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The Impact of the Intellectual Capital on Organizational Performance

Case study: Private Schools in Setif & Batna

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ABSTRACT

With the advent of the era of knowledge economy, intellectual capital has become one of the important factors to improve the competitiveness and value of enterprises. In recent years, the research on intellectual capital and organizational performance has become a new hotspot in the field of management, and organizations are looking for these essential factors to ensure their survival and achieve constant development.

This study presents a conceptually yet empirically supported framework to investigate the significance of the effects of three intellectual capital elements human, structural and relational capital on organizational performance in the private sector of SMEs. Results are based on empirical data collected through a structured questionnaire from 08 private schools and institutions in both Setif and Batna provinces in Algeria (n=59). We followed an Inferential approach and a quantitative analysis based on various statistical tools. The data were analysed using SPSS V26, where descriptive analysis depicts the data, correlation assesses the relationship between variables and multiple linear regression is used to conduct the analysis and measure the significance.

The results from this investigation and the final estimated model indicate that the intellectual capital indeed, has a significant impact on the overall performance, structural capital positively and significantly impacts over organizational performance as the predictor that has the most impact. Similarly, relational capital significantly positively contributes to organizational performance. However, human capital has positive but insignificant relationship with the performance. The implication of our findings provides the managers useful insights into the importance of equipping their businesses with structural capital, relational capital and human capital, to enhance the performance and compete in the highly dynamic and globalized environment.

Key words: *Intellectual capital, Human capital, Structural capital, Relational capital, Organizational performance*

RÉSUMÉ

Avec l'avènement de l'ère de l'économie du savoir, le capital intellectuel est devenu l'un des facteurs importants pour améliorer la compétitivité et la valeur des entreprises. Ces dernières années, la recherche sur le capital intellectuel et la performance organisationnelle est devenue un nouveau hotspot dans le domaine du management. Et les organisations recherchent ces facteurs essentiels pour assurer leur survie et parvenir à un développement constant.

Cette étude présente un cadre qui est soutenu à la fois conceptuellement et empiriquement pour étudier la signification des effets de trois éléments du capital intellectuel ; le capital humain, structurel et relationnel sur la performance organisationnelle dans le secteur privé des PME. Les résultats sont basés sur des données empiriques collectées via un questionnaire structuré auprès de 8 écoles et institutions privées des provinces de Sétif et de Batna en Algérie (n = 59). Nous avons suivi une approche inférentielle et une analyse quantitative basée sur différents outils statistiques. Les données ont été analysées à l'aide de SPSS V26, où l'analyse descriptive décrit les données, l'analyse de corrélation pour évaluer la relation entre les variables et la régression linéaire multiple est utilisée pour mener l'analyse et mesurer la signification.

Les résultats de cette recherche et le modèle final estimé indiquent que le capital intellectuel a un impact significatif sur la performance globale, le capital structurel a un impact positif et significatif sur la performance organisationnelle en tant que prédicteur qui a le plus d'impact. Également, le capital relationnel contribue significativement et positivement à la performance organisationnelle. Cependant, le capital humain a une relation positive mais insignifiante avec la performance. L'implication de nos résultats fournit aux gestionnaires des informations utiles sur l'importance d'équiper leurs entreprises en capital structurel, relationnel et humain, pour améliorer les performances et être compétitifs dans un environnement hautement dynamique et mondialisé.

Mots clés : *capital intellectuel, capital humain, capital structurel, capital relationnel, performance organisationnelle*

ملــخص

مع ظهور عصر اقتصاد المعرفة ، أصبح رأس المال الفكري أحد العوامل المهمة في تحسين القدرة التنافسية للشركات وقيمتها. في السنوات الأخيرة ، أصبح البحث عن رأس المال الفكري والأداء التنظيمي نقطة ساخنة جديدة في مجال الإدارة ، و أصبحت المنظمات تبحث عن هذه العوامل الأساسية لضمان بقائها وتحقيق التنمية المستمرة.

تقدم هذه الدراسة إطارًا مدعومًا من الناحية المفاهيمية والتجريبية لدراسة أهمية تأثيرات ثلاثة عناصر لرأس المال الفكري ؛ رأس المال البشري والهيكلي والعلائقي على الأداء التنظيمي في القطاع الخاص للشركات الصغيرة والمتوسطة. تستند النتائج إلى بيانات تجريبية تم جمعها عبر استبيان منظم من 8 مدارس ومعاهد خاصة في ولايتي سطيف وباتنة في الجزائر (العدد = 59). اتبعنا نهجًا استنتاجيًا وتحليلًا كميًا يعتمد على أدوات إحصائية مختلفة. تم تحليل البيانات باستخدام SPSS V26 ، حيث يصور التحليل الوصفي البيانات ، يتم استخدام الارتباط لتقييم العلاقة بين المتغيرات والانحدار الخطي المتعدد لإجراء التحليل وقياس الدلالة.

تشير نتائج هذا البحث والنموذج التقديري النهائي إلى أن رأس المال الفكري بالفعل له تأثير كبير على الأداء العام ، ويؤثر رأس المال الهيكلي بشكل إيجابي وكبير على الأداء التنظيمي باعتباره المتنبئ الأكثر تأثيرًا. أيضًا ، يساهم رأس المال العلائقي بشكل كبير وإيجابي في الأداء التنظيمي. ومع ذلك ، فإن رأس المال البشري له علاقة إيجابية ولكنها غير مهمة بالأداء . توفر النتائج التي توصلت إليها نتائجنا للمديرين والمسيرين معلومات مفيدة حول أهمية تزويد مؤسساتهم برأس مال هيكلي وعلائقي وبشري ، لتحسين الأداء والقدرة على المنافسة في بيئة شديدة الديناميكية والعولمة.

الكلمات المفتاحية: *رأس المال الفكري ، رأس المال البشري ، رأس المال الهيكلي، رأس المال العلائقي، الأداء التنظيمي*

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In the Name of Allah, the Most Forgiving and the Most Merciful

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

DV	Dependent Variable
EFA	Exploratory Factor Analysis
H1	Hypothesis One
H2	Hypothesis Two
H3	Hypothesis Three
H4	Hypothesis Four
HC	Human Capital
IC	Intellectual Capital
IICM	Integrated Intellectual Capital Model
IV	Independent Variables
KM	Knowledge Management
KMO	Kaiser-Mayer-Olkin Test
KMS	Knowledge Management System
KPIs	Key Performance Indicators
MBI	Management Business International Institute
OP	Organizational Performance
PCA	Principal Component Analysis
PM	Performance Measurement
R&D	Research and Development
RC	Relational Capital
ROA	Return On Assets
ROE	Return On Equity
ROI	Return On Investment
SC	Structural Capital
SMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Package for the Social Sciences
VAIC	Value Added Intellectual Coefficient

GENERAL INTRODUCTION

With the development of economic globalization and high-tech, we have entered a new knowledge-oriented economic era in the 21st century. The focus of social attention is no longer the traditional factors of production, but the lack of knowledge resources. In this context, the academic circles gradually deepen the research on knowledge resources, and focus on the importance of information, knowledge, technology and other intellectual factors to promote economic growth. In today's era of knowledge economy, intangible assets such as knowledge, talent and information have become an important way to enhance the comprehensive strength of organizations. The competition among enterprises is not limited to traditional natural resources, labour force and production facilities, but emphasizes the core competition based on intangible intellectual capital such as knowledge, intelligence and information. And enterprises have gradually realized the importance of intellectual capital factors in the operation and management of organizations. Thus, authors and researchers declare that the current trend is for organisations to focus less on material assets and more on intangible assets when seeking competitive advantages and that those firms with adequate intellectual capital have a better chance of survival.

Intellectual capital can be expressed as the backbone of an information-based economy. Intellectual capital can also be expressed as a management strategy utilized for the organization to generate profit and achieve desired performance. IC refers to knowledge and expertise which adds value to the organization and it consists of three main components as follow:

- Human capital which can be described as the sum of employees' competence, knowledge, skills, innovativeness, attitude, and experience.
- Structural capital which includes organizational processes and structures, policies, culture, databases, routines as well as the information technology used in that organization.
- Relational capital which can be expressed by the knowledge encoded in the relationship with any stakeholder affecting the life of the company.

All these characteristics lead to the development of competitive advantage within the organization.

Research on intellectual capital has been undertaken by some earlier researchers in developed countries such as Malaysia, Canada and China… But the numbers of research done in Algeria are still very little and the concept of intellectual capital still is new for SMEs

in Algeria. Therefore, we were interested to conduct a research on this topic in order to be able to contribute to the development of SMEs in Algeria. we conducted this study on organizations in the private sector where we selected private schools and institutions in two provinces namely Setif and Batna.

This study aims to analyse the impact and effect of Intellectual Capital [Human Capital, structural capital and relational capital] on Organizational Performance, and find the relationship between those concepts

And that leads us to pose the following research question: **Does Intellectual capital influence the organizational performance of private schools in Algeria?**

In order to answer this research question and have a logical sequence in our study we have to state this sub questions as follow:

- Does the human capital affect organizational performance?
- Does the structural capital affect organizational performance?
- Does the relational capital affect organizational performance?

in order to provide an answer to these questions we found it useful to formulate the following hypotheses;

H1: Intellectual Capital has a positive and significant relationship with the organizational performance.
H2: Human capital has a positive and significant relationship with the organizational performance.
H3: Structural capital has a positive and significant relationship with the organizational performance.
H4: Relational capital has a positive and significant relationship with the organizational performance.

To test the validity of our research hypotheses, we followed an Inferential approach and a quantitative analysis based on various statistical and economic tools.

the empirical study was carried out by using a questionnaire intended for private schools and institutions and was analysed using SPSS software. various statistical analyses were employed including descriptive statistics, validity and reliability analysis, correlation analysis and multiple regression analysis.

for the sake of providing answers to our research problem, we have divided our work into three chapters, the first two belongs to the theoretical part and the third belongs to the practical part.

the 1st chapter will treat Conceptual framework of intellectual capital and organizational performance in two sections, in which the first will be devoted for Knowledge Management and Intellectual Capital and the second section will tackle the Organizational Performance and its measurements.

The 2nd chapter includes also two main sections, where we will conduct a literature review of the previous researches about the study in the first section. After that we will construct a research conceptual model in the second section which we will test later in the last chapter.

The 3rd chapter will study the impact of intellectual capital on organizational performance based on three sections, where the first identify the research context of the study. The second section will be devoted for the research methodology and the last section will analyse and interpret the principal obtained results.

CHAPTER I

CONCEPTUAL FRAMEWORK OF THE INTELLECTUAL CAPITAL AND ORGANIZATIONAL PERFORMANCE

In today's hypercompetitive world, the adage that "knowledge is power" has a growing importance than ever before. Organizations' knowledge-based resources are becoming increasingly pivotal to their successful operation in parallel with the development of the global economy towards being more information-intensive. And the effective uses of the IC elements which mainly consists of knowledge, relationships… is considered as the cornerstone for value creation in today's hyper-competitive environment.

Therefore, in this chapter, we will tackle the conceptual framework of intellectual capital and organizational performance by focusing on the fundamental terms related to those concepts. Accordingly, this chapter will include two sections, where the first will talk about the Theoretical Background of Intellectual Capital by explaining the intangible assets, knowledge management and its importance as well as its types. It will also define the intellectual capital in addition to its main components: human, structural and relational capital. Afterwards, the second section will describe in detail the organizational performance with its two main dimensions: the financial and non-financial performance, this is followed by the Performance Measurement where we will clarify the key performance indicators (KPIs) and highlight their importance.

Section 01: Theoretical Background of Intellectual Capital.

This section is constructed with two sub-sections: at first, we will shed the light on the knowledge managements as an important intangible asset and next, we will define in detail the intellectual capital and its components.

1.1. Knowledge Management and Intellectual Capital

Progression from industrial to knowledge economy or, as (Wiig, 1997) puts it; "*economics of ideas*" has created huge potential for growth. In this modern economy, the catchphrase "Wants are infinite but resources are finite" does not hold well because information is one resource that is available in abundance. Business organizations, therefore, are adopting knowledge-centered strategies for sustainable competitive advantage. While the value of knowledge was established through the mid-1980s, it took managers several years to develop systematic knowledge management practices (Wiig, 1997).

Developments in the field of Knowledge Management (KM) have direct impact on Intellectual Capital. According to (Martín-de-Castro et al, 2011), Intellectual Capital (IC) originated as a discipline of business administration in early 1990s, roughly the same time when Knowledge Management gained attention. In literature, Knowledge Management and Intellectual Capital are linked concepts. While interlinking these two terms, (Zhou and Fink, 2003) assert that KM lies under the wider purview of Intellectual Capital Management. (Edvinsson, 1997) had also shared similar thoughts. (Martín-de-Castro et al., 2011) present a list of definitions of IC in which a number of researchers for example (Bontis et al., 2002; Chang et al., 2008; Hsu and Fang, 2009; Nahapiet and Ghoshal, 1998; Shariq, 1997; Subramaniam and Youndt, 2005; and Teece, 2000) have confirmed this view. The term 'knowledge' shape integral section of their conceptualization of Intellectual Capital. (Zhou and Fink, 2003) make such declaration because knowledge-based activities of a corporation provide upward shove to intangible assets. Knowledge consequently is capitalised and transformed into IC. The authors describe the complementary relationship between KM and IC Management, and propose alignment of KM strategies with factors of IC for organizational success. These scholars assert that management of knowledge leads to the maximization of IC of a firm.

1.1.1. Intangible Assets

(Lev, B, 2001) argued: the concepts of intangible resources, knowledge assets, and IC are frequently applied. An intangible asset is a non-monetary asset which lacks physical substance and identifiable and it adds value to the business. For instance, brand recognition, Goodwill, and intellectual property (such copyrights, trademarks and patents) are formed by an organization; they do not show up on the balance sheet and have no book value reported. Leadbeater (2000, p. 11) Comments that: «*…intangible assets have become so much more important as a source of competitive advantage precisely because it is so difficult to pin them down, break them up, parcel them out and for competitors to imitate them. But that is also why it is so difficult for investors, accountants, managers and knowledge-holders to value intangibles.* »

1.1.2. Importance of knowledge within an organisation

According to (Kanaan, R., Masa'deh, R. and Gharaibeh, A, 2013), knowledge is a vital resource for organizations. (Asrar-ul-Haq, M. and Anwar, S. 2016) expressed that knowledge is the blood that runs within the organization's veins and is an essential factor for its survival in today's vigorous and competitive environment. (Ho, L. and Kuo, T. 2013) say that knowledge helps the organization build and retain a competitive advantage and thus organizations need to have systems and policies to effectively manage knowledge. According to (Shang, Lin and Wu, 2009), it is widely accepted that the organization's prosperity and growth is linked to its accumulated information about its suppliers, customers, processes, relationships. A part of a company's intellectual capital is shaped by this knowledge that must be exploited and explored by the organization to enhance the process of their decision-making, and to continually improve and innovate. (Masa'deh, R., Obeidat, B. and Tarhini, A. 2015) stated that to have successful KM, organizations need to have a well-functioning human resource management and facilitating employees' behavior toward knowledge creating, knowledge sharing, and the application of knowledge. According to (Hajir, J.A., Obeidat, B.Y., Al-dalahmeh, M.A. and Masa'deh, R. 2015), knowledge management practices that improve intermediate organizational performance will lead to positive financial performance.

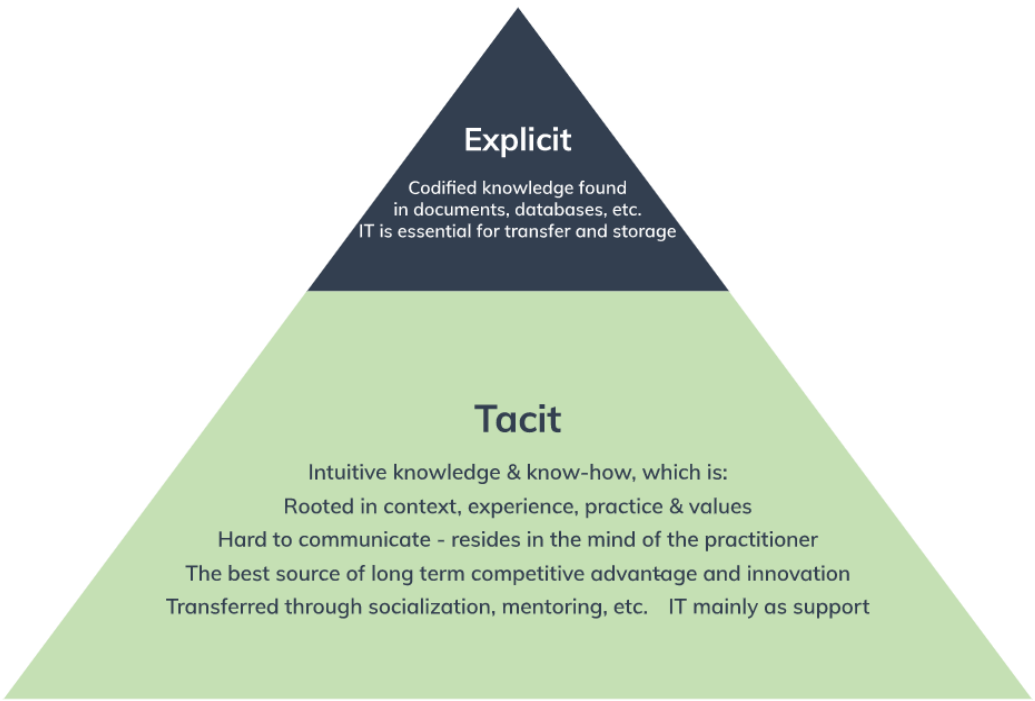
1.1.3. Types of Knowledge

According to (Penrose, 1995), there are two types of knowledge: (1) objective knowledge, which can be coded, taught, learned, or transmitted from person to person; and (2)

experience, which is the result of learning from personal experience, it cannot be transmitted, as it produces a change in individuals that cannot be separated from them.

On another hand, two forms of knowledge are commonly described within the business and knowledge management, namely explicit and tacit knowledge. The former refers to codified knowledge, as found in texts and documents, while the latter refers to uncodified, and mostly personal / experience-based knowledge.

Figure 1. 1: Explicit and Tacit Knowledge



Source: (J.L. Wellman, 2009)

- ***Explicit Knowledge***

This form of knowledge is codified and formalized, and is often called know- what. According to (J.L. Wellman, 2009), it is softly easy to identify, store, and retrieve. It is the kind of knowledge most commonly managed by KMS, which is very efficient in facilitating the saving, recovery and modification of any documents, texts...etc.

The biggest challenge with explicit knowledge, from the managerial perspective, is quite similar to information. It includes ensuring that people get access to what they need; storing relevant information, checking and updating, or discarding it. We can recognize explicit knowledge in files, notes, memos, records, etc.

- ***Tacit Knowledge***

(Nonaka, I. and Konno, N. 1998) described this sort of knowledge, this is occasionally referred to as know-how and refers to natural awareness, it is hard to describe, and is mainly based on experience. For this purpose, tacit knowledge is also context-dependent on the personal nature. It is difficult to communicate since it is complex and profoundly rooted in practice, dedication, and involvement.

Tacit knowledge is often considered to be the most important source of knowledge, and the most likely to contribute to organizational breakthroughs (J.L. Wellman 2009). He strongly connects the lack of emphasis on tacit knowledge to reduced innovation capabilities and sustained competitiveness.

1.1.4. Organizational knowledge

Organizational knowledge is a concept that has very little consensus within literature. Variations include the extent to which the knowledge within the company is shared, as well as the actual nature of that knowledge. (Hatch, 2010) argues that: The resulting implicit and explicit knowledge may be considered organizational knowledge when group knowledge from many sub-units or groups is combined and used to establish new knowledge. Others like (Ekinge & Lennartsson, 2000) offer a wider perspective defining the organizational knowledge by the dimensions: individual knowledge, shared knowledge and objectified knowledge. (Virvou & Nakamura, 2008) defines it as the Internalized information through analysis, study or experience of interest to the organization.

Generally, Organizational knowledge is therefore defined as all knowledge resources within an organization that this organization can practically tap on, and it can reside in individuals and groups, or it can occur at the organizational level.

