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DRIVING SUSTAINABLE SUCCESS: MAXIMIZING COMPETITIVE ADVANTAGE THROUGH INTELLECTUAL CAPITAL

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ABSTRACT

Knowledge and information are the thermonuclear weapons of the modern business world. Intellectual capital (IC) has emerged as an essential element of the knowledge economy. Successful people are those who know how to properly invest and use their intellectual capital. IC is acknowledged as the most crucial success factor for organisations. Human capital, customer capital, structural capital, social capital, technological capital and spiritual capital are the six main pillars of an organization's intellectual capital. Many academicians concur with intellectual capital theory originated from knowledge and resource-based frameworks. This paper's main thrust was to conduct a review of literature and identify the link between theory of intellectual capital: resources-based theory & knowledge-based theory, as well as the reasons organisations seek to measure IC. Knowledge-based and resource-based ideas evolved into intellectual capital theory. This research will foster intellectual capital theory and literature review.

KEYWORDS: Intellectual capital theory, Knowledge-based theory, Resource-based theory.

1. INTRODUCTION

The global economy has been steadily shifting from an "industry-based atmosphere" that focused on corporeal assets such as plants, factories, equipment and machineries to "information-based atmosphere" (Nazir et al., 2021). With the start of the twenty-first century , information and communication technology, research and intense worldwide competitiveness, the global business environment has been undergoing fast expansion (Soewarno & Tjahjadi, 2020). In the modern era, knowledge has supplanted labour, physical capital & land as the most crucial component of production (Drucker 1988). Public (2004) said that the success of a business depends on how well it can use knowledge. To attain a sustainable competitive advantage in a knowledge-based economy, knowledge is more essential than tangible resources (Lonnquivist et al., 2009; Kianto et al., 2013). The World Bank (1999, p. 20) defined that "knowledge is our most powerful engine of production". World Bank (1999) has acknowledged the worth of intellectual aptitude and knowledge as: "Knowledge is just like light, which is insubstantial and intangible, it can certainly travel all over the world, instructive to the lives of societies everywhere".

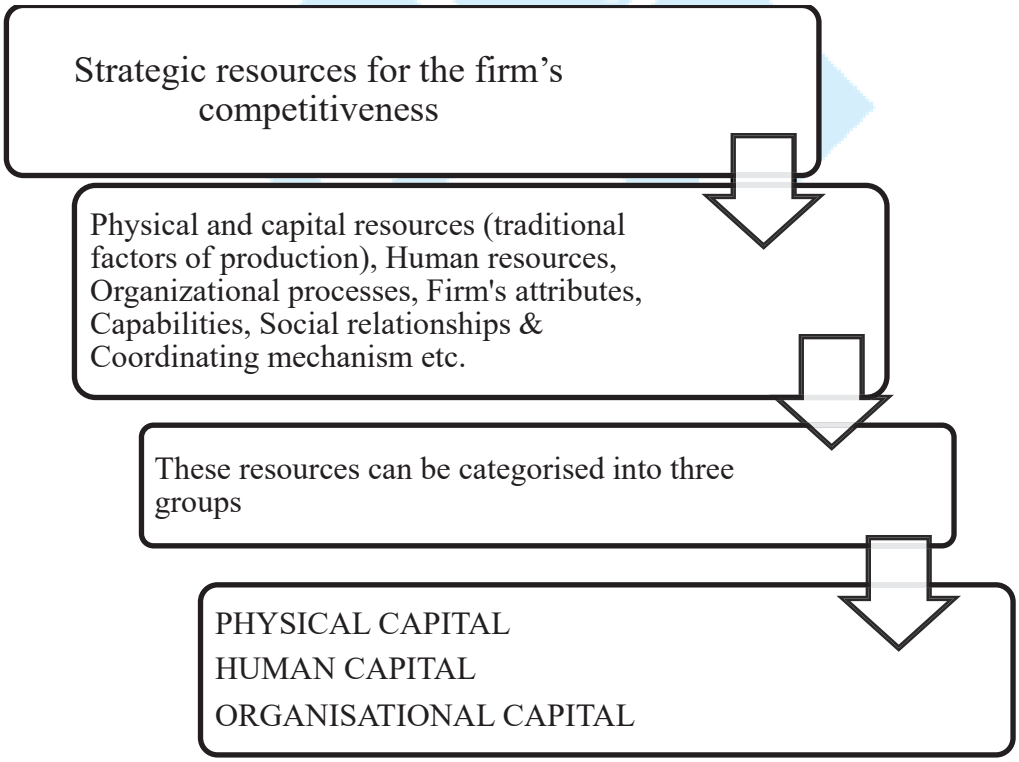
According to Wiig (1997), intellectual capital & knowledge management (KM) are crucial for 21st-century business management. Examining KM from the outlook of the progression it employs to produce worth in the form of IC (Daud and Yousoff, 2011). The cornerstone of IC is knowledge along with other intangible assets including employee aptitude, attitude, intellectual agility, customer happiness, loyalty, system rules and procedures, inventions, social value, reliance & honesty. (Ramezan, 2011; Khalique et al., 2011b). According to Hosnavi and Ramezan (2011), intellectual capital is a key constituent of an organization's capabilities since it directly contributes to enhance the new opportunities and the improvement of existing ones.

