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Towards The Knowledge-Smart Professional Service Firms: How High-Performance-Work-Systems Support the Transformation --Manuscript Draft--

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Response to Reviewers:	Please refer to the Response Letter that is attached as a separate file.

Towards The Knowledge-Smart Professional Service Firms: How High-Performance-Work-Systems Support the Transformation

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Towards The Knowledge-Smart Professional Service Firms: How High-Performance-Work-Systems Support the Transformation

Abstract: The Professional Service Firms (PSFs) have gained widespread attention owing to their enormous contribution to the growth of global service economies. PSFs being knowledge-intensive firms frequently encounter a challenge of continually enhancing the knowledge competencies of their staff that forms the basis of organizational Intellectual Capital (IC) and derives competitive advantage for them. Nevertheless, a little research has been done governing the development of knowledge capital in the PSFs. This makes the role of High Performance Work Systems (HPWS) indispensable towards managing intellectual capital resources in these firms. However, the systematic application of HPWS in PSFs context is still lacking the empirical basis. Therefore, by presenting a Qualitative Conceptual Framework, this research offers a linking mechanism on how strategic HRM systems (HPWS) guide IC development in the service firms. By empirically testing these HPWS as (Ability, Motivation and Opportunity)-enhancing practices via face-face interviews, the results demonstrate that HPWS play strategically significant role in building knowledge capital in the PSFs. Overall, this research offers practical insights to the KM and HR managers in service firms on achieving client service quality and satisfaction through a knowledge-smart workforce and perpetuate a sustainable competitive advantage.

Keywords: Professional Service Firms, High Performance Work Systems, Organizational Knowledge Capital, Intellectual Capital, Sustainable Competitive Advantage.

Introduction

The paradigm shift from traditional management to strategic management of human resource has long served as a strong basis for gaining a competitive advantage. Hence, the idea of having skilled human resource always drew widespread attention in the strategic HRM literature, particularly in the intellectual capital context (Rehman et al., 2020; Obeidat et al., 2016). In this regard, the HRM scholars claim that capable staff contributes to firm effectiveness owing to their core knowledge and skills (Sikora et al., 2016). Needless to say, the technological innovation offers corporate advantage in terms of cutting cost and improving efficiency, nevertheless, the ability to hire, nurture and retain a smart workforce forms a basis for a sustainable competitive advantage even when the other firm capabilities have diminished (Rehman et al., 2021). Succinctly speaking, human ingenuity is still among the most abundant but frequently underutilized corporate resource (Zhuo et al., 2021; Kong, 2010; O'Driscoll, 1998). A critical analysis of the global service firms suggests an increasingly knowledge-intensive services sector landscape.

In today's business environment, contemporary firms endeavor to mobilize their people, work processes, systems and technologies with an aim to enhance their performance and efficiency (Kong, 2010; Pomerantz, 2003). The primary objectives of Professional Service Firms (PSFs) is to provide quality of service based on the optimal utilization of their knowledge capabilities that eventually aid in achieving self-sufficiency and sustainability, thereby supporting their core organizational mission (Kong, 2009). This makes strategic management of the PSFs extremely important for managing client expectations that necessitate knowledge-based innovative services. In this regard, the knowledge-based effectiveness of the staff is fundamental to enhancing their efficiency coupled with simultaneous utilization of their intellectual competencies with an aim to continually innovate and create novel solutions to the complex client problems.

Professional Service Firms (PSFs), in view of their reliance on the staff capabilities, the intellectual capital offers promising grounds for building and sustaining a competitive advantage (Rehman et al., 2021; Adle et al., 2019). This is because of tacitly complex dynamics of knowledge which can't be easily imitated by the competing firms. This leads us to the key argument that IC has an enormous potential to assist service firms in optimally harnessing organizational knowledge to drive service innovation and achieve corporate objectives. Consequently, the PSFs must be able to differentiate based on their IC capabilities and resources so as to maintain market competitiveness (Laperche, 2021; Rehman et al., 2019; Hatch and Dyre, 2004). PSFs can achieve long-term success by implementing HRM strategies that support exploration and exploitation of their intellectual capital assets (Adle, 2019; Kong, 2010). In view of this, PSFs must increasingly focus on improving and innovating HR policies, systems and practices so as to be able to attract and retain skilled human resource and ultimately create robust intellectual capital in their firms (Kong, 2009; Youndt and Snell, 2004).

Above scholarly arguments led us to an underpinning question that formed the basis of this study i.e. *"how does an optimum application of high performance work systems enable IC development in the PSFs?"*. Towards addressing this question, a thorough review of strategic HRM and IC literature was conducted to understand and evaluate the role of HPWS in building intellectual capital in PSFs. The study thus led to the development of a conceptual framework that was empirically-tested through qualitative data gathered via face-2-face interviews with the managers in Australian Professional Service Firms (PSFs). When viewed as a whole, this study examined how an HPWS-enabled IC building framework could be applied in the knowledge-based context in order to direct strategic advantage in the PSFs.

1 The contribution of this research is manifold. First, it guides on how HPWS concepts can be applied in
2 the strategic management of intellectual-capital resources in PSFs. Second, by examining the potential
3 of IC as a strategic KM tool in knowledge-intensive context, it enriches the PSFs literature as a
4 growing sector of the global knowledge economy. Finally, by applying qualitative research
5 methodology, it suggests a qualitative-validated conceptual framework to aid service firms on how
6 they could make most of their IC assets by utilizing strategic HRM systems for achieving knowledge-
7 based sustainable advantage.
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10 The subsequent sections of this paper are arranged herein. The second section presents the theoretical
11 background & review of literature. The third section highlights the research design. The fourth part
12 deliberates on the data analyzed and results of the research. The fifth section gives discussion on the
13 overall results, culminating in the research contributions in the sixth section. In the next section,
14 conclusion is presented which is finally followed by the limitation and future recommendations in the
15 end.
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21 **Literature Background**

22 **High Performance Work Systems (HPWS)**

23 Also termed as High Commitment Practices, High Performance Work Practices, Strategic HRM
24 Practices, the High Performance Work Systems (HPWS) refer to a system of HRM practices that
25 enhance employee skills and productivity at the workplace in a manner that these lead to a competitive
26 advantage (Fareed et al., 2016; Kehoe and Wright, 2013; Huselid, 1995). Common HRM systems
27 include practices such as: self-managed teams, employee job security, task ownership, selective
28 staffing, performance-based incentives, work design, skill development programs, merit-based
29 promotions, information-sharing (Lu et al., 2015; Appelbaum et al., 2000; Huselid, 1995). Appelbaum
30 et al. (2000) claim that HPWS are fundamental when it comes to establishing trust, building intrinsic
31 motivation and maintaining employee commitment to the organization. Furthermore, by evaluating the
32 performance effects of HRM systems, Özçelika et al. (2016) believe that staff would only be loyal to
33 the organization when they are subject to a work culture that warrants fair treatment and equitable
34 opportunities for growth.
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41 HPWSs support the creation of corporate culture, collaborative norms and shared values that
42 collectively shape employee productive behaviour at the workplace, enabling an organization to get
43 tasks done efficiently and effectively (Özçelika et al., 2016). In this regard, while the organizational
44 information systems, communication tools and collaborative technologies can augment work
45 processes and activities, nonetheless, these support systems & tools would be least effective if the
46 organizational members are not equipped with the appropriate skillset and encouraged to utilize them.
47 This is because organizational staff plays a central role in achieving firm competitiveness goals
48 (Rehman et al., 2020). Hence, by implementing HPWS, organizations become able to effectively
49 acquire, develop and retain their human resource. Subsequently, the developed human resource helps
50 build firm-exclusive knowledge and tacit capabilities enabled through effective communications,
51 knowledge exchange and social interactions, paving a way to organizational success in terms of staff
52 flexibility, motivation and superior performance (Fareed et al., 2017; Obeidat et al., 2016).
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AMO Framework within HPWS