1.1.5. Knowledge sharing

Knowledge sharing refers to the voluntary conduct by individuals to provide access to others to their own knowledge and experiences. (Cyr, S. and Choo, C.W, 2010) and (Masa'deh, 2015) referred to knowledge sharing as "the mechanism by which explicit or tacit knowledge can flow between individuals, or be used by others as groups, departments, or organizations". Knowledge sharing can also be defined as the activities, which lead to the transfer and dissemination of knowledge among individuals, groups, or organizations (Ling, T.N., San, L.Y. and Hock, N.T. 2009). Knowledge sharing takes place between two individuals one that possesses knowledge and the other acquires knowledge (Ma, Z., Qi, L. and Wang, K. 2008). This process includes the sharing of information, ideas, experiences and suggestions

related to an organization (Tohidinia, Z. and Mosakhani, M. 2010). The sharing of knowledge between employees creates many advantages for an entity that involves: allowing the organization to develop on previous experiences and knowledge, responding more quickly to issues, implementing new ideas, promoting innovation, understanding customer demands, and building competencies (Cyr, S. and Choo, C.W. 2010) and (Fathi, 2011).

1.2. Intellectual capital

It is an essential factor, a strategic asset that decides the organisation's performance. Intellectual capital is becoming increasingly vital especially in a competitive setting. Traditional assets such as money, land and tangible assets were very important development sources in the industrial era. But along with the transformation of this industrial era into the era of knowledge-based economy, where there is globalization, higher degrees of complexity, new technology, increased competition, changing client demands, and altering economic and political structures…, the understanding of assets also changed, and organizations have realized that the only truly sustainable competitive advantages they have is their IC.

Intellectual capital can be expressed as the cornerstone of the information-based economy. It can also be perceived as a management strategy utilized for the organization to generate profit and achieve desired performance (Khalique M and Md. Isa. A.H, 2011).
(Stewart, 1997) described intellectual capital as the overall stocks of the collective knowledge, technologies, information, experience, intellectual property rights, organizational learning and skills, customer relations, team communication systems, and trademarks that are capable of creating values for a firm.
Intellectual Capital distinguishes between the firm's market value and the book value of the company's assets or their financial capital. Intellectual Capital by (Nahapiet, J. And Ghosal, S. 1998), points to the knowledge and skills that a social collective possesses, such as an intellectual community, organization or professional practice. Intellectual capital represents valuable resources and the ability to act based on knowledge.

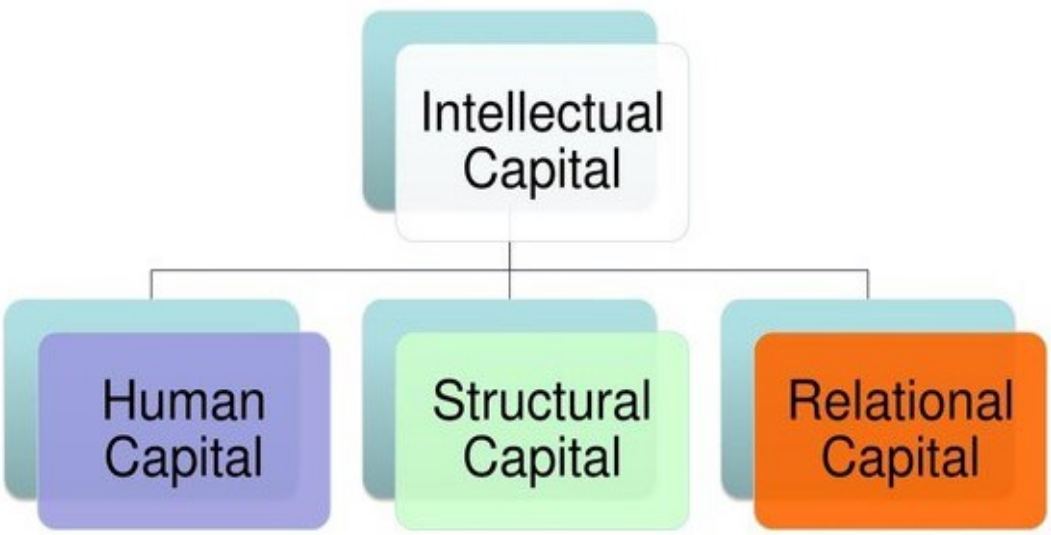
(Khalique M, Shaari J A N, 2011), Introduced the Integrated Intellectual Capital Model [IICM] focused on six key components of intellectual capital, namely consumer capital, human capital, social capital, technological capital structural capital and spiritual capital. Intellectual Capital [IC] had fulfilled the pre-requirements of specific tools that strengthened the competitive advantages and made up the company's values.

1.3. Elements of the intellectual capital

Because of broadness in intellectual capital's definition, some researchers in this field have provided a category related to themselves. The first category is provided by (Esoibi,1997) in three broad fields:

Human capital - in the field of self-qualification
Structural capital – in the field of internal structure; and
Customer capital – in the field of external structure
This category was generally accepted until it was modified spread by (Cabrita, M.D.R. and Bontis, N., 2008). they replaced the customer capital by the relational capital and investigated intellectual capital from three aspects as well. The provided category is like in figure 1.2.

Figure 1. 2: Elements of the intellectual capital



Source: (Bontis, 2008)

As we continue to analyze IC from diverse angles, many authors break up the concept into three primary categories: human capital, structural capital, and relational capital (Nazari and Herremans, 2007). These are the three main categories we are focusing on for the remainder of this research. There have been several authors that break down IC into more categories. For example, (Arvidsson, 2003) focuses on five categories of IC: human, structural, social, R&D, and environmental capital. (Sayyed Khawar Abbas, 2018) tackled six components of IC: human, structural, customer, technology, social and spiritual capital.

1.3.1 Human Capital (HC)

One of the most essential sources that organizations depend on is human capital as it helps organizations reply to environmental changes innovatively (Kong, E. 2010). In addition, human capital is regarded to be of essential importance as it influences the overall organizational performance (Santos-Rodrigues, 2013). Furthermore, (De Pablos, P. 2003) referred that the significance of human capital lies in its capacity to enhance the efficacity and effectivity of organizations and in flip obtain a competitive advantage. Therefore, human capital is considered to be the most considerable intellectual capital element as the existence of the firm depends on it (Kianto, A., Hurmelinna-Laukkanen, P. and Ritala, P. 2010). Human Capital (HC) can be described as the sum of employees' competence, knowledge, skills, innovativeness, attitude, commitment, wisdom and experience (Wang, Z., 2014). Human capital consists of the values, attitudes, and habits of the humans in the organization, in addition to the leadership that motivates them to show their potential in it (Tarus, D. and Sitienei, E. 2015). It has to be stated that the human capital of one organization is unique from that of every other, which gives the characteristics of being inimitable, rare and non-replaceable (Ngah, R. and Ibrahim, A. 2011). In addition, (Hussi, T. 2004) and (Mention, A. and Bontis, N. 2013) stated that human capital is not totally controlled by the organization which distinguishes it from the other resources available in the firm. As a result, (Chen, M., Wang, Y. 2012) suggested that organizations constantly invest in their human capital in order to enhance their competitive advantage.

1.3.2 Structural Capital (SC)

Structural capital deals with organizational processes and structures that eventually affect organizational innovation and thus render it an effective organizational resource (Kong, E. 2010). In addition, (Santos -Rodrigues, 2013) reported that structural capital is being used to retain organizations' human capital. That is based on the fact that structural capital operates as an assisting infrastructure for HC, which provides adequate environment for individuals to invest their knowledge and human capital. (Ngah, R. and Ibrahim, A. 2011). According to (Abadulai, M.S., Kwon, Y. and Moon, J. 2012), structural capital (SC) relates to organizational expertise used to address internal and external challenges. Structural capital can also be described as non-human storehouses of knowledge such as organizational culture, databases, routines, information systems, patents, trademarks, copyrights and so on. (Joshi, M., 2013) referred to structural capital as the knowledge which an entity produces and owns. Unlike human capital, the organization owns structural capital (Mention, A. and Bontis, N. 2013), and as a result can be traded, reproduced and shared within the firm

(Zambon, S. 2002). SC is therefore considered the element that allows for the measurement and growth of IC in an organization (Toth, Z. and Jonas, T. 2012).

1.3.3 Relational Capital (RC)

Relational capital concept is about linking internal intellectual resources with external stakeholders, Networks in the form of customers, partners, suppliers, investors, competitors, employees, trade associations or government bodies ..., thereby influencing the capacity of an organization to create value (Wang, Z., and Liang, H., 2014). The relational capital concept is also described as an organization's ability to communicate positively with members of the business community to stimulate the potential for wealth creation by strengthening human and structural capital (Nazari, J.A., and Herremans, I.M., 2007). According to (Mondal, A. and Ghosh, S. 2012), relational capital (RC) Can be defined as "knowledge encoded in the relationship with any stakeholder affecting the life of the company." (Pearse, N. 2009) indicated that the company and its members profit from relational resources in the same way as they all own it. Consequently, (Joshi, M., Cahill, D., Sidhu, J. and Kansal, M. 2013) reported that the creation and maintenance of relational capital is vital to have powerful organisations.

Section 02: Organizational Performance and Performance measurements

This section is constructed with three sub-sections: at the beginning, we will introduce the organizational performance. Next, we will define in detail its two dimensions and their sub-components and finally, we will explain the performance measurement by clarifying the key performance indicators (KPIs) and highlight their importance.

2.1. Organizational Performance.

Organizational performance is seen as a significant issue for both business and non-profit organizations (Abu-Jarad, I., Yusof, N. and Nikbin, D. 2010). Improving firm performance is something most organizations are striving for (Uzkurt, C., 2013). Some of the variables identified in the literature to affect and enhance organizational performance include: individual and organizational learning (Molina, C. and Callahan, J. 2009), organizational culture (Agbejule, A. 2011), the environment and strategy of an organization (Tuanmat, T. and Smith, M. 2011), and employee input and commitment to organizational goals (Bhatti, W., 2011). Literature provides other definitions for the performance of the organisation. According to (Gharakhani, D., and Mousakhani, M. 2012), performance relates to an

organization's ability to generate appropriate activities and results. In addition, (Ramayah, T., 2011) mentioned that organizational performance refers to the degree that an organization meets its own needs and its stakeholder needs in order to grow and survive. Additionally (Ho, L. 2013) alluded to organizational performance as a metric of how well a firm is achieving its goals. Various objectives and measurements can be used to measure organizational performance (Abu-Jarad, I., Yusof, N., and Nikbin, D. 2010). However, carrying out this task is not easy when measuring organizational performance, depending merely on financial measures is insufficient, a firm should be using non-financial measures as well (Tseng, S. 2010). (Zack, M., McKeen, J. and Singh, S. 2009) proposed the use of five dimensions to measure organizational performance, including: innovation, customer satisfaction, customer retention, rate of new product development, and operating costs. At the other hand, (Clarke, M., Seng, D. and Whiting, R. 2011) suggests four metrics for assessing organizational performance: revenue growth, return on assets, return on equity, and employee productivity. Though, most authors (Wang, Z., Wang, N. and Liang, H. 2014) agree on two main dimensions or aspects from which the overall performance can be measured: financial performance and non-financial performance (operational performance).

2.1.1 Financial Performance

Financial performance is the most commonly used metric of organizational performance, as its benefits usually appear in an organization's financial results (Chang, C. and Lee, Y. 2012). Financial performance can be described as the degree to which the organization performs in total sales growth, return on investment and relative profitability (Ho, L. 2011). In addition, (Luo, Y., Huang, Y. and Wang, S. 2012) referred to financial performance as the realization of the economic objectives of an organization which is reflected in the results of financial and market indicators. (Hernaus, T., Bach, M. and Vuksic, V. 2012) suggested that financial performance would normally be measured with the following: return on assets (ROA), return on investment (ROI), return on equity (ROE), profit margin, earning per share, and value per employee. However, (Katchova, A. and Enlow, S. (2013) stated that ROA and ROE are seen as the most prominent measures of a firm’s financial performance. It must be noted that it is not enough to rely solely on financial performance as a measure of organizational performance to enhance the financial results (Tuanmat, T. and Smith, M. 2011). (Gruian, C. 2011) explained that financial performance results from non-financial performance; thus, financial performance wouldn't exist without non-financial performance. Organizations therefore need to implement a performance-evaluation system that goes beyond assessing solely financial Performance (Chang, C. and Lee, Y. 2012).

2.1.2 Non-Financial Performance:

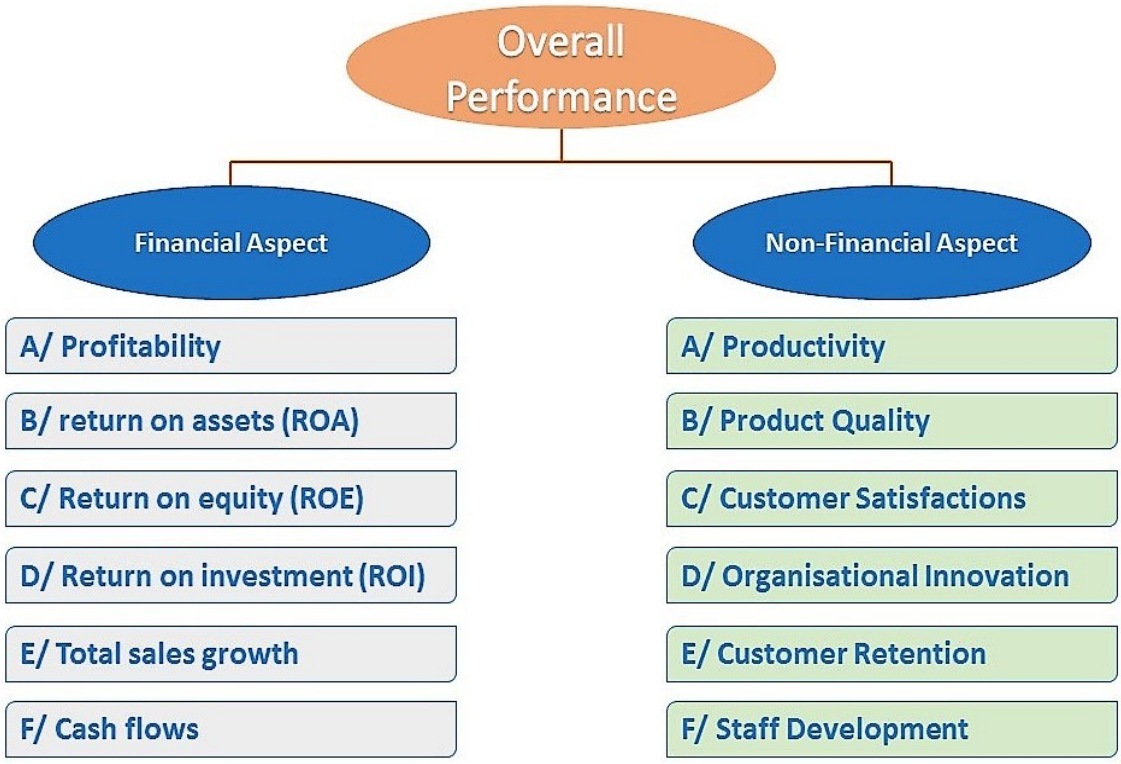
Organizations in today's world aim to perform in the most effective and efficient manner possible (Slack, N., Chambers, S. and Johnston, R. 2004). That's because companies have to confront the changes brought on by these highly dynamic, complex and unstable environments (Santa, R., 2010). Non-financial performance refers to *"performance associated with the internal operation of organizations, such as product quality, productivity, product quality and customer satisfaction"* (Feng, M., Terziovski, M. and Samson, D. 2008). Additionally, (Manikas, I. and Terry, L. 2010) referred to Non-financial performance as the ability to assess and measure the outcomes of an organization's processes. Moreover, non-financial performance can be described as the non-economic aspects of the social and societal relationships of an organization, and competitive success factors that affect the efficiency of its activities and operations (Luo, Y., Huang, Y. and Wang, S. 2012). According to (Peng, D.X., Schroeder, R.G. and Shah, R. 2011), non-financial performance is determined by five measurements: innovation, cost, quality, delivery and flexibility The cause why these non-financial measures are so common is because they are used as a ways of transforming the strategy and vision of a company into a tool that affects performance and leads to superior financial performance (Fullerton, R. and Wempe, W. 2009).

2.2. Financial performance and non-financial performance measurements

The researchers have performed a wide range of studies to assess the organizational performance. Traditional performance evaluation systems primarily used variables such as profitability, ROA and ROI to assess the financial performance. Nevertheless, these days organization experts and managers find that traditional performance evaluation systems have mostly been focused on financial views which are insufficient in measuring overall performance since they measure only the short-term profit. Customer's Perspective, Internal Business Process Perspective, Learning and Growth Perspective and Corporate Social Responsibility are the Non-financial perspectives which are vital to the development and sustainability of every organization and they assess long-term profit.

Therefore, there are two main dimensions from which one can assess the organization's overall performance, namely financial and non-financial (human aspects).
The conceptual model below describes the performance and its measurements.

Figure 1. 3: conceptual model of financial and non-financial performance metrics



Source: constructed by the student based on previous models of performance

Those are the performance metrics provided in the literature and these performance indicators are used by most organizations for measuring and monitoring their performance.

2.2.1 Measurements of the financial performance

Getting on top of financial measures of your performance is an important part of running a business and a measure of the financial health of a company. Knowing how the various business areas are performing is precious information in its own right, but a good measurement system will also enable you analyze the triggers for any changes in performance.

Here are the measurements of the financial performance:

A. Profitability:

Profitability is an efficiency indicator, which is used to assess the scope of a company's profit relative to the size of the business. Ultimately, most companies aim at increasing profits, which characterize the financial benefit achieved when income derived by a business operation exceeds the expenditures, costs and taxes involved. And all profits will get back

to business owners who chose to either take the cash or reinvest it back. So, knowing how to calculate profitability is critical. The key standard actions are:

- *Gross profit margin*: a measure of how much money is earned after direct selling expenses have been properly considered, or the contribution as it is often called.
- *Operating margin*: lies between gross and net profitability metrics. Overheads are regarded but tax payments interest are not.
- *Net profit margin*: This is a much narrower profit indicator, because it takes into account all costs, not just direct ones. In other way, the profit measure covers all overheads, as well as interest and tax payments.

B. Return on Assets (ROA):

Asset Return (ROA) is a metric of how an organization is profitable regarding it total assets. ROA gives a manager, analyst or investor an idea of how efficiently an organization manages its assets to generate profits. The return on the assets is expressed as a percentage. Equating profit to income is a useful operating method, however comparing that with the resources that a corporation used to gain them cuts to the very viability of the existence of that corporation.

We calculate ROA by dividing a company's net income by total assets. It would be presented like follow:

Return on Assets = Net Income / Total Assets

Higher ROA indicates more asset efficiency.

C. Return on Equity (ROE)

ROE is an indicator that show the relationship between net income the equity of the shareholders. Since the equity of the shareholders is equivalent to the assets of a corporation minus its debt, the return on net assets is considered to be ROE. ROE is seen as an indicator of how efficiently management uses the assets of a company to generate profits.

ROE is displayed as a percentage, which can be estimated for any enterprise if both net income and equity are positive.

Return on Equity= Net Income / Average Shareholders' Equity

D. Return on Investment (ROI)

Return on Investment (ROI) is a performance metric used to calculate an investment's efficiency or to compare the efficiency of a range of different investments. ROI aims to calculate explicitly the amount of return on a single investment, compared to the cost of the investment. Thus, to measure the ROI, we divide the return on investment by the investment costs. It is presented as follow:

ROI = (Current Value of Investment−Cost of Investment) / Cost of Investment

It can be compared with other investment returns, so that a variety of types of investment can be analysed against each other.

E. Total Sales Growth

Sales growth is the percentage growth in a company's net sales from fiscal duration to another. Calculating and evaluating sales growth will inform you about: the ongoing financial performance of the company, the performance relative to rivals, and the state of the economy.

To measure total sales growth, we need net sales statistics from two financial periods that we compare; it goes like the following formula:

*G = ((S2 – S1)/S1) * 100*

F. Cash Flows

Business is all about trade, value exchange between two or more actors, and cash is the asset required to be a part of the economic system. While some sectors are more cash-intensive than others are, without achieving positive cash flow per share for their shareholders, no company can succeed in the long term. To have a positive cash flow in an organization, its long-term cash inflows must surpass its long-term cash outflows.

An outflow of cash occurs when a firm shifts funds (physically or electronically) to another entity. A transfer may be made to pay for creditors, suppliers and employees; to buy long-term assets and investments; or to pay for legal expenditures and settlements of lawsuits.

A cash inflow is the opposite; it is any money transfer that comes into the possession of the enterprise. Usually, the majority of cash inflows in a company are from customers, lenders (such as bondholders or banks), and investors who buy equity from the enterprise.