2. REVIEW OF LITERATURE

Theory of IC is widely acknowledged as the superior form of resource & knowledge-based theories by the many academicians who contributed to its creation. Intellectual capital is the foundation upon which a company's success is built in a knowledge-based economy. A company will fail in today's market unless its intellectual assets are properly recognised and used. The intellectual capital theory has been described as a more developed version of the resource-based theory and the knowledge-based theory by a number of academicians.

- **RESOURCE BASED VIEW THEORY**

Resource based approach was first purposed by Penrose in 1959, it was further toured by Wernerfelt (1984). According to Penrose (1959), the resource-based view (RBV) refers to the majority of the firm's resources consist of tangible & intangible resources. The workforce or human capital can be summed up as the organization's accumulation of value-added services. The tangible assets include real estate, structures, equipment, vehicles & other fixed assets. Consequently, this theory can help to understand how organisations use their tangible and intangible assets to preserve a competitive edge. (Nadeem, 2016; Penrose, 1959;Aleem & Haqqani, 2021). The RBV theory postulates that the primary driver of varying firm's performance is the heterogeneity of resources that a firm possesses or has access to (Barney, 1991; Peteraf, 1993). The inventory of strategic resources that have been identified as contributing to a company's competitive edge encompasses a range of factors, including physical and capital resources (which are considered traditional production factors), organisational processes, human resources, firm's attributes, aptitudes, social relationships (also known as relational capital) and coordinative mechanisms among others. These resources can be categorised into three groups (figure 1):



(figure1. strategic resources)

(Source: Barney, 1991)

As explained by Barney (1991), To possess firm-specific strategic value, heterogeneity and immobility are required. Knowledge is one of the most crucial strategic corporate assets affecting the long-term success of a company (Curado & Bontis , 2006). Thus, having access to or possessing knowledge ensures a long-lasting competitive advantage because it has all the required qualities (as described by the RBV perspective), adds value to the company, is uncommon, is challenging to duplicate, and can be organised (VRIO) (Barney, 2002; Arend and Levesque, 2010; Andersen, 2011).

