Intuition, Knowledge Management & SECI in Global Perspectives and Iqbal's Thought: A Prospect for Innovative Organizational Outcomes

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ABSTRACT

Intuition as a thinking process has been incorporated in the annals of history by numerous scholars, scientists, and original thinkers in multiple disciplines of Science, Human Sciences, Logic, Mathematics, Religion, Management, and many more. This deep perception of human sensibilities has greatly influenced the human thought, for not only making discoveries but has also enabled it to arrive at novel solutions. Where Iqbal regards intuition as a complementary part of thought, there are many other eminent theorists from Eastern and Western sources who have tried to study and interpret intuition as a thinking and learning process and have tried to define its dimensions, nature, and benefits. This paper endeavors to establish a relationship between Iqbal's paradigm of intuitive insight and wakefulness with intuition in 4I Framework as a vital learning and thinking process in the field of Management Sciences. In order to explore if there are any similarities, contrasts, or complementarities in such, apparently, contrasting perspectives, this paper engages some theoretical and empirical precepts. In order to further evaluate its viability in real world business scenario, this empirical study investigates the practical application of intuitive process along with other knowledge and learning processes, such as, Knowledge Management and Knowledge Creation/SECI. Thus, it discusses the implications of such learning and knowledge processes for innovative organizational outcomes which could be meaningful for not only Pakistan's IT industry but also on a global scale.

This paper is an empirical study to explore a link between the modern-day knowledge perspectives[1] and learning processes as proposed by 4I Framework[2] (Intuition, Interpretation, Integeration and Institutionalization) in the discipline of Management Sciences and Iqbal's philosophical premise about reasoning (thought) and intuition.

Faculty of reasoning seems to be at odd with the faculty of intuition. In many philosophical quests, reasoning and intuition are considered counterintuitive at best and at loggerheads at worst.[3] However, there are some philosophers who have tried to explore a common ground between the two faculties. Allama Muhammad Iqbal,[4] the great poet philosopher of the East, not only emphasizes on these two faculties to be regarded as one but believes them to complement each other. Only very few Western philosophers conjoin the two faculties of reason and intuition in their philosophical quests. Emerson, like Iqbal, sees ideas derived from sensations as understanding, while ideas derived from intuition and deep thinking as reasoning.[5] For Iqbal, recordings of sense perception are "reflective observation[s]," while, revelations of heart are "inner intuition/insight" or "direct association".[6] Together, these reflective observations and intuition or insight, as Iqbal advocates, bring us into contact with deeper aspects of reality, not really perceived by sense perception alone. Philosophers like Emerson and Iqbal consider both kinds of thinking processes as essential and complimentary for a profound understanding.

The 4I Framework[7] from the domain of management, and particularly Learning Organization, proposes that learning occurring at individual, group, and organizational levels, consists of 4 processes. Initiating from 'Intuition,' rests on individual's tacit reserves of learning, which finally attains the shape of explicit forms through 'Institutionalization' of common routines at organizational levels. The process of 'Interpretation' is a link between individual and groups, whereas, 'Integration 'links group and organizational levels. The 4I framework indicates the process of 'Intuition' as one of the most important learning process, and describes it as a process of pattern recognition, developing insight, a capability for developing novel connections or seeing imminent possibilities for exploratory or

creative endeavors and exploitative or incrementally progressive tasks.

While, today, against much philosophical skepticism, the process of intuition is being explored as the most important learning process in 4I framework in bringing out and honing an individual's tacit reserves of knowledge, Iqbal had built his argument by establishing a strong link between intuition and reasoning in his groundbreaking book, *The Reconstruction of Religious Thought in Islam*. He writes:

> Nor is there any reason to suppose that thought and intuition are essentially opposed to each other. They spring up from the same root and complement each other. The one grasps reality piecemeal, the other grasps it in its wholeness. The one fixes its gaze on the eternal, the other on the temporal aspect of Reality. The one is present enjoyment of the whole of Reality; the other aims at traversing the whole by slowly specifying and closing up the various regions of the whole for exclusive observation. Both are in need of each other for mutual rejuvenation. Both seek visions of the same Reality which reveals itself to them in accordance with their function in life. In fact, intuition, as Bergson rightly says, is only a higher kind of intellect. The search for rational foundations in Islam may be regarded to have begun with the Prophet himself. His constant prayer was: "God! Grant me knowledge of the ultimate nature of things![8]

In other words, Iqbal believes that reasoning and intuition, not only complement each other, but is something, "organically related"[9] and testified by our innate human nature. His words quoted here bear testimony to the fact that action is preceded by insight and intuition prior to any knowledge, reasoning, and logic. Though, out of the scope of this paper, this quote also problematizes the twentieth century's pervasive existentialist philosophical premises of Sartre and many other philosophers (We would deal with it in another study). Thus, what Iqbal proposes in 1934 finally, in the form of his lectures of this quoted book, and throughout his poetical works, is a clarion call for the coming times. It may also be inferred that intuition is a higher form of refined intellect which can visualize most of the pieces of reality and may be useful in many walks of life, as we shall see presently, after the study of Iqbal's synthesis of his philosophy about reasoning and intuition in the following section.

