AN EMPIRICAL STUDY ON INTELLECTUAL DYNAMICS IN THE INNOVATION PERFORMANCE OF THE COMPANIES

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ABSTRACT

Purpose – The extant literature on dynamic capabilities (DC) and intellectual capital (IC) paves way for many unanswered questions and one such question is how these two unique dimensions can connect and support the business in reality. Although the literature of DC and IC have been significantly developed, the research paradigm is still at nascent stage. The recent findings in capability literature recommends both types of capability are required for the companies– Operating Capabilities (OC) for stability while Dynamic Capabilities (DC) for change.

Design/methodology/approach – The questionnaire with 39 items forms the basis to evaluate the variables in the study. The employees of I.T industry (software, hardware and telecommunications companies) has been chosen as the industry is always in turbulent environment. In this study, purposive sampling of the estimated population is considered to be most suitable.

Findings – The present study has three key major findings. First, intellectual capital significantly contributes in the organizational dynamic capabilities. Second Social capital also holds a strong influence on dynamic capabilities. Interestingly Structural capital of the organization is directly and indirectly placing its roles in the organizational dynamic capabilities.

Practical implications – The study suggests to top management of I.T industry to understand the importance of intellectual capital in particular human capital which is a major intangible asset for the innovation performance of the organization.

Keywords – human capital; structural capital; relational capital; social capital; innovation performance; sensing capability; seizing capability; reconfiguring capability

1. BACKGROUND OF THE STUDY

In today's world all the firms faces the increasing challenges of VUCA (Volatile, Uncertain, Complex and Ambiguous). Therefore one of the best survival tools for firms is to quickly and accurately adapt to shifts taking place in the market. Dynamic capabilities are the is one of the tool which will enable companies to adopt and transform themselves. On the other hand the growth of a country is contributed by the knowledge, skills outperformed by its human capital. To achieve a long lasting competitive advantage, companies have started measuring and disclosing the intellectual capital of its business, which consists of human capital, structural capital and social capital. The fact is there is a positive and direct influence of DC on the IC and vice versa on the holistic performance of the companies. The objective of this paper is to provide an empirical analysis integrating the dimensions of the Dynamic Capabilities and Intellectual Capital in measuring the company's innovation performance. The present study is designed into the following sections.

S.No	Sections	Contents
1	Section – 1	**INTRODUCTION** • Research Problem • Research Objective • Research Questions

2	**Section – 2**	**REVIEW OF LITERATURE**
3	**Section - 3**	**THEORY DEVELOPMENT** • Research Framework • Hypothesis Development
4	**Section – 4**	**RESEARCH METHODOLOGY** • Measures, Sampling and Data Collection
5	**Section - 5**	**EMPIRICAL ANALYSIS AND DISCUSSION** • Model • Discussion
6	**Section – 6**	**CONCLUSION** • Managerial Implications • Limitations and Avenues for Future Research
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SECTION 1: INTRODUCTION

The technological and market changes are pushing the firms to reinvent themselves and grow through the transformation process. Being flexible and innovative are absolutely critical to a firms long term success. Therefore to sustain the competitive edge, it is crucial for companies to understand the value of dynamic capabilities.

In addition, dynamic capabilities acts as a tool in leveraging intellectual capital in the development of emerging technologies, by enhancing innovativeness and performance of the companies. Meanwhile the existing and potential stake holders are keenly looking for more inputs in the valuation of intangible assets along with the tangible assets. Many studies have empirically stated that intangibles play a crucial role along with the physical assets in creating more future value for a business.

The extant literature on dynamic capabilities (DC) and intellectual capital (IC) paves way for many unanswered questions and one such question is how these two unique dimensions can connect and support the business in reality. Although the literature of DC and IC have been significantly developed, the research paradigm is still at nascent stage.

1.1 BREIF INTRODUCTION OF DYNAMIC CAPABILITIES AND INTELLECTUAL CAPITAL.

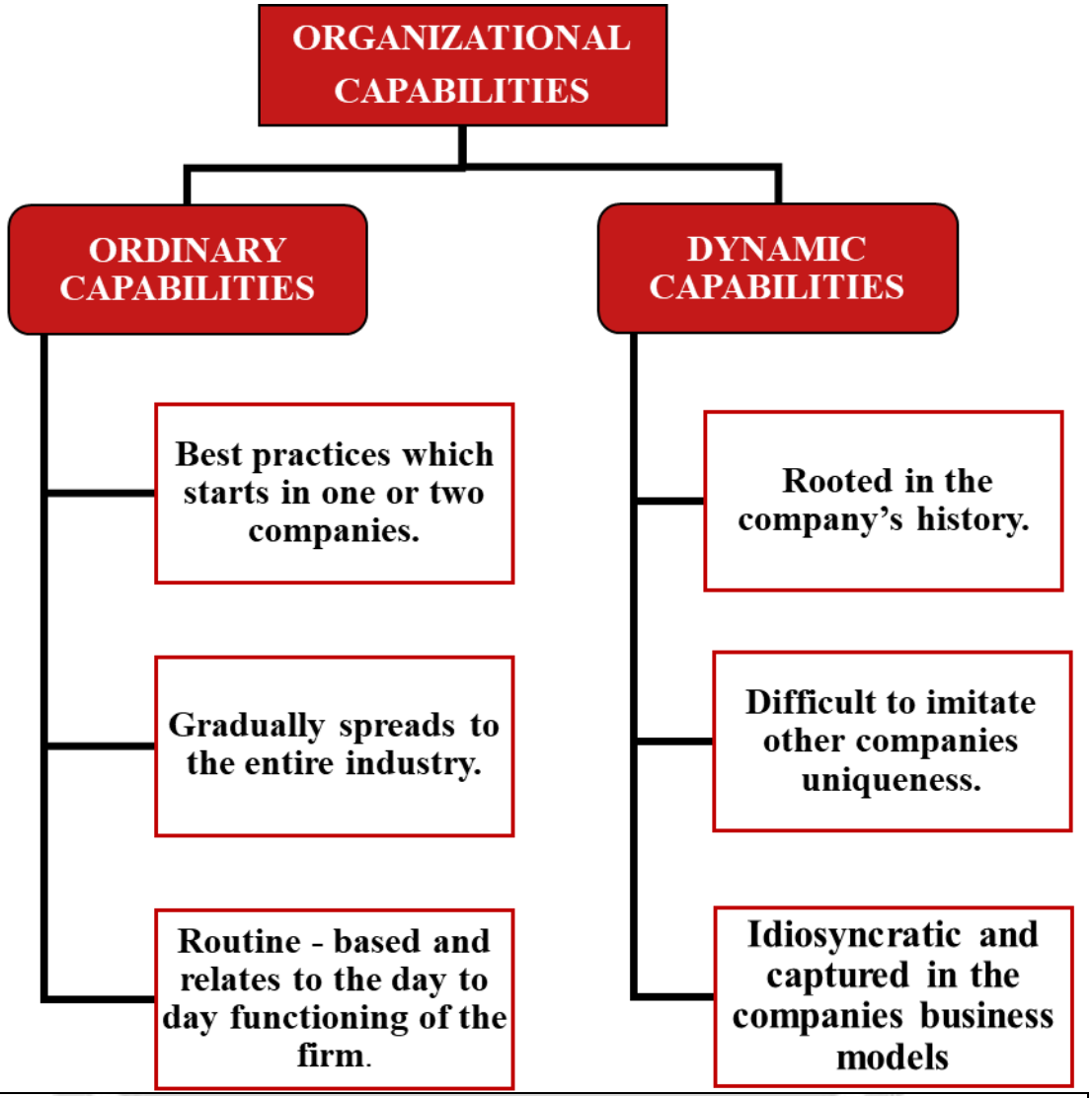
The research combination of dynamic capabilities (DC) and intellectual capital (IC) has evolved from a mere conceptual studies to more empirical studies in the recent years**. Intellectual capital is considered as a non-tangible assets, which is different from tangible assets and financial capital. IC is a multi-dimensional concept which is a non – physical asset in creating values for a firm.** The theory of literature divides IC into three dimensions, are human capital, structural capital and relational capital.