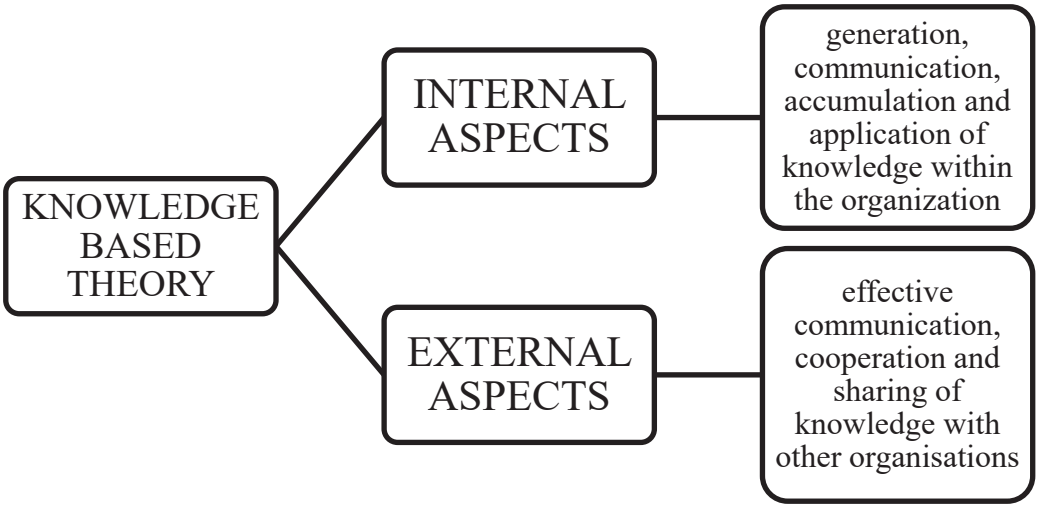
Resource-based theory illuminated us as to how businesses might use their assets to maintain a cutting edge in the marketplace. In 1991, Barney made the observation that a business's physical assets, human capital resources & organisational resources all work together to form the whole. However, resources related to high technology are difficult to acquire because they need either a lengthy process of learning or a shift in the company's culture (Caldeira and Ward 2001, 2003). The resources are probably one-of-a-kind to the company, which makes it harder for competitors to copy them. Even though the resource - based theory is very important, many scholars have some doubts about it and they acknowledged the RBV theory has some defects, such as the fact that it mostly looked at the resources and capabilities of the group itself (Barney, 1991; Makhija, 2003; Curado and Bontis, 2006). The RBV theory (Chamberlin, 1962; Penrose, 1959) says that a company can gain a competitive edge and improve supervisor performance by using its own resources. Previous research studies have shown that there are mostly two problems with resources-based theory. First, this theory focuses on the tools that an organisation already has (Curado & Bontis, 2006). Second, Priem and Butler (2001) and Kraaijenbrink et al. (2010) resulted that the RBV theory has some flaws because it is static and may have trouble in a competitive world that is always changing.

- **KNOWLEDGE BASED THEORY**

The theory of knowledge was created by Grant (1997) and Sveiby (2001). (Schumpeter, 1942; Galende, 2006) Knowledge is currently the most essential factor in attaining and maintaining competitive advantage. Knowledge in a knowledge-based economy is also the fundamental factor of production. Value is created by intellectual capital (Kozak, 2011). Knowledge may be shared, collected and claimed, according to Grant (1996). Information transmission efficiency and competitive advantage rely on an organization's capacity to communicate (Grant, 1996). Knowledge appropriation, like resource ownership, is the

ability to profit from a resource (Teece, 1987). These criteria justify perceiving knowledge as a premeditated resource for the company, defining its knowledge-based perspective (Grant, 1996, 1997). According to RBV & KBV, businesses use transmission, guidance, sequencing and routine knowledge to produce high-quality goods and offerings (Grant, 1996; 1997). Additionally, organisations generate resources which are related to knowledge (firm-specific expertise). These assets are difficult for competitors to replicate, thereby establishing permanent differentiation. Eisenhardt and Santos (2002) stated that a company's success in a knowledge-based economy is contingent upon its diverse knowledge base and intangible skills. Knowledge is a strategic asset that depreciates less quickly than other economic assets. Knowledge-based resources are ephemeral and fluid. According to Nonaka (1991), Kogut and Zander (1993) & Hedlund (1994), the KBV theory enables organisations to effectively generate, retain and implement their knowledge.

The KBV theory supplements resource-based theory to improve it. Resource-based thinking is constant and focused on the organization's resources (Ding and Li, 2010). The knowledge-based theory covers internal and external knowledge management (KM) in enterprises. Exterior perspective knowledge management focuses on efficient collaboration, cooperation, and competence sharing with external organisations in order to foster and enhance the relationships that give the organisation a competitive advantage, whereas interior perspective knowledge management focuses on generating knowledge, communication, accumulating wealth and execution within the organisation (Ding and Li, 2010) (figure 2).



(figure2. Different aspects of knowledge-based theory)

It is curious that neither the interior nor the exterior management of knowledge addresses how organisations can use their intangible resources to surge the value of their products and services. To unravel this secret, eminent researchers, academicians and practitioners developed IC theory. The primary focus of intellectual capital theory is the creation of worth from an organisation's concealed or intangible assets.