Knowledge & Science- The Inevitable Steps

Iqbal was not in favor of 'Mullahism' or that brand of Sufism that shun change and are opposed to dynamism and constant struggle, thus, restraining man from his active stance. Iqbal wants man to engage in creative struggle everyday so that newness could be brought into old thinking patterns. This can only be achieved through research, reading, experimentation, continuous learning, and

action. Iqbal promotes spirit of free inquiry and inculcation of sciences for man's advancement, as he writes in Javed Nama:

> The East in imitating the West is deprived of its true self. It should attempt instead a critical appraisal……. The power of West lies in her Arts & Sciences; at their fire, it has kindled its lamp.[10]

Thus, Iqbal's philosophy is dynamic about science and technology. He believes that it is one of the important directions to be pursued, and which have the potential to imbibe life into old civilizations.

Iqbal questions what if one does not move with time and become dead matter? How one could propel through changing times? This is only possible if connections with reality are formed with the aid of knowledge as also supported by Quran (2:28-31).[11] It is therefore the conceptual nature of knowledge which enables us to name the natural phenomena, understand their functions and roles played by them in grand scheme of things. This is, in fact, the faculty of reasoning and knowledge ingrained in us, which propels us to swim through tide of time and stops us from becoming dead matter.

Thus, today's two eminent knowledge based processes from resource based knowledge management perspective,[12] and knowledge creation perspective/SECI (Socialization, Externalization, Combination and Internalization) from dynamic theory of knowledge creation[13] has been taken in this study to check their impact with intuitive processes from learning organization perspective[14] on innovative organizational outcomes.[15] These perspectives will be further elucidated in the next sections.

Knowledge Management Processes & Knowledge Creation Processes/SECI

Incorporating intuition for the sake of honing thinking becomes meaningless unless it is shared, transferred, created, and applied for practical and result-oriented purposes. This concept has been advocated by many Western sources endorsing knowledge management[16] and knowledge creation/SECI.[17] Iqbal's thought has seconded the themes of these theories. He says:

> In poetry, literature for the sake of literature has never been my aim. There is no time left to me to attend to the delicacies of art. The purpose is to revolutionize modes of thinking.[18]

By revolutionizing modes of thinking Iqbal means changing the thinking of masses through 'socialization' and 'externalization'[19] wherein tacit knowledge is learnt and expressed explicitly;[20] and 'transfer' and 'application' of knowledge[21] is made possible. For, he says:

گئے دن کہ تنہا تھا میں انجمن میں
یہاں اب میرے رازداں اور بھی ہیں[۲۲]

Gone are the days when I was alone in society. Now I have got more confidants and likeminded people in the society with me.

Intuition in Reconstruction of Religious thought in Islam

The first chapter of the book, *The Reconstruction of Religious Thought in Islam*, where Iqbal favors the inculcation of both intuition and reason in order to achieve a holistic thinking, at the same time, he warns of the evasive concept of intuition. By quoting several verses (6:9; 25:47; 88:17; 30:21) from the Quran, which explain different phenomena with examples, Iqbal relates that we understand water cycle, develop a knowledge of celestial maps to find our ways etc.[23] Once our knowledge bank is built up, we use it repeatedly, and these further hones our insight wherein we grasp the reality with intuitive insight and see cycles and patterns in nature with its definite beginning, ending, and its purpose. Thereafter, comes the stage of belief. Iqbal explains this by saying that when we repeatedly use our knowledge bank by applying our reasoning, we tend to believe in cyclitic nature of universal phenomena. E.g. water cycle, celestial maps, cycle of fruit ripening etc. He then draws our attention to the fact that after having attained stages of logical understanding, there comes the stage of intuition and belief, which as against the popular notion, is not blind but is obtained after observation, understanding, experimentation and insight.