In parallel side, a capability is a set of learned processes and activities that enables a firm to produce a particular outcome. Dynamic capabilities (DC) are the specific capabilities that enable firms to adopt rapidly to the business environment. DC postulates the essence of competences and capabilities is rooted in the origins of the organization. They are absolutely critical to a firm's long-term success. **In general dynamic capabilities relies on three clusters of activities – sensing, seizing, and transforming.** Regardless of the industry or the types of transformation, DC delivers long term value for a company.

1.2 DEMARCATION BETWEEN DYNAMIC CAPABILITIES AND ORDINARY CAPABILITIES.

Articles on the capability literature draws a distinction between dynamic capabilities (DC) and ordinary capabilities (OC). The below diagram (1) shows the demarcation between DC and OC for an organization.

DIAGRAM: 1 DEMARCATION BETWEEN DYNAMIC CAPABILITIES AND ORDINARY CAPABILITIES.



The recent findings in capability literature recommends both types of capability are required for the companies– Operating Capabilities (OC) for stability while Dynamic Capabilities (DC) for change.

1.3 PERSPECTIVE OF DYNAMIC CAPABILITIES AND INTELLECTUAL CAPITAL DEFINITIONS

In this section, the first part identifies exactly what the term "dynamic capabilities" and "intellectual capital" stands for.

INTELLECTUAL CAPITAL: The term "intellectual" in simple words, means the skills or talents at a high level of degree. The word "capital" differs according to each perspective of economics, accounting, and business administration. The changes and complexity in the day to day turbulence of the market, companies are taking an initiative to disclose IC information in their annual reports. Apparently investors are also giving equal value to the intangible assets disclosures along with the tangible assets disclosures.

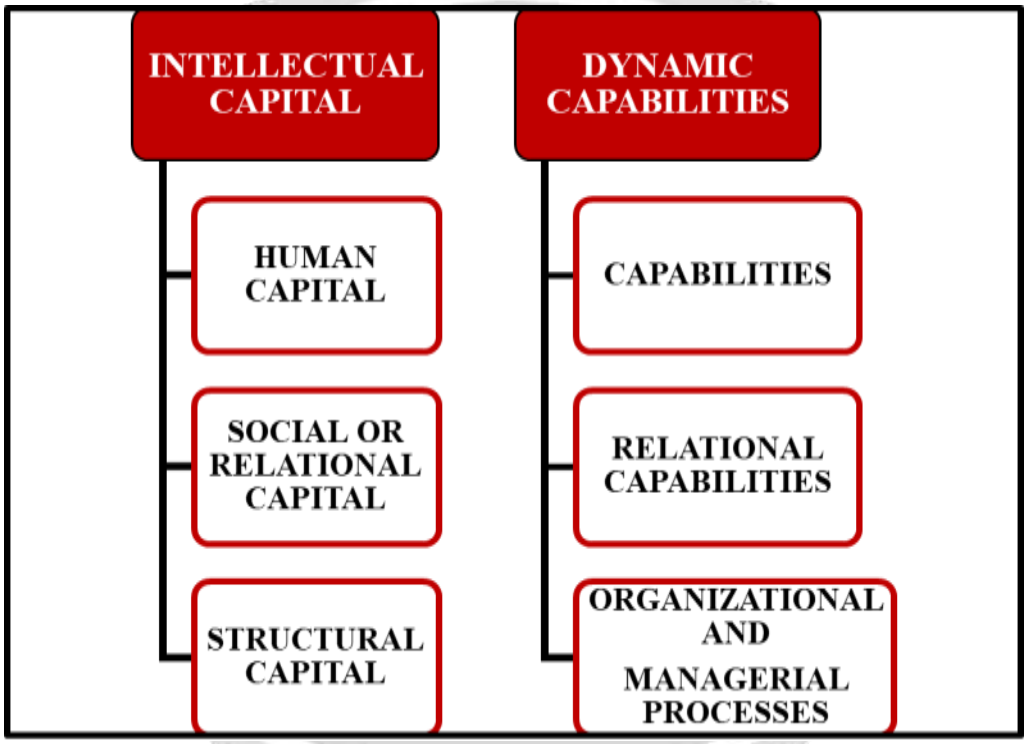
DEFINITION OF IC: From the organization view, Intellectual Capital (IC) can be defined as "Efficiency of management and employee's productivity which transforms profit".

DYNAMIC CAPABILITIES: Dynamic Capabilities (DC) is a heuristic-based concept which changes the firm's OC to "create, extend or modify", or "integrate, build and reconfigure" and / or "sense, seize and transform".

DEFINITION OF DC: According to Teece et al. (1997) DC refers to the ability of a firm to build, integrate and reconfigure its internal and external competences in order to address rapidly changing environments.

By definition, intellectual capital is a combination of intangible knowledge assets which generates firm performance and value creation for the companies. Dynamic capabilities framework is a useful tool which enables the management to think strategically in adding more value creation to their organizations. Such DC allow firms to react quickly to the changes taking place in the external environment and incorporates the same in its business models. The main sub components for each dimension is discussed in detail in the research methodology section of this paper. The diagram 2 below depicts the main components of IC and DC.

DIAGRAM 2: MAIN COMPONENTS OF INTELLECTUAL CAPITAL AND DYNAMIC CAPABILITIES.



After reviewing the related articles, the summary of IC and DC definitions and its components, can be categorized from three perspectives for each dimension. The below table (1) summarizes the perspective about dynamic capabilities and intellectual capital.

TABLE 1: PERSPECTIVE OF THE DEFINITION OF INTELLECTUAL CAPITAL AND DYNAMIC CAPABILITIES.

First Perspective	Second Perspective	Third Perspective
• **Based on main specific types of capabilities pursue by human capital.** • **Without human capital there are no capabilities to identify.**	• **Based on social capital and relational capabilities.** • **It is not merely an interaction among people but a progressive process for value creation.**	• **Based on its power of structural process capabilities.** • **Only through powerful capabilities of human capital and relational capabilities exists.**

The different perspectives of definitions based on the sub-components of IC and DC have urged the research scholars to undergo an in-depth research study according to their specific research objectives. Although, the specific objectives varies the perspectives of definitions have all retained its fundamentals. **Despite the similarities caused by the perspectives, this study integrates all these different three perspectives to a new dimension known as "Intellectual Dynamics".**

1.4 AN INTEGRATIVE PERSPECTIVE ABOUT DYNAMIC CAPABILITIES AND INTELLECTUAL CAPITAL

To further understand the integrality of DC and IC, this section identifies to uncover what more factors can influence in the value creation for the companies. Studies relating to DC and IC emphasis mainly on the knowledge perspectives. Such studies seek out organizational capabilities are improved to a large extent by transfer of knowledge through firm resources which consists of human, structural and relational capital. The theoretical foundations suggests human capital as a major factor contributing for DC' effectiveness of an organization. **Human Capital appears as a central asset in managing capabilities, technologies, and strategies on the holistic development of the organization.**

In this vein, it is clear that human capital is highly impactful in all the ways and significantly promotes the organizational innovation performance. Considerable emphasis is also put on the structural social capital **.Thus social capital encourage firms to share both technological and market information which is responding well to environmental dynamism**. The primary function of social capital is gathering and sharing of knowledge towards the society. It also allows interactions with all the stakeholders of the organization. Social capital is sometimes also called relational capital.