2.2.2 Measurements of the non financial performance

There are plenty of non-financial performance indicators that companies can use to assess how well their company performs. These may give deep insights into the business's inner workings and act as leading measures of long-term success in tandem with the financial ones to assess overall performance. Here are common ones:

A. Productivity

Productivity is the primary driver of economic growth and competitiveness; it calculates production per unit of input, such as labor, capital, or some other resource and is usually measured for the economy as a whole. At the company level, where productivity is a measure of the eligibility of its production activity, it is measured by calculating either the number of units generated or the net sales of a business in relation to employee working hours. Economists employ productivity growth to project economy' productive potential and assess its potential usage rates.

B. Product Quality

Product quality means integrating features that are capable of satisfying consumer needs and satisfy him by updating products (goods and services). It is also characterized as a set of features of saleable goods and services that decide their desirability and can be regulated by the company in order to meet certain requirements. Thus, product quality identifies the degree to which we elegantly satisfy user needs. Quality is tested mainly by process of three stages; at the input, output, and throughput. Most of the companies concentrate on quality as they have made commitments about the quality of their services and goods to their consumers (Heckl and Moormann, 2010). The quality of the product has eight dimensions: features, reliability, conformance, durability, serviceability, esthetics and perceived quality.

C. Customer Satisfactions

A critical challenge for any company is to attract and maintain customers. And as companies are searching for ways to begin assessing and evaluating, it's worth asking if they know their clientele as well as possible, because if any company wants to thrive, they have to see their business through the eyes of their clients.

Customer satisfaction is particularly a well-established principle in marketing. It can be described as a positive or negative overall feeling about the net value of the services a supplier provides. We can define customer satisfaction as the feeling of pleasure or disappointment of customers resulting from an assessment of their prior expectations and perceived performance.

According to (Parmenter, 2009), the customer satisfaction metrics are: revenue gained from top customers in a week, stock outs, new customers, customer loyalty index, number of complaints, customer lost, number of customer referrals, market share in term of customers, product quality, number of quality service guarantee issued and order frequency.

D. Customer Retention

Customer retention is described as the commitment of the customer to an organization and its offerings over a specific period of time by repeated purchases and a willingness to spread positive word of mouth among their social circle (D.J.F. Jeng and T. Bailey, 2012).

The company has to keep its customers by providing an excellent customer experience in order to achieve customer retention (P. Kotler and K.L. Keller, 2016). Customer retention can bring significant benefits for companies. Therefore, companies classify customer retention as their priority challenge as the cost of attracting a new customer is higher than the cost of sustaining a current one (R. Singh and I.A. Khan, 2012).

E. Organisational Innovation

An idea, a new approach, a new product or service, a modern technology, a new procedure, or an organisation's new strategy, it can be Integrating or implementing something new into the corporate practices. This may include the introduction of new methods of decision-making and distributing responsibilities among employees for dividing work within and between corporate activities (and organizational units). Innovation includes the deliberate use of information, creativity, and initiative to generate greater and varied values from assets, and involves all processes by which new ideas are created and transformed into useful products. It can be described as the initiation or adoption by the company of new concepts or behaviours.

Organizations must always be innovative in order to survive and succeed, because innovation has a positive implication and is seen as a functional process with beneficial effects for its generators and adopters. Organizations are generating and adopting various types of innovations that are considered valuable to attend their short-term and long-term goals and making their activities effective and efficient.

F. Staff Development

Leaning and development offer competitive advantage to the companies over their rivals. Employee growth therefore refers to the process by which employees expand their knowledge and skills in ways that support their position and role in the organization. (O'Leary, 1997) argued that staff development should be outcome-oriented and process-

oriented. While (Collett and Davidson, 1997) stated that facilitating change at the personal, professional and institutional levels is the key component of staff development.

Employee development is essentially an ongoing process of activities related to education, training, learning, and support, which are deemed to help employees grow within the organizations they work in. The importance of sustained development is underlined by a focus on lifelong learning, personal growth and fulfilment within an organization.

2.3. Performance Measurement

The only thing that really matters in the business world is the performance of the organization. A full performance evaluation (or management) program is required in order to achieve the company's goals and objectives, and measure and monitor the overall business performance. The performance measurement is a process which determines the measurement criteria (what to measure?), the measurement methods (how to measure?). Organizations use it to ensure that they are heading in the right direction and it is absolutely essential as it encompasses all dimensions of an organization and ensure the long-term sustainability, growth and development. Such a system may be capable of bringing out the organization's strengths and weaknesses.

With the progress in analytical methods and computational tools, various performance assessment and evaluation systems have progressed from single-aspect systems to more systematic systems covering all facets of an entity over a period of time.

According to (Neely, 1999), the evaluation of business performance is demonstrated by corporations' needs to enhance their efficiency, mainly due to: evolving nature of work, growing competition, domestic and foreign quality awards, enhancement initiatives, evolving organizational positions, evolving external demands and the power of information technology.

According to (Costa, 2003), performance assessment is perceived by normative conditions and primarily as a way for the company to measure its outcomes and achievements. Performance indicators have become the key instrument for evaluating this parameter and linked to the strategies of the business, the interests of its stakeholders and the goals and objectives of the organization.

2.3.1 Performance indicators

According to (Azevedo et al, 2013), performance indicators or measures of performance are a tool, which has the purpose of assisting firms in decision taking. Performance indicators are not only assessment instruments in the management of the organization but also they

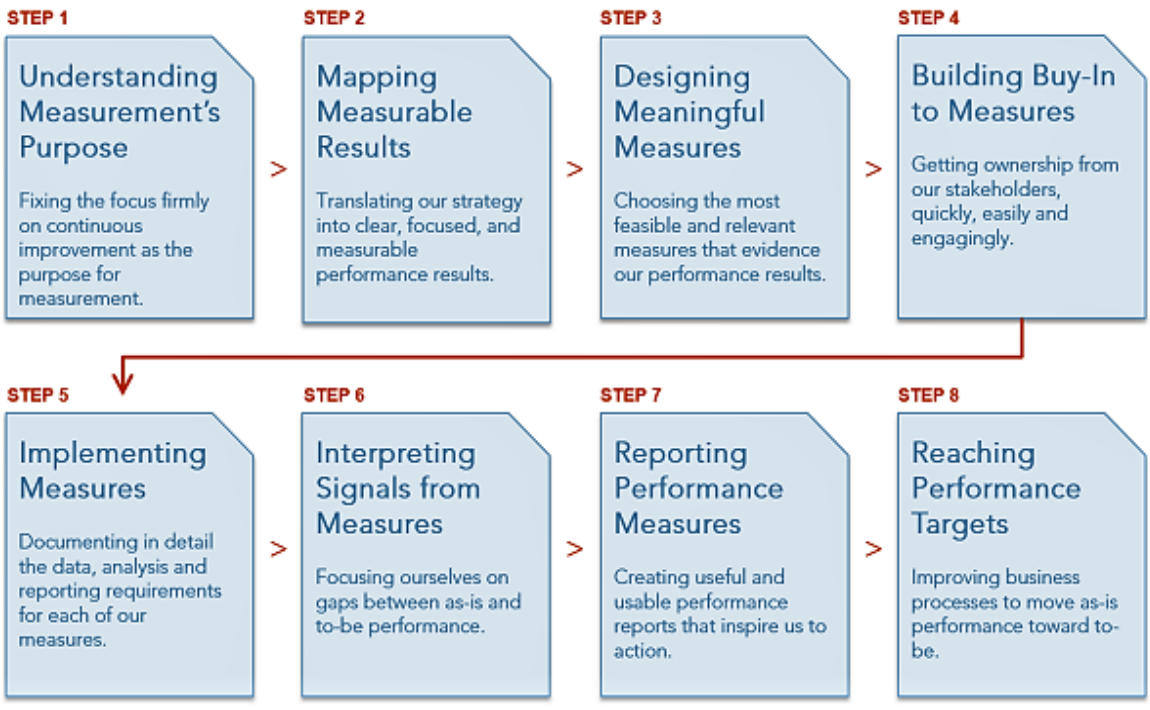
contribute in tracking processes, delivering continuous improvement in their production systems and thereby involving workers, increasing people's involvement in process improvement. When performance evaluation systems are related to the strategic goals of the organization, it can reveal the company's positioning in relation to the external market and indicate its strengths, weaknesses and competitive advantages.

2.3.2 The importance of KPIs.

It is common that most organisations are good at identifying strategy but only few are good at executing strategy effectively. When you have a strategy and organizational objectives, then it is your job to be able to evaluate your progress and performance toward the defined goals. That is what KPIs allow organizations, businesses, and individuals to do. (Chuang, 2011) claims that there would be no performance if there were no KPIs and if there were no performance, there would be no management.

Regarding the performance measure, (Stacey Barr, 2019) proposes a framework of eight steps for the establishment of practical KPIs: setting the objective, identifying and mapping the results, designing knowledgeable measures, establishing the owner and threshold for the measures, implementing the strategy to meet the targets which were set, monitoring the results, interpreting the results and taking action, then reviewing and adjusting the goals as necessary. KPIs should evolve with changes to the organization's strategy and objective.

Figure 1. 4: The PuMP Performance Measurement Blueprint: 8 steps framework to help redesign performance measurement processes and make strategies more measurable



Source: (Stacey Barr, 2019)

Conclusion

This chapter has provided a review of the theoretical background on knowledge in organisations generally, and more specifically, on intellectual capital where we went through its major components in detail. The review presented as well evidence to highlight the role of a firm's intangible resources as the foundation for its competitive advantage. Thus, we can conclude that organisations operating in environments of rapid technological change should compete on the basis of their intellectual resources; their skills, knowledge, experience and associated intangible resources, rather than the tangible monetary and physical resources.

On the other hand, this chapter also laid out a review of the organizational performance, its dimensions and measurements where we can conclude that these measurements are essential for every organization, and the success or failure of a firm can depend on them. Moreover, measuring financial and non-financial performance should be the prerequisite for any organization, since they are vital to the development and sustainability of every business and that they assess long-term profit.

In the next chapter we will foster and reinforce the relationship between IC and OP where we will go in detail through the literature to explain the previous findings about the matter. We will also construct our own research model for this study with the aim to set our hypotheses which we will test later on.

CHAPTER II

LITERATURE REVIEW, RESEARCH CONCEPTUAL MODEL AND HYPOTHESES

In this chapter, we will address the literature review of the subject relating to our research on intellectual capital and organizational performance. On the other hand, it will address as well the conceptual model that we aim to test later. Therefore, this chapter is divided into two main sections as follow:

Section one focuses on a review of existing work related to the proposed theme in this study. Which means presenting data from various scholars and explanations related to the main variables used in the study. It includes the discussion of literature regarding the studied theme, where it discusses the research approaches employed by previous researchers as well as the results obtained. and we will provide next a summary about the literature.

Section two will address at the beginning examples of previous conducted conceptual models in order to build and structure our main model. Our model was constructed using three key dimensions of IC that impact organisational performance: human, structural and relational capital. After that our hypotheses for this study were generated from the constructed model, where the central focus of the hypothesis's development was building the relationship among the research's antecedent variables.

Section 01: literature review

This section will cover the literature review on numerus previous studies regarding the subject of our study, it will address both the theoretical and empirical researches and will provide a summary by the end of this section.

1.1 The impact of Intellectual Capital on Organizational Performance

From the point of view of most academics, business value creation has shifted from focusing on traditional material resources to focusing on intellectual capital, like: knowledge, creativity and technology. Intellectual capital is now the driving force in the development of corporate value, and plays a major role in enhancing organizational performance. Hence, academics have performed comprehensive research into the effect of intellectual capital on organizational performance. In general, researches on the impact of intellectual capital on organizational performance include twofold: a theoretical and an empirical research.

1.1.1 Theoretical Research on the Impact of Intellectual Capital on Organizational Performance

Affected by several factors, such as humans, social culture and organisation, scholars have conducted theoretical study on whether intellectual capital can enhance the organizational performance and through what process. And they suggest that, in many knowledge-intensive organisations, intellectual capital is seen as the main source of sustainable competitive advantage and value creation. (Andriessen, D. 2001) says that intellectual capital, through the synergy of human capital, relational capital and structural capital can generate corporate wealth. (Guthrie, J., 2007) studied separately the role of human capital and relational capital in enhancing organizational performance, assuming that human capital can shift the perception and impression of the company's consumer and that relational capital can significantly enhance the brand image of the corporation, strengthen the customer relationship and therefor improve the organizational performance. (Steven Firer, 2003) splits the coefficient of intellectual value-added into human value-added coefficient of capital, material value added coefficient of capital, and structural value-added coefficient of capital. It is noticed through the research that intellectual capital does have a positive impact on the development of the business market and the enhancement of the productivity of enterprises. (Nick Bontis, 2013) affirms the relationship of human capital, relational capital and structural capital. When a company invests in improving the knowledge of employees or their skills, employee-created products or services transform into organizational benefits.

(Fu Chuanrui, 2009) investigated the relationship between intellectual capital and enterprise performance from the view point of value creation, studied the value creation process of intellectual capital, and deemed that the trail of enterprise value creation requires intellectual capital and other aspects of capital as input and enterprise value as output, effectively evaluating the relative value creation. (Xu Fengju and Zhou Wen, 2010) made a theoretical study of the path of value creation of companies relying on intellectual capital. They highlighted that intellectual capital is an essential driving element for the creation of corporation value. It might improve organization' sustainability, develop the company's extensive competitiveness, and influence the company's future operating revenue and cash flow, thus influencing the company's value and the company's stock price. (Wangxi and Peng Leiqing, 2011) addressed the way intellectual capital works in social enterprises, indicating that the three intellectual capital structures help social enterprises to generate value by managing the use of current and potential intellectual resources. (Zhang Oman, 2015) illustrates knowledge-intensive service businesses, takes customer participatory innovation as a turning point, uses analytical hierarchy process (AHP) to examine the affecting elements of intellectual capital's operational efficiency. This concludes that advanced knowledge and skills, renewal degree, customer information reserve and processing capacity have a significant effect on the productivity of intellectual capital operations and enhance the organizational performance.

Moreover, most researchers believe that intellectual capital plays a significant role in organizational performance, but the pattern of influence of intellectual capital on the corporation performance is somehow different. Mediating variable and adjusting variable are essential where Mediating variables are mediations wherein independent variables influence dependent variables, while adjusting variable indicates the nature (positive or negative) and intensity of the interaction between them. (Sun Fanghua and Chen Honger, 2009) combined related intellectual capital literatures and examined the three processes of intellectual capital on organizational performance , which are: intellectual capital directly enhances enterprise performance, intellectual capital adversely influences enterprise performance through some mediating variable, and the effect of intellectual capital on organizational performance can be accomplished by adjusting variable. (Gao Juan and Tang Xiangxi, 2014) also analyzed the results of intellectual capital research, reviewed the direct, indirect and regulatory effects of intellectual capital on the organizational performance, and placed forward recommendations for related research into intellectual capital.

Summary: It can be divided into two categories according to the theoretical research on intellectual capital and organizational performance management: one is to investigate the correlation between intellectual capital and organizational performance from the perspective of intellectual capital as a whole. This type of study fully believes that intellectual capital is effective for enterprise value creation and has a positive correlation with the performance of organizations. However, it neglects the relationship between the factors of intellectual capital, and sees only the final outcomes. The theoretical interpretation contains numerous criticisms. The other is to investigate the relationship between intellectual capital and organizational performance from the viewpoint of different aspects of the intellectual capital. It is claimed that there are synergistic impacts among the aspects of intellectual capital, which act together on business performance, and its mechanism is theoretically discussed. However, due to different viewpoints and diverse theoretical environments on the different components of intellectual capital, there is no definitive conclusion on how and how much influence the different elements of IC have on the organizational performance.

1.1.2 The Empirical Study on the Relationship between Intellectual Capital and Organizational Performance

In empirical research, researchers use various measurement methods to assess intellectual capital, to select data from different industries and regions, and study the relationship between intellectual capital and organizational performance. However, different conclusions are drawn as follows:

A/ Intellectual Capital Is Positively Correlated with Firm Performance

Some scholars believe in empirical research that intellectual capital and organizational performance are significantly positively correlated from the overall perspective of intellectual capital. For example, (Riahi-Belkaoui, 2003) trademark holdings have been used as an alternative variable to intellectual capital. An empiric research was performed on multinational companies in the service and manufacturing sectors in the United States. Intellectual capital has been found to have a positive impact on corporate performance. (George Tovstiga and Ekaterina Tulugurova, 2007) studied the impact of intellectual capital on the organization value of some small innovative enterprises in Russia through questionnaires and concluded that intellectual capital can promote corporate value. More and more scholars, however, have found, from the viewpoint of the interaction of the intellectual capital elements through empirical research, that those elements are significantly positively correlated with organizational performance. (Bontis, 2000) used

questionnaire survey and major component analysis to study the relationship between intellectual capital and corporate performance in Canada and Malaysia. It has been found that while human capital, relational capital and structural capital actually impact each other, intellectual capital also has a significant positive effect on corporate performance. (Wang Tao, Liu Nianbo and Huang Gan, 2010) also analyzed the performance of private enterprises by means of an intellectual capital and financial capital survey and concluded that structural capital has the greatest impact on the performance of private enterprises. In addition , the majority of scholars use the VAIC method, such as (Ahangar, F. 2011) to assess the level of intellectual resources of enterprises through the construction of a regression model, confirming that intellectual capital plays a significant role in the change of performance, and that it is essential for competitive advantage. (Yang Manli, 2013) takes as a sample the annual report data of 95 listed companies in the Chinese automobile industry from 2008 to 2011 and draws lessons from the model of the increment coefficient of intellectual capital. Empirical findings indicate that material capital, human capital and structural capital have positive impact on corporate performance. Some authors use other approaches to draw similar conclusions. (Xingxing, Yang Jing and Qupeishing, 2015) picked Ashare listed companies from 2007 to 2012 as samples, and used the factor analysis to assess the correlation between intellectual capital investment and business efficiency from the view point of intellectual capital investment and concluded that there is a positive impact on the investment of intellectual capital and organizational performance. Among them, human capital plays the most important role.

B/ There Is No Significant / Negative Correlation between Intellectual Capital and Firm Performance

Some researchers have found that the impact of intellectual capital on corporate performance is not clear or even negative. (Sriranga Vishnu, Vijay Kumar Gupta, 2014) used the VAIC method to research the relationship between the intellectual capital and the organizational performance of Indian pharmaceutical companies. Two scholars proposed improving the VAIC model by introducing relational capital (RC) to the model, but the empirical findings were not satisfactory and did not indicate that the relational capital had a significant impact on corporate performance. (Daniel Pitelli Britto, Eliane Monetti, Joao Da Rocha Lima Jr, 2014) have used VAIC model to investigate the 2007 to 2011 data of the Brazilian Real Estate Business. It was found that there was a major reversal of the relationship between intellectual capital and market value. The higher the company’s value, the lower the amount of intellectual capital.

(Li Jiaming and Li Fubing, 2004) found that physical assets have a significant positive impact on corporate performance, while human capital does not have a significant positive impact on corporate performance, whereas structural capital has a negative effect on organizational performance. (Wang, X. 2006) used VAIC and correlation analysis and multiple regression analysis to perform an empirical study of the best performing companies in China in 2003. The findings indicate that there is a strong positive association between material capital and corporate performance, and that structural capital and human capital have a positive impact, but not statistically an important contribution to corporate performance.

C/ Different Relations between Intellectual Capital and Organizational Performance.

Throughout literature, more and more scholars concluded that there is a variation in the relationship between intellectual capital and organizational performance. Some researchers suggest that the relationship between intellectual capital and business performance in various industries is different. For example, (Stevo Pucar, 2012) used the VAIC method to perform an empirical export study of 134 companies in Bosnia and Herzegovina. It was discovered that intellectual capital and its components had a strong positive influence on the export growth of food, beverage, furniture and woodworking industries, while other industries had no significant relationship. (Iuliia Naidenova, Petr Parshakov, 2013) argues that there are gaps between intellectual capital investment practices and business performance. Human capital in the Russian retail and steel industries has a positive impact on economic efficiency and there is connection between the various components of intellectual capital in the steel and telecommunications industries. (Yang Xiaodan and Yan Chao, 2011) found that, for the classical technology industry in Jiangxi Province in China, the advancement of its performance strongly depends on structural capital, and human capital has little influence on it; while the advancement of high-tech enterprise performance relies primarily on material capital and human capital, whereas structural capital does not play a key role. (Wang Ling and Sun Hejie, 2012) used the VAIC approach to analyse 336 sample companies of the representative biopharmaceutical industry and 208 sample companies of the textile and clothing industry, and concluded that each component of intellectual capital has a unique effect on the performance of different industries.