There is a broad agreement among the strategic HRM scholars that a ‘bundles or systems’ approach to applying HPWS is way more effective than the independently-applied work practices. Scholars like Teo et al. (2014), Subramaniam and Youndt (2005), Huselid (1995), Arthur (1994) etc. found that a thoughtful implementation of strategic HRM systems were linked to increased performance and quality. In support of this claim, Kotey and Slade (2005) claim that organizations should implement HRM systems in a manner that these are well-connected with other functional areas to build synergetic effects and enhance the overall value of the firm (Teo et al., 2011).

According to Appelbaum et al. (2000), a configuration of three HRM bundles forms holistic High Performance Work System (HPWS). These are called: *A - Ability-enhancing practices* (e.g. selective staffing, training & learning); *M - Motivation-enhancing practices* (such as: staff autonomy, reward system, promotions policy etc.); and *O - Opportunity-enhancing practices* (for instance: information sharing, open communications, grievance mechanisms). The AMO framework offers an effective mechanism for classifying and measuring the collective efficacy of the individual practices when applied in bundles. Appelbaum et al. (2000) further underscores that a logical blend of AMO practices nurtures staff productivity and fosters creativity at the workplace. Moreover, a systematic application of AMO based bundles boosts employee motivation, leading to employee engagement and reduced absenteeism (Obeidat et al., 2016; Kehoe and Wright, 2013).

Intellectual Capital (IC)

It represents a collective sum of an organization’s assets covering tacit & explicit knowledge embedded in its individuals, organizational infrastructure, intellectual property including the external relationships that form the basis of long-term business value creation (Bontis, 2002; Roos et al., 1998). Common IC examples include human knowledge & skills, physical assets, records, databases, information systems, copyrights, patents etc (Subramaniam and Youndt, 2005; Teece, 2002). IC when viewed in the context of knowledge-based firms, it is a strategic organizational asset comprising of rare internal and external knowledge that is utilized by these firms to attain and sustain competitive standing in the market (Rehman et al., 2019). It is worth noting that the attributes like uniqueness, rarity, inimitability and exclusivity of the firm resources form the basis of long-term survivability in these firms (Laperche, 2021; Youndt and Snell, 2004).

Moreover, in the event when a firm’s tangible resources are no longer facilitating the competitive success, IC assets turn out to be the key distinguishing factors that derive competitive market positioning (Kong and Thomson, 2009). IC is viewed as context specific hence the organizations would need to differently capitalize on IC based on the specific nature of their business attributes and offerings as what is considered unique resource for one organization might not be for the others (Subramaniam and Youndt, 2005; Bontis et al., 2002). A number of scholars have proposed IC dimensions. Scholars such as Subramaniam and Youndt (2005) suggested three dimensions as: human, organizational & social capitals. On the other hand, the scholars like Bontis (2002), Stewart (1997) and Roos et al. (1998) proposed IC dimensions as Human, Structural and Relational. Given the broad-based consensus on the dimensions suggested by the later scholars, we accordingly operationalized and empirically tested these dimensions.

Human Capital

Comprising of the tacit knowledge ingrained in individuals’ minds, the human-capital involves: employee skills, expertise, experience, innovation capabilities etc. (Bontis, 2002; Roos et al., 1998).

1 The downside of human capital is that an organization is unable to retain the knowledge possessed by
2 its individuals. So it can be utilized by the organization as long as the individuals are part of that
3 organization (Stewart, 1997). When an organization recruits new people, they add to organizational
4 stock of tacit knowledge pool, however, when they leave the organization, they take their skills, talent
5 and creativity along with them which leads to the loss of the organizational memory (Grasenick and
6 Low, 2004). This volatility in human capital makes it the most challenging IC dimension to manage
7 (Chen and Wang, 2013; Kong, 2010).
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10 ***Structural Capital***

11 Also termed in literature as organization-capital, the structural capital denotes an organization's
12 physical infrastructure, assets and resources that take the form of organizational culture, routine
13 processes, records, databases, automation tools, information systems etc. (Kong, 2010; Roos et al.,
14 1998). In other words, it represents what is retained by the organizations after the individuals are no
15 more part of the organization (Grasenick and Low, 2004). Unlike human and relational IC dimensions,
16 some part of the structural capital can be legally preserved and transacted by the organizations and
17 becomes their intellectual property, making structural capital the only IC dimension that remains part
18 of the organizations in all situations (Chen and Wang, 2013).
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22 ***Relational Capital***

23 In addition to being referred sometimes as customer capital, the relational capital indicates
24 organization's association and relationship with its external network involving clients, suppliers and
25 partners and their viewpoints about the firm (Bontis et al., 2000). Specific examples include: customer
26 loyalty, brand perception, competitive intelligence, business collaborations, strategic partnerships etc.
27 (Kong and Thomson, 2009). Since it exhibits the type of knowledge that is external to the firm, this
28 makes it hard to measure, codify and control the relational capital (Kong, 2010; Roos et al., 1998).
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33 **Professional Service Firms (PSFs)**

34 Management of the PSFs has always been challenging. Successful service firms do acknowledge that
35 there are no magic pills to improved service quality and performance (Baschab and Piot, 2005). After
36 all, when it comes to measuring their success, the metrics like long-term inimitability, profitability and
37 survivability are the lifeblood of any contemporary services firm. Therefore, the service firms that
38 continually evaluate performance, reward and empower their staff are able to create high-performance
39 knowledge workers that eventually support the development of their knowledge capital (Rehman et
40 al., 2020). Such initiatives also facilitate retention of the best and brightest staff. Hence, the PSFs that
41 follow a flexible and effective work structure are able to sustain growth on the long-term basis.
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46 **HPWS In PSFs**

47 In the prior research, the effects of HPWS on firm performance are quite apparent, and in this regard,
48 the scholars like Tregaskis et al. (2013), Messersmith and Guthrie (2010), Combs et al. (2006),
49 Appelbaum et al. (2000), Huselid (1995) and other have notably contributed to the research literature.
50 Nevertheless, as suggested by the researchers like Fu et al. (2017, 2015), Teo et al. (2014), McClean
51 and Collins (2011), the research governing HPWS operationalization in IC context in the service firms
52 is still inadequate and needs more empirical evidence. Prior HPWS studies have mostly focused on
53 routinized business and manufacturing firms (Fu et al., 2017), hence the service sector firms offer a
54 relevant context for practically examining HPWS effects in building knowledge capital as their
55 competitive standing is predominately based on knowledge capabilities of their employees.
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Intellectual Capital In PSFs

Needless to say, the knowledge, experience, skills and innovation of the staff in the PSFs have a substantial impact on the firm performance. What serves as a basis of human capital competitiveness is a firm's capability to recognize the significance of strategic innovation and to continually enhance market opportunities (Kong and Thomson, 2009; Baschab and Piot, 2005). The moment existing organization knowledge is shared and communicated via top-down and bottom-up patterns and channels, it results in building new knowledge and novel work approaches in service firms (Kong, 2010). Moreover, being part of dynamic business environment, maintaining external relationships is equally critical for the strategic success of the PSF (Mason et al., 2007).