- **GLOBAL KNOWLEDGE INDEX**

The Organisation for Economic Co-operation and Development (OECD,1996) outlined knowledge-driven economies as those wherein the generation, dissemination, and utilisation of knowledge drives advancement, the accumulation of wealth and gigs across all industries, not just "high-tech" or "knowledge intensive" industries. Compare India's global knowledge index to the top 10 nations (table 1).

Table1. Global Knowledge Index Rank of India with Top 10 nations of the world

GLOBAL KNOWLEDGE INDEX RANK	COUNTRY
1	Switzerland
2	United states
3	Finland
4	Sweden
5	Netherlands
6	Luxembourg
7	Singapore
8	Denmark
9	United Kingdom
10	Hong Kong,China
75	India

(Source- https://www.undp.org/publications/global-knowledge-index-2020)

This table displays the rank of each country according to the Global Knowledge Index. The top ten countries are all industrialised nations. The fact that Switzerland is ranked number one while India is ranked number 75 demonstrates that India does not do well in terms of becoming a knowledge economy. To acquire a competitive advantage, India has to fully capitalise on the potential of information.

- **DIFFERENCE BETWEEN RESOURCE BASED VIEW AND KNOWLEDGE BASED VIEW**

  Pereira and Bamel (2021) While KBV states that knowledge is the most vital & tactical firm resource, RBV regards it as a generic firm resource analogous to tangible and ethereal firm resources. KBV contends that a company's knowledge-based assets are difficult to imitate, socially intricate, and more product and service specific (Costello & Donnellan, 2011). p. 452) in Grant (1997). According to proponents of the resource-based approach, an organization's competitive advantage is determined by its internal resources (Barney, 1991). This postulate is supplemented by the KBV theory, which addresses how to maintain resource heterogeneity in order to sustain a reasonable competitive advantage. According to the KBV, a company can develop and maintain a competitive advantage by "accessing and integrating the specialised knowledge of its members" (Grant, 1996; Grant, 1997). This viewpoint fit in firm assets and human capital, two essential business resources (Amit & Schoemaker, 1993; Helfat & Petersef, 2003).

- **INTELLECTUAL CAPITAL THEORY**

  John Kenneth Galbraith used the phrase "intellectual capital" for the first time in a 1969 article. Guthrie et al. (2012) claim that there were three stages to the development of IC research. Theoretically, the first phase began in the late 1980s and increased IC knowledge as people realised IC was necessary for the long-term growth of enterprises. The second phase was subsequently marked by research projects that examined alternative IC management, measurement, and reporting strategies. In the third phase, which is now in progress, IC management is being implemented in companies and its effects on their performance are being studied.2018 (Joshi et al.). "Intellectual Capital is intellectual material, knowledge, experience, property and information that can be put to use to create value" (Dumay et al., 2015, p. 169). The knowledge, skills, and education of a person are referred to as human capital. All non-human knowledge containers, like as databases, process manuals, information and communication systems, strategies and routines are included in organisational capital. Contrarily, social interactions inside an organisation and between a person and their clients are referred to as social capital. IC is "packaged useful knowledge". IC is the aggregate of a knowledge, information, technologies, competencies, specialisation, trademarks, client retention and managerial skills of a company that can be utilised to generate value for its products and amenities (Stewart, 1997, p. 67). IC was

described by Edvinsson (1997) as a knowledge resource that may be exploited to boost a business's value and produce income.