In addition, several scholars divide the components of intellectual capital into various categories and conclude that the relationship between the different components of intellectual capital and the performance of enterprises is not the same. (Mahesh Joshi et al, 2013) used the VAIC method to select data from the Australian financial industry from 2006

to 2008 to perform an empirical analysis on the impact of intellectual capital on corporate performance. The study found that the performance of the Australian financial industry was primarily influenced by human capital.

(Yu Haizong and Deng Qian, 2007) conducted an empirical study of the listed companies in the Chinese high-tech and textile & apparel industries, concluding that the human capital value-added rate and the material capital value-added rate of the companies in the two industries were significantly positively associated with the performance of the firms, Whereas the structural capital value-added efficiency was significantly negatively associated with the performance of the firms. Likewise, we conclude that human capital is strongly correlated with organizational performance and that structural capital is negatively or not highly associated with business performance. We also conclude that (Luxin and Huangshun, 2009) evaluated the listed companies in the manufacturing, information technology and real estate industries in the Shenzhen and Shanghai Stock Exchange Share Markets. Based on evidence from the five listed banks from 2004 to 2008, an empirical study was conducted by (Wu Xiaolei, 2010) using panel data on the relationship between intellectual capital and commercial bank performance. (Liu Yuqin, 2014) used the VAIC method, selected the share companies listed in Shenzhen as research samples, and formed a model for empirical analysis. (Tang Yongjun and Zhao Zhizhi, 2015) used the Public Model to perform an empirical study on the impact of different elements of intellectual capital on organizational performance in the power industry.

On the opposite, some scholars have reached the conclusion that structural capital is positively correlated with the organizational performance. For example, (Zheng Liping and Zhu Ping, 2014) took as samples small and medium-sized listed companies in Jiangsu and Zhejiang and discovered that human capital, structural capital and business performance are significantly correlated. Relational capital and business performance are not significant, and the aspects of intellectual capital effect one another and work together to create business value. (Sun Lei, 2014) looked at the relationship between human capital, relational capital, structural capital and audit performance of the top 100 accounting firms in China. The results indicate that human capital has little impact on financial performance; structural capital has an extremely obvious impact on profitability; and relational capital is a vital asset for accounting firms.

1.2 Summary of the literature review

Compared to the existing empirical studies, it seems that there is no consistent conclusion as to the relationship between intellectual capital and organizational performance. This is primarily due to the following reasons:

1/ The industries and areas studied are different. Empirical studies are often conducted within the context of specific regions and industries. The conclusions will be different due to differences in sample data between regions and industries.

2/ There are different opinions concerning the components of intellectual assets. researchers who cannot verify the uniformity of the studied relationship between our variables are: (Yu Haizong, Deng Qian, 2007), (Lu Xin and Huang Shun, 2009), (Sriranga Vishnu, Vijay Kumar Gupta, 2014), (Zheng Liping, Zhu Ping, 2014), (Tang Yongjun and Zhao Hui, 2015). There will be differences in the calculation of intellectual capital and its interactions due to the different division of its elements.

3/ The assessment methods of intellectual capital are different. (Bontis, 2000) (Wang Tao, Liu Nianbo and Huang Gan, 2010) used the questionnaire to measure intellectual capital directly. (Liu Yuqin, 2014) and others used the VAIC method to measure intellectual capital, whereas some scholars such as (Ahmed Riahi-Belkaoui, 2003) were seeking trademark holdings as alternative variables to intellectual capital.

4/ The performance measurement indicators of companies are different. The majority of researchers use ROE (Lu, X. and Huang, S. 2009) (Liu, Y. 2014) as an explanatory variable to evaluate corporate performance. Other indicators, such as a natural income logarithm and a combination of indicators, are also used to measure corporate performance.

Section 02: Research conceptual model and hypotheses:

In this section, we will build our own research conceptual model based on some previous recent models, we will afterwards, develop our research hypotheses based on the constructed model.

2.1 Research conceptual model construction

In order to meet our research objectives, we are going to construct a model that we will test later with statistical tests and methods, this conceptual model will be based on four different

models proposed in other recent research papers that show the relationship between intellectual capital and businesses performance.

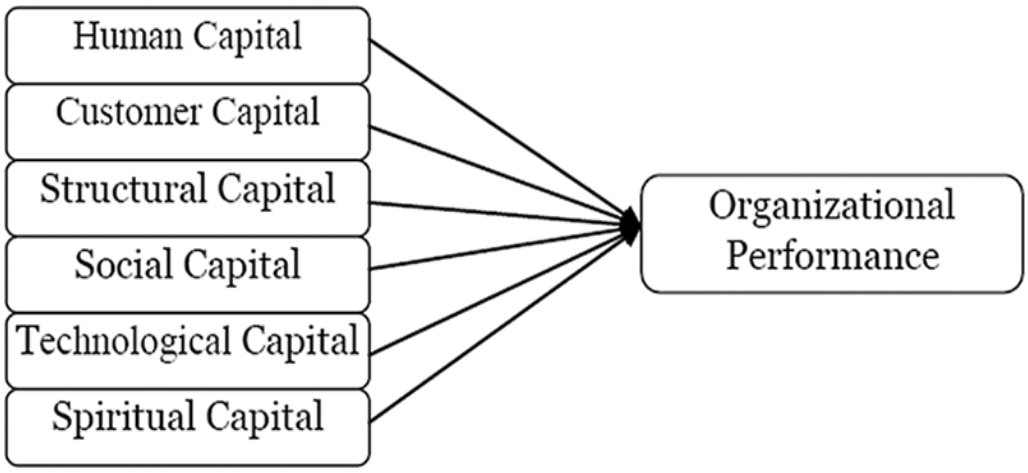
2.1.1 Conceptual Model without mediators

A study conducted by (Muhammad Khalique, January 2018) to test and validate the integrated intellectual capital model by examining the relationship between intellectual capital and organisational performance of small and medium-sized enterprises (SMEs) working in the electrical and electronics industrial sector in Malaysia.

The conceptual framework of this study is based on the IICM as reflected in Figure 2.1.

Same study was proposed in the same year by (Sayyed Khawar Abbas, July 2018) in the service sector in Pakistan to investigate the impact of six intellectual capital elements human capital, customer capital, structural capital, social capital, technological capital and spiritual capital on the overall performance of the firms.

Figure 2. 1: Conceptual framework: the effects of the six elements of IC on OP



Source: Integrated Intellectual Capital Model (IICM2011) (Khalique et al, 2018)

Both studies used all the six components of intellectual capital and based on their proposed model they constructed the following set of hypotheses:

H1: Intellectual capital is positively associated with organisational performance.
H2: Human capital is positively associated with intellectual capital.
H3: Relational capital is positively associated with intellectual capital.
H4: Structural capital is positively associated with intellectual capital.
H5: Social capital is positively associated with intellectual capital.
H6: Technological capital is positively associated with intellectual capital.
H7: Spiritual capital is positively associated with intellectual capital

The proposed model was empirically tested through a structured questionnaire carried out in the selected companies using six predictor variables namely, human capital, customer capital, structural capital, social capital, spiritual capital and technological capital in addition to one predicted variable, which is organisational performance.

2.1.2 Conceptual models with mediators

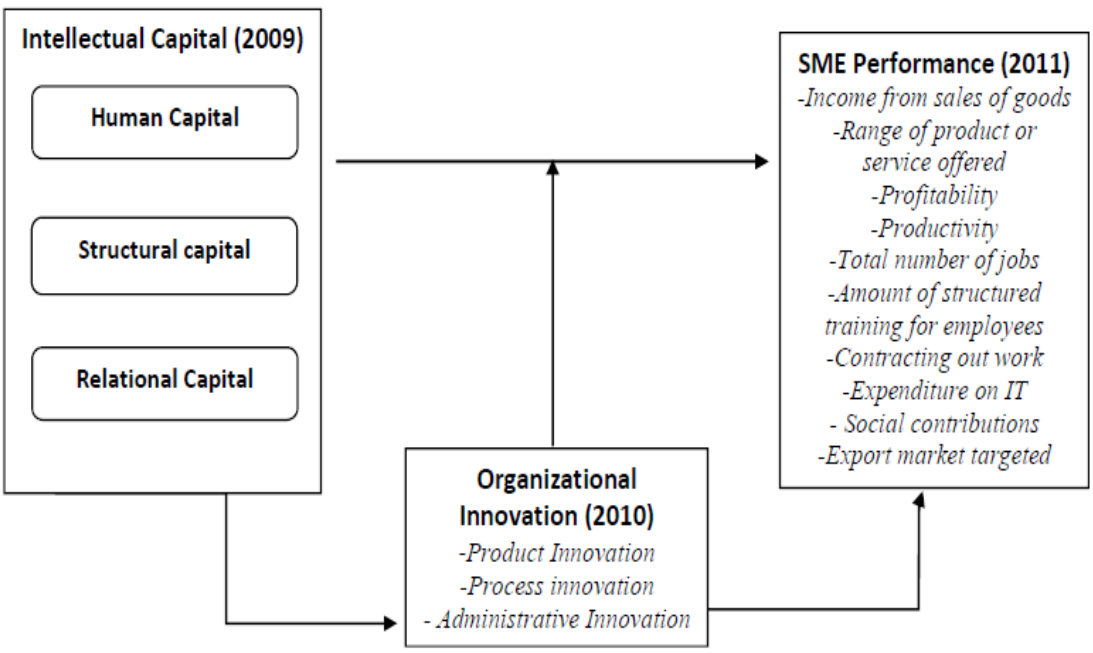
Several scholars have suggested that studies should include mediating variables between resources and performance link in order to detect explanatory power from another source other than the independent variable.

There are many mediating factors that might influence the IC-Organizational Performance relationship. However, we will set some previous models where scholars included certain mediators in their studies:

A/ Organisational Innovation as a mediator

In this study (Yasmin Kamall Khan, 2014) studied The Effects of Intellectual Capital on Performance in Australian Small and Medium Enterprises (SMEs) and tested the mediating effects of organizational innovation.

Figure 2. 2: Conceptual framework of the mediating role of organizational innovation.



Source: (Yasmin Kamall Khan, 2014).

The following hypotheses were developed based on the previous conceptual model:

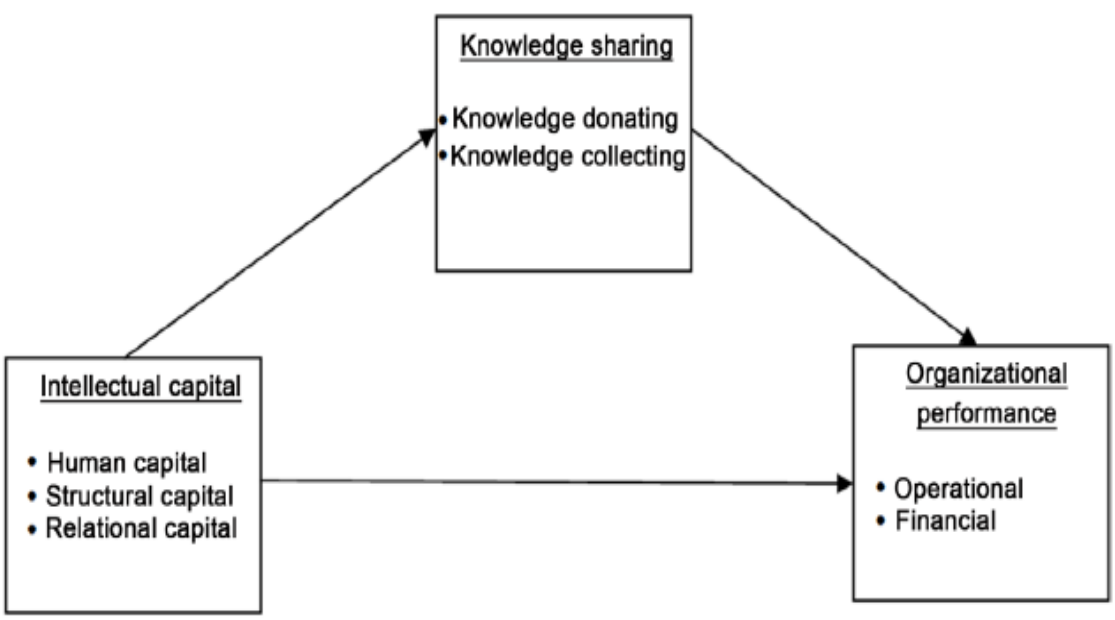
H1: *Human Capital has a positive and significant relationship with SME Performance.*
H2: *Organizational Innovation mediates the relationship between Human Capital and organizational Performance.*
H3: *Structural Capital has a positive and significant relationship with SME Performance.*
H4: *Organizational Innovation mediates the relationship between Structural Capital and Firm Performance*
H5: *Relational Capital has a positive and significant relationship with SME Performance.*
H6: *Organizational Innovation mediates the relationship between Relational Capital and SME Performance.*

The study was done through structured questionnaires to examine more than 2000 SMEs of various industries in Australia.

B/ Knowledge Sharing as a mediator

The authors (Obeidat, B.Y., Abdallah, A.B., Aqqad, N.O., Akhoershiedah, A.H.O.M. and Maqableh, M. 2017) studied the Effect of Intellectual Capital on Organizational Performance with the Mediating Role of Knowledge Sharing in manufacturing companies in Jordan.

Figure 2. 3: Conceptual Research model of the mediating role of Knowledge sharing



Source*:* (Obeidat, B.Y., Abdallah, A.B., Aqqad, N.O., Akhoershiedah, A.H.O.M. and Maqableh, M. 2017)

The authors developed the following hypotheses based on the previous research model:

H1. *Intellectual capital positively affects organizational performance*

H2. *Intellectual capital positively affects knowledge sharing*

H3. *Knowledge sharing positively affects organizational performance.*

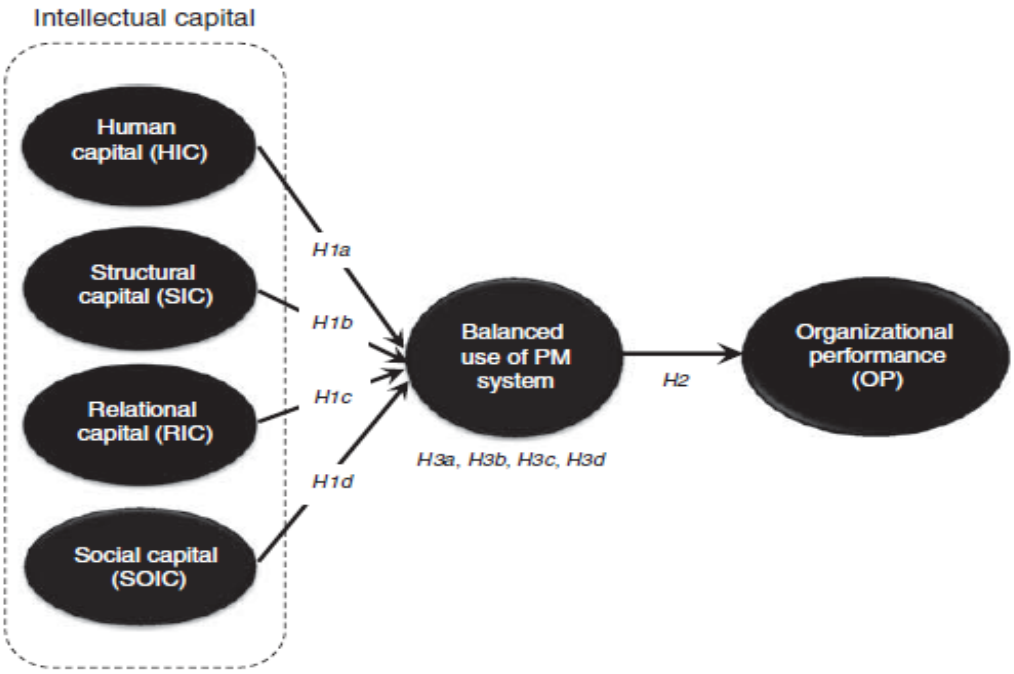
H4. *Knowledge sharing positively mediates the relationship between intellectual capital and organizational performance*.

The study was conducted using a survey, designed by adopting readily-established constructs where they used the items; (human capital, structural capital and relational capital) to measure the IC, (knowledge donating and knowledge collecting) to measure knowledge sharing, and (non-financial performance and financial performance) to measure organizational performance.

C/ The balanced use of PM System as a mediator.

A study conducted by (Kaveh Asiaei, Ruzita Jusoh, Nick Bontis, 2018) to measure the effect of intellectual capital (IC) on organizational performance mediated through performance measurement (PM) systems in Iranian public companies.

Figure 2. 4: Conceptual framework: the mediating role of balanced use of PM system



Source: (Kaveh Asiaei, Ruzita Jusoh, Nick Bontis, 2018)

The authors tend to employ the balanced use of PM systems, as a more systematic and robust system and therefore, they formed the following hypotheses:

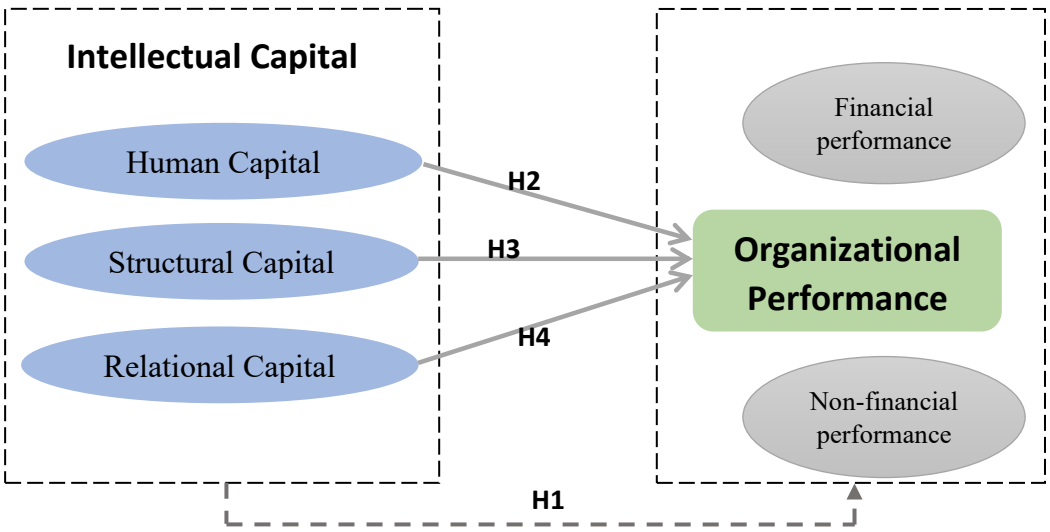
H1: The higher the level of IC ((a) human (b) structural (c) relational, and (d) social capital), the higher is the balanced use of diagnostic and interactive PM systems.
H2: The higher the balanced use of diagnostic and interactive PM systems, the greater is organizational performance.
H3: The balanced use of PM system mediates the relationship between IC ((a) human (b) structural (c) relational, and (d) social capital) and organizational performance.

The research was based on survey data collected from chief financial officers (CFOs) in public companies in Iran.

2.2 Our conceptual research model and hypotheses:

Many scholars agree that intellectual capital is the most essential strategic asset for the organization's success (Chang and Hsieh, 2011; de Pablos, 2004; Díez et al, 2010; Hormiga et al, 2011; Hsu and Fang, 2009; Khalique et al, 2013). It is also widely accepted that this positive correlation exists within the SME context (Abdullah and Sofian, 2012; Bontis et al., 2000; Chen et al., 2006; Daud and Yusoff, 2010; de Castro and Sáez, 2008; de Pablos, 2003; Ismail, 2005; Khalique et al., 2011) because SMEs invest in tangible assets in a limited way due to the limited resources. Thus, they resort to intellectual capital in order to attain and perform superior efficiency and profitability (Cleary & Quinn, 2016).
However, what is not clear is whether this positive result holds true within a developing nation such as Algeria.
Following of all the previous discussion about the effects of intellectual capital on firm performance, and based on all the previous conceptual models conducted by so many scholars in so many industries and areas. Thus, the following conceptual model is designed to examine the impact of intellectual capital dimensions, namely human capital, structural capital and relational capital, on organizational performance in professional training centers in private sector in Algeria:

Figure 2. 5: Our research model.



Source: established by the student based on previous models

This model employs three components of IC (human capital, structural capital and relational capital) where they were adopted from (Kamukama, N. 2013) and they form the independent variables in this model. This study uses the organizational performance as the dependent variable.