In this regard Quran quotes an interesting example from human history that states the outcomes of observation and individual experiences acquired silently through observation and contemplation:

> So also, did we show Abraham the power and the laws of the heavens and the earth, that he might (with understanding) have certitude. When the night covered him over, He saw a star: He said: 'This is my Lord.' But when it set, He said: 'I love not those that set.' When he saw the moon rising in splendor, he said: 'This is my Lord.' But when the moon set, He said: 'unless my Lord guide me, I shall surely be among those who go astray.' When he saw the sun rising in splendor, he said: 'This is my Lord; this is the greatest (of all).' But when the sun set, he said: 'O my people! I am indeed free from your (guilt) of giving partners to Allah. For me, I have set my face, firmly and truly, towards Him Who created the heavens and the earth, and never shall I give partners to Allah'."[24] Quran, (6:75-79)

This is an exquisite example of thinking, which is logical, intuitive, and result oriented. Thus, intuition and belief are acquired after

thought, experimentation, and research, that all cycles have a definite start, end, destination, and purpose.

This reasoning could be applied to all domains of human knowledge and experience, be it spiritual, mental, physiological, material, or religious. Thus, as man progresses through stages of sense perception, reasoning, knowledge, insight, belief, wisdom, and ability, to see reality with the eyes of heart, he becomes a fuller being, more responsible and result oriented. Thus, intuition or belief is another form of intellect and we are left with the choice of acknowledging existence of both reason and intuition. Iqbal exemplifies this understanding by drawing our attention to our belief in our Creator[25] (which atheism also admits to, once it thinks it out thoroughly and not superficially). Iqbal explains that after our belief in Allah, other forms of subtle consciousnesses such as philanthropy ('Ihsan'), or perfection is attained wherein one can envision the divine reality with the eyes of the inner self/heart and one's active action gives testimony of this sincerity of thought.

Intuition- According to 4I Framework & Iqbal

The 4 I framework discusses several aspects of 'intuition.' Here only five aspects or items of 'Intuition' would be incorporated for empirical study [Derails provided in Appendix Intuition]. The construct 'intuition' is being modified and developed as per discussion of 4I framework. This is because, 4I framework, is predominantly a learning organization perspective (a learning organization is one which promotes learning opportunities for its employees).

Several learning organization theorists argue that generalized models for this discipline could not be specified because every situation is unique, necessitating development of working models and constructs depending on situational and contextual parameters.[26] Thus, keeping in view, this important observation, the construct, 'intuition' is being developed as envisioned by 4I framework, and supported by Iqbal.

Item 1 from 4I framework as explored in the study talks about commitment to develop Research & Development activities through different ways like experimentation, reading, research and mentoring etc.

Items 1 and 2 from 4I framework recognizes the fact that extensive and different and varied forms of experiences at least fifty thousand instances and ten years are required to develop intuitive insight may it be expert or entrepreneurial.

Item 3 from 4I framework endorsed in this study talks about conscious and sub-conscious engagement with problem solving scenarios.

Item 4 from 4I framework focuses on "sudden/gradual illumination of solution" after having been consciously and subconsciously engaged with problem solving scenarios and deep thinking for a long time.

Item 5 of this study as discussed by 4I framework focuses on individual performing his own part of deep thinking before sharing it with outside world.

There are numerous poetic verses by Iqbal that support the items proposed by 4 I Framework. Some are as follows:

In support of item 1 which espouses strong commitment and toil, Iqbal's verse can be quoted:

جھپٹنا، پلٹنا، پلٹ کر جھپٹنا
لہو گرم رکھنے کا ہے اک بہانہ[۲۷]

To grasp a solution or idea or to withdraw, to grasp it again after holding back (from…) Is only a means of keeping your blood warm enough to circulate for higher goals.

For Item 2 which endorses enhancement of professional experience and "honing your saw' as also supported by Covey[28] Iqbal relates,

گیسوئے تابدار کو اور بھی تابدار کر
ہوش و خرد شکار کر، قلب و نظر شکار کر[۲۹]

Hone the saw of your expertise by developing reasoning, wisdom, intuition and vision.

For item 3 which highlights active involvement with problem scenario for some time while also temporarily relinquishing it or having partial disengagement with it, Iqbal supports as follows.

اچھا ہے دل کے ساتھ رہے پاسبان عقل
لیکن کبھی کبھی اسے تنہا بھی چھوڑ دے[۳۰]

It is good to guard intuition with intellect, but sometimes you should let it go alone also.

For item 4 which advocates development of meaningful pattern and sudden or gradual illumination of insight worthy of producing stable results, Iqbal says

ہو بندۂ آزاد اگر صاحب الہام
ہے اس کی نگہ فکر و عمل کے لیے مہمیز[۳۱]

If a free soul is endowed with intuition only then his/her vision could produce fruitful thought and action.