The worldwide innovations owe much on the structural capital of an organization. Structural capital helps strongly in establishing the system and mechanisms for innovation and financial performance to firms. It is attached to the central base of an organization specific processes, technologies and management. Structural capital facilitates in active processes and its internal capability which are the sine qua non ("Without which, not.") for the effective functioning of human capital and social capital.

IC theoretical studies present the capability of human, structural and social capital enhances the potential source of competitiveness and ambidexterity for an organization.

Based on the aforementioned views, the present study examines the main components of intellectual capital with the dynamic capabilities of the companies. The Table 3 proposes a brief description for intellectual dynamics.

TABLE 2: INTELLECTUAL DYNAMICS DESCRIPTION

INTELLECTUAL DYNAMICS	DESCRIPTION
Human Dynamics	**Refers to the valuable, unique, and irreplaceable capabilities possessed by human beings.**
Social Dynamics	**Refers to the relational aspects that impacts human dynamics**
Structural Dynamics	**Refers to the specific processes, technologies and management which facilitates innovativeness and value creation to firms.**

From the table 3 it is evident that Intellectual Dynamics (ID) is associated closely with the resource based view. Like the resource based view, ID focus on its core issues such as competencies and performance in the field of strategic management and innovation management.

Intellectual dynamics is an integrated way of DC and IC as interdisciplinary constructs which should not be analyzed separately.

1.5 RESEARCH PROBLEMS

In the management literature, the dynamic capability view is rooted in the same thought of the resource based view. Dynamic Capabilities have a significant impact on firms. It allows firms to remain competitive in changing and dynamic environments. However, practitioners and academics have a growing interest in empirically analyzing Dynamic Capabilities which foster the innovation performance of the firms. Scholars have started applying the study of DC on the innovation performance over the last years ranging from conceptual papers to quantitative empirical work.

Research studies has only begun to address the problem of how to identify DC– and its relationship with other organizational variables. This represents the point of departure for the research objective, which is presented in the following section.

1.6 RESEARCH OBJECTIVES

Building on the existing research on intellectual capital and the dynamic capabilities, this study aims to establish an integrated model of Intellectual Dynamics. Focusing on this, this section develops a model of intellectual dynamics that exhibits the following characteristics:

- Key facets of intellectual capital and dynamic capabilities.
- Enablers of intellectual capital and dynamic capabilities are identified to support innovation performance and financial performance of the companies.
- Relationships between intellectual dynamics and innovation performance are evaluated.

In view of the above, the major objectives of the present study are as follows:

1. To identify and measure the impact of intellectual capital on the innovation performance of the firms.
2. To identify and measure the impact of dynamic capabilities on the innovation performance of the firms.
3. To analyze and compare the each component of Intellectual Capital and Dynamic Capabilities on the innovation performance of the firms.

1.7 RESEARCH QUESTIONS

The main objective of this paper is to establish an integrative model of the Dynamic Capabilities required by firms to successfully pursue innovation performance. Thus, the following research questions are addressed in this study.

1. What are the implications of intellectual capital on innovation performance?
2. To what extent does intellectual capital and dynamic capabilities affects the innovation of the organization?
3. performance?

1.8 GAPS BETWEEN DYNAMIC CAPABILITIES AND INTELLECTUAL CAPITAL THEORY AND PRACTICE.

Although DC and IC research studies advocates its importance for incredible growth and success for a company, it is also subject to certain disputes among research studies and business practitioners. Most of the debates have focused on two main challenges. The first concerns the nature of DC and definition of the term. The second concerns on the effects and consequences of DC implementations.

KEY DEBATES: Despite the wide usage of the DC in practice, still a universally accepted definition has been slow to emerge. This is due to the fact, that the definition provided by Teece, Pisano and Shuen (1997) provides a gap for other researchers to refine, reinterpret and expand the concept.

Teece, Pisano and Shuen (1997) defined dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (1997, p. 516).

The above definition has created a gap what constitutes as human capital abilities, how to improve, how to measure such abilities, and where they come from.

Many research scholars have viewed dynamic capabilities with different lenses, reflecting different views. There has been significant debate on the effects and consequences of DC implementations particularly with regard to market sustainability and firm performance.

From business practitioner's view, the key challenges is to identify when the human capital can interfere in the quality of dynamic capabilities. Also which component of intellectual dynamics predominantly occupies in the performance of the organization.

In relevance to the above said key debates, many research scholars have analyzed by integrating DC and IC in various situations. One set of studies concentrated on the characteristics and relevant factors influencing on the DC and IC indicators. In addition the mechanisms and processes of DC and IC by integrating the different perspectives is being studied. **In parallel dimension, the points of convergence demonstrate that the perspectives of DC found in the literature respect the same structure followed by IC.**

SECTION 2: REVIEW OF LITERATURE

This section provides the review of the research studies of DC and IC that have emerged as a vital driver for the growth and sustainability of the companies.

2.1 Research Paper: Mediating Role of Dynamic Capabilities on the Relationship between Intellectual Capital and Performance: A Hierarchical Component Model Perspective in PLS-SEM Path Modeling.

- **Author:** Mohammed Ibrahim Aminu
- **Source and Year of Publication:** Article in Research Journal of Business Management · March 2015. https://www.researchgate.net/publication/283348935_Mediating_Role_of_Dynamic_Capabilities_on_the_Relationship_between_Intellectual_Capital_and_Performance_A_Hierarchical_Component_Model_Perspective_in_PLS-SEM_Path_Modeling
  ISSN 1819-1932 / DOI: 10.3923/rjbm.2015.443.456 © 2015 Academic Journals Inc.
- **Sample, Data Collection and Period of Study:** Structured questionnaire from 124 manufacturing enterprises in Nigeria.
- **Tools Used:** Partial Least Squares Structural Equation Modeling (PLS-SEM).
- **Findings:** Showed the empirical evidence on the effects of human, relational and structural capitals on the development of dynamic capabilities particularly between the intangible resources and performance.

2.2 Research Paper: Examining the Effects of Intellectual Capital on Dynamic Capabilities in Emerging Economy Context: Knowledge Management Processes as a Mediator

- **Author:** Bindu Singh and M.K. Rao
- **Source and Year of Publication:** **https://tarjomefa.com/wp-content/uploads/2018/11/F1144-TarjomeFa-English.pdf**
  Emerging Economy Studies 2(1) 110–128 © 2016 International Management Institute , SAGE Publications DOI: 10.1177/2394901515627746
- **Sample and Period of Study:** 49 Indian banking firms using 1498 questionnaires (873-Field survey and 625-Mail survey)
- **Tools Used:** Employing confirmatory factor analysis (CFA).
- **Findings:** Intellectual capital significantly affects the development of dynamic capabilities. Human capital has a greater contribution to dynamic capabilities than social and organizational capital.