The linkages between our independent variables and the dependent variable form our hypotheses, that we can synthesise as follow:

Hypothesis 1 (H1): Intellectual Capital has a positive and significant relationship with the organizational performance.

Hypothesis 2 (H2): Human capital has a positive and significant relationship with the organizational performance.

Hypothesis 3 (H3): Structural capital has a positive and significant relationship with the organizational performance.

Hypothesis 4 (H4): Relational capital has a positive and significant relationship with the organizational performance.

Conclusion

This chapter started with addressing the literature review in details drawing the main relationships that exist between IC and OP according to previous scholars. The chapter then presented the conceptualization of the proposed conceptual model relying heavily upon the resource-based view, from which we developed our research hypotheses.

The discussion of this chapter has revealed that intellectual capital has numerous determinants which were examined by different authors. In this chapter, it clearly shows that human, structural and relational capital are the important factors in determining IC. And we will focus on them further in this study. We can conclude as well that the relationship between IC and OP differs and that is mainly because of the differences in the industries and areas, and because the different assessment and measurements methods of both intellectual capital and organizational performance which were employed in the study. This chapter also discussed the constructed conceptual model and subsequently, we listed four hypotheses based on it to answer the research questions for this study.

In the next chapter, we will describe in detail the way the empirical research has been conducted, the research methodology employed and the statistical tools used in order to analyse the data. And finally, we will try to check and validate our model, our hypotheses and provide results regarding this entire study.

CHAPTER III

STUDY OF THE IMPACT OF THE INTELLECTUAL CAPITAL ON ORGANIZATIONAL PERFORMANCE

This chapter described in detail the way this research has been conducted and provided the empirical exploration of the impact of intellectual capital (IC) on organizational performance (OP).

The chapter is divided into three main sections where we will first present the research context in terms of background and purpose of the study, interests of the research, scope of the study as well as the internship organization and some limitations of the study.
then we will present in the following section the methodology of the research during the collection and the analysis of the data using few statistical techniques as well as the development of the questionnaire.

finally, the third section will be devoted to the analysis and findings where we will analyse and interpret the main results of the empirical investigation to be able to build a model and test our hypothesis. And it will be concluded at the end by summary providing an overview of the chapter

Section 01: Research Context

This section explains the fundamental information of the study. It includes the background and purpose of the study, the interests of the research whether academically or professionally. We will tackle after that the scope of the study and insights about the organization we conducted our internship in, and finally we will look at some limitations of this study.

1.1. Background of the Study

Modern day market environment is not only dynamic but full of potential obstacles that hamper organizations' maximum growth and performance. The quest for a knowledge-based economy where it is expected that employees or business owners can rely on knowledge capital has generated various challenges such as the threat from internal and external environments. On the other hand, when we talk about IC, there has been a growing awareness that this phenomenon adds significantly to the value of organizations and contribute to their organizational performance, and in some cases, represents the whole value base. Organizations have identified that they require IC assets in order to comprise sustainable competitive advantages and be able to create value in a long-term basis.

Small and medium-sized enterprises (SMEs) have been recognized as an economic growth and development mechanism worldwide. Thus, Organizations in the private services sectors were selected in this study due to their economic value added. We conducted our research on numerous private schools and institutions in two major provinces in Algeria namely Setif and Batna, in order to analyze this phenomenon and its contribution to firm's performance.

1.2. Purpose of the Study

This study aims to examine the effects of human capital, structural capital, and relational capital on organizational performance or in another way to find out the relationship between intellectual capital and organizational performance.

There are several models for assessing the impact of intellectual capital on the organizational performance. These models depend on various dimensions of intellectual capital and the relation between them and the performance of the organizations. Therefore, in our study, we will test the previous constructed model to verify the mentioned relations of how intellectual capital contributes to organizational performance. We applied this model in organizations in the private sector and we selected in this study private schools and institutions in two provinces due to their high contribution and their economic value added.

1.3. Interests of the research

1.3.1. Academic interests:

As a part of my research, it is suitable to show my interests in this work that is related to my field of study and because it is a topic of actuality. Moreover, A review of the available literature on intellectual capital and organizational performance, revealed that despite the much research that has been done in advanced world, Algeria as a nation has yet to tap into the capacities that develop as a result of successful management of intellectual resources. Therefore, I had a keen interest in this particular study.

1.3.2. Professional interests:

Throughout my internship and my working experience in two private schools in the last two years, I have discovered many gaps and lack of intellectual capital within these organizations. Accordingly, I started conducting my work by using the knowledge acquired in my studies as well as the researches I have done regarding intellectual capital and the business performance. As a result, my professional experience allowed me to reflect this knowledge on the real world of business to solve contemporary problems faced by those organizations and suggest modern solutions.

1.4. Scope of the Study

This study was conducted among organizations in private sector. For the purpose of the study, 8 different private schools have been selected as a sample due to several considerations to provide direct empirical tests of our model. The importance of choosing private schools is because the researcher wants to know whether the Intellectual Capital Management within those selected organizations, has an impact towards the overall organizational performance.

Moreover, private schools and institutions are an important segment of organizations among the SMEs in Algeria because of their size and market characteristics and may be advantageous given the fact that they are more likely to possess greater resource available for investment in knowledge-based resources and also actively engaged in using intangible assets such as the Intellectual Capital. Besides, the great majority of the companies' information and data are accessible widely comparing to other industry types such as manufacturing…

1.5. Internship organization

Despite the fact that our research study was based on the data of 8 different schools in Setif and Batna, we made a practical internship in one of the selected organizations which is MBI Algeria Campus in Setif because of its usefulness in relation to the research theme.

The company MBI Algeria Campus has been selected as an organization to conduct the practical internship because of easy access since we are employed there and because of the easy access to useful information through previously established contacts. Further, the fact that MBI is a successful firm in the educational service industry rendered it the ideal enterprise for our internship and particularly useful for an investigation in the IC field. When contacting the firm and informing the managing director about our intentions, he immediately agreed to support us with as much information as needed.

The privately owned company MBI Algeria Campus is located in Setif-Algeria, and was founded in 2001. The company is a Business and languages School, and (MBI) stands for "Management Business International Institute". It has a human resource base of approximately 18 employees in only one branch and it has two more branches in Setif and three more in other provinces. MBI Algeria Campus operates in a dynamic marketplace where innovative service is the key to competitive advantage.

MBI Algeria Campus provides high-level training in the field of Management, Finance, Marketing, languages, and IT and has high quality, international programs supported by a partnership with prestigious foreign Business Schools and universities such as Cambridge and Oxford, and that allowed it to adapt a rigorous teaching system provided by an internationally renowned college of teachers. MBI Algeria Campus wants to assert itself as one of the poles of excellence for languages training and management in Algeria.

1.6. Limitations

Like many researches, limitations are present to define the boundaries of the analysis in question. Because of the limited time period available for this research, we are only considering specific intangible factors that we contemplate to be the main contributors to the firm performance. We are completely aware that there are other IC factors that influence organizational performance, not only the ones we are mentioning in this research (HC, SC and RC). Special consideration can also be made regarding political, economic, industrial, competitor, cultural and tangible factors that also influence the performance of the firm, but we will not be including them in our research.

This research only examines the relationship between these concepts of IC and OP. It is also good to mention that the validity of our model of analysis is tested on private sector service. Considerations should be made while trying to apply this model to firms in other industries and/or in other regions.

Section 02: Research Methodology

Our research approach involves the presentation of the research methodology including the questionnaire structure and its processing. It will also address the sampling and data collection of this study and finally it will identify the technique of data analysis used.

2.1. Presentation of Research Methodology

we followed an Inferential approach and a quantitative analysis based on various statistical and economic tools with different purposes.

We are going to present next, the main tools for analysing empirical data. That have been used in our research, namely the questionnaire design, its processing, and finally the tools for analyzing empirical data.

2.1.1. Questionnaire Design

in order to test our research hypotheses and inspired by previous models indicated by (Khalique, Bontis, Shaari, & Isa, 2015) (Amrizah & Rashidah, 2013) (Ngah & Ibrahim, 2009), we established a structured questionnaire as a data collection tool to empirically test our proposed model. it consists of 61 items and whose questions follow a particular order of logic. The survey was initially prepared in English and then translated into French language. Both English and French versions were reviewed by two professors in Business Administration and the question items were revised as needed.

The questionnaire carried out in schools and institutions operating in private sector in Algeria in two major provinces; Setif and Batna, and it was applied for the main purpose of receiving sincere feedback and in a straightforward manner from all the administrative staff. Three predictor variables (independent variables) namely, human capital, structural capital and relational capital and one predicted variable (dependent variables) namely organizational performance were employed.

In the beginning of questionnaire, we explained the aims of collecting data by a questionnaire and the necessity of responder's cooperation in providing the needed data.

The survey was divided into three sections. To arrange the answers, we used Likert's type scale that has five levels in the first two section as follow: *((1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.),* which is one of the most common scales in measuring the answers. In this method the responder must read the questions and then make his/her degree of agreement. And few questions were formed in the third section to catch some descriptive information.

A/ The first section was designed to measure the items from different indicators that make up intellectual capital, which are human, structural and relational capital and they were measured as follow:

- ***human capital:*** representing 12 items which were related to employees' skills, knowledge and expertise, as well as their attitude and motivation.
- ***Structural capital:*** representing 12 items that have to do with the organizational Culture, policies and processes, in addition to some questions about Information technology within the enterprise.
- ***Relational capital:*** it was measured with 12 items that focused on customer satisfaction and loyalty, relationship with commercial partners and the relationship with other stakeholders.

B/ The second section was used to analyse the dependent variable of organizational performance via 12 items. We made sure to cover all aspects of organizational performance with its two dimensions; financial and non-financial indicators. The items included the profitability, return on assets, innovation and creativity, productivity…

C/ The third section: the section of demographic profile or so-called ''general information'' was positioned at the end of the questionnaire in this study. It was composed of 13 questions. Four of them was to identify the demographic profile related to individuals as follow: gender, age, education and work experience. Another four questions aimed to identify the demographic profile related to organizations seeking the company' name, location, years of establishment, number of employees & the provided services). And the last 5 questions were optional about respondent's department, organization's telephone number…

2.1.2. Questionnaire Processing

The questionnaire will be processed using an IBM SPSS Statistics V26 (Statistical Package for the Social Science version 26). This software allows the results obtained to be used by presenting them in synthetic tables or graphs format. This step requires upstream coding of the questions and their responses, that is, transforming each variable into a symbol (number

or letter). Once the coding is completed, we will start analyzing the data using descriptive statistics, validity and reliability analysis, analysis of correlation, descriptive analysis and multiple regression analysis.

2.2. Sampling and data collection:

Population refers to the whole group of people, events, or things of interest that the researcher would like to investigate (Sekaran & Bougie, 2013). Other than that, (Zikmund, Babin, Carr, and Griffin, 2013) defined the population as any complete group of entities that share some common set of characteristics. As for this study, the research population encompasses private schools and institutions in the two provinces Setif and Batna.

According to (Sekaran & Bougie, 2013), a sample is referred to as a subset of the population that is selected for investigation where the basic concept of sampling is to pick some of the elements within a population. And in this study, adapting a quantitative approach, the sample was selected by using non-probability convenience sampling.
we used this non-probability method because of the criteria we sat for those organizations, stating that the selected companies for the study must be with legal entity, be established and exercises its activities for more than two years, has more than three employees and located only in Setif and Batna.

regarding the situation of covid-19, we opted for the electronic way as a method of administering the questionnaire, in other words, the questionnaire was self-administered because the respondent fills it himself autonomously. our questionnaire was then established in an electronic platform using Google form which is an online questionnaire tool as well as creating a Word version. We sent the questionnaire link and the word file by emails and via the official Facebook pages to more than 22 private schools, since all these educational schools and institutions were accessible widely on Facebook.

Survey questionnaires were mailed and sent via Facebook Pages of selected companies explaining the purpose of the study and requesting sharing the questionnaire with all the administrative staff. Follow-ups were made through a second mailing and telephone calls.
only 8 out of 22 companies responded with a percentage of 36% and 62 responses were received in total. 3 questionnaires were defined as unusable and were excluded from subsequent analysis and the final number of usable questionnaires was 59.
The research sample data is obtained as follows:

Table 3. 1: list of research samples

N°	Province	schools	Years of establishement	Number of employees	Number of responces
1	Setif	MBI Algeria Campus	Over 18	15-20	**14**
2	Setif	Bright School	2-7	5-10	**8**
3	Setif	La Chrysalide	2-7	5-10	**7**
4	Setif	CROWN School SETIF	7-13	5-10	**7**
5	Setif	EMAE SETIF	2-7	Less than 5	**4**
6	Batna	Education Embassy	2-7	5-10	**9**
7	Batna	Imagine Center Language	2-7	5-10	**7**
8	Batna	REVUP BATNA	2-7	5-10	**6**
				Total responses	**62**

Source: Established by the student.

Targeted survey respondents included the Chief Executive Officers, Managing Directors, General Managers, Managers or Assistant Manager and other employees.
Data collection of this study lasted for one month.

2.3. Technique of Data Analysis

Our collected data will be analyzed using IBM SPSS Statistics V26, based on various statistical methods. This includes descriptive statistics to clarify respondent's characteristics, validity and reliability analysis in order to explore the goodness of measures, correlation analysis in order to find the relationship between variables, and lastly, regression analysis to determine the relationship between dependent and independent variables.

2.3.1. Descriptive Statistic

According to (Zikmund et al., 2010) descriptive statistics provide simple summaries of the sample measures. In this study, descriptive is used to describe the characteristic of the population or sample regarding the respondent's demographic background, such as gender, age, education level, experience. As well as companies' information (name, location, years of establishment, number of employees & services)

2.3.2. Validity and Reliability

the validity analysis considers the matter of whether the instrument is capable of measuring the variables of interest accurately. in this study, Exploratory Factor Analysis (EFA) was

conducted to measure the degree of inter-correlations among the variables using both: the Bartlett's Test of Sphericity (Bartlett's Test) and Kaiser-Mayer-Olkin (KMO).
The Bartlett's Test should be significant ($p<0.05$) for the factor analysis to be considered appropriate and the KMO index that ranges from 0 to 1 is considered appropriate for factor analysis if it's more than ($KMO>0.60$), (Pallant, 2011).

Reliability is referred to as the degree to which, on repeated trials, a test, measurement process, or questionnaire produces common results. (Zikmund, 2003) defined reliability as the degree to which the measurement yields stable results and is error-free. If a procedure or measuring device stably assigns a similar score to objects or individuals with common values, reliability is assumed for the components. According to (Hair et al, 2006), the Cronbach's alpha value should be at least 0.60 for exploratory study, but .70 is considered better. (George and Mallery, 2003) provide a rule of thumb to assess the internal consistency of the instrument, as shown in Table 3.2.

Table 3. 2: Rule of Thumb for Internal Consistency

Alpha Value	Internal Consistency
>.90	Excellent
>.80	Good
>.70	Acceptable
>.60	Questionnable
> .50	Poor
<.50	Unacceptable

Source: (George and Mallery, 2003)

2.3.3. Correlation Analysis

Correlation looks at the linear fashion relationship between two variables that was used to examine the objective. The Pearson correlation was performed in this research in order to explain the intensity and strength of the relationship between one variable and another (Pallant, 2011). He also noted that the study of Pearson's correlation is widely used to sum up the strong connection between metric variables. Table 3.3 indicates the Pearson Correlation which determines the strength of the relationship between the dependent variable and the independent variables.

Table 3. 3: Pearson's Correlation Scale

r Value	Correlation Strength
0.01 - 0.09	Very low correlation
0.10 - 0.29	Low correlation
0.30 - 0.49	Moderate correlation
0.50 - 0.69	Strong correlation
0.70 - 1.0	Very strong correlation

Source: (Sekaran, 2003)

2.3.4. Multiple Regression Analysis

According to (Pallant, 2011), multiple regression analysis is a family of techniques that can be used to discover the relationship between the independent variables and one continuous dependent variable. Moreover, regression analysis can be used to define whether the independent variables explain a significant variation on the dependent variable, evaluate how much of the various independent variable can be explained by the dependent variable, the strength of the relationship and determine the relationship function by developing mathematical equation relating the dependent and independent variables.

The model for this study is specified as *Y f(X)*

$$\mathbf{Y= \alpha+ \beta_1 X_1+\ldots+ \beta_i X_i}$$

Y : The dependent variable
Xi : The independents variables
ά, βi : Are parameters

Section 03: Analysis and Findings

This section consists of the results and findings of the study. The response rate and data screening process are discussed at the beginning of this section, followed by the descriptive statistics for the demographic background. After that, the statistical assessment of the correlation and regression analysis was conducted to test the hypothesis using the results obtained. The data analysis was performed using version 26.0 of the Statistical Package for Social Sciences (SPSS) software.

3.1. Participation and Response Rate

From June 20, 2020 to July 22, 2020, the total number of 62 questionnaires was answered by administrative staff of different 8 schools in two major cities in the east of Algeria, 5 schools from Setif and 3 from Batna through Google Form. Out of these 62 questionnaires, only 59 questionnaires were usable for analysis yielding a response rate at approximate of 95.2%. (3 questionnaires) were not included in data coding and analysis due to some technical errors such as missing and incomplete answers.

3.2. Data Screening

Data was screened first before analyzing it. This procedure is called data screening or data cleaning. It is the checking process of all the results obtained from the respondents. This process is important, because it ensures that all data is clean before further statistical research is carried out. According to (Abdulwahab, Dahalin, and Galadima, 2011), neglecting this step would lead to poor quality output and correctness of the type of analysis to be used.

Through data screening, the researcher would be able to ensure that respondents provide a response to each of the questions in the questionnaire. It also helps the researcher recognize any outliers or unengaged answer from the total responses. Therefore, in this study, the researcher took the preventive measures by checking that all the distributed questionnaires were completed appropriately. After entering the data into the SPSS and running a descriptive preliminary statistic, the result does not show any missing values.

3.3. Descriptive Statistic of Demographic Profile

For this section, the respondents' demographic information was analyzed using the frequency distribution technique of descriptive statistics. In the present study, the findings of this data have been summarized below by using the frequency and percentage level of respondents for each of the categories in the demographic section of the questionnaire.

As presented in detail in Table 3.4, respondents' profiles are based on the individual that includes gender, age, education level, and employment with the company (years of working experience). Also, Table 3.5 covers demographic profile based on the organizations' characteristics which consist of the corporate name, age and number of employees as well as the services provided.