At another place he says,

یا مردہ ہے یا نزع کی حالت میں گرفتار
جو فلسفہ لکھا نہ گیا خونِ جگر سے[۳۲]

Either it is dead or is chained in the pangs of death if any work is, not written with toils of blood.

For both items 4 and 5 which stress upon perseverance, Iqbal voices his thoughts thus:

یوں ہاتھ نہیں آتا وہ گوہر یک دانہ
یک رنگی و آزادی اے ہمت مردانہ[۳۳]

You will not get pristine solutions for your problems until you focus clearheadedly by being fully detached from all influences and mustering all your efforts.

For item 5 which focuses on doing your own part of toil before sharing it with others is perhaps endorsed by Iqbal at two places like this,

خودی کو کر بلند اتنا کہ ہر تقدیر سے پہلے
خدا بندے سے خود پوچھے بتا تیری رضا کیا ہے[۳۴]

Fortify yourself up to a level that before every decree God Himself consults the will of one upon whom decree is to be decreed.

عطار ہو، رومی ہو، رازی ہو، غزالی ہو
کچھ ہاتھ نہیں آتا بے آہِ سحر گاہی[۳۵]

One may be a wise or a great mystic, like Rumi, Attaar, Ghazali, and Razi; nobody can get anything unless he burns the midnight oil of deep thought and meditation.

To sum up, it may be seen that all five items of 4I Framework may be expressed in these words of Iqbal:

دلِ بیدار پیدا کر کہ دل خوابیدہ ہے جب تک
نہ تیری ضرب ہے کاری، نہ میری ضرب ہے کاری[۳۶]

Unless you build a living heart of reason and intuition out of your still slumbering self, neither your wit can be sharp nor mine and we would not be able to get the optimal solutions.

Knowledgeable and Intuitive Personalities in History

Before we proceed to test hypothesis on the importance of knowledge management, SECI, and, intuitive perspectives in an empirical study, some examples from history would be helpful for our understanding.

Great scientists of past and present, East and West like Isaac Newton, Albert Einstein, Gregor Mendel, Stephen Hawkings, Alkawarzimi, Ibne Sina, Adam Smith etc. constitute the intellectual cream of human race. Iqbal commemorates them like this:

پیدا ہے فقط حلقہ ارباب جنوں میں
وہ عقل کہ پا جاتی ہے شعلے کو شرر سے
جس معنی پیچیدہ کی تصدیق کرے دل
قیمت میں بہت بڑھ کے ہے تابندہ گہر سے[۳۷]

The faculty of reasoning which gets illuminated by a subtle clue can only be nurtured by people of highest intellectual caliber while a complex piece of reasoning which is complemented by intuition is worthier than a pearl.

The first part of this verse by Iqbal alludes to scientists who could see the unseen forces of nature like gravity and energy etc. The second part alludes to men of spiritual cadre. For instance, the long standing hardships of being an orphan, the economic and social earnings for livelihood and independence, the silent meditations in Mount Hira for brooding on social injustices about One True reality and destination of all affairs, the long night vigils, the persecution at the hands of enemy, and a struggle to found and sustain a new homeland of peace for his followers, while, at the same time, conquering the hearts and old homeland of Mecca, were some of the toils of Prophet Muhammad, a highly intuitive and spiritual personality.[38]

Another example of a highly intuitive personality is that of Hazrat Ali (R.A). He possesses, what we may call in the modern perspectives, an Eastern heart and a Western mind. He reflects a personality who has faculty of deep thinking and who is vividly eloquent to beautifully express the subtle power of truthfulness and love in his thoughts and deeds. Raised as an orphan, he withstood the sufferings of ephemeral life and experienced the detached silent broodings of the self. Though seasoned with all hardships, he

attained the status of 'Bu Turab'- 'The master of clay or all lower and higher selves of human existence'[39] and 'The door of knowledge'. [40] His fortified self has not lived a solitary life for he helped and guided the fellow creatures as and when required. He has attained self-purification in the depths of his soul, attained complete mastery over his lower selves and thereby come to know of higher spiritual purposes as required of him by God. He again attains the title of 'Wali Allah'- the friend of God and 'The Beloved of God'.[41] As he comes out of the states of gnosis of himself and God, he possesses excellent knowledge regarding the environment around him. He is both an introvert and an extrovert since he knows the importance of both.[42] Thus, Hazrat Ali's (A.S) example exhorts us to learn Science, intuition, etiquettes of society and heights of spiritual accession.