While the staff competencies are the primary driver of competitive advantage in PSFs, however, it is equally crucial to maintain effective relationship with the external stakeholders. Accordingly, PSFs can derive sustainable advantage if they continue to enhance their service quality based on knowledge about external stakeholders i.e. customers' viewpoint about the firm's offerings (Rehman et al., 2019; Kong, 2010). Moreover, an effective relational capital building strategy also involves frequent interaction and sharing of knowledge with other partner firms and to undertake collaborative partnerships for promoting novel ideas, improving existing processes and creating better products and services (Schiuma et al., 2005).

HPWS and Intellectual Capital

Research literature recognizes that HPWS foster employee performance and innovation by enhancing their knowledge, skills and abilities. Needless to say, HPWS role in enhancing organizational performance and effectiveness has been remarkable, nevertheless, it is still argued that the linking nexus between HPWS and IC needs more investigations (Jiang and Liu, 2015). IC via its human, structural & relational elements offers a holistic mechanism for effectively operationalizing strategic HRM systems.

HPWS and Human Capital

Skill development and mutual learning abilities of the staff create firm-exclusive competencies which are difficult to replicate by the rival firms because of their being specific and intellectually unique (Hatch and Dyer, 2004). A firms' ability to create, apply, share and store its knowledge first necessitates possession of the right set of skills and competencies by its staff so that these could constitute in the development sustainable knowledge base. Moreover, by enhancing employee degree of freedom, the human capital supports staff mutual learning and knowledge exchange, leading to creation of new knowledge and organizational innovation (Rehman et al., 2020; Kong, 2009).

HPWS and Structural Capital

HPWSs demonstrate a potential to significantly add to the growth of structural capital. The structural capital provides supportive infrastructure for the strategic development of the firms owing to its ability to augment the utility of the human and relational capital resources, thereby resulting in an overall development of the firm's intellectual capital (Kong, 2010). Structural capital allows for systematic storage, processing and management of knowledge and information in the organization. By encompassing organizational culture, structures and routines, it guides on how tasks, activities and things are to be accomplished and also influence the development of social norms and networks at the workplace (Laperche, 2021; Rehman et al., 2020). In its entirety, the key aspect of structural capital is to internally support employee collaborative relationships and work activities enabled through the effective utilization of physical infrastructures, resources and systems. Needless to say, structural

1 capital forms the basis of an organization's processes, policies and practices, nevertheless, HPWS
2 guided collaborative work culture would be essential for putting organizational policies and systems
3 into action.
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5 **HPWS and Relational Capital**

6 As part of its external relationship building strategy, a firm often have to deal with its external agents
7 like clients, vendors and suppliers. In this regard, McClean and Collins (2011) argue that HPWS, if
8 designed properly, promote social interaction and trust-based partnerships and hence boost the firm's
9 external network of partners. This is particularly indispensable in the knowledge-based firms like PSFs
10 that primarily emphasize on fostering client relationships. Therefore, relational capital assists firms in
11 meaningfully sustaining and growing its relationships by enabling it to understand the characteristics
12 of external knowledge ingrained in the stakeholder partner network (Rehman et al., 2019; Kong,
13 2009).
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17 Overall, HPWS when implemented as part of organizational strategy would result in the growth of
18 each intellectual capital element, resulting in cumulative IC building (Rehman et al. 2019; Kong and
19 Thomson, 2009). As a whole, building various elements of intellectual capital would help boost
20 collective knowledge stock in the contemporary service firms in the wake of highly competitive
21 business environment. Hence, PSFs must continually build on their IC resources as mere hiring of the
22 workforce would not result in competitive advantage (Fareed et al., 2016; Acs et al., 2009).
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27 **Resource Based View (RBV) – Linking HPWS and IC**

28 The RBV underscores that the resources possessed by the firms must be rare, non-substitutable &
29 unique if they ought to achieve a competitive business advantage on a long-term basis (Wright and
30 McMahan, 1992; Barney, 1991). According to RBV, HR departments of the firms are primarily
31 responsible for ensuring the attainment of their corporate goals via effective human resource
32 utilization. When viewed from RBV perspective, it is crucial that service firms must capitalise on the
33 professional development of their staff by inculcating trainings and building their core competencies,
34 enabling them to execute their functions efficiently (Sikora et al., 2016). Consequently, the employee
35 aptitudes and competencies if optimally utilized may lead to sustainable value advantage in the firms
36 (Haslinda, 2009). Furthermore, when it comes to knowledge-intensive firms, employees possess
37 varying mix of cross-functional knowledge and core competencies, making it critical to retain the
38 multi-skilled employees owing to their being in possession of key expertise and flexibility to adjust in
39 a dynamically-changing business situation. Thus, the PSFs must integrate and leverage on specialized
40 knowledge & skills of their staff if they ought to outperform their competitors (Teo et al., 2014; Grant,
41 1996).
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47 In view of its importance, the RBV offers a theoretically relevant context for examining the
48 performance effects of HPWS in the strategic management of knowledge resources in service firms
49 owing to their being knowledge-intensive firms (Rehman et al., 2020). In the context of service firms,
50 RBV offers a linking mechanism for guiding intellectual assets that aids in focusing on unique firm-
51 specific assets as the basis for long term market advantage (Sikora et al., 2016; Wright and McMahan,
52 1992) Resultantly, RBV has enormously added to the development of strategic KM literature in terms
53 of theoretical contribution, experimental research & professional practice.
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Research Methodology

Most of the previous research in HPWS were quantitative with an exception of a few studies for instance Özçelika et al., (2016), Tregaskis et al. (2013) etc. who adopted qualitative or mixed method approaches in their research design. To address this methodological gap, we employed qualitative research methodology via face-to-face interviews. Accordingly, we qualitatively evaluated HPWS in three bundles. The identification of HPWS from the strategic HRM literature was based on their potential effectiveness and appropriateness towards building IC capabilities in the service firms.

Sample Population & Data Collection

For this research, the qualitative data were collected during a period of January-April 2019. Overall, 12 face-face interviews were conducted and the sample population was drawn from the Australian Professional Service Firms (PSFs). The average interview duration was one hour. All the interviews were audio-recorded with the prior information of the respondents and subsequently transcribed so as to be processed for analyses in the NVivo-12 software tool. All participants and their respective firms were assigned with a unique identifier code for the purpose of maintaining anonymity and for their future reference. The research respondents comprised Senior Executives involved in the range of managerial functions. The respondent particularly included HR Managers, IT Managers, Heads of Accounts/Marketing Departments and Project Leaders in different categories within the chosen service firms. The questions for the Interview Guide/Protocol (Annexure-I) were developed after thorough review of the following relevant studies.