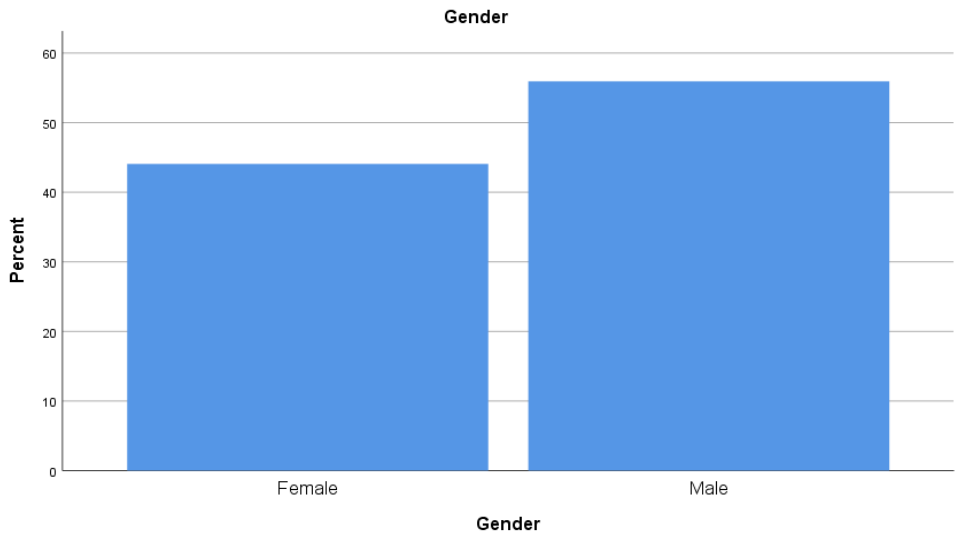
Table 3. 4 Summary of Demographics Profiles (Individual)

Variable	Frequency	Percentage (%)
Gender:		
Male	33	55.9
Female	26	44.1
Total	**59**	**100.0**
Age:		
20 – 29	49	83.1
30 – 39	9	15.3
Over 50 years	1	1.7
Total	**59**	**100.0**
Education Level		
Diploma	8	13.6
Bachelor Degree	31	52.5
Master Degree	19	32.2
PHD	1	1.7
Total	**59**	**100.0**
Experience		
Less than 1	17	28.8
1 – 3	33	55.9
3 – 5	5	8.5
5 – 10	4	6.8
Total	**59**	**100.0**

Source: Established by the student based on the SPSS outputs

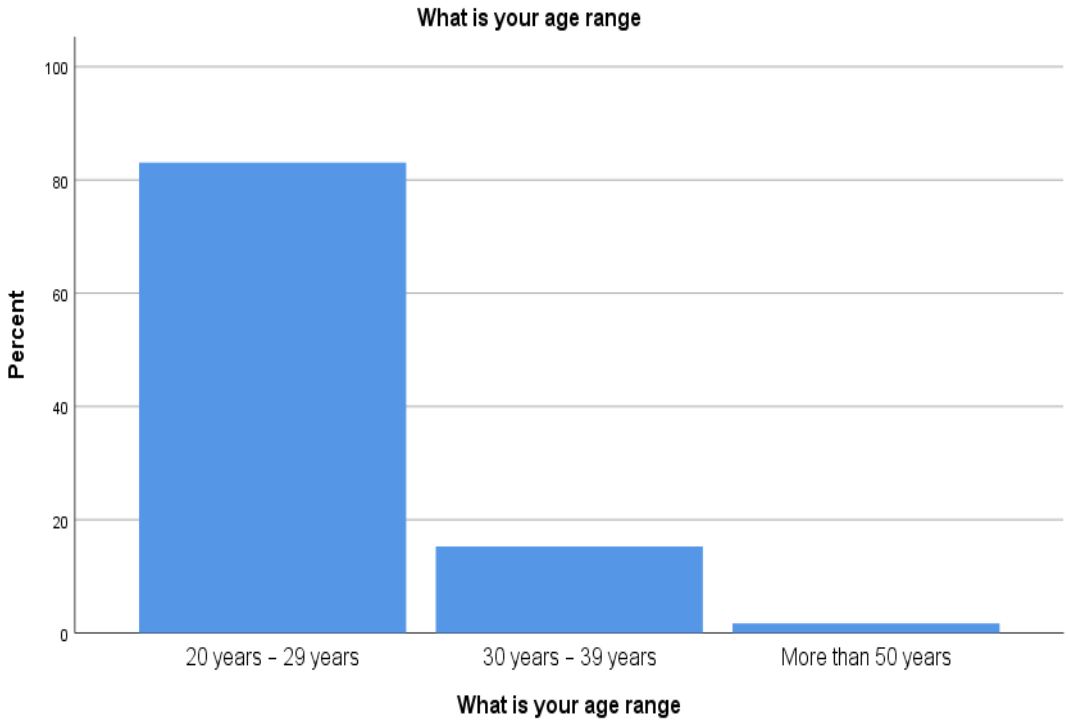
3.3.1. Gender and Age

Figure 3. 1: Respondent' gender



Source: Established by the student based on the SPSS outputs

Figure 3. 2: Respondent' age

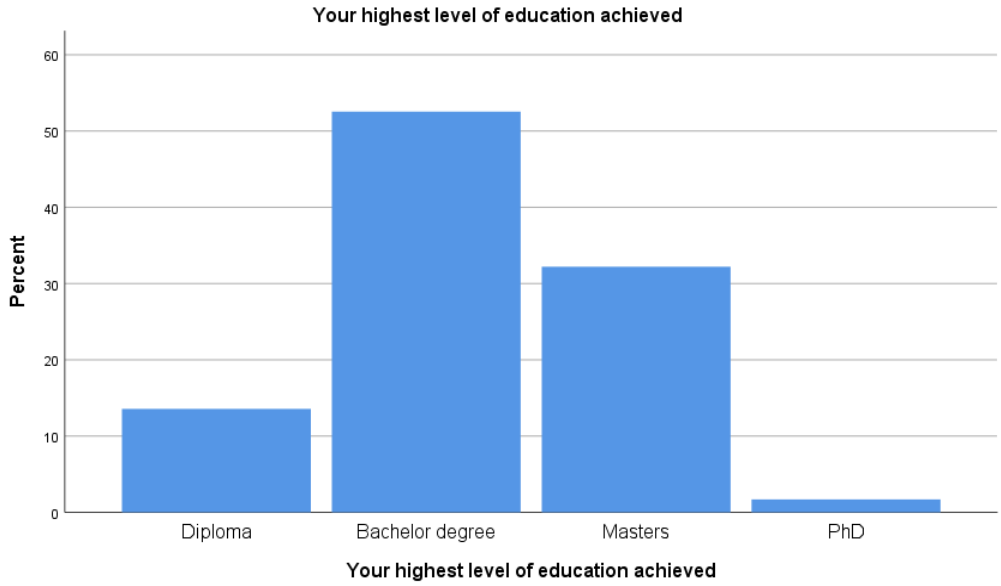


Source: Established by the student based on the SPSS outputs

Based on Figure 3.1, the majority of respondents are among male respondents which equal to 33 (55.9%) while the minority respondents are among female with 26 (44.1%). Together, both genders added up to a total of 59 respondents. As for their age, the result in figure 3.2 shows that the majority fall in the age range of 20-29 years old with a total number of 49 (83.1%), and that reflects that private schools tend to hire young employees. Follows with the next age group of respondents is between 30-39 years old 9 (15.3%) respondents, and only 1 respondent is in the age range of over 50 representing (1.7%)

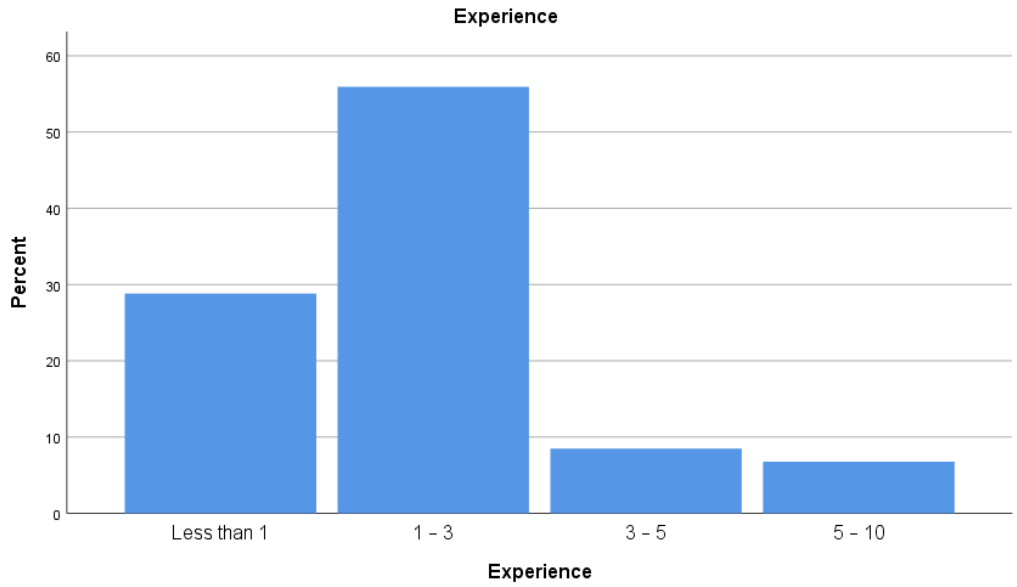
3.3.2. Education and Experience

Figure 3. 3: Respondent' Level of Education



Source: Established by the student based on the SPSS outputs

Figure 3. 4: Respondent' Experience within their organizations



Source: Established by the student based on the SPSS outputs

In this study, four levels of education have been selected which are Diploma, Bachelor Degree, Master Degree, and PhD. In figure 3.3, the results indicated that most of the respondents are having a Bachelor Degree with a total of 31 (52.5%). Followed by a Master Degree level with 19 (32.2%). In addition, it is reported that respondents with Diploma are 8 (13.6%) and PhD level is only 1 (1.7%) respondent.

An examination of the respondents' years of employment with their present company in figure 3.4 indicated in terms of working experience that most of the respondents are having between 1_3 years which contributed to 33 (55.9%) respondents. Results also show that 17 (28.8%) respondents have less than 1-year experience. In addition, respondents having an experience between 3_5 years and between 5_10 years show relatively low rate. It only contributed to 5 (8.5%) and 4 (6.8%) respectively.

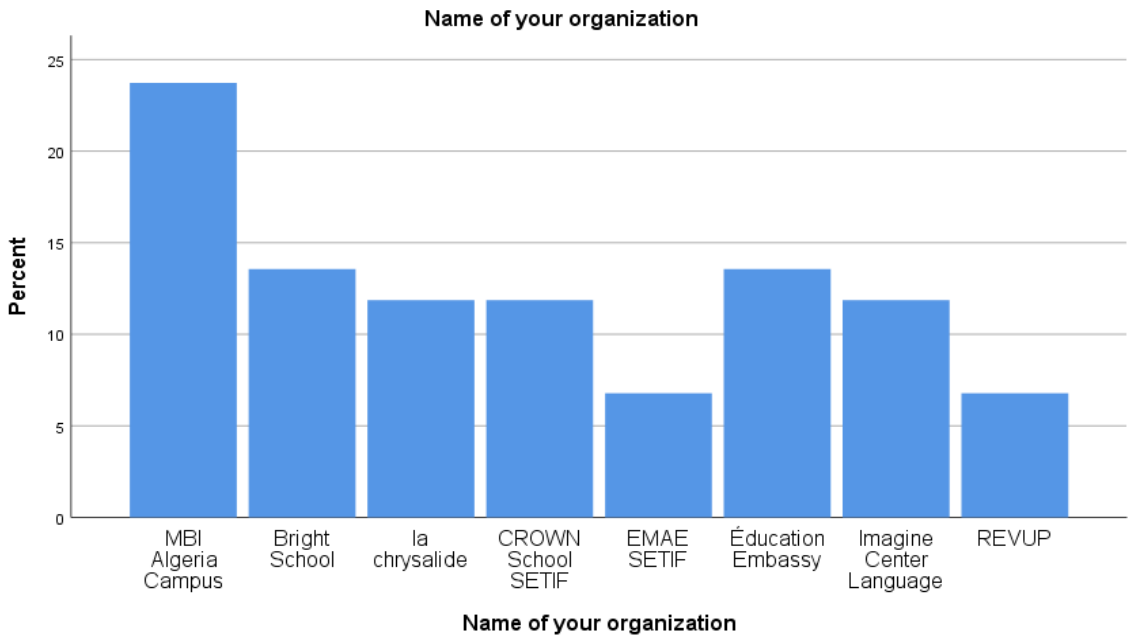
Table 3. 5: Summary of Demographics Profiles (Organization)

Variable	Frequency	Percentage (%)
Name of Organization		
MBI Algeria Campus	14	23.7
Bright School	8	13.6
La Chrysalide	7	11.9
CROWN School SETIF	7	11.9
EMAE SETIF	4	6.8
Education Embassy	8	13.6
Imagine Center Language	7	11.9
REVUP	4	6.8
Total	**59**	**100.0**
Corporate Age		
2 – 7	38	64.4
7 – 13	7	11.9
Over 18 years	14	23.7
Total	**59**	**100.0**
Employees Number		
Less than 5	4	6.8
5 – 10	41	69.5
15 – 20	14	23.7
Total	**59**	**100.0**
Services		
Business formations	44	74.6
Total	**59**	**100.0**
Professional formations	42	71.2
Total	**59**	**100.0**
Self-development formations	45	76.3
Total	**59**	**100.0**
Informatics formations	52	88.1
Total	**59**	**100.0**
Foreign Languages trainings	49	83.1
Total	**59**	**100.0**

Source: Established by the student based on the SPSS outputs

3.3.3. Organizations

Figure 3. 5: Name of the organizations selected in the study

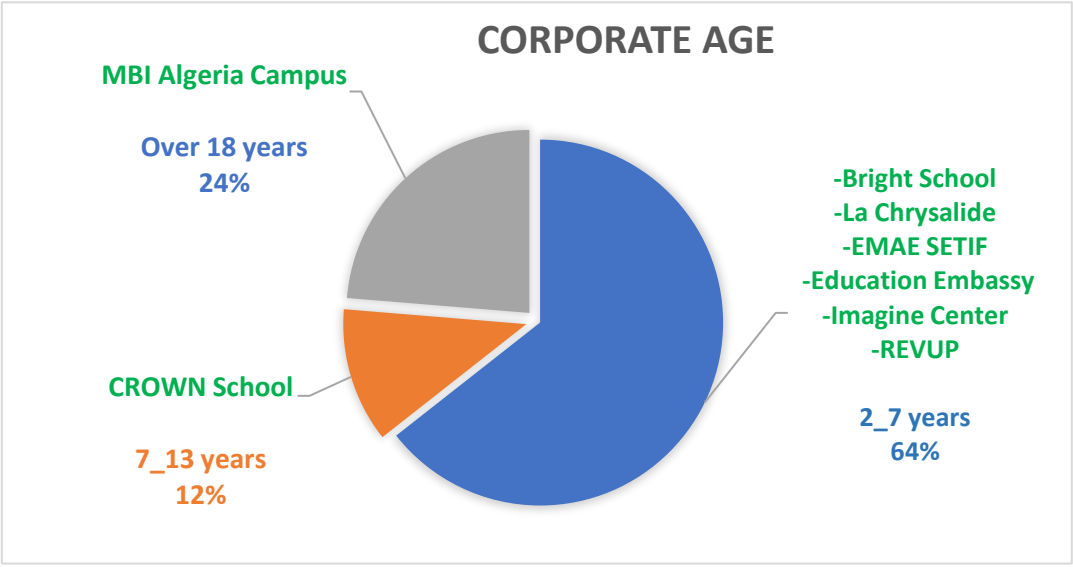


Source: established by the student based on the SPSS outputs

As presented in figure 3.5, 8 schools were adopted in this study, the first 5 schools are located in Setif province while the 3 remaining are from Batna. We can clearly see that most respondents are from MBI Algeria Campus with the dominant proportion of 14 (23.7%) which is the biggest private school in Setif, while other schools 'respondents ranged only from 4 to 8.

3.3.4. Corporate age

Figure 3. 6: Corporate age

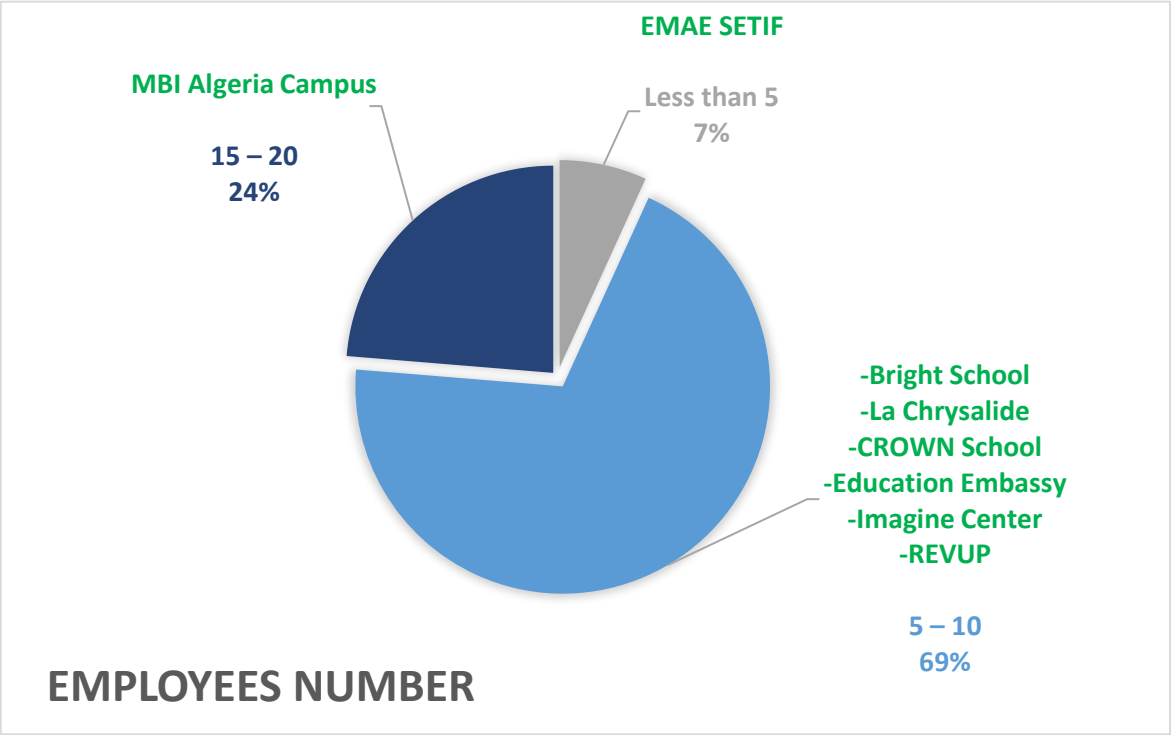


Source: Established by the student based on the SPSS outputs

With respect to Corporate age, the age range of 2_7 years old was most in terms of proportion with (64%) of the total schools, while the age range over 18 years old was the second with (24%) represented by MBI Algeria Campus, and the last remaining (12%) represented by Crown School with an age range between 7_13 years old.

3.3.5. Employees number

Figure 3. 7: Employees number in the organization



Source: Established by the student based on the SPSS outputs

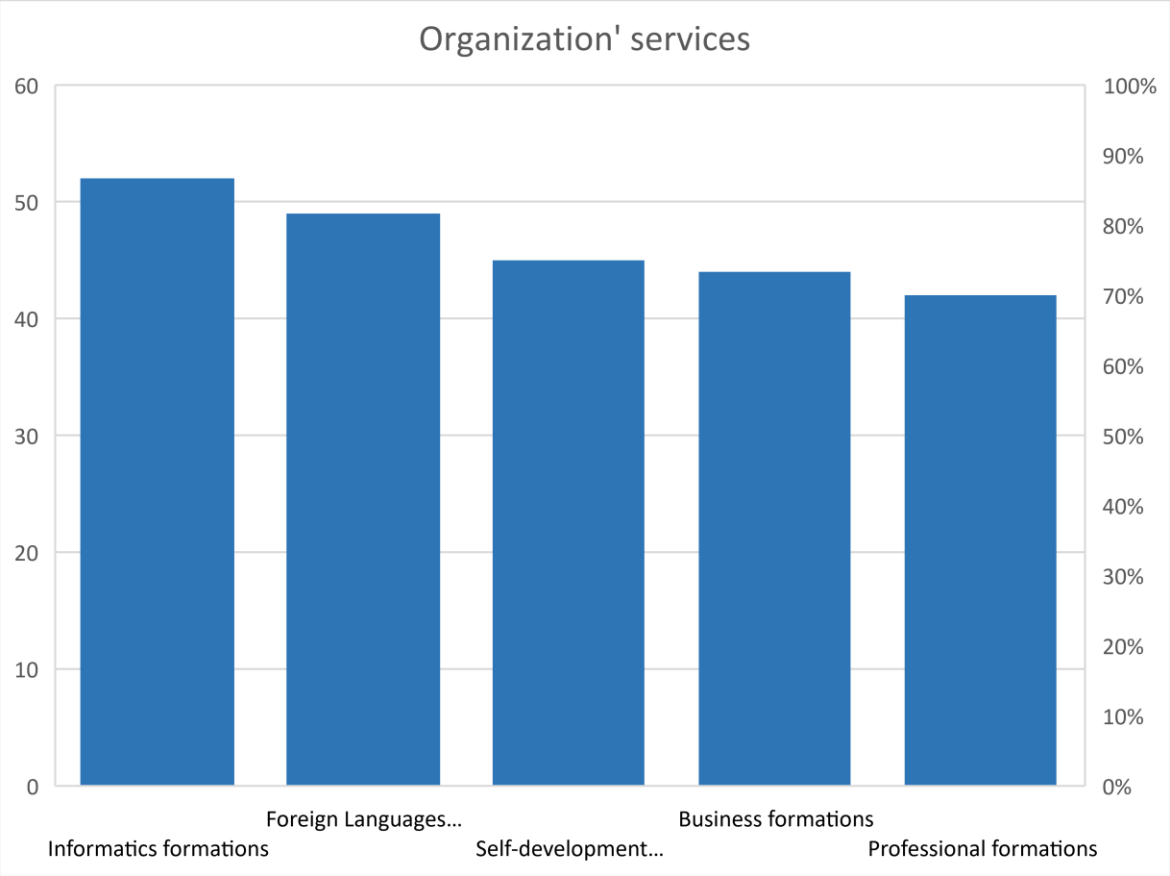
Regarding the number of employees, almost (69%) of the organizations employed between 5_10 employees, while MBI Algeria Campus with (24%) possesses between 15_20 employees. and the school EMAE was the least with 13.3% and employed less than 5 employees.