2.3 Dynamic Capabilities and Their Impact on Intellectual Capital and Innovation Performance

- **Author:** Mostafa A. Ali , Nazimah Hussin , Hossam Haddad , Dina Alkhodary and Ahmad Marei
- **Source and Year of Publication:** **https://www.researchgate.net/publication/354411210_Dynamic_Capabilities_and_Their_Impact_on_Intellectual_Capital_and_Innovation_Performance**
  September 2021 Sustainability 13(18):10028 DOI:10.3390/su131810028
- **Sample and Period of Study:** 364 participants from Iraqi commercial banks
- **Tools Used:** Structural Equation Modelling
- **Findings:** The employees' levels of intellectual capital significantly increased toward innovativeness through the moderating role of dynamic capabilities between intellectual capital and innovation performance in the commercial banks.

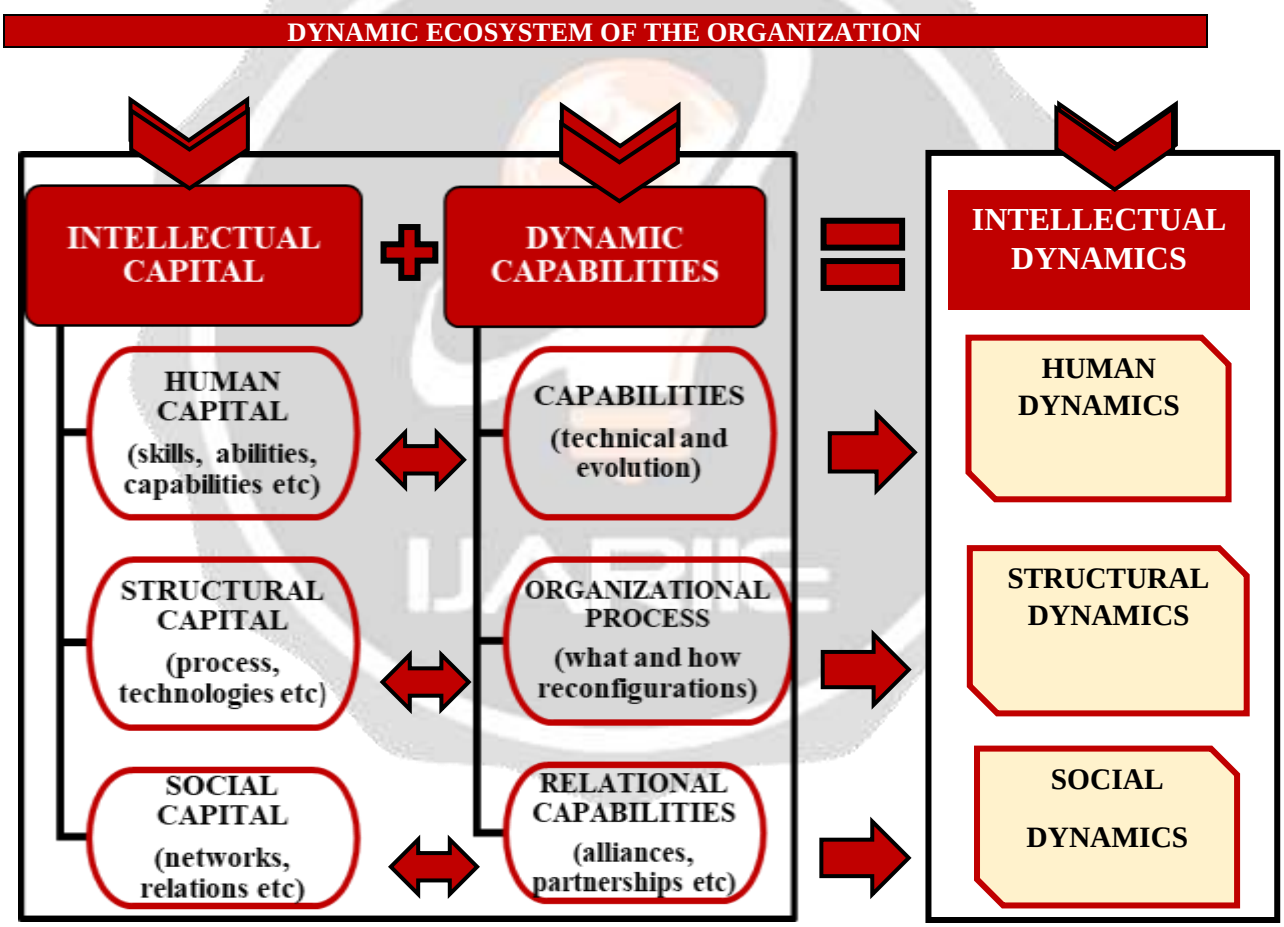
SECTION 3: RESEARCH FRAMEWORK

In this section, a research framework has been developed that explains the connectivity among the components to be studied. Based on the figure 2, this study takes a new approach of integration of two constructs DC and IC, known as **"INTELLECTUAL DYNAMICS".**

The diagram 3 illustrates the framework of 'Intellectual Dynamics' that integrate DC and IC, which is an extract empirical findings from the literature.

From the review of literature it is observed that several studies have established the importance of Intellectual capital and Dynamic Capabilities of the companies. But from the Indian context there are only limited studies that are industry specific measuring the innovation performance of companies integrating IC and DC known as "Intellectual Dynamics".

Diagram 3. Intellectual Dynamics s Integrative Model of Dynamic Convergence Between Intellectual Capital and Dynamic Capabilities.



The sub components that have been constructed for the above said figure is outlined below.

Table 3: Sub Components of the Intellectual Capital and Dynamic Capabilities

COMPONENTS	MEANING	MAIN FACTORS
Human Capital	Refers to the employee's skills.	Employees' experience, knowledge, and skills.
Structural Capital	Refers to	Structures,

	the overall process, and systems followed in the organization firm	strategies, routines, databases, patents, and culture.
Relational Capital	Refers to the interpersonal relationships with the suppliers, customers and stake holders.	Commitment, trust, interactions and respect.
Social Capital	Refers to the result of the networks of relationship between individuals, communities and binds as self-sustaining community.	Efficiency, productivity, norms and values.
Capabilities Criteria • echnical Capability • volutionary Capability	Refers to the firm's ability to design and develop new process, product and upgrade skills. Refers to how efficiently the organizat	Knowledge and skills.

	ion creates, expand, or modify its resources.	
Relational Capabilities	Refers to where valuable and rare resources are embedded in the relationship rather than in an individual firm.	Collaborations, inter personal trusts, communications.
Organizational And Managerial Processes • oordination and Integration (static) • earning (dynamic) • econfiguration and Transformation (Transformational)	Refers to the effectiveness and efficiency of the company. Refers to the activity that resides in new processes. Refers to the ability to reconfigure the organization structure.	Routines, Standard of Practices. Training, process of transmission of information. Adopting Best Practices.

The conceptual framework of this current study has considered the following variables.