Research Measures	Number of Interview Questions	Measures Developed from the Studies
High-Performance-Work-Systems		
Employee Training and Development	1	Kianto et al. (2017)
Employee Empowerment	1	Hsu et al. (2017)
Employee Knowledge Sharing	2	Soo et al. (2017)
Performance Based Reward	1	Messersmith and Guthrie (2010)
Open & Collaborative Communication	2	Guthrie et al. (2009)
Interpersonal-Trust	1	Takeuchi et al. (2009)
Teamwork Quality	2	Singh (2004)
Shared Leadership	1	Hoegl and Gemuenden (2001)
Intellectual Capital		
Human	1	Subramaniam and Youndt (2005)
Structural	2	Fu et al. (2017)
Relational	2	Kianto et al. (2017)
Total	16	

Moreover, given the unique nature of HPWS implementation, only the firms having at least 20 or more employees were chosen for this research. In case of some interviews, additional company details such as organizational structure, firm size and other information on financial performance were accessed through company website coupled with access to relevant industry insights from the government regulatory and independent reporting institutions. The additional industry data were particularly important in identifying the specific types and categories of the Professional Service Firms (PSFs) sampled for the purpose of this research. Further key details of the participants including the demographic information are in the table 1 and Fig 1.

S #	INDUSTRY/ SECTOR	TYPE OF PSF	INTERVIEWEE POSITION/DESIGNATION	FIRM SIZE	GENDER	AGE GROUP	TYPE OF FIRM	EDUCATION	WORK EXPERIENCE	FIRM IDENTIFIER CODE
1.	Engineering	Telecom Services	National Technology Lead	Large	Male	36-45	International	Master Degree	Over 15 Years	Firm A
2.	Transport & Logistics	Shipping & Cargo Handling Services	Senior Consultant (Software Development)	Large	Male	26-35	National	Master Degree	7-10 Years	Firm B
3.	Information Technology	IT & Technology Services	Senior Technology Lead	Large	Male	26-35	International	Master Degree	11-15 years	Firm C
4.	Accounting & Audit	Accounts & Audit Services	Audit Manager	Large	Male	26-35	International	Master Degree	7-10 Years	Firm D
5.	Accounting & Audit	Accounts & Audit Services	Employee Engagement Manager	Large	Male	26-35	International	Master Degree	4-6 Years	Firm D
6.	Engineering	Energy Efficiency Services	Technical Services Manager	Medium	Male	26-35	International	Master Degree	7-10 Years	Firm E
7.	Digital Media	Digital Marketing Services	Senior Manager/ Head of Finance	Small to Medium	Male	26-35	International	Master Degree	7-10 Years	Firm F
8.	Engineering	Telecom Services	Head of Market Research for Brand & Advertising	Large	Male	Above 45	International	Master Degree	Over 15 Years	Firm G
9.	Engineering	Telecom Services	Agile Project Manager	Large	Male	36-45	International	PhD	Over 15 Years	Firm G
10.	Information Technology	IT and Management Consulting	Project Manager	Small to Medium	Male	26-35	National	Master Degree	4-6 Years	Firm I
11.	Higher Education	Education, Research and Training Services	Deputy Director (HR)	Large	Female	Above 45	National	Master Degree	Over 15 Years	Firm J
12.	Medical & Healthcare	Sports Technology & Injury Prevention Services	Chief Technology Officer and Sports Scientist	Small to Medium	Male	36-45	National	PhD	11-15 Years	Firm K

Table 1: Participant Profile and Industry Information

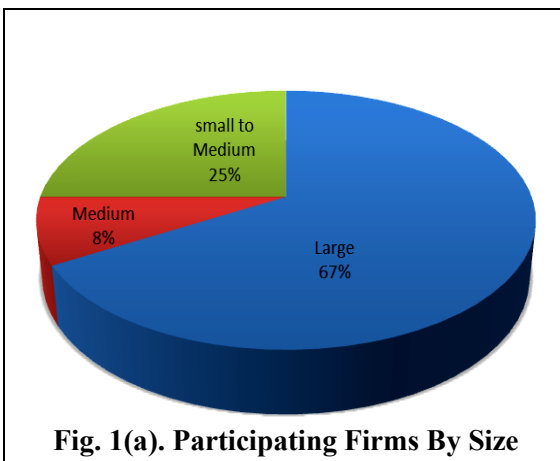


Fig. 1(a). Participating Firms By Size

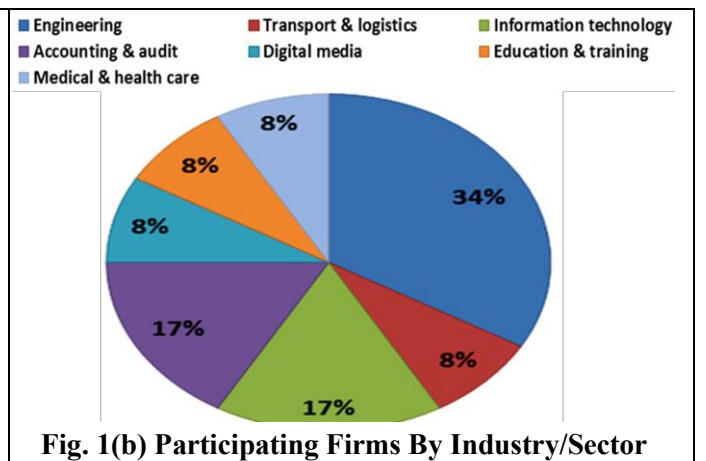


Fig. 1(b) Participating Firms By Industry/Sector

Data Analysis Approach

In view of analyzing qualitative data generated from the face-face interviews, we utilized ‘Thematic Analysis’ approach. In this regard, we followed Ferlie et al. (2005) recommendations that involved externally validating the research by taking into account the additional analysis of the contributing researchers on the qualitative data. The process initially commenced with the coding and analyses of the thematic codes by the lead researcher, followed by the additional endorsement and insights on the coded themes by rest of the researchers. Conceptualized themes were then further evaluated to finally come up with empirical associations among the key themes. The process enabled researchers to identify and analyze the common thematic issues across the wide variety of the PSFs and hence resulted in drawing sense-making insights out of the rich data on organizational culture, work practices and knowledge attributes. The specific results and findings from the data are presented in the next section.

Analyses & Results

High Performance Work Systems

While evaluating HPWS within three AMO bundles, we observed a varying influence of each bundle. In this regard, Opportunity-enhancing practices (n=134 mentions; 41%) appeared to be the most influential bundle, followed by Motivation-enhancing practices (n=97 mentions; 30%) and lastly the Ability-enhancing practices (n=94 mentions; 29%). To evaluate in detail, we specifically enquired participants about each practice within their corresponding AMO bundles as follow.