3.3.6. Organization's services

The Figure 3.8 below presents the services provided by schools which are among the organizations' characteristics, the frequency distributions show that Informatics formations is the service that has the dominant proportion where 52 (88.1%) respondents said that their organization delivers Informatics trainings. Foreign Languages trainings come second with 49 respondents and representing (83.1%). As for the Self-development formations, Business formations and Professional formations, those services had respectively an availability

percentage of (76,3%) (74,6 %) and (71,2%) within the organizations selected. And those high rates of services show a diversity in schools' activities.

Figure 3. 8: Services provided by organizations



Source: Established by the student based on the SPSS outputs

3.4. Validity and Reliability Analysis

In our study we used some statistical tests to measure both validity and reliability, where we emphasized on, Kaiser-Meyer-Olkin (KMO) and Bartlett's test to assess the validity and we used Cronbach's Alpha test to evaluate the reliability of this study.

3.4.1. Validity analysis

Exploratory Factor Analysis (EFA) is a data analysis technique used in assessing the structure of factors to be examined. It is used to determine dimensionality and convergent validity of the relation between objects and constructs. Kaiser-Meyer-Olkin (KMO) test for evaluating sampling adequacy and Bartlett's sphericity test for measuring the homogeneity of variances were applied for the measurement scales to ensure the appropriateness of the

factor analysis. And the purpose was to ensure that all items relating to one construction were loaded onto one factor.

The Bartlett Test should be relevant ($p<0.05$) for the factor analysis to be deemed sufficient, and the sampling adequacy measurement generates the KMO index ranging from 0 to 1 and indicating that if it's more than 0.60 it is considered suitable for factor analysis (Pallant, 2011).

Thus, factor analysis using the extraction method of principal component analysis (PCA) was used for the 48 items divided equally as follows: 12 items for human capital, 12 items for structural capital, 12 items for relational capital and 12 items for organizational performance. The results of the KMO test showed that the statistics were higher than 0.60 for all the scales, and Bartlett's sphericity test revealed significant results for all the scales ($p < 0.05$) indicating that factor analysis was appropriate. The results of the reliability test are reported in Tables below

A/ Factor Analysis for Human Capital

Table 3. 6: KMO and Bartlett's Test for HC factor

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,836
Bartlett's Test of Sphericity	Approx. Chi-Square	345,247
	df	66
	Sig.	,000

Source: Established by the student based on the SPSS outputs

The results specify that Barlett Test of Sphericity met statistical significance (Chi-Square = 345,247, $p < .01$) and the Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy was 0.836, greater than the recommended value of (0.60). Accordingly, these results indicate that the data factorability of Human Capital construct is regarded appropriate.

Table 3. 7: Component Matrix (Human Capital items)

	Component 1
Our employees value the sharing of ideas, knowledge and practices	,783
In our organisation, employees are satisfied with the top management	,755
Our employees are proud of working in the organization	,748
In our organisation, employees are motivated, creative and bright	,713
Our employees have a preoccupation to improve their professional skills and formation	,672
Our organisation provides opportunities to upgrade the education level and skills of employees.	,652
Our employees generally understand the target markets and customer profiles	,649
Our employees take initiative to launch new ideas and services	,647
Our organisation has a highly competent management team	,632
Our organisation recognizes the importance of knowledge as a strategic asset	,631
Our employees are experts in their particular jobs and functions	,622
Our organisation implements a large portion of great new ideas	,621

Source: Established by the student based on the SPSS outputs

Extraction Method: Principal Component Analysis

a. 1 components extracted.

B/ Factor Analysis for Structural Capital

Table 3. 8: KMO and Bartlett's Test for SC factor

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,837
Bartlett's Test of Sphericity	Approx. Chi-Square	353,578
	df	66
	Sig.	,000

Source: Established by the student based on the SPSS outputs

The results indicate that Barlett Test of Sphericity met statistical significance (Chi-Square = 353,578, $p < .01$) and the Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy was

0.837, greater than the recommended value of (0.60). Accordingly, these results indicate that the data factorability of Structural Capital construct is regarded appropriate.

Table 3. 9: Component Matrix (Structural Capital items)

	Component 1
Our organization provide perfect conditions in work	,830
Our organisation uses latest tech equipment & technology to remain competitive	,793
Our organisation allocates sufficient budget for technological development and innovation.	,792
Our organisation's policies, procedures, databases and networks are up-to-date	,785
There is a culture to transmit the experiences to the new employees	,749
Our employees are involved in the organisation's decision-making	,700
Our organisation has coordination among different departments and strong internal relationship, e.g. respect, friendship, communication, etc.	,677
Our organisation allows easy info access to employees.	,644
Our organisation has good systems to secure and protect our intellectual property	,642
In our organisation, technological knowledge is easy to understand, transfer and use.	,624
In our organisation knowledge is embedded in the structures, systems and procedures	,584
Our recruitment department is fully dedicated to use high recruiting standards to select employees.	,582

Source: Established by the student based on the SPSS outputs

Extraction Method: Principal Component Analysis

a. 1 components extracted.

C/ Factor Analysis for Relational Capital

Table 3. 10: KMO and Bartlett's Test for RC factor

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,811
Bartlett's Test of Sphericity	Approx. Chi-Square	369,699
	df	66
	Sig.	,000

Source: Established by the student based on the SPSS outputs

The results show that Barlett Test of Sphericity met statistical significance (Chi-Square = 369,699, $p < .01$) and the Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy was 0.811, greater than the recommended value of (0.60). Accordingly, these results indicate that the data factorability of Relational Capital construct is regarded appropriate.

Table 3. 11: Component Matrix (Relational Capital items)

	Component 1
Our organisation has a good relationship with governmental institutions and Public Administration	,816
Our organisation has good relationships with its suppliers and alliance partners.	,811
Our organisation has relationships with other competitors in the same sector	,759
We have enough distribution channels for the satisfaction of our customers	,703
Our organisation always considers environmental health & public social benefits.	,690
Our organisational market share is increasing continuously	,685
Our organisation maintains long-standing relationships with commercial partners.	,684
The strategy of the company is oriented to promote agreements of cooperation with other companies.	,665
In the company, there is a system to observe the systematic form of markets.	,659
Our organisation has relationships with Quality Improvement and Promotion Institutions.	,657
Our organisation makes efforts to create and sustain organisational culture in the market.	,642
Our organisation has good brand name in the market	,595

Source: Established by the student based on the SPSS outputs

Extraction Method: Principal Component Analysis.

a. 1 components extracted

D/ Factor Analysis for Organizational Performance

Table 3. 12: KMO and Bartlett's Test for OP factor

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,806
Bartlett's Test of Sphericity	Approx. Chi-Square	414,922
	df	66
	Sig.	,000

Source: Established by the student based on the SPSS outputs

The results specify that Barlett Test of Sphericity met statistical significance (Chi-Square = 414,922, $p < .01$) and the Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy was 0.806, greater than the recommended value of (0.60). Accordingly, these results indicate that the data factorability of Organizational Performance construct is regarded appropriate.

Table 3. 13: Component Matrix (Organizational Performance)

	Component 1
Our organization can generate better managerial effectiveness, operation efficiency, and organizational innovation.	,767
Our organisation's return on assets is continuously increasing	,765
Our organisation is able to continuously provide competitive services.	,728
Our organisation achieves a high success rate in new creative and innovative services launched.	,695
Our organisation's return on investments is continuously increasing	,676
Our organisation's profitability is continuously increasing	,648
Our organisation is very responsive to local & international market needs.	,640
Our employee's productivity is continuously increasing.	,638
Our organisation has positive cash flows.	,633
Our customers are satisfied with our products and services and their loyalty level is increasing.	,606
Our employees keep learning and expanding their knowledge and skills within the organization.	,565
Our organisation looks forward to become technological leader in the market	,537

Source: Established by the student based on the SPSS outputs

Extraction Method: Principal Component Analysis

a. 1 components extracted.

3.4.2. Reliability Analysis

The reliability study was carried out using the Cronbach's Alpha to test the consistency and stability of the variables involved (DV and IV). (Churchill, 1979) proposed that reliability analysis should be performed first to determine data quality. This is supported by (Zikmund, 2003), who proposed that since the research variables comprise several items, a test should be conducted to verify the extent to which the measurements are error-free and therefore capable of producing a reliable result in this analysis. The value above 0.7 is considered an acceptable internal consistency according to (Sekaran and Bougie, 2013). The value of Cronbach's alpha and its internal consistency is indicated in Table 3.14 and the result of a reliability test is reported in Table 3.15.

Table 3. 14: Internal Consistency Measurement

Cronbach's Alpha	Internal Consistency
< 0.6	Weak
0.6 to < 0.7	Medium
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
> 0.9	Excellent

Source: George and Mallery (2003)

Table 3. 15: Summary of Reliability Test Result

Variables	Number of Items	No of Items Deleted	Cronbach's Alpha	Strength of Association
Human Capital	12	-	0.890	Very Good
Structural capital	12	-	0.902	Excellent
Relational Capital	12	-	0.899	Very Good
Organizational Performance	12	-	0.877	Very Good

Source: Established by the student based on the SPSS outputs

All constructs of this study report Cronbach's α over 0.7, reaching high reliability standards. Showing that the Structural capital variable has an excellent Internal Consistency with (coefficient Alpha = 0.902), while Human Capital, Relational Capital and Organizational Performance have very good Internal Consistency ranging from 0.877 to 0.899, And therefore, these results are indicating that the measurement design is highly credible, and the reliability of the internal accuracy of the measuring scales used for the variables was considered accurate and appropriate.

3.5. Correlation Analysis

Pearson Correlation is a bivariate analysis analyzing the relationship between two variables calculated using interval and ratio scale respectively. This test can describe the correlation or relationship between independent variables and the dependent variable and to determine whether there is any significant relationship between the independent variables and the dependent variable. Table 3.16 displays the Pearson Correlation measuring the relationship strength between the dependent variable and the independent variables, while table 3.17 summarizes the results derived from the study of the correlation between the independent variables (IV) and the dependent variable (DV).

Table 3. 16: Pearson's Correlation Scale

r Value	Correlation Strength
0.01 - 0.09	Very low correlation
0.10 - 0.29	Low correlation
0.30 - 0.49	Moderate correlation
0.50 - 0.69	Strong correlation
0.70 - 1.0	Very strong correlation

Source: Sekaran (2003)

Table 3. 17: Summary of Pearson Correlation Test Result

		Human Capital	Structural Capital	Relational Capital	Organizational Performance
Human Capital	Pearson Correlation	1	.756**	.786**	**.688****
	Sig. (2-tailed)		.000	.000	.000
	N	59	59	59	59
Structural Capital	Pearson Correlation	.756**	1	.856**	**.810****
	Sig. (2-tailed)	.000		.000	.000
	N	59	59	59	59
Relational Capital	Pearson Correlation	.786**	.856**	1	**.793****
	Sig. (2-tailed)	.000	.000		.000
	N	59	59	59	59
Organizational Performance	Pearson Correlation	**.688****	**.810****	**.793****	1
	Sig. (2-tailed)	.000	.000	.000	
	N	59	59	59	59

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

Source: Established by the student based on the SPSS outputs

Based on the Pearson correlation analysis in Table 3.17, the result indicates that the p-value = 0.000 which is lower than the α value of 0.01. Consequently, a strong relationship exists between the independent variables (HC, ST and RT) and the dependent variable (OP) can be inferred.

- The correlation between Human capital toward Organizational performance was investigated through Pearson correlation analysis. The result indicates that there was a positive and strong relationship, in which the correlation coefficient value, r = 0. 688 and $p < 0.01$.
- A Pearson correlation coefficient was computed to assess the correlation between Structural capital towards Organizational performance. The result shows that there is a positive and very strong relationship between the two variables in which r = 0.810 and p is below 0.01.
- Based on the results of the Pearson correlation in Table 3.17, it shows the p-value is 0.000 which is smaller than α value of 0.01. Therefore, it can be concluded that there

was a positive and very strong relationship exists between Relational capital and Organizational performance, in which the correlation coefficient value, r = 0.793.

3.6. Descriptive Analysis

Descriptive analysis highlighted the mean and standard deviation for independent variables and the dependent variable involved in this study. The mean and standard deviation data can determine the variability of the variables. In this study, descriptive analysis was analyzed to measure the minimum, mean and standard deviation for Human Capital, Structural Capital, Relational Capital and Organizational Performance. In addition, all items in the questionnaires were measured by using a Likert scale of 1 to 5 starting from a scale of 1 represents "Strongly Disagree" to scale 5 represents as “Strongly Agree”. Summary of descriptive analysis results for all variables described in Table 3.18 below.

Table 3. 18: Summary of Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Human Capital	59	2.17	5.00	3.9054	.46846
Structural Capital	59	2.25	5.00	3.9110	.46678
Relational Capital	59	2.17	4.92	3.7387	.48701
Organizational Performance	59	2.42	4.75	4.0410	.42049
Valid N (listwise)	59				

Source: Established by the student based on the SPSS outputs

Table 3.18, shows that Structural capital has the highest mean values compared to the other two independent variables which is equal to 3.9110 (Std. Dev. =0.46678). This is followed by a Human capital with the value of mean equal 3.9054 (Std. Dev. = 0.46846). The last independent variable is the Relational Capital with a mean value of 3.7387 (Std. Dev. = 0.48701). Meanwhile, the mean value for a dependent variable of Organizational Performance is 4.0410 (Std. Dev. = .42049) which imply that most respondents showing a high organizational performance in their organizations. In addition, from the table above, it shows that all the standard deviations seem to fall between the ranges 0.42049 and 0.48701 which reflect the existence of considerably acceptable variability within the dataset.

3.7. Regression Analysis

Regression analysis was used to predict the impact and influence of independent variables on the dependent variable. (Sekaran and Bougie, 2013) indicated that when there is a situation where one or more independent variables are hypothesized to affect the dependent variable, and then regression analysis is needed. Regression test shows how much variance in the independent variables is explained by the dependent variable.

In this study, multiple regression analysis was used to analyse the influence of human, structural and relational capital towards the organizational performance. Multiple regression analysis was applied in an attempt to answer research questions, research objectives, and also all the research hypotheses. The following hypotheses are subject to further analysis and the results are summarized in this section.

H1: Intellectual Capital has a positive and significant relationship with the organizational performance

H2: Human capital has a positive and significant relationship with the organizational performance

H3: Structural capital has a positive and significant relationship with the organizational performance

H4: Relational capital has a positive and significant relationship with the organizational performance

Table 3. 19: Model Summary from regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.834[a]**	**.695**	**.679**	.23835
Note : a. Predictors: (Constant), Relational Capital, Human Capital, Structural Capital				

Source: Established by the student based on the SPSS outputs

The regression outcome of the three independent variables entered into the regression model indicates:

- R-value = 0.834 which is the association between the independent variables (HC, SC and RC) and the dependent variable (OP).

- The Adjusted R Square value is 0.679. Hence, 67.9 percent variance in Organizational performance was explained by the independent variables examined. Which means that they have influence to organizational performance as much as 67.9%. While the remaining 32.1% can be explained by other factors that are not examined in this study.

Table 3. 20: ANOVA table from regression analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.130	3	2.377	41.836	.000[b]
	Residual	3.125	55	.057		
	Total	10.255	58			

a. Dependent Variable : organizational performance

b. Predictors: (Constant), Relational Capital, Human Capital, Structural Capital

Source: Established by the student based on the SPSS outputs

Based on the result of statistical testing, our overall regression model is significant with level of significance of 0,000, lower than 0,05 and F-count = 41.836. In other words, Intellectual Capital formed by its three main components HC, SC and RC significantly influences the Organizational Performance as much as 67.9 %.

Table 3. 21: Summary of Coefficients of regression analysis

Coefficients[a]						
Model 1		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.059	.281		3.767	.000
	Human Capital	.059	.112	.066	.530	.598
	Structural Capital	.423	.134	.469	3.152	.003**
	Relational Capital	.293	.136	.340	2.154	.036**
Note: Dependent Variable: Organizational Performance ** p<0.05						

Source: Established by the student based on the SPSS outputs

The coefficient summary presented in Table 3.21 provides the estimation of the proposed model parameters. The estimated equation for the proposed model is given bellow.

Based on the model: $Y= \alpha+ \beta 1\ X1+\ldots+ \beta i\ Xi$, we have the following equation from the analysis;

Estimated Equation for the Proposed Model

$$\mathbf{Y= 1.059+ 0.059X1 + 0.423X2 + 0.293X3}$$

Y = Dependent Variable: Organizational Performance
XI = Human Capital
X2 = Structural Capital
X3 = Relational Capital

3.8. Interpretation for Hypothesis Result

H1: Intellectual Capital has a positive and significant relationship with the organizational performance

The ANOVA table shows that the F-count = 41.836 with a significant level of [0.000] < 0.05. It indicates that the effect of three components of Intellectual Capital which are the independent variables [Human capital, Structural capital and Relational capital] simultaneously is positive and significant towards organizational performance. this implies that Intellectual Capital impacts the organizational performance and will create economic value for private schools in the long run. Therefore, investing in intangible assets like IC, is what organizations all over the globe are putting more efforts in. Hence, hypothesis H1 is supported.

H2: Human capital has a positive and significant relationship with the organizational performance

In this study, multiple regression analysis was used to test whether Human capital has a significant relationship on the organizational performance. Based on Table 3.21, it showed that human capital value for Standardized Coefficients Beta is the lowest (B=0.066, and p=0.598 which is higher than 0.05), and that indicates that human capital which can be described as the sum of employees' competence, knowledge, skills, attitude and motivation is not making a significant unique contribution to the organizational performance. Hence, hypothesis H2 is rejected.

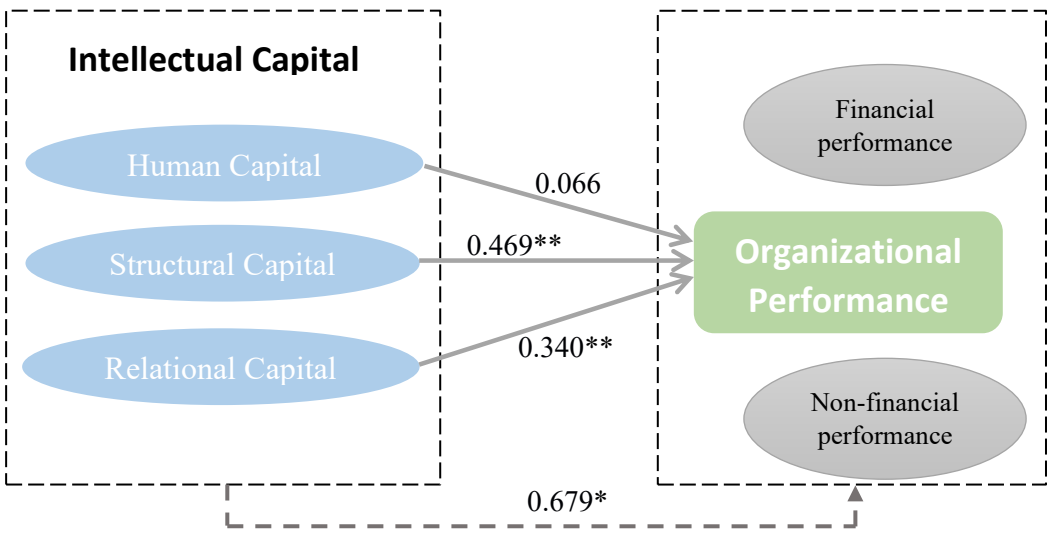
H3: Structural capital has a positive and significant relationship with the organizational performance

Multiple regression analysis was conducted to examine whether the Structural capital has a significant relationship with the organizational performance. Referring to the Table 3.21, SC has a Coefficients Beta (B = 0.469 $p < 0.05$). This result shows that SC appeared to be the dominant factor that has a significant influence on OP. This implies that the respondents agree that the Structural capital which includes organizational processes and structures, policies, the culture as well as the information technology used in that organization affects the overall performance in this latest. Therefore, hypothesis H3 is supported.

H4: Relational capital has a positive and significant relationship with the organizational performance

Multiple regression applied to assess whether the Relational capital has a significant relationship with the organizational performance. The result from Table 3.21 shows that RC has a significant influence on OP where Coefficient Beta (B = 0.340, $p < 0.05$). This indicates that the relational capital and organization' networks in the form of relations with customers, partners, suppliers, investors, competitors, employees…really impacts the overall performance of this organization. Hence, hypothesis H4 is supported.