Statistical Study

Through the above discussion of the previous sections we have endeavored to bring forth the importance of an intuitive self. However, in order to gauge whether the philosophical assumptions presented here bear quantitative results, this section of the paper undertakes a statistical inquiry.

Knowledge management, knowledge creation/SECI, and intuitive thinking processes are often carried out while doing incremental and radical changes in the field of business management and for attaining innovative organizational outcomes. Several researchers suggested that intuitive and SECI processes focus on creative activities ; leading to the achievement of radical or exploratory innovative objectives while knowledge management focus on refinement in mundane daily tasks, and hence lead to the attainment of incremental or exploitative innovative objectives.[43] More so, they suggested that more humanistic frameworks incorporating intuitive dimensions from learning organization perspective should be integrated with the above two perspectives for exploring its influence on innovative organizational outcomes.[44]

Since the IT sector of business is the hub of manufacturing incremental/exploitative and radical/exploratory innovations (organizational ambidexterity), therefore this study is being conducted in this sector.[45]

Research Gap

The rationale of drawing parallels between Iqbal's Thought and Global theorists is whether such global eminent theories such as knowledge management, SECI, and intuitive learning organization perspective as supported by 4I framework, and Iqbal are applicable

in Pakistani scenario or not?[46] Secondly, 'intuition' is being developed and tested in Pakistani scenario, since it is encouraged and stressed by learning organization theorists that its concepts ought to be explored as per situational and contextual parameters in different scenarios, cultures or countries.[47] Thirdly, this section also explores whether intuitive, knowledge management, and knowledge creation/SECI processes are effective for innovative organizational outcomes (OAX) or not.[48]

A statistical study is conducted here in IT sector of Pakistan in order to verify the tenets of this study. IT sector is suitable for, exploration of innovative organizational outcomes, because such a sector is predominantly technological in nature and is involved with innovative activities.[49]

Research Questions

The research objectives of the study are: 1. Development of the construct, 'Intuition' according to items discussed in 4I Framework; 2. Examining the individual effects of knowledge management processes; knowledge creation processes/SECI and intuition on organizational outcomes (exploratory and exploitative innovations/organizational ambidexterity).

Research Hypotheses

In the light of above literature review from Western sources and foregoing discussion from above sections, following hypotheses are being proposed:

H1: Knowledge Management processes/KMP will positively influence exploratory and exploitative innovations--- organizational ambidexterity/OAX.

H2: Knowledge Creation Processes/KCP/SECI will positively influence exploratory and exploitative innovations— organizational ambidexterity/OAX.

H3: Intuition/DT will positively influence exploratory and exploitative innovations—organizational ambidexterity/OAX.

Methodological Assumptions

The scales used for this study are: 1. Knowledge Management;[50] 2. Knowledge creation/SECI;[51] 3. Intuition[52] 4. Organizational ambidexterity OAX=exploratory-innovation + exploitative-innovations.[53]

Secondly, all registered IT firms were contacted and either survey questionnaire was sent to them via email or through manual method. A sample of 655 respondents or knowledge workers working in IT firms was collected from all cities of Pakistan. At least, 800

questionnaires were received and 145 were incomplete and so were discarded.

To check the reliability, validity and factor structure, SPSS, EFA is used. To check hypotheses1-3, multiple regression analysis was used.

Analysis and Results

In this section after discussing EFA results, tests of hypotheses testing will be discussed. Reliability of the scales used is as follows: DT.873; KCP .90; KMP .932; AOX .872 meeting the desired criteria.[54]

Exploratory Factor Analysis-EFA

Firstly, referring to table 8.1a, Kaiser Meyer-Olkien KMO value is .935 which exceed the acceptable value of .5. Bartlett's test of sphericity is also significant.[55] All items were subjected to common factor analysis to predict and identify the factor structure. Table 8.1b show a 6-factor solution wherein factor 1, 2, 3, 4, 5, 6 show 16%, 12%, 11%, 10%, 10%, 9% variations after extraction. Overall, the variance explained by six factors is 68% after extraction. Eigenvalues for all 6 factors are greater than 1. Table 8.1c shows rotated component matrix with varimax rotation of 42 items of which 9 were dropped because items having factor loadings less than accepted criteria were deleted.[56] Secondly, most of the factor loadings in table 8.1c are above .7 showing presence of well-defined factor structure.[57]

Construct Modification

This section is dedicated to elaborating on describing the steps involved in developing a five-item scale to measure the construct-Intuition. The steps for multi-item construct development have been followed from Hair et al.[58] Following are the steps in developing the construct:

a. Theoretical definition of the construct, intuition[59] has already been provided in section one.
b. A list of five potential scale items were developed from 4I framework as discussed in section five above.
c. Experts' judge opinions: This step involved inquiring several experts to rate how well the definition of the construct and the items' contents match with one another. Following instructions given[60] each judge was inquired to rate 1. Item does not match the construct, intuition 2. Item slightly matches the construct. 3. Item matches the construct very well?