Ability-enhancing Practices

Ability enhancing practices indicate how employees improve their knowledge and skills in the performance of their duties. Interview responses on ability enhancing practices of PSFs converged in two major practices which included employee training and development (ETD) (n=44 mentions) and employee knowledge sharing (EKS) (n=50 mentions).

- **Employee Training & Development:** It was observed that the managers in PSFs developed a work environment that focused on continuous staff development across all the functional areas. Participants revealed that employee training and development involved refresher trainings, mentoring and guidance (n=8 mentions). ETD also involved offering various specialized trainings to develop unique skills required to perform specific job functions (n=10 mentions). Firms sought to provide a mixture of mandatory and optional training programs (n=3 mentions). Some firms fully supported flexible work arrangements for the employees as they undertook those training programs (n=3 mentions). For example, one participant explained:

“So there is a lot of training culture especially for people who are starting at the junior level. Over two years, there is a bunch of trainings delivered at 6 months as well as refresher and e-learning as well to kind of supplement that. For existing employees, there is a mixture of industry-update training, refresher start training, compliance training and a lot of that sort of things. But I think, there is a general expectation that you learn in terms of the overall percentage on how you learn by doing rather than sitting in a classroom”
(Employee Engagement Manager at Firm-D).

Motivation-enhancing Practices

Using the interviews, the three motivation-enhancing practices such as Employee Empowerment (n=32 mentions), Performance-Based Rewards (n=39 mentions), and Shared Leadership (n=26 mentions) were evaluated. Motivation-enhancing bundle covered the practices that induced in employees a feeling of responsibility within the teams and contribution to the overall progress of the firms at large.

- **Employee Empowerment:** Employee empowerment revolved around confidence building practices that allowed employees to perform better. We derived nine codes indicative of employee empowerment practices, but the most revealed practice was autonomy and inclusive decision making (n=12 mentions). In addition employee empowerment was achieved through delegation of tasks to inculcate a spirit of responsibility early enough in employees' professional development (n=5 mentions), encouraging self-management during task execution (n=3 mentions), running employee consultation sessions (n=3 mentions), and a flexible working environment (n=3 mentions). On employee empowerment, one participant explained:

"I think the firm does try very hard for each individual employee at all levels, be it graduates or senior level management to be empowered. There is a lot of opportunity to receive responsibility early in their career. We have a policy called 'ACCELERATE' which says that the work done by senior staff might get pushed down to more junior staff to give them exposure to that sort of work. So we're encouraged to think outside-the-box to come-up with new ways of doing or fixing all problems, so overall I think employees are empowered to grow themselves within teams" (Accounts & Audit Service Manager at Firm-D).

- **Performance Based Reward:** Performance-based rewards relate to recognition of employees' contribution towards the firm goals and objectives. On the overall, participants indicated that a performance-based reward culture is a strong motivator for improved performance (n=12 mentions). Performance based rewards usually involve rewarding outstanding performers (n=19 mentions) and rewards for goal attainment or unique contributions (n=4 mentions). However, informal recognition, like a thank you from the supervisor or an applause from the team motivate employees as much as the formal performance recognition systems (n=4 mentions). One participant mentioned:

"We have recognition rewards which had kind of pushed for performance. People are rewarded for projects because a lot of our work is project based. At the end of successful projects, we recognize different team members based on the impact they make in the projects. It's a financial reward but it was more about I guess the honor or the intrinsic recognition" (Head of Market Research for Brand & Advertising at Firm-G).

- **Shared Leadership:** Shared leadership practices involved allocating leadership responsibilities across all levels of management or across different project teams in the service firms. The majority of participants (11 of 12) indicated that encouraging shared leadership induced a motivational effect that specifically involved consensus decision making (n=5 mentions), building collective responsibility (n=5 mentions), creating flat leadership structures (n=7 mentions), and fostering servant leadership style (n=3 mentions). A participant explained:

"We are following servant leadership style which means a leader is a facilitator, not a commander or telling people what to do. So we have moved a lot from command and control to more like helping, supporting and facilitating type of leadership. A leader who is going high and high, he's more like facilitating and serving the team rather than just commanding. So we have a leadership style that is changed from commanding to facilitating and how it's

different is that the teams discuss and finalize issues, making suggestions or recommendations and the leader helps and supports them on how to work rather than leader telling them what to do. For example, if a project manager is responsible for project decisions, his style is changed to work with the team and the team is making those calls and project manager is facilitating them to execute. Similarly, one program manager makes all the decisions relating to a program but helps and supports the project managers for their decisions to be implemented” (Agile Project Manager at Firm-G).

Firms also engaged employees in transformational, result-oriented, and ethical leadership which developed employee skills towards leadership roles and duties. Amidst all the themes that emerged under the shared leadership practices, communicating decisions effectively was an enabling practice.



Fig.3. Word Cloud for Motivation-enhancing Practices

Opportunity-enhancing Practices

These set of practices create a platform for employees to work well with peers towards achieving team outcomes such practices with the most prevalent opportunity-enhancing practice being open and collaborative communication (n=60 mentions), followed by teamwork (n=50 mentions) and lastly, the interpersonal trust (n=24 mentions).

- **Open & Collaborative Communication:** Open and collaborative communication is mainly about more interactivity across teams, departments and management hierarchies, if any. Informal communication is often preferred to improve team collaboration. In other cases, open communication builds trust in the workspace. One participant explained:

“In my team, most of the staff is in Sydney and some of them are in Melbourne. Conversation with Sydney team is face to face. It’s often informal communication. I can go up to meet any team member and they can come to me and don’t need to seek appointment necessarily. So I think the communication is very open and fair. Communication is predominately face to face but sometimes on email with Sydney colleagues. Communication with Melbourne colleagues is mostly on phone or by email. Communication within the team is very collaborative. The good thing is even me as a manager, it’s not like I am the boss and whatever I say goes. Even those working underneath, there is very good sharing of information within our teams” (Head of Market Research for Brand & Advertising at Firm-G).

1 The most prevalent category in open and collaborative communication was related to establishing a
2 flat organisation structure that enabled frequent interaction and faster communication (n=25
3 mentions). Additionally, participants explained that enabling conversations and dialogic
4 communication improved employee involvement because it ensured adequate member contribution
5 and sharing of their perspectives (n=11 mentions). Some participants emphasized on building strong
6 communication channels to support frequent contact and broader discussions (n=10 mentions). The
7 use of social and collaborative tools supported open communication. Nonetheless, firms that achieve
8 open and collaborative communication are manned by those who appreciate its pros, encourage inter-
9 team coordination, communicate change and support informal interaction networks (n=3 mentions).