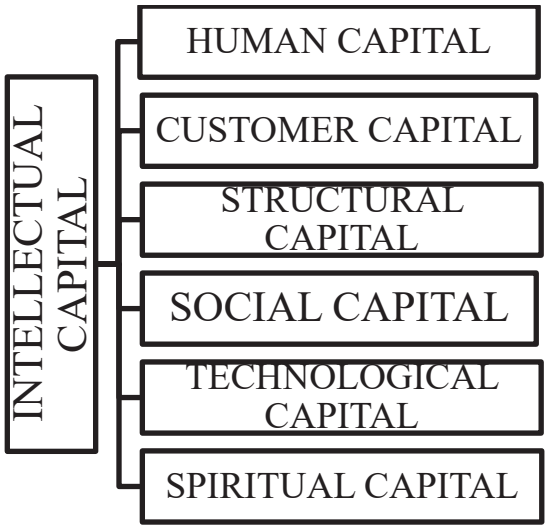
Table2. Brief Definitions of IC

Stewart (1997)	In order to create value for the company's goods and services, knowledge, information, technology, skills, expertise, intellectual property, customer loyalty and teamwork are together referred to as intellectual capital in business.
Edvinsson (1997)	IC as a source of information that can be used to boost income and a company's worth.
Starovic & Marr (2005)	IC is a group of abilities, know-how, experience, favourable connections, and commercial deals that a company may employ to succeed.
Barney (2007)	possession by an organisation of any distinctive attribute, degree of ability, body of information, or group of devoted employees.
OECD (2008)	The majority of companies across the globe have recently invested in employees being trained and developed, enhancing their skills, concentrating on advancing their knowledge, and modernising their information technology the framework. IC refers to this type of investment made by corporations and businesses.
Maaloul & Ze (2010) Sullivan	IC is defined as uniqueness and novelties that can generate monetary value and income for the organisation.
Guthrie et al, (2012)	IC generally denotes resources that generate knowledge.
Khalique, Bontis, Shaari (2015)	Norms, values, innovations, trust, sincerity, staff skills and expertise, organisational knowledge, employee-customer connections, knowledge, and information are just a few examples of the intangible assets that make up IC.
Sveiby (as cited in Meles, Porzio, Sampagnaro, and Verdoliva, 2016)	IC as a collection of employee's aptitude for generating a product & how effectively they utilise organisational resources. It also defines IC as an archive of values, norms and skills.
Pedro et al., 2018	In order to provide a source of renewable and sustained competitive advantage, IC is extracted from the people and

	technological resources of countries, regions, organisations, and even single individuals.

(Source: Literature Review)

Edvinsson (1997) asserts that the sum of structural and human capital is what is meant by IC. Structural capital, human capital & customer capital are three subcategories for intellectual capital (Stewart's, 1997). Intellectual capital is said to be made up of three components: human capital, structural capital and customer capital (Brooking, 1996 & Kujansivu 2009). Social capital & technical capital, according to Bueno et al. (2004) and Wu and Tsai (2005), are also parts of IC. In a similar vein, Ismail (2005) said that Spiritual capital is one of IC's most crucial components. The components of IC include human capital, organisational capital and structural capital, technological capital, social capital, business process capital, and customer capital, according to Ramezan (2011). It was discovered throughout the literature review that not all of these components of intellectual capital were applied to the identical prototypical. However, Khalique et al. (2011b) developed a novel concept & reciprocated the most crucial elements of intellectual capital into a single model. These components include technical capital, social capital, human capital, consumer capital, structural capital & spiritual capital (figure3). According to Khalique et al. (2011c), IC is a crucial component of an organization's ability to flourish in a knowledge-based economy. They said that in order to remain ahead of the competition in the market, firms must identify and use their most valuable creative talents.



(figure3. Integrated Intellectual Capital)
(Source: Khalique et. al. (2011b))

3. COMPONENTS OF INTELLECTUAL CAPITAL

A. HUMAN CAPITAL

According to Edvinsson and Malone (1997a), human capital (HC) is the summation of an organization's workers' experience, knowledge, expertise and individual talents. Roos et al. (2001) stated that the value of HC is generated from the attitude, competence and intellectual agility of workers, which includes their capacity to innovate and alter practises, as well as their capacity for creative thought and problem-solving abilities. According to Ahangar (2011), Bontis (1998), Morris (2015), and Johnson (1999), HC states that the whole of an employee's knowledge, skill, innovativeness, dedication and insight. Employees take this information with them when they leave the company since it does not belong to the company. HC improves the operational effectiveness of tangible assets in addition to producing intangible assets. Human capital is the primary driver of intellectual capital production in companies (Roos and Roos, 1997; Shaari et al., 2010; Shaari et al., 2010).

Based on the aforementioned criteria, human capital is the whole of an employee's abilities, knowledge, skills and experience that enables an organisation to have a competitive advantage.

B. STRUCTURAL CAPITAL

Knowledge that is developed by an organisation and is inextricably linked to the institution is known as structural capital. It may include organisational cultures, hardware, software, databases, systems and organisational structures. Inventions, procedures, copyright, patents, technologies, strategies and systems are more instances of SC. Although it has nothing to do with workers on an individual level, that skill improves employee capability. Structural capital, according to Wang et al. (2013) and Poh et al. (2018), is the resources and equipment that organisations utilise to aid their staff members in developing their knowledge and creativity. Databases, organisational plans, management procedures and company strategies are a few examples of these resources and tools. More specifically defining structural capital, Ramezan (2011) claimed that an organisation must produce value-added goods and amenities in order to have a competitive edge.