It is recommended that items receiving agreement from at least three judges should be retained and items having Less than 50% agreement should be excluded.[61] Following this practice, 15 professionals were asked to rate the correctness of each of the 5 items. All the items received more than 80% of consent from the judges.

d. Pretest: in this step, various tests are conducted to ascertain the imminence of the new construct. 1.Descriptive statistics (kurtosis & skewness); 2. inter-item correlation; and 3. EFA were carried out. Table 8.2a shows that all inter item correlations are above prescribed range of .3, the smallest one being, .533. Table 8.2 b show that all kurtosis and skewness values lay within range.[62]

DT1, DT2, DT3, DT4 and DT5 have communalities .673, .645, .649, .713 and .666 respectively all of which are above threshold value of .5. Table 8.1b show that DT/Intuition represent factor 4. The eigenvalue for the same is 3.47 with 10% variance explained after extraction. Table 8.1c shows that DT3, DT1, DT4, DT5 and DT2 have .74, .751, .785, .773, and .754 factor loadings all of which are way above threshold value of 0.4. Thus Dt/Intuition kept its identity with other factors in the model. The Cronbach alpha for DT/Intuition is .873 which is also above threshold value of .7. All criteria of construct development have been met.[63]

Hypotheses Testing

In this section, all hypotheses are tested. In, Section 8.3, H1-H3 are verified with SPSS25.

Multiple linear Regression Results

Multiple linear regression was run in SPSS to test H1-H3; where KMP, KCP, and DT were independent variables whereas OAX was dependent variable. *Model summary table 8.3a* shows R=.686 which shows that KMP, KCP, and DT are moderately and positively correlated with OAX. Adjusted R square is coefficient of determination and shows how much variance is explained by independent variables in dependent variable. The adjusted R square=.468 shows that 47% variation is explained by KMP, KCP, and DT in OAX.

ANOVA or table 8.3b assess whether the model is significantly better at predicting the outcome than using the mean as a best guess. Following criteria are employed to gauge the significance of the model.[64] The first criteria are H0: Model is not significant H1: Model is significant. If p value < .05 then reject H0; If p value is > .05 then accept H0. Here since p value is < .05 therefore H1 is accepted and

H0 is rejected. Secondly F test is a ratio that compares variation explained by the model/ variation not explained by the model. If F is large then it is a good model and if it is small or less than 1, then it is a bad model. F=192.642 is significant at p<.001. This result tells us that there is less than .1% chance that F ratio this large would happen. If F ratio is large, then regression model is significantly better at prediction of dependent variable than mean as a model. In short, regression model predicts the independent variable significantly well. These criteria imply that the model is significant and DT, KMP, KCP predict OAX significantly well.

In *table 8.3c* regression equation is OAX=.935+.365KMP+.198KCP+.124DT. The relationships between dependent variable OAX and independent variables DT, KMP, KCP are positive. If there is one unit increase in KMP, KCP and DT then there is .365, .198 and .124 units increase in dependent variable OAX. Secondly to check the significance of each independent variable on dependent variable, the t statistic tells us whether beta values are significantly different from zero or not. H0: independent variable is not significant; H1: dependent variable is significant. If p value is <.05 then reject H0 and if p value is >.05 then accept Ho. The probability of larger t value occurring if the value of b in the population were 0 is less than .001, therefore the beta is significantly different from 0. It can be concluded that KMP (*t* (651) =11.857, p< .001) significantly contributes to the predictor variable OAX; KCP (*t* (651) =5.884, p< .001) significantly contributes to the predictor variable OAX and KCP (*t* (651) =4.551, p< .001) significantly contributes to the predictor variable OAX. Thus, all three hypotheses were accepted.

Discussion

EFA was used to identify factor structure. Results confirmed the existence of well-defined factor structure since all factor loadings were way above threshold limits[65]

Regarding hypotheses for individual variable H1 to H3, Standardized Beta value indicates that as KMP, KCP, and DT increase by 1 standard deviation, OAX increases by.44, .22 and .150 standard deviations respectively. In other words, a 100-point change in KMP, KCP, and, DT brings about 44, 22 and 15 points change in OAX respectively.