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13 • **Interpersonal Trust:** Although not as heavily pronounced as collaborative communication and
14 teamwork quality, so participants were convinced that without trust amongst employees they
15 wouldn't be able to deliver to the best of their capabilities. Participants believe that there are
16 opportunities for operating better when there is reasonable level of trust among employees in firms
17 (n=11 mentions), which revolves around employees trusting their colleagues' intentions, abilities
18 and actions (n=5 mentions). Interpersonal trust has been associated with minimising information
19 hoarding, creating better relationships with superiors and increased transparency (n=11 mentions).
20 All twelve participants underscored on the importance of trust, with one stated as:
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24 *“Our industry can't work without trust it's as simple as that. So everybody trusts*
25 *each other as a shared responsibility which brings an overall sense of trust among*
26 *the people at all levels” (Senior Technology Lead at Firm-C).*
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30 **Teamwork Quality:** According to participants, teamwork quality relates to flexibility, support and
31 motivation (n=8 mentions), frequent and sufficient communication and coordination (n=5 mentions),
32 building a team culture (n=3 mentions), and fostering a sense of connection, bonding and common
33 vision (n=7 mentions). There is also a view that the teamwork quality involves practices such as
34 consensus and conflict resolution (n=3), well defined goals, responsibilities and feedback such that all
35 employees know what their roles are (n=1), adequate and unique contributions (n=2), a strong leader
36 (n=1) and proximity of team members (n=1). A participant explained:
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41 *“We have a type of team structure where leaders and managers motivate their team*
42 *members to take charge and lead. The team members cooperate with each other to*
43 *collectively achieve set company goals. I think the cooperation and mutual support*
44 *maximize employee performance and productivity and contribute to the overall quality*
45 *of the output, because our team members leverage from each other strengths, provide*
46 *opportunities for personal & professional growth, and act as a support system for the*
47 *other employees” (National Technology Lead at Firm-A).*
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Intellectual Capital

On IC, participants were encouraged to think about various types of the knowledge capabilities possessed by their firms in the form of human skills, structural systems & external relationships and how these helped create value. Regarding the three knowledge dimensions, participants indicated that their firms focused mainly on structural capital (n=56 mentions; 46%), followed by relational capital (n=40 mentions; 33%) and lastly the human capital (n=25 mentions; 21%). When asked specifically about each IC dimension, participants mentioned as follow.

- **Human Capital:** All participants affirmed that human capital revolved around employee experience, skills, knowledge, and competencies which supported creativity & innovation and consensus-based decision-making and facilitated the creation of organizational knowledge. We generated four codes to represent the nature of human capital in PSFs, i.e., employee skills and knowledge (n=17 mentions), employee creativity (n=3 mentions), organizational knowledge (n=4 mentions, and knowledge enabled decision making (n=1 mention). In this regard, a participant expressed:

“Our people skills & abilities are the primary pillar for our company. Without having right sets of people at the right places, we won’t be able to move and progress as we are doing right now. So that’s a very core part and we stress upon it specifically in our company for everyone to upskill themselves and because we are providing avenues and opportunities for everyone to take initiative and learn new things, we expect that they are continuously growing in terms of their knowledge capabilities” (Project Manager at Firm-I).



Fig.7. Word Cloud for Human Capital

- **Structural Capital:** Characterized by technological capabilities, R&D activities and innovative processes, the PSFs build structural capital to support the ease of information flow and creation of new knowledge in the firms. Participants were of the opinion that the structural competencies created value by building sufficient IT capabilities (n=15 mentions), developing and utilizing data, information and knowledge (DIK) systems (n=17 mentions), collaborative technologies (n=3 mentions), and deriving technology-based innovations (n=5 mentions). For example, one of the participants explained:

1 “We talked about the intranet, we talked about the good flow of the information shared in
 2 the previous project which effectively is the sum total of the organizational knowledge. I
 3 think the firm’s resources are important in two ways. So from a systems point of view, the
 4 technology of data storage and market storage is very effective. Other thing is the way we
 5 collect information is dependent on the use of technologies. Often we collect information
 6 through online customer surveys and we contact different stakeholders on either email or
 7 using particular software packages and tools to make our data collection easier. So that is
 8 also one of our core functions and it plays a part in collection and storage of our
 9 intellectual capital. And then I guess, the final one is the dissemination of this intellectual
 10 capital to rest of our organization. Our firm is distributed across Asia and Australia, so we
 11 often use video-conferencing systems and other collaborative technologies to communicate
 12 with each other” (Head of Market Research for Brand & Advertising at Firm-G).



Fig.8. Word Cloud for Structural Capital

36 **Relational Capital:** Relational capital primarily revolves around organizational relationships. From
 37 the viewpoint of the participants, relational capital was tied in their working relationships and
 38 engagements with the stakeholders (n=20 mentions).

39 Other indicators of the relational capital development included: developing opportunities for
 40 collaboration and partnerships with enabling companies (n=6 mentions), customer goodwill loyalty
 41 and brand image (n=5 mentions), creating working relationships with customers and suppliers (n=7
 42 mentions), and creating forums for supplier and customer input (n=2 mentions). Among the
 43 participants, one explained that:

44 “Company relationships are quite important. It’s equally important to the loyalty and the trust
 45 that we maintain within the company itself. Being a small and medium company, our growth
 46 pace is much higher than the big corporate firms because, we have more capacity to expand. So
 47 that way, we rely upon our existing customers and our relationships we value a lot and we like
 48 to be transparent with them and we engage with them very closely on several projects. That’s a
 49 key part and one of the main drivers for our company to grow. In our scenario, primarily the
 50 relationship that we have is vendor & client kind of relationship. We are the one who primarily
 51 provide IT solutions, so in a way we don’t have any external suppliers for us as such. So
 52 everything we do and take the support from is in-house” (Project Manager at Firm-I).

HPWS and Intellectual Capital

Participants were asked to explain how different HPWS have enabled their firms to build and utilise IC. Different participants have experienced different cases of HPWS supporting IC development and utilisation for distinct dimensions. The associations between HPWS and IC are depicted in the project map provided in the Figure below.