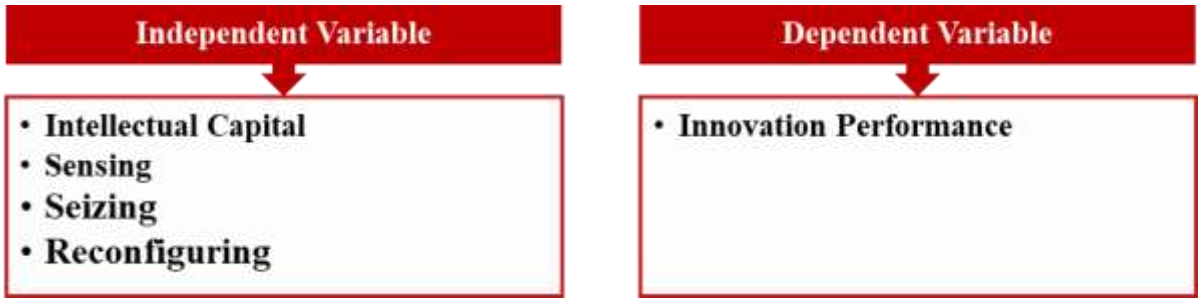
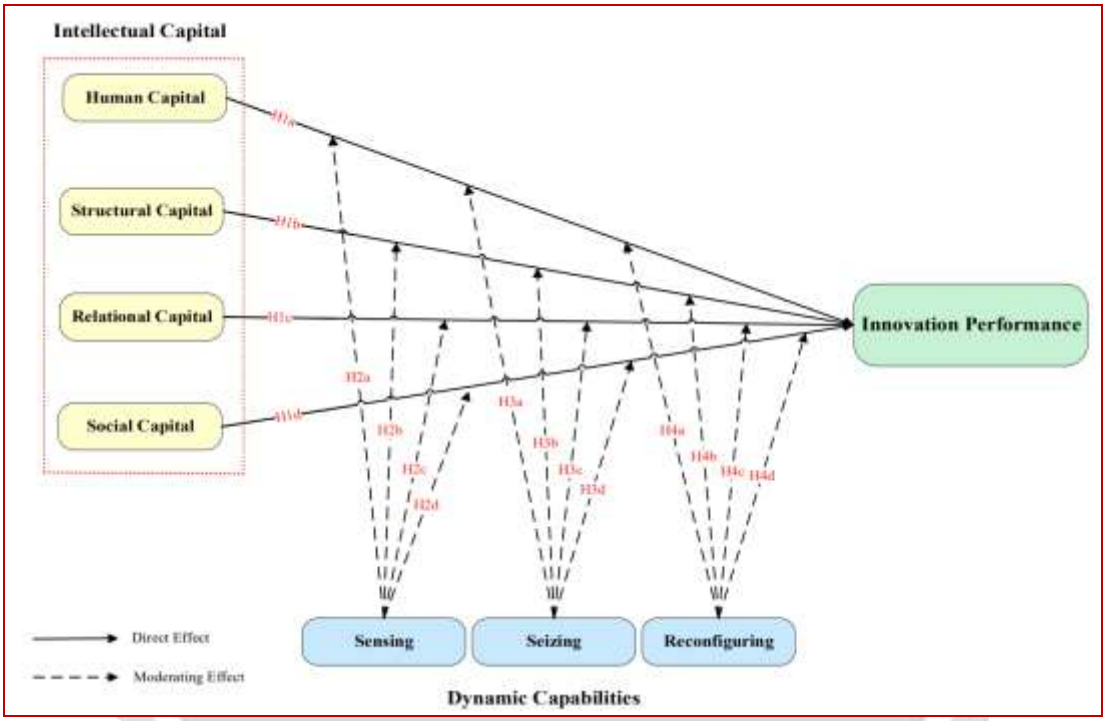


Diagram 4 : Conceptual Framework of Intellectual Dynamics

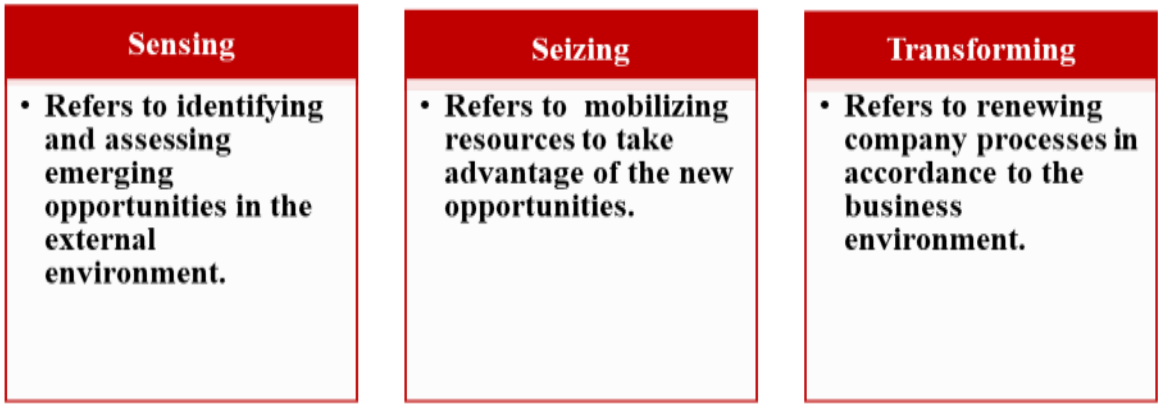


The development of dynamic capabilities relies on major three clusters – sensing, seizing, and transforming which are related to capabilities criteria, relational capabilities and organizational approach.

4.2 MEASURES

The questionnaire with 39 items forms the basis to evaluate the variables in the study (see Appendix A). Responses were made on a Likert 5-point scale ranging from 1—strongly disagree to 5—strongly agree.

Independent Variables: In this study, intellectual capital which consists of human, relational, social capital and structural capital was measured by adopting totally 21items in the questionnaire. Sensing, seizing and



reconfiguring capabilities represent the dynamic capabilities. This was measured using 18 items in the questionnaire.

Dependent Variable: Innovation Performance is considered as a dependent factor.

4.1 STUDY POPULATION

The employees of I.T industry (software, hardware and telecommunications companies) has been chosen as the industry is always in turbulent environment. This industry mainly subject to a high rate of innovations, a knowledge based industry and competivenesmaking it more appropriate for investigating the role of DCs.

4.2 SAMPLING SIZE AND SAMPLING TECHNIQUE

The current study aims to investigate a population of employees from the different I.T Companies. As such, a total of 150 questionnaires were distributed to the I.T employees. In this study, purposive sampling of the estimated population is considered to be most suitable. The respondents of this study are I.T Employees involved in rigorous software or hardware delivery of products or services business regardless of their rank or position held.

4.4 DATA COLLECTION PROCEDURE

In this study the primary data were collected through questionnaire to measure the main construct of the framed hypotheses. The main data collection process was conducted through Google forms from first week of August to 25 August 2023.

4. EMPIRICAL ANALYSIS AND DISCUSSION

In this stage, the crucial part of the research, analysis of the collected data was conducted at two levels as shown below in the table.

Table 5: Stages of Data Analysis

Stages	Kind Of Analysis	Statistical Tools	Software Used
Preliminary	• Data Screening	Reliability Check	SPSS
First	• Data Distribution • Response Rate • Coding	Skewness, Kurtosis	
Second	• Confirmatory Factor Analysis		

5.1 Results of Reliability Check

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.782	**28**

The first step preceding the factor analysis is finding the reliability check using the Cronbach's Alpha. The Cronbach Alpha Value is .782 which is more than 0.7 for 28 items. Hence the reliability of the question is proved. i.e the questionnaire is reliable for the purpose of data collection.

5.2 Normality

To assess the normality of the dataset, skewness and kurtosis is assessed. The general thumb rule is, if the skewness and kurtosis values lie within the range of ±2.58, the data distribution is considered normal. The results from the table 7 shows that the skewness values ranges from −0.008 to 0.098, and the kurtosis values ranged from −1.031 to 0.132. Thus, the data distribution in the present study can be considered normal.