This shows that KMP brings out highest change in OAX followed by KCP and DT. This is perhaps because Pakistani firms while incorporating knowledge and learning processes/KLP, emphasize more on knowledge transfer and application (components

of KMP), followed by socialization and externalization (components of KCP/SECI), and lastly Intuition/DT.[66] The research findings[67] support this finding of the present research. Their research advocates, that regardless of the size of the firms, firms having instituted knowledge management processes particularly, were relatively more competitive in the industry.

Intuition is a rarer phenomenon as compared to knowledge management and SECI processes for most knowledge workers are not familiar with it. Some firms view that intuition is difficult to be practiced and firms need to develop more muscle for it. All three variables brought about 47% variation in OAX and if intuitive processes could be brought into more focus, variance explained could perhaps have the chances to increase.

Knowledge processes proved to be important mechanism for orchestration of innovation. However, there are scores of studies which underscore importance of implicit intuitive processes which usually supplement other explicit, analytic knowledge-based processes. These studies further emphasized that such implicit and explicit processes should be kept separated but must be united to gain harmonizing synergies.[68]

Limitations, & Future Research

Limitations are that it was cross sectional data study only conducted in Pakistan; thereby restricting its generalizability to other countries. Cross-cultural future research should be conducted in other countries and cultures to verify the generalizability of the tenets of this research in future. Secondly mediating effects of various assortments of knowledge and learning processes[69] should be checked with more suitable antecedent's like absorptive capacities,[70] industry cluster resources/presence of qualified knowledge workers,[71] different types of leadership, such as knowledge oriented leadership,[72] team oriented variables etc. or other relevant antecedents given in extant literature.

Implications

The implications of this research add substantively to the body of scholarship and research. We see that constructs that are present in scientific journals and research of the West may not be in clash or opposed to Eastern scenario and paradigms, especially Pakistan. Through the research presented in the previous sections of this paper, we see that Knowledge Management Resource Based Perspective, KMP turned out to be the most leading perspective (see Table 8.3 C), followed by SECI and Intuitive perspective, DT, respectively. However, though, most knowledge workers may not be

familiar with the intuition perspective, but we also see that as compared to knowledge management and SECI processes, this rarer phenomenon of Intuition adds an important dimension for innovative organizational outcomes.

Consequently, the statistical analysis conducted in the previous sections of this paper on the IT Sector of Pakistan may be encouragingly seen to be working on this message of Iqbal, which he gives to its coming generations:

مشرق سے ہو بیزار، نہ مغرب سے حذر کر
فطرت کا اشارہ ہے کہ ہر شب کو سحر کر[73]

Do not get wary of the East nor dread the West. Its Nature's decree to turn every night into a new dawn.

It is seen from the results of this survey that Iqbal's visionary understanding of intuition and an emphasis on this intuitive understanding to be made a staple for a productive human existence is endorsed in modern-day researches in the field of Management Sciences as well. It may also be deduced that those organizations are better equipped for any future challenges which engage the intuitive model of learning and working environment that is emphasized in 4I framework, a philosophy which was already shared with us by this great seer in the beginning of the previous century, and which has stood the test of times.

Conclusion

In the final analysis, it may be said that Iqbal's philosophy about action being strengthened by thought and intuition has been empirically established through the research presented in this paper. Iqbal's philosophy of intuitive based action/deed, besides complementing resource-based Knowledge management perspective and SECI perspective, chalks out the steps of robust disciplined logic and reasoning. Iqbal's conviction that both thought and intuition spring from the same root (as stated above) is validated through the results of this paper. If for Iqbal, it is only through the proper use of the divine gifts of hearing and sight that one may achieve a "spirit of whole-hearted devotion to truth" because of being aware that one is "accountable to God for their activity in this world"[74], then we saw its practical implementation in today's age in the business sector. Iqbal's conviction that "Intuition reveals life as a centralizing ego",[75] as he argues in the chapter, "The Philosophical Test of the Revelations of Religious Experience," of his book quoted here, then we see its pragmatic application in this research on organizations of

the business sector. If this is one study where Knowledge management, SECI perspective and intuitive reasoning is explored in the selected sample of IT Sector in Pakistan, it may be suggested that future studies may be conducted to verify the tenets of this research in other sectors. As, at two places in his book, *Zarb-e-Kaleem,* Iqbal promises a person who consolidates his intellect, reasoning, and intuition, that:

وہ بحر ہے آدمی کہ جس کا
ہر قطرہ ہے بحر بیکرانہ[۷۶]

That person is an ocean in him/herself, whose every drop is an ocean incarnate.