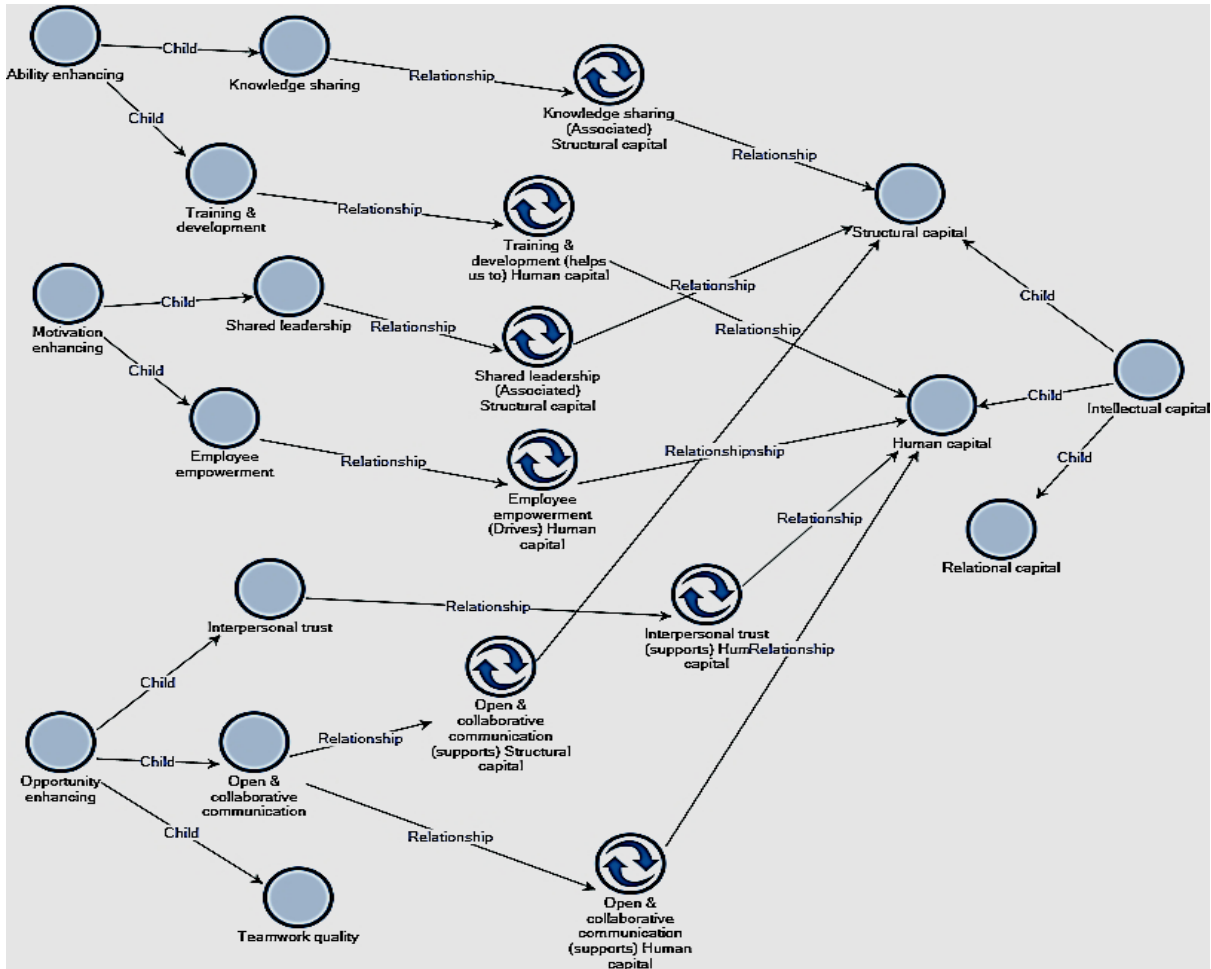


Fig.12. Project Map of Relationship Between HPWS and IC

Participants were asked to elaborate on how AMO bundles of HPWS enabled growth and promotion of IC in their firms. The results shown in the Figure 12 suggested that:

- Ability-enhancing HPWS** involving Knowledge Sharing and Employee Training & Development were associated with the firm's structural capital and human capital development respectively. Some participants (3 of 12) explained that knowledge sharing was associated with the firm's structural capital development because as they continuously encouraged knowledge sharing among the employees, this supported the building of their in-house knowledge infrastructure, systems and sharing tools. In this regard, one participant explained that they had developed data storage systems and encouraged the use of knowledge and interactive tools such as TeamViewer, Dropbox and business skype to support communication and knowledge sharing capabilities.

- 1 • **Motivation-enhancing HPWS** such as ‘Shared Leadership’ and ‘Employee Empowerment’ had
2 more or less the same effects on the firm’s structural & human capital respectively. Some
3 participants (3 of 12) mentioned that motivation-enhancing practices like Employee
4 Empowerment were achieved through employee training and shared leadership concepts and that
5 such practices improved employee knowledge sharing behaviour which enhanced firm’s human
6 capital. Another participant explained that flat organisation structures supported collaborative and
7 shared leadership styles and that such structures necessitated use of collaborative systems in the
8 firm, which developed the structural capital of the firm.
- 9 • **Opportunity-enhancing HPWS** like ‘Interpersonal Trust’ and ‘Open and Collaborative
10 Communication’ were positively linked to the growth of human and structural capitals (3 of 12
11 participants). Open and collaborative communication was not only strongly linked to the growth
12 of the structural capital, it also stimulated firm’s human capital (4 of 12 participants). Two
13 participants explained that staff collaboration encouraged transparency and trusting culture and
14 promoted the free flow of ideas, mutual learning, knowledge exchange and problem-solving
15 abilities. Furthermore, open and collaborative communication supported the development of
16 interactive systems and tools which consequently promoted firm’s structural capital in terms of
17 building communication processes, tools and technologies.

26 **Research Implications & Contributions**

27 This research offers multitude of theoretical & practical insights and contributions to the strategic
28 HRM scholars and managers in the professional service firms.

31 **Theoretical Implications**

32 From theoretical perspective, this research significantly adds to the IC stock of the literature in the
33 context of PSFs and the other knowledge-intensive firms. Having reviewed the literature and based on
34 the understandings from the rich qualitative data, it can be suggested that IC offers huge potential to be
35 utilized as a strategic management tool for achieving knowledge-based transformations and
36 innovations in the service firms. Since, the IC concept is still evolving in the strategic HRM context
37 and therefore it is open to further research and application in particular, in the context of knowledge-
38 intensive firms. This essentially necessitates a suitable framework that could offer practical directions
39 to the service firms. This research, therefore, has following theoretical implications to make in
40 particular.

- 41 • This study is perhaps the first one to successfully operationalize the factors like ‘Shared Leadership’,
42 ‘Interpersonal Trust’ and ‘Teamwork Quality’ as HPWS practices. As such none of the prior studies
43 has evaluated or operationalized these in the IC context. Thus, by adding three new HPWS practices
44 in the existing pool of HPWS within the strategic HRM literature, it offers new research opportunity
45 to compare the suggested framework with the prior literature studies that examined the linkage
46 between HPWS & IC and accordingly come up with exciting insights.
- 47 • The proposed qualitative framework would enable IC building in the service firms through sustained
48 communications, trust-based interactions, knowledge exchange and empowerment coupled with
49 quality of teamwork and collaborative leadership.

- The qualitative framework also unveils the black box by strategically guiding the formulation of knowledge-based innovations in the service firms. In other word, the framework assists in flexibly and optimally utilizing the intellectual assets, leading to the growth of knowledge capital in the service firms.
- Realistically speaking, the IC building framework underscores the significance of recommended HPWS in harnessing external and internal knowledge flows and how the interplay between various HRM systems and IC elements drives knowledge-based innovation in the service firms.