Table7: Values of skewness and Kurtosis

Statistics								
		HAVG	SAVG	TAVG	RAVG	NAVG	ZAVG	EAVG
N	Valid	128	128	128	128	128	128	128
	Missing	0	0	0	0	0	0	0
Skewness		-.272	-.477	-.851	-.856	.098	-.008	.283

Std. Error of Skewness	**.214**	**.214**	**.214**	**.214**	**.214**	**.214**	**.214**
Kurtosis	**-.184**	**-.555**	**-.169**	**.132**	**-1.031**	**-.540**	**-.586**
Std. Error of Kurtosis	**.425**	**.425**	**.425**	**.425**	**.425**	**.425**	**.425**

For the reference purpose of this study, two diagrams of skewness and kutosis is shown below in the diagram 5 and 6.

Diagram 5 : Skewness Distribution of Human Capital

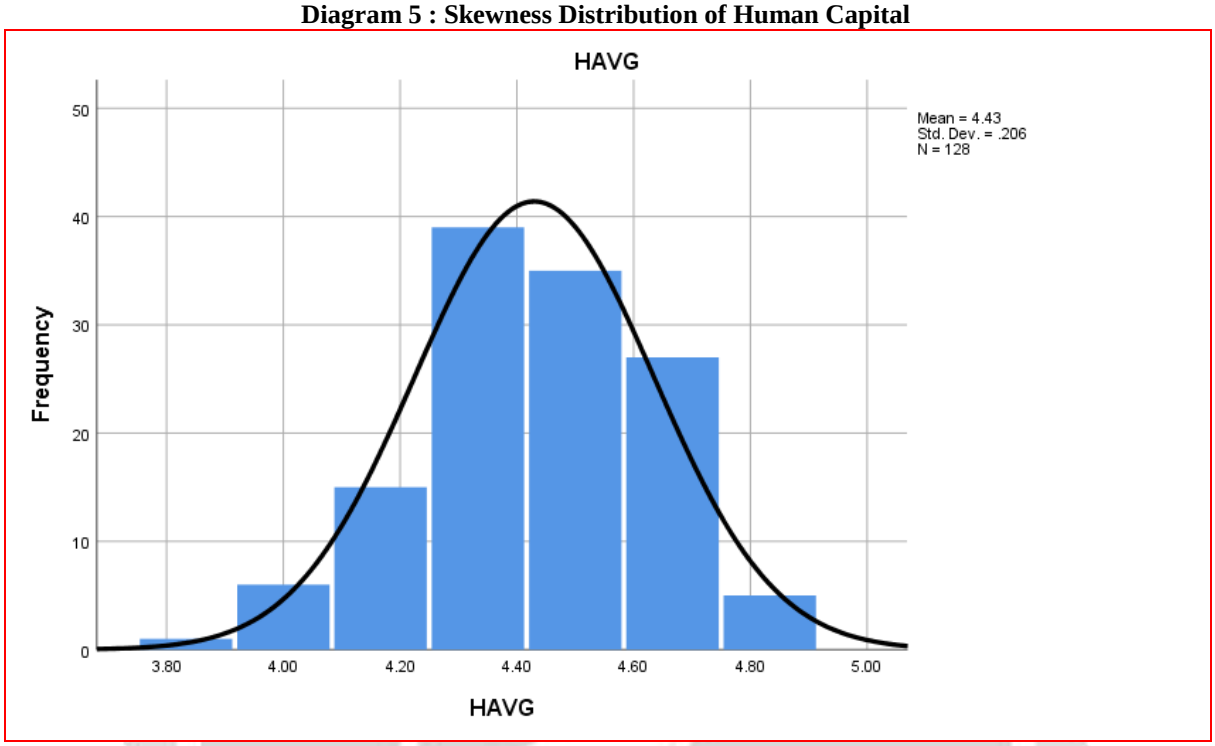
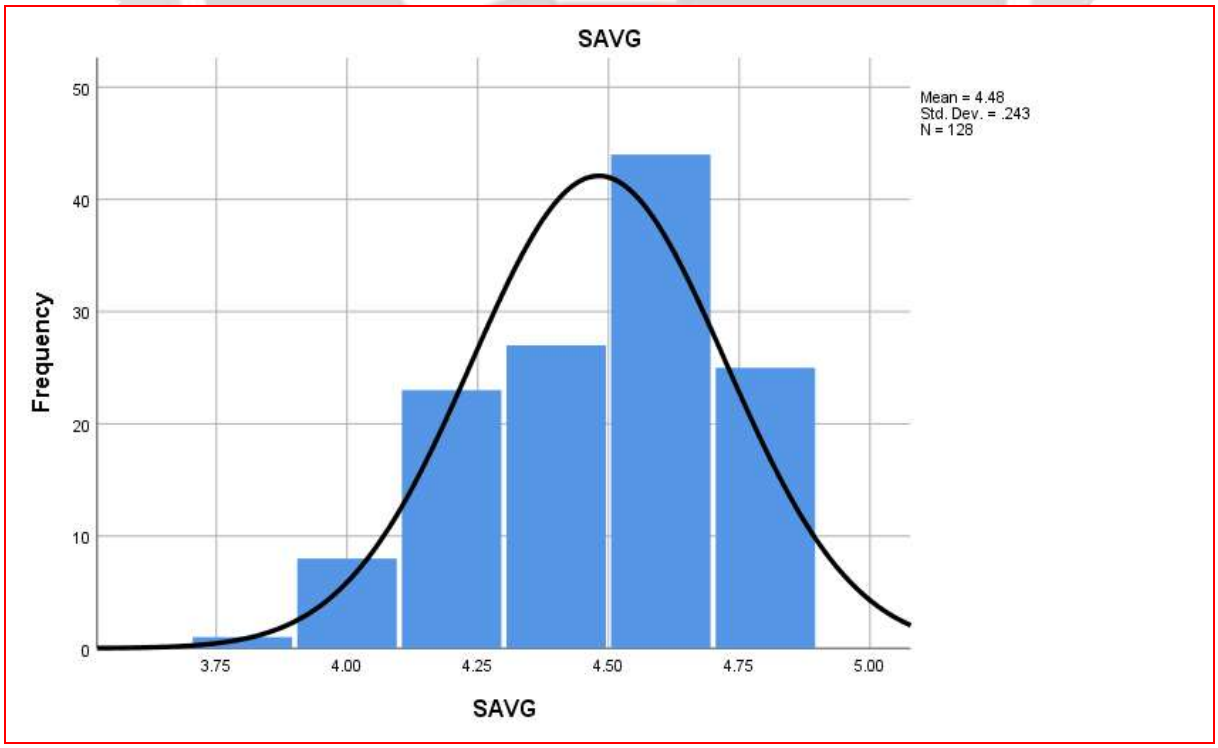


Diagram 6 : Skewness Distribution of Social Capital



4.3 RESPONSE RATE

A total of 150 questionnaires were distributed through Google Forms to the employees working in the I.T sector.

Table 6: Response Rate of the sample size.

Method	Description	Frequency	Percentage
Questionnaire	Questionnaires distributed	150	100
	Questionnaires received	145	96.67
	Questionnaires answered	134	89.34
	Questionnaires excluded	6	2
	Usable questionnaires	128	85.34

4.4 Demographic Profile

Table 8 shows the demographic profiles of the respondents who participated in this study. The demographic profiles showed that 67.187% (N = 128) of the respondents (out of 86) were males and 9.37% (N = 42) were females. In terms of age, 14.8% (N = 14) of the respondents were in the age group of 16–25 years, 11.8% (N = 12) were in the range of 26–30 years, 28.12% (N = 36) were in the range of 31–35 years, 24.7% (N = 20) were in the age group of 36–40 years, and 11.3% (N = 41) were older than 40 years.