And then Iqbal promises this entity, who studiously puts his/her intellect, reasoning, and intuition to a positive use, a higher degree of ambidextrousness, may that be on individual, team, or on organizational level. For he says:

جس روز دل کی رمز مغنی سمجھ گیا
سمجھو تمام مرحلہ ہائے ہنر ہیں طے[۷۷]

That when a singing heart understands the clarion call of an intuitive and knowledgeable heart, then understand that all the levels of expertise are already achieved.

TABLES, FIGURES, EXHIBITS

Section 8.1---Exploratory Factor Analysis/EFA RESULTS

Table 8.1a

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.935
Bartlett's Test of Sphericity	Approx. Chi-Square	14106.539
	Df	528
	Sig.	.000

Table 8.1b

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.677	38.417	38.417	12.677	38.417	38.417	5.343	16.191	16.191
2	2.429	7.360	45.777	2.429	7.360	45.777	3.954	11.982	28.174
3	2.262	6.854	52.631	2.262	6.854	52.631	3.498	10.600	38.774
4	2.043	6.190	58.821	2.043	6.190	58.821	3.471	10.517	49.291
5	1.563	4.736	63.557	1.563	4.736	63.557	3.325	10.075	59.365
6	1.470	4.454	68.011	1.470	4.454	68.011	2.853	8.646	68.011

Extraction Method: Principal Component Analysis.

Table 8.1c

	Rotated Component Matrix[a]					
	Component					
	1	2	3	4	5	6
KT1	.767					
KT5	.755					
KT8	.750					
KA3	.749					
KT2	.739					
KT4	.738					
KA1	.720					
KA5	.666					
EXV1		.859				
EXV2		.839				
EXV5		.779				
EXV6		.704				
EXV3		.694				
EXV7		.559				
EZ1			.791			
EZ2			.783			
EZ3			.783			
EZ4			.686			
EZ5			.668			
DT3				.785		
DT4				.773		
DT1				.761		
DT5				.754		
DT2				.751		
SO1					.794	
SO3					.748	
SO2					.699	
SO4					.686	
SO5					.685	
EXR3						.784
EXR2						.774
EXR1						.743
EXR5						.726
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 6 iterations.						

Table 8.2a Inter-Item Correlations Table

		DT1	DT2	DT3	DT4	DT5
DT1	Pearson Correlation	1				
DT2	Pearson Correlation	.562**	1			
DT3	Pearson Correlation	.541**	.560**	1		
DT4	Pearson Correlation	.635**	.608**	.566**	1	
DT5	Pearson Correlation	.619**	.533**	.561**	.611**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8.2b Descriptive statistics Table

ITEMS	MEAN	Standard Dev	Skewness	Kurtosis
DT1	2.91	1.012	-.958	-.64
DT2	3.04	.983	-1.65	-.55
DT3	2.83	.983	-1.98	-2.16
DT4	2.95	1.063	-.253	-2.62
DT5	3.05	1.124	-1.66	-2.38

Appendix Intuition [sections 5 & 8] Intuition scale Items as incorporated in study based on 4 I framework [3]

DT1 There is a strong commitment to implement a mix of activities (e.g. training, reading, mentoring, guided reflection experimentation, research, toleration of mistakes) to develop/encourage Research & Development activities among employees of our organization.

DT2 In my organization employees are encouraged to enhance their professional experiences so that they can give expert opinion when faced with problem solving scenarios.

DT3: A model employee in my organization after being exposed to problem solving scenario engages in intuitive thinking wherein he or she may alternately get engaged in the following: completely immersed in problem solving (conscious engagement) or may be completely disassociated (sub-conscious engagement) with it only for a while.

DT4 After the stage of intuitive thinking the employee either gets sudden illumination of the solution for the problem or a meaningful pattern for further solution of the problem is recognized.

DT5 In my organization individuals are encouraged to do intuitive thinking on problems on their own before sharing it with their teams/groups or higher ups.

Section 8.3--Hypotheses Testing

Section 8.3 Multiple Regression Analysis Results—for H1 to H3

Table 8.3a Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.686[a]	.470	.468	.50738	1.674

a. Predictors: (Constant), DT, KCP, KMP

b. Dependent Variable: OAX

Table 8.3b ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.779	3	49.593	192.642	.000[b]
	Residual	167.591	651	.257		
	Total	316.370	654			

a. Dependent Variable: OAX

b. Predictors: (Constant), DT, KCP, KMP

Table 8.3 C Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.935	.091		10.299	.000		
	KMP	.365	.031	.440	11.857	.000	.590	1.695
	KCP	.198	.034	.218	5.884	.000	.591	1.693
	DT	.124	.027	.150	4.551	.000	.748	1.337

a. Dependent Variable: OAX

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