Practical Implications

Owing to the knowledge-based competitiveness of service firms, the strategic management of their IC resources is an indispensable organizational reality. However, the fact of the matter is that the PSFs can't always plan and fully utilize their IC resources to face competing business challenges. Hence, a strategic IC management framework must be put into action to deal with complex mechanisms through well-chalked out IC management strategies. From practical perspective, this research has following implications to make:

- First, the proposed qualitative framework offers a thorough understanding of the HPWS-IC nexus in PSFs. By applying these empowerment practices as an effective HR strategy in the IC context, the managers in service firms would be better able to recognize the strategic implications of the firm's IC assets and KM activities and consequently utilize these assets for deriving sustainable knowledge-based advantage.
- Second, the HR managers when contemplating human resource development in PSFs should demonstrate a renewed confidence in implementing the suggested AMO practice areas. Therefore, managers are recommended to ensure that their approach to strategic HR management incorporates an optimal mix of all three bundles of AMO HPWS suggested in this research.
- Third, as the IC comprehensively takes into account intellectual aspects of both internal & external knowledge assets that are ingrained in the organizational individuals, work processes and external relationships, the suggested framework offers a holistic understanding of the internal knowledge dynamics and external market intelligence to the service firms.
- Fourth, in view of the dynamic role of IC, the conceptual framework suggests service firms a way forward for prioritizing the strategic assets and resources. During the instances when an organizational stock of IC resources grows or shrinks when the individuals quit the firm and take away their skills, or the firm encounters a major database/system breakdown, or the firm fails to crack a lucrative deal with a business partner etc., these situations may pose challenges to the firms in their quest to leverage IC. In this respect, the KM managers must consistently reassess, redesign and restructure the IC management strategy by realigning each IC elements in a manner that these are able to be optimally utilized to the fullest of their potential.
- Last but not the least, the framework enables service firms to capture a holistic picture of what resources, assets and capabilities they are in need of or should be equipped with. Therefore, by having a detailed understanding in mind on the organizational competencies and capabilities required, managers would be able to prioritize and re-adjust their resource control levers towards the attainment of the firm corporate goals.

Discussion & Conclusion

This research upkeeps the notion that the HRM strategies aimed at attracting qualified workforce and the efforts made in the development of employee knowledge capabilities are central to building the intellectual capital in the service firms. In particular, by operationalizing HPWS as AMO practice bundles, it offers qualitative validation of the relationship between HPWS & IC, thereby demonstrating the effectiveness of HPWS in building knowledge capital in PSFs. The results thus confirm a unique prominence of each of the suggested AMO practices in deriving financial and operational benefits for the PSFs. This positive influence of HPWS on organizational IC development in fact implies that the PSFs investing in acquiring, developing and retaining the knowledge-smart individuals are better positioned at deriving knowledge-based competitiveness over their competitors.

From the literature perspective, our findings are in conformity with and offer additional perspective to the prior studies such as: Soo et al., (2017), Obeidat et al., (2016), Kong (2010; 2009), Youndt & Snell (2004). Accordingly, we may reasonably claim that the strategic HRM practices suggested herein offer a working mechanism towards the development of IC, leading to long-term competitiveness and sustainability of the service firms.

Therefore, based on the available qualitative data, interpretations and results, we suggest the following qualitatively-validated conceptual framework. The presented framework advocates that High Performance Work Systems via open communication, knowledge exchange, empowerment, reward system, improved teamwork culture and shared leadership practices support the development of in-house IC capabilities in PSFs in terms of enhanced staff knowledge competencies, improved organizational core capabilities and better client relationships. When viewed at a glance, the framework presents the suggested HPWS as a structured system/configuration that could be plugged-in with the firm's indigenous IC as part of their knowledge capital development strategy to derive knowledge-based competitive advantage.

Particularly, by signifying and assessing the role of various IC dimensions, the framework helps PSFs in maintaining a balance between external knowledge interventions and internal knowledge strategies. That is to say - the framework gives here two realizations. First, human resources are strategically critical towards the sustainability and long-term success of the service firms. Second, it is equally important to continually add new external knowledge and protect internal knowledge as part of the PSF's IC management strategy. Accordingly, it is suggested that PSFs must apply HRM practices and strategies in a manner to collectively build various IC resources and reap optimal benefit from these resources in the knowledge economy context.

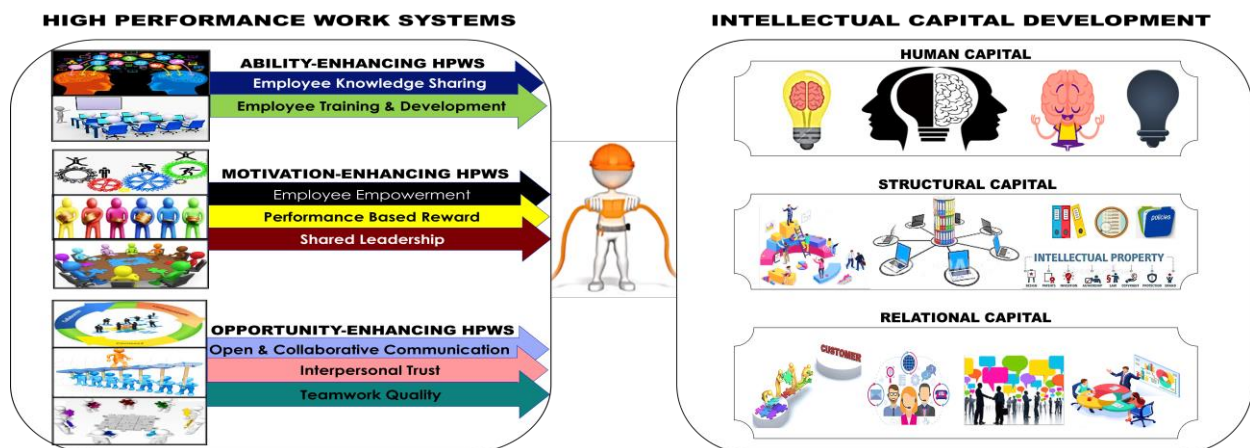


Fig.13. Qualitative Conceptual Framework

1 Owing to the phenomenal growth of knowledge-based services sector at a global landscape, IC has
2 maintained its prominence as the key asset of strategic nature for business firms in general and
3 knowledge-based firms in particular. Given its importance, this paper adopted exploratory research
4 enquiry by applying High Performance Work Systems as enabling tools for building knowledge
5 capital in the PSFs. This research contributes to the theory of strategic HRM by examining how
6 building a robust intellectual capital promotes knowledge-based advantage in PSFs. On practical front,
7 by suggesting a qualitatively-validated framework, it enables service firms to carefully visualize their
8 knowledge capital as strategic organizational reality and basis for attaining sustainable
9 competitiveness. In short, PSFs would be able to achieve bottom-line success by adopting flexible
10 work culture coupled with a system of reward to promote employee knowledge exchange, mutual
11 collaboration and ownership, thereby making it easier for them to smoothly navigate even in the
12 testing times.
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20 **Limitations & Future Research Recommendations**

21 While the primary emphasis of this research was to investigate the effectiveness of HPWS in building
22 & enhancing the intellectual capabilities in the service firms, however, little is known to what extent
23 the specifically-recommended HPWS bundles are applicable to PSFs and to other sectors and
24 industries. Moreover, in view of the continually emerging empowerment concepts, organizational
25 cultures and work practices, the research governing HPWS implementation in intellectual capital
26 context is still evolving. Hence, further research on intellectual capital management should be
27 conducted in the PSFs context.
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31 Lastly, given the dearth of mixed-method and qualitative-focused research in the given context, the
32 future scholars should consider methodologically enriching the research literature by applying a blend
33 of qualitative and quantitative research methods. Overall, this research suggests novel insights that
34 open-up new vistas for future empirical studies.
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40 **Acknowledgement**

41 This is an expanded paper of the ECKM-2020 conference.
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