Figure 3. 9: Research structural model



Note. **p<0.05

Source: Constructed by the student

Table 3. 22: Summary of Hypothesis Results

Model	Direction of Influence	Significance	Result
Intellectual Capital	Positive influence	Significant	**Supported**
Human Capital	Positive Influence	Insignificant	**Rejected**
Structural Capital	Positive influence	Significant	**Supported**
Relational Capital	Positive influence	Significant	**Supported**

Source: Established by the student based on the SPSS outputs

Conclusion

The results from the analysis as presented in this chapter, demonstrated a strong relationship between the three independent variables (Human, Structural and Relational capital) and Organizational performance in the correlation analysis using Pearson correlation. Subsequently, multiple regression analysis was run to test the hypotheses.

The research finding indicated that the Intellectual Capital has a positive and significant relationship with the organizational performance, which validate the first hypothesis (H1). It also showed that two of the independent variables are significant at the 0.05 level which are the structural capital and the relational capital. While human capital is not significant at the 0.05 level. Furthermore, the findings also reveal that structural capital is the predictor that has the most impact and influence on the organizational performance. Based on that, we conclude that the second hypothesis (H2) of (human capital) was rejected, and the hypotheses (H3) and (H4) were accepted, which are respectively: structural capital and relational capital, those two independent variables have positive and significant influences on organizational performance.

GENERAL CONCLUSION

Companies and organizations in the knowledge-based economy operate on the basis of knowledge. The most profitable and prosperous businesses and organizations would be the ones who make good use of their intellectual resources effectively to improve performance. Therefore, we conducted this study in which the aim was to investigate how intellectual capital impacts on organizational performance. More precisely, the research objectives were aiming at examining the relationship between IC and OP in general, and whether there is any significant relationship between its three independent variables (HC, SC, and RC) and the dependent variable OP in particular.

The findings of this research and the result of the structural model shows that intellectual capital has a positive and significant effect on organizational performance. This result is consistent with the previous study by (Nanxing Xingxing, Yang Jing and Qupeishing, 2015) and (Yasmin Kamall Khan, 2014). And many other researchers who studied the impact of intellectual capital on firm's performance.

As for the significant effect of structural capital on organizational performance, results indicated that SC is the most important predictor, which means that investments in information technology and innovation help a firm utilize and maximize knowledge value to improve its overall performance, and results are consistent with (Hassan H., Abbas, Zainab, Waqar, & Hashmi, 2018) and (Sayyed Khawar Abbas, 2018).

Human Capital impacts but not much significant. This result is consistent and supported with the previous study by (Sayyed Khawar Abbas, 2018) and (Yasmin Muchtar, 2017). Nevertheless, good quality human resources form a key element in knowledge-intensive industries and might affect the firm' performance.

Relational capital, can be explained via the knowledge encoded in the relationship with any stakeholder affecting the life of the company, where sustaining a good relationship is fundamental. And the results demonstrated a strong positive and significant impact of RC on OP. results are consistent with (Hassan H., Abbas, Zainab, Waqar, & Hashmi, 2018) and (Yasmin Kamall Khan, 2014). Thus, an organization should build good relationships with its stakeholders, relations with customers, partners, suppliers, investors, competitors to improve OP.

The study highlights the crucial role of intellectual capital in driving SMEs performance in line with the needs of the knowledge-based economy that emphasizes investment in knowledge assets. The findings can therefore, help management to intensify initiatives to encourage greater understanding and acceptance of the concept of intellectual

capital structure, that boosts performance in Algerian private schools. In this context, our results suggest that firms operating in private sector can enhance their performance with the appropriate intellectual capital management.

Moreover, the findings indicate the awareness of managers in equipping their businesses with competent employees, internal structure, and good relationships with external parties despite constraints in financial and non-financial aspects. Hence, it is important for SMEs to focus on the investment in knowledge assets by encouraging the training and development programs to enhance the skills of the employees, structures, and external affairs.

The study is not without its limitations. Firstly, addressing three key IC components, namely human, structural, and relational capital might be insufficient because this model does not use all the possible variables to characterize intellectual capital. and there might be other IC factors that influence organizational performance.

Secondly, the samples in this study only cover SMEs in the private services represented by private schools and institutions. Therefore, the findings obtained cannot be generalized to all Algerian SMEs. For future research, it is suggested to include other SME sectors such as manufacturing, construction, agriculture, and mining... It would also be interesting to make comparison between SME manufacturing and services firms on how intellectual capital affects their firm performance. The difference in the nature of work in the services and manufacturing sectors requires different emphasis on intellectual capital elements, thus it might lead to different results

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APPENDIX A

ENGLISH QUESTIONNAIRE

ENGLISH QUESTIONNAIRE

Theme: The impact of intellectual capital on organizational performance

As part of my Master in Project Management and Entrepreneurship at the National School of Management, I am carrying out a research on the impact of intellectual capital on the organizational performance of training centers in Algeria.

I am pleased to ask your help for few minutes to complete the following questionnaire, which will be very useful in my research work. I guarantee that your answers will be used only for scientific purposes.

Thanks in advance for your help and collaboration :)

SECTION A: Intellectual Capital (IC)

*The following items explore aspects of intellectual capital. Please rate (by putting **X** in the box provided) to what extent do you agree with the following items describing your organization's intellectual capital?*

In the following questions, indicate your level of agreement with the following statements as follow: ***(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree***.

(1) Strongly disagree	(2) Disagree	(3) Neither disagree nor agree	(4) Agree	(5) Strongly Agree

Human Capital	(1)	(2)	(3)	(4)	(5)
1. Our organisation has a highly competent management team					
2. Our employees are experts in their particular jobs and functions					
3. Our employees have a preoccupation to improve their professional skills and formation					
4. Our employees generally understand the target markets and customer profiles					
5. In our organisation, employees are satisfied with the top management					
6. In our organisation, employees are motivated, creative and bright					
7. Our employees take initiative to launch new ideas and services					
8. Our employees value the sharing of ideas, knowledge and practices					
9. Our employees are proud of working in the organization					
10. Our organisation recognizes the importance of knowledge as a strategic asset					
11. Our organisation implements a large portion of great new ideas					
12. Our organisation provides opportunities to upgrade the education level and skills of employees.					

Structural capital	(1)	(2)	(3)	(4)	(5)
1. There is a culture to transmit the experiences to the new employees					
2. Our organisation allows easy info access to employees.					
3. In our organisation knowledge is embedded in the structures, systems and procedures					
4. Our organization provide perfect conditions in work					
5. Our organisation's policies, procedures, databases and networks are up-to-date					
6. Our recruitment department is fully dedicated to use high recruiting standards to select employees.					
7. Our organisation has coordination among different departments and strong internal relationship, e.g. respect, friendship, communication, etc.					
8. Our employees are involved in the organisation's decision-making					
9. In our organisation, technological knowledge is easy to understand, transfer and use.					
10. Our organisation uses latest tech equipment & technology to remain competitive					
11. Our organisation allocates sufficient budget for technological development and innovation.					
12. Our organisation has good systems to secure and protect our intellectual property					

Relational capital	(1)	(2)	(3)	(4)	(5)
1. Our organisation has good brand name in the market					
2. Our organisational market share is increasing continuously					
3. We have enough distribution channels for the satisfaction of our customers					
4. Our organisation makes efforts to create and sustain organisational culture in the market.					
5. The strategy of the company is oriented to promote agreements of cooperation with other companies.					
6. Our organisation has good relationships with its suppliers and alliance partners.					
7. Our organisation maintains long-standing relationships with commercial partners.					
8. In the company, there is a system to observe the systematic form of markets.					
9. Our organisation always considers environmental health & public social benefits.					
10. Our organisation has relationships with other competitors in the same sector					
11. Our organisation has a good relationship with governmental institutions and Public Administration					
12. Our organisation has relationships with Quality Improvement and Promotion Institutions.					

SECTION B: Organisational Performance

The following questions explore aspects of Organisational Performance. Please rate (by putting X in the box provided) to what extent do you agree with the following items describing your organizational performance?

Indicate your level of agreement with the following statements as follow: (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.

Organizational Performance	(1)	(2)	(3)	(4)	(5)
1. Our organisation's profitability is continuously increasing					
2. Our organisation's return on assets is continuously increasing					
3. Our organisation's return on investments is continuously increasing					
4. Our organisation has positive cash flows.					
5. Our organisation is able to continuously provide competitive services.					
6. Our organisation achieves a high success rate in new creative and innovative services launched.					
7. Our employee's productivity is continuously increasing.					
8. Our customers are satisfied with our products and services and their loyalty level is increasing.					
9. Our organisation looks forward to become technological leader in the market					
10. Our organization can generate better managerial effectiveness, operation efficiency, and organizational innovation.					
11. Our employees keep learning and expanding their knowledge and skills within the organization.					
12. Our organisation is very responsive to local & international market needs.					

SECTION C: General Information:

Please answer the following questions by putting **X** in the box provided

Questions in blue (questions from: 9-13) are not mandatory (Optional):

1. Gender:	
• Male	
• Female	

2. Your highest level of education achieved:	
• Diploma	
• Degree	
• Masters	
• PhD	
• Other	

3. What is your age range?	
• Below 20 years	
• 20 years – 29 years	
• 30 years – 39 years	
• 40 years – 49 years	
• More than 50 years	

4. Number of years worked in this organization:	
• Less than 1	
• 1 – 3	
• 3 – 5	
• 5 – 10	
• Over 10	

5. How long has your organization been established?	
• Less than 2 years	
• 2 – 7	
• 7 – 13	
• 13 – 18	
• Over 18 years	

6. What kind of services your organization provides: *(You can select more than one)*	
• Business formations	
• Self-development formations	
• Informatics formations	
• Foreign Languages trainings	
• Professional formations	

7. The total number of employees in your organization:	
• Less than 5	
• 5 – 10	
• 10 – 15	
• 15 – 20	
• More than 20	

8. Name & province of your organization:

_____

9. Your organization's telephone number:

_____

10. Your organization's email:

_____

11. Your department:

_____

12. Your position:

_____

13. Do you have any comments on this questionnaire? If yes, please specify in the space provided. Your opinion is very important to me.

……

……

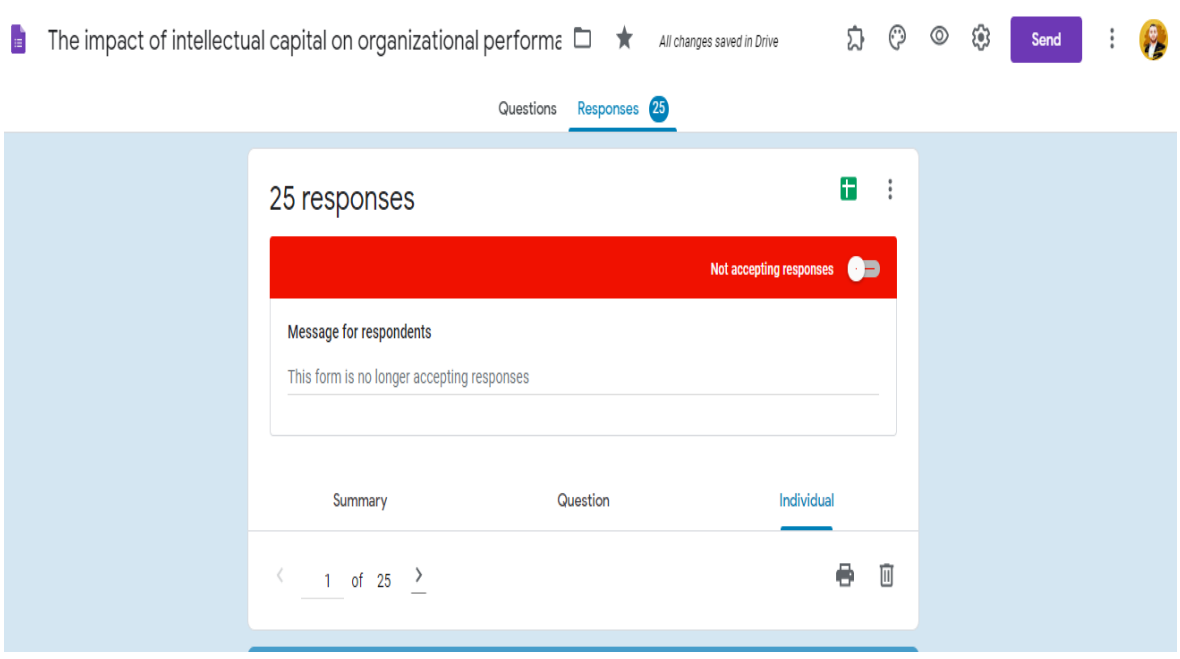
Thank you very much for your participation in this survey.

My email: riacheahmedali@gmail.com

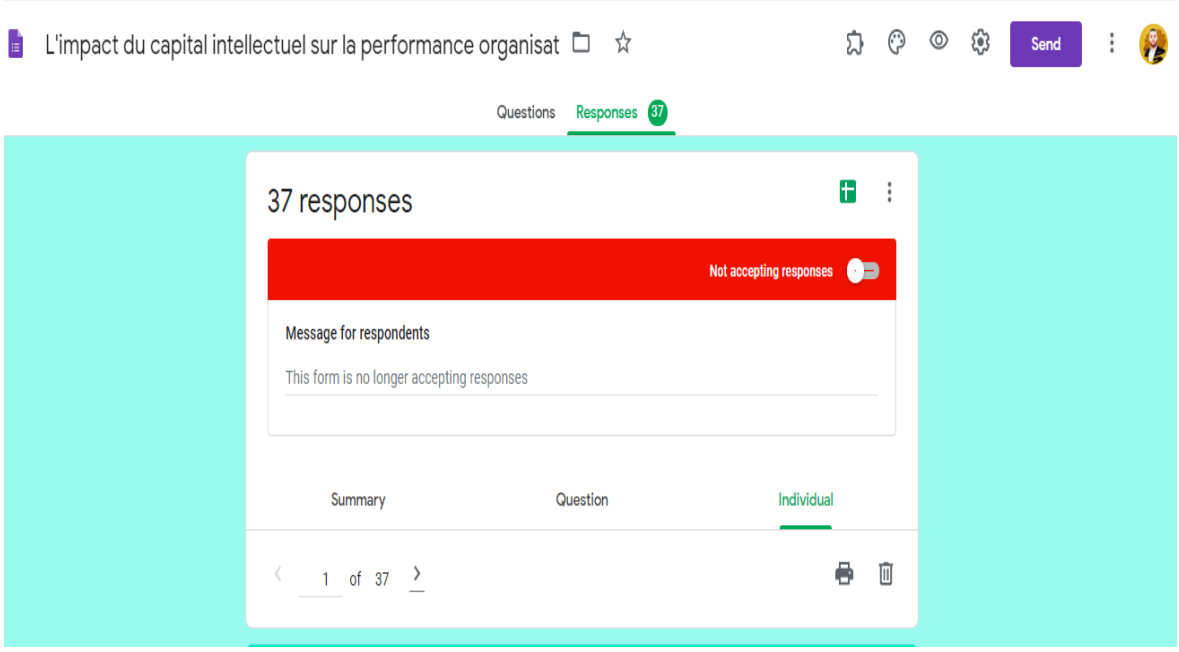
APPENDIX B

THE NUMBER OF RESPONSES TO THE ENGLISH & FRENCH QUESTIONNAIRE ON GOOGLE FORM

THE NUMBER OF RESPONSES ON ENGLISH QUESTIONNAIRE

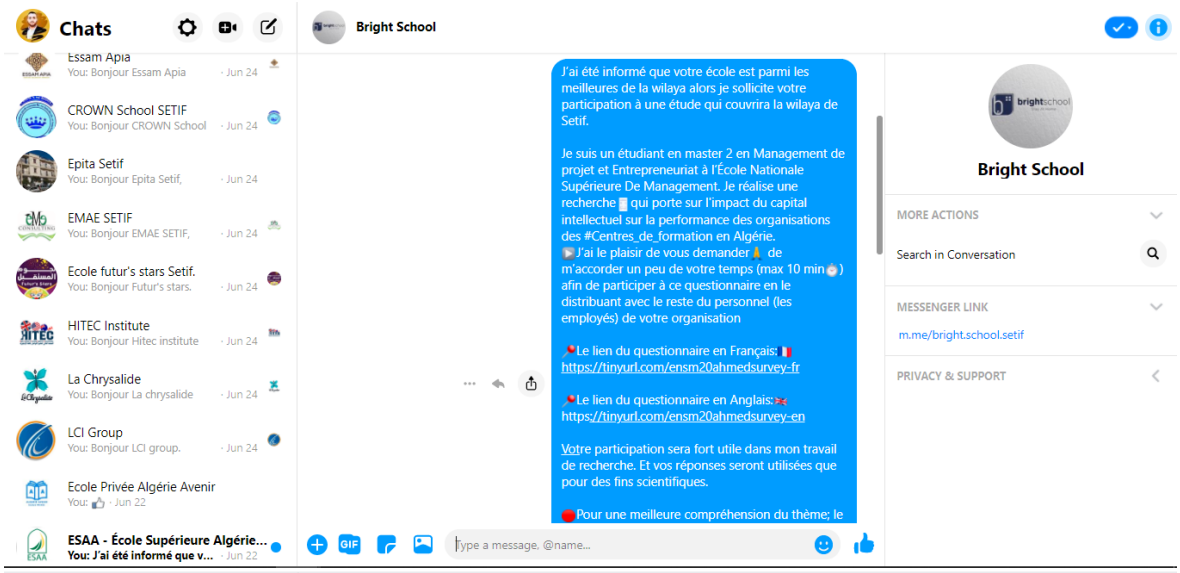


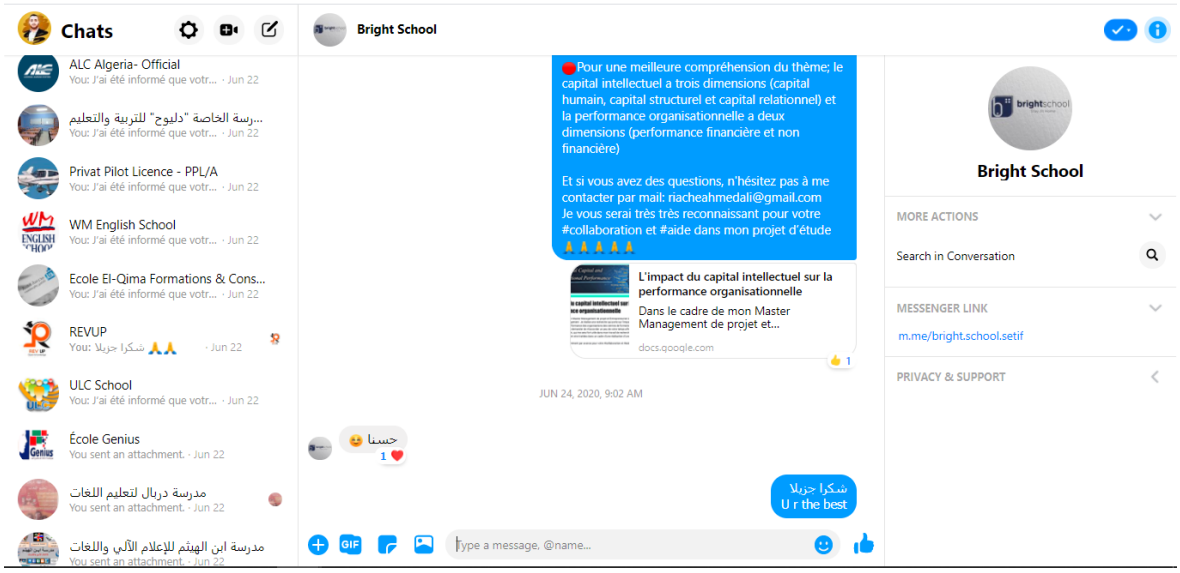
THE NUMBER OF RESPONSES ON FRENCH QUESTIONNAIRE



APPENDIX C

THE CONTENT SENT TO PRIVATE SCHOOLS AND INSTITUTIONS VIA FACEBOOK AND E-MAIL


Chats
Essam Apia
You: Bonjour Essam Apia · Jun 24
CROWN School SETIF
You: Bonjour CROWN School · Jun 24
Epita Setif
You: Bonjour Epita Setif, · Jun 24
EMAE SETIF
You: Bonjour EMAE SETIF, · Jun 24
Ecole futur