Table 7: Demographic profiles of the respondents.

Profile	Category	Frequency	Percentage (%)	Cumulative (%)
Gender	**Male**	**86**	**67.18**	**67.18**
	Female	**42**	**32.81**	**100.00**
Age	**18-25 years**	**14**	**14.80**	**14.80**
	26–30 years	**12**	**11.80**	**26.60**
	31–35 years	**36**	**28.12**	
	36–40 years	**20**	**15.62**	
	Above 40 years	**46**	**35.93**	

4.5 Assessment of Factor Analysis

In accordance to the reliability check, KMO and Bartlett's Test was also conducted and the results are shown in the table 8. The KMO value more than 0.6 is considered fit for the study.

Table 8: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.515**
Bartlett's Test of Sphericity	**Approx. Chi-Square**	**5034.455**
	df	**741**
	Sig.	**.000**

Table 9: Communalities of the sample size

Communalities					
	Initial	**Extraction**	**N5**	**1.000**	**.778**
H2	**1.000**	**.628**	**N6**	**1.000**	**.772**
H3	**1.000**	**.809**	**N7**	**1.000**	**.900**
H5	**1.000**	**.760**	**Z1**	**1.000**	**.825**
H6	**1.000**	**.623**	**Z2**	**1.000**	**.581**
S1	**1.000**	**.683**	**Z3**	**1.000**	**.906**
S2	**1.000**	**.852**	**Z4**	**1.000**	**.806**
S3	**1.000**	**.866**	**Z5**	**1.000**	**.773**
S4	**1.000**	**.771**	**Z6**	**1.000**	**.664**

S5	**1.000**	**.847**	**E1**	**1.000**	**.836**
T1	**1.000**	**.877**	**E2**	**1.000**	**.667**
T2	**1.000**	**.832**	**E3**	**1.000**	**.867**
T3	**1.000**	**.842**	**E4**	**1.000**	**.813**
T4	**1.000**	**.804**	**E5**	**1.000**	**.675**
T5	**1.000**	**.858**	**Extraction Method: Principal Component Analysis.**		
R1	**1.000**	**.828**			
R2	**1.000**	**.666**			
R3	**1.000**	**.895**			
R4	**1.000**	**.958**			
R5	**1.000**	**.899**			
N1	**1.000**	**.868**			
N2	**1.000**	**.706**			
N3	**1.000**	**.956**			
N4	**1.000**	**.901**			

The extraction value more than 0.5 is considered acceptable as a good fit for the study. Table 9 shows the 127 items and 2 items were removed to strengthen the data for the study. The table 10 shows the total variance as a part of the factor analysis.

Table 10 : Output of Total Variance of the sample size

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	**5.165**	**13.961**	**13.961**	**5.165**	**13.961**	**13.961**	**4.654**	**12.579**	**12.579**
2	**4.823**	**13.035**	**26.995**	**4.823**	**13.035**	**26.995**	**4.011**	**10.841**	**23.420**
3	**4.217**	**11.397**	**38.392**	**4.217**	**11.397**	**38.392**	**3.890**	**10.515**	**33.935**
4	**3.795**	**10.256**	**48.648**	**3.795**	**10.256**	**48.648**	**3.844**	**10.389**	**44.324**
5	**3.185**	**8.607**	**57.256**	**3.185**	**8.607**	**57.256**	**2.861**	**7.734**	**52.057**
6	**1.836**	**4.962**	**62.217**	**1.836**	**4.962**	**62.217**	**2.360**	**6.378**	**58.436**
7	**1.639**	**4.429**	**66.646**	**1.639**	**4.429**	**66.646**	**2.028**	**5.482**	**63.918**
8	**1.534**	**4.145**	**70.792**	**1.534**	**4.145**	**70.792**	**1.806**	**4.882**	**68.800**
9	**1.247**	**3.370**	**74.162**	**1.247**	**3.370**	**74.162**	**1.674**	**4.524**	**73.324**
10	**1.093**	**2.953**	**77.114**	**1.093**	**2.953**	**77.114**	**1.249**	**3.375**	**76.699**
11	**1.063**	**2.874**	**79.988**	**1.063**	**2.874**	**79.988**	**1.217**	**3.289**	**79.988**
12	**.918**	**2.481**	**82.470**						
13	**.861**	**2.327**	**84.796**						
14	**.697**	**1.884**	**86.681**						
15	**.612**	**1.653**	**88.334**						
16	**.589**	**1.593**	**89.927**						
17	**.489**	**1.322**	**91.249**						
18	**.472**	**1.275**	**92.523**						
19	**.391**	**1.056**	**93.580**						

20	**.357**	**.965**	**94.545**						
21	**.336**	**.908**	**95.453**						
22	**.252**	**.680**	**96.133**						
23	**.231**	**.623**	**96.756**						
24	**.227**	**.614**	**97.370**						
25	**.198**	**.535**	**97.905**						
26	**.169**	**.457**	**98.362**						
27	**.148**	**.400**	**98.761**						
28	**.120**	**.324**	**99.086**						
29	**.087**	**.235**	**99.321**						
30	**.086**	**.232**	**99.553**						
31	**.059**	**.159**	**99.712**						
32	**.035**	**.094**	**99.806**						
33	**.032**	**.087**	**99.893**						
34	**.018**	**.048**	**99.941**						
35	**.017**	**.045**	**99.986**						
36	**.004**	**.011**	**99.997**						
37	**.001**	**.003**	**100.000**						
Extraction Method: Principal Component Analysis.									

