejected
H7	Hope	(IC)	0,046	0,201	0,430	0,663	Is rejected
H8	Resilience	(IC)	0,057	0,070	0,589	0,545	Is rejected
H9	Self-Efficacy	(IC)	0,343	0,121	3,231	***	Is supported
*** *SIG* < 0,001							

The results of testing hypotheses supported that there is positive relationship between social capital and each of (IC), self-efficacy and resilience, where p <0,001, this can be explained as any increase in social capital will be associated with positive increase with other of these variables. Therefore, H1, H4 and H5 are supported. In other hand, H2 and H3 are rejected, the results indicate that social capital is related negatively with each of optimism and hope, where any increase in SC will decrease hope and optimism in organizations. Investigating the relationship between (IC) and each dimension of PsyCap indicates a negative relationship, thus, any increase in one of these of dimensions will decrease the (IC) in organizations, therefore, H6, H7, H8 are rejected. On other hand the sig value of H9 is <0.001, which indicate that self-efficacy has positive impact on (IC), where any increase in self-efficacy will increase the IC in workplace.

4. Conclusion

This paper addressed a comprehensive knowledge related to positive psychological capital, social capital, and intellectual capital, as well as their interactions and impacts on one another. A significant relationship between (SC) and (IC) was investigated. In terms of the relationship between PsyCap and (SC), the findings indicate that only resilience and self-efficacy have an impact on (SC), while hope and optimism were found to be insignificant. In contrast, the ability to manage difficulties may enhance interactions and provide structural social capital.

According to other study findings, there was no correlation between (IC) and optimism, hope, or resilience. The only dimension observed to be associated with (IC) was self-efficacy. This aspect of PsyCap can be introduced as the strength of an individual's self-confidence in their knowledge, skills, and ability. The individuals' confidence can be considered as a key component in developing and improving the innovative spirit, which is classified as human dimension of (IC). This viewpoint explains why self-efficacy and (IC) are positively correlated. This study examined the relationship between (SC) and (IC) and dimensions of PsyCap. The essential limitation of current study is that positive PsyCap dimensions have no direct impact on (SC) (IC) dimensions. As a result, additional research focused on this relationship will contribute significantly to the related literature.

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