On the basis of definitions devised by various authors, Structural capital is what institutions use to help their workers improve their creativity and knowledge. Databases, organisational

plans, management methods and business strategies are some examples of these resources and tools.

C. CUSTOMER CAPITAL

A key component of IC is customer capital, which largely depends on the interaction between a company and its clients. Customer capital is derived from the knowledge incorporated in a company's marketing channels and customer contacts, which are cultivated in the conducting business procedure (Bontis et al., 2000). In a similar way, Roos et al. (2001) and Hill & Jones (2001) argued that since consumers buy products and services from companies, connections with customers are essential for organisations to have competitive advantages. There is little doubt that a company's customers are its primary source of revenue (Tai-Ning et al., 2011) As a result, it is crucial for firms to gain clients by meeting their needs. Customer happiness, loyalty and network make up customer capital, which is a crucial part of IC.

As specified by above definitions, Customer capital is the value that a company gets from its relationships with its suppliers, workers, customers, government and its shareholders. It is also called "Relational capital" and it connects people and companies. RC connects companies to the outside world and finds out what their users want and need.

D. SOCIAL CAPITAL

Grootaert and Bastelaer (2001) define social capital as the institutions, relationships and norms that form the quality and number of social interactions between people in a society and help its economic and social growth. Hassan (2014) says that social capital is a key factor in making adoption easier and solving problems caused by a dearth of financial, human & natural capital. Additionally, it's not just organisations that hold a society together; it's the adhesive that binds them all. Social capital is a collection of horizontal relationships between individuals. These relationships are made up of social networks and the rules that go along with them (Hashim et al., 2015). Khalilque et al. (2011b) said that social capital is also an vital part of intellectual capital. Nahapiet and Ghoshal (1998) found that social capital is a key part of an organization's ability to be competitive on the market. They also said that social capital is mostly made up of three things: structural, cognitive and relationship capital. These elements are crucial for increasing a company's intellectual capital's value. Social capital is the "sum of resources accumulated in the organisation by a stable network of intraorganizational relationships" (Bourdieu and Wacquant, 1992).

Hence, we can conclude that social capital is the structures, relationships & norms that help people interact with each other and help a society grow economically and socially.

E. TECHNOLOGICAL CAPITAL

Technological capital is an immaterial asset resulting from technical expertise (Ramrez, 2010). Similarly, technological capital is a subset of IC and represents an organization's development and technical enhancement-related knowledge (Khalique & Shaari, 2011). In the opinion of Fernandez et al. (2000), access, the use of innovative manufacturing techniques, and product technology make up the majority of what constitutes technical capital. Technology capital is an assemblage of intangible resources based on technological innovativeness (Bueno et al. 2006). Additionally, they asserted that technical capital is a substantial component of IC and that it enhances the performance of businesses (Khalique et al., 2013). On the basis of preceding definitions, Research and development and information technology knowledge serve as the foundation for technological capital. Greater an organization's technological expertise, the stronger its protection against imitation of its intellectual capital.

F. SPIRITUAL CAPITAL

Spiritual capital refers to the tangible effects of spiritual and religious practises, beliefs, networks, and institutions on individuals, communities, and societies (Liu, 2010). Berger and Hefner (2003) said that influence, power, spirit and knowledge that come from belief structure spiritual capital. Fry (2003) noted that spiritual resources can be utilised in a social context by a leader. The leader follows God's will in their daily life by adhering to divine laws or ideals, which is regarded as spiritual capital. Ismail (2005) expanded on intellectual capital by introducing spiritual capital as a subset of it. Ismail (2005) found in his research that the Malaysian telecom industry's organisational effectiveness greatly benefits from the presence of spiritual capital. Spiritual capital is "the intangible knowledge, faith and emotion embedded in people's minds and at the core of the organisation, which includes vision, direction, guidance, principles, values, and culture" (Ismail, 2005).

As literature stated, we conclude that, spiritual capital is a decisive part of IC and contributes significantly to the effectiveness of organisations. It is essentially centred on two things, such as moral and religious values.

4. FORMATION OF THE THEORY OF INTELLECTUAL CAPITAL

As described above, IC is an updated version of Resource based theory and Knowledge based theory. Vargas-Hernandez and Noruzi (2010) stated that resource-based theory and knowledge-based theory form the foundation of intellectual capital theory. Knowledge is the foundation of intellectual capital, as illustrated by Ramezan (2011). According to the intellectual capital's hypothesis, intangible assets are the most crucial resources for businesses to acquire a competitive advantage in a knowledge-based economy (Edvinson and Malone, 1997; Sveiby, 1997; Stewart, 1997, 2002). The intellectual capital hypothesis set out to clarify how businesses may get value from their assets. This theory considers a company's name, trademarks, expertise, employee loyalty, customer satisfaction, and business ties. Traditional resource- and knowledge-based management philosophy ignored all of these aspects (Naixiao, 2009). IC is the most essential resource for a company in a knowledge-based economy to seek a competitive edge. Knowledge-based economy now became the modern economy that generates most of its value from information-based assets like intellectual capital (Volkov and Garanina, 2007). Intellectual capital may increase profitability and product value. According to Naixiao (2009) and Khalique et al. (2011d), intellectual capital is a company's most important and precious resource in a knowledge-based economy. Edvinsson (2002) states that the knowledge-based economy is founded on intangible value and value perception, which arise from enterprises' intangible resources.

IC is often seen as one of the most decisive resources for generating and enhancing organisational value and performance, according to Viedma (2002) and Cabrita & Vaz (2006). Additionally, they said that value conception is the foundation & justification for integrating IC into a company. This viewpoint was shared by Martn-de-Castro et al. (2011) as well. They made a point of highlighting how the "intellectual capital-based view of the firm" demonstrates a novel "knowledge-based or intellectual-based" mechanism for enterprises to compete so as to acquire strategic advantages in a cutthroat economic climate.

5. RESULTS, CONCLUSIONS AND FUTURE DIRECTION

A. REASONS FOR MEASURING INTELLECTUAL CAPITAL

A systematic review of the pertinent literature has allowed us to pinpoint five primary causes. These include:

1.To assist organisations in developing their strategy.

2. IC aids in strategy implementation.

3. Aid in making decisions on diversification and expansion.

4. IC is used as a metric for compensation systems because these indicators are more predictive of future business success than accounting dimensions, and they are helpful for evaluating as well as stimulating the effectiveness management.

5. IC helps communicate with people outside of the company, a good disclosure process that is handled strategically can assist economists understand the company's strategic goals. This should lead to a more accurate share price valuation and a lower cost of capital.

B. CONCLUSIONS & FUTURE DIRECTION

IC has developed as a panacea for organisational success in the knowledge-based economy. Major value creation source is the intellectual capital these days. In order to compete successfully in today's global economy, it is essential for organisations to comprehend and effective management of intellectual capital (Bhartesh & Bandyopadhyay, 2005). Despite a question, intellectual capital has aroused a great deal of interest in US, Europe & Scandinavia. Liyanage et al. (2002) reported the idea of IC has its historic origin in Scandinavia & Europe. Over the past ten to fifteen years, numerous organisations have explored and adopted the idea to gain a competitive advantage. In this respect, Chaminade (2003) said that the United States, Europe and Scandinavia had all reached a mature state in terms of the idea and use of IC. In advanced countries like the United States of America, more than 60% of knowledge professionals are categorised as "symbolic analysts" according to Ernst & Young (2006) and Vargas-Hernandez and Noruzi (2010). Additionally, they said that knowledge workers operate symbols as opposed to technologies. Though, in emerging nations, the idea and practise of intellectual capital are still in their infancy. According to Cabrita (2009), by assessing each element of IC, businesses may better understand how various organisational pieces work together and interact to produce wealth. Additionally, this assessment provides us with a clear picture of how businesses generate value. Vargas-Hernandez and Noruzi (2010) demonstrated that every nation makes an effort to raise the level of expertise of all of its personnel. We may infer from what we've discussed so far that it will be challenging for businesses to locate knowledge employees in the future. In order to allow industry to handle future issues, it is essential for policy development bodies, particularly those in the education sector, to offer qualified individuals. This study encourages future writers to use the notion of intellectual capital and all of its key components realistically.

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