Diagram 7: Graph of top variance of the sample

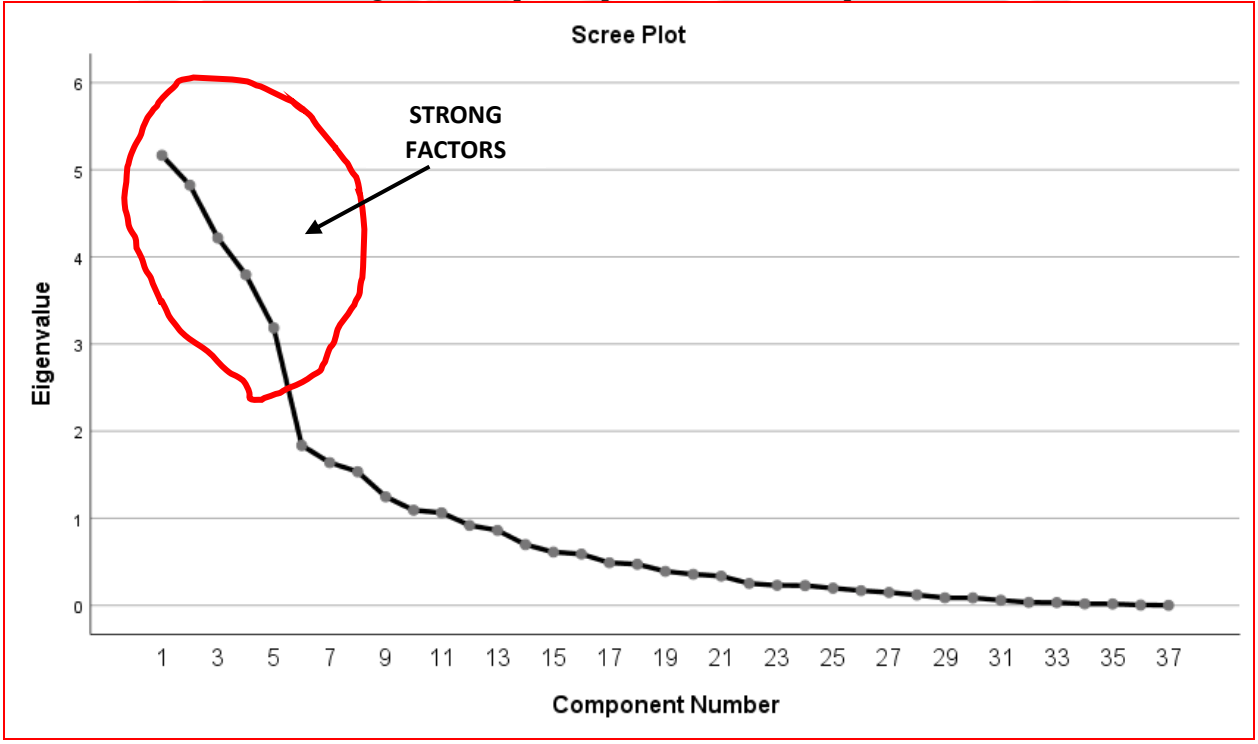


Table 11 :Output of Component Matrix[a]											
	Component										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
N4	**.807**										
R5	**.799**										
S3	**.789**										

R1	.709										
T2	.662			.533							
N1	.636			-.506							
H5	.585										
H6	.518										
N3		.739									
R4		.734									
S2		.713									
N7		.684									
T1		.640									
T5		.624									
T4			.755								
R3			.744								
N6			.731								
S5			.709								
S1			.644								
N2			.578								
R2				-.601							
T3				-.586							
S4				-.562							
N5											
Z5					-.598						
Z3					-.580						
E3		.511			-.544						
E2											
Z2											
E4						.712					
Z4						.676					
Z6						.551					
Z1							.503				
E1											
H3										.630	
H2										.573	
E5											.597
Extraction Method: Principal Component Analysis.											
a. 11 components extracted.											

Table 12 : Output of Rotated Component Matrix[a]

	Component										
	1	2	3	4	5	6	7	8	9	10	11
R1	.893										
T2	.879										
N4	.878										
S3	.872										
R5	.865										
H5	.804										
R4		.968									
N3		.962									
N7		.928									
S2		.902									
T3			.896								
S4			.847								

R2			**.778**							
N1			**.769**							
H6			**.755**							
S5				**.910**						
R3				**.908**						
T4				**.884**						
N6				**.809**						
S1				**.641**						
Z3					**.932**					
E3					**.891**					
Z5					**.819**					
Z2										
E4						**.889**				
Z4						**.867**				
Z6						**.771**				
T5							**.809**			
T1							**.806**			
Z1								**.887**		
E1								**.879**		
E2									**.579**	
N5			**.536**						**.547**	
N2										
H3										**.861**
E5										**.789**
H2										**-.530**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

4.6 Discussion:

The present study has three key major findings. First, intellectual capital significantly contributes in the organizational dynamic capabilities. Second Social capital also holds a strong influence on dynamic capabilities. Interestingly Structural capital of the organization is directly and indirectly placing its roles in the organizational dynamic capabilities. Strategies and plan of actions for fostering intellectual capital are advised to strengthen the dynamic capabilities.

5. CONCLUSION

6.1 Managerial Implications:

The study suggests to Top Management of I.T industry to understand the importance of intellectual capital in particular human capital which is a major intangible asset for the innovation performance of the organization. The organizations should focus continuously and persistently on the competence and skills of employees, building networks, maintaining alliances, in terms of holistic integration and development of dynamic capabilities.

6.2 Limitations and Research Avenues:

- The study is restricted to I.T industry, so the generalization of findings is very limited.
- Further studies with multiple functions and industry are desirable.
- This study also limits the cross sectional data.
- Also secondary data in parallel can be used to compare the results.

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APPENDIX

HUMAN CAPITAL	HC 1	The employees are highly skilled in the organization.
	HC 2	The employees of my organization are widely considered the best in the industry.
	HC 3	The employees are creative and bright in the organization.
	HC 4	The employees are expertise in their roles and functions of the organization.
	HC 5	The employees develop new ideas and tactics in their roles in the organization.
	HC 6	The employees possess required communication skills with their team members and managers in the organization.
SOCIAL CAPITAL	S 1	The employees are skillful at collaborating as a team to diagnose and solve problems relating to their roles.
	SO2	The employees share information and eagerly learn from one another.
	SO 3	The employees brainstorm ideas from the people associated with the organization.
	SO4	The employees interact with its stakeholders like customers, suppliers, alliance partners on regular basis.
	SO 5	The employees are being insisted to follow the values and norms to protect the welfare of its society.
STRUCTURAL CAPITAL	SC 1	The efforts to create and sustain the organizational culture are always a priority in the structure of the company.
	SC 2	The organizational knowledge is contained in manuals, databases, etc.
	SC 3	The organization perform a lot of actions to spread the corporate values and beliefs in its employees.
	SC 4	The Organization embeds much of its routines and information in structures, systems, and process.
	SC 5	The organization has sound formation systems to support its business operations.
RELATIONAL	RC 1	The organization is interested in developing good relations with its

CAPITAL		stake holders.
	RC 2	The organization effectively cooperates with experts and consultancies.
	RC 3	The organization is recognized by stake holders (customers, suppliers, competitors, and the general public) as one of the best firms in the industry.
	RC 4	The organization maintains long-term relationships with its customers.
	RC 5	The organization cares about the opinion of its customers and takes their feedback seriously.
SENSING CAPABILITY	SE 1	The organization is constantly investing in the research and development activities.
	SE 2	The organization is constantly seeking and exploring new technologies and markets both in the current business and in other businesses or sectors.
	SE 3	The organization is constantly seeking information from different sources through formal and informal sources.
	SE 4	The management know to upgrade on the present technologies in the business environment.
	SE 5	The organization searches for innovations originating in the business market.
	SE 6	The organization plans and allocates financial resources efficiently for the all activities of the organization.
	SE 7	The organization monitors and understands the current and latent (future) demands of the market.
SEIZING CAPABILITY	SZ 1	The organization is constantly awake to take advantage of new technological and market opportunities.
	SZ 2	The organization has a great flexibility to create and redesign the business plan.
	SZ 3	The organization has a profound knowledge of the value chain through which we reach our customers.
	SZ 4	The organization identifies ways to obtain technologies that are appropriate to the business.
	SZ 5	The organization seek external analyses or opinions in the decision making process order to avoid errors and biases.
	SZ6	The rewards and remuneration system at in the organization encourages innovation and creativity.
RECONFIGURING CAPABILITY	RE 1	The organization knows how to configure and reconfigure the resources to adjust according to the changes in the market.
	RE 2	The organization manages and monitors ways of protecting the secrets and the intellectual property.
	RE 3	The organization has a strong focus to integrate knowledge and know-how with its competitors in the industry.
	RE 4	The organization constantly identify opportunities for partnerships with external organizations.
	RE 5	The organizations constantly generate value for its customers.
INNOVATION PERFORMANCE	IP 1	The organization has developed new innovation products/ services for the local market in the last 3 years.
	IP 2	The organization new products and services are more innovative compared to the last 3 years.
	IP 3	The organization has improved the on innovation efficiency of the offered products / services in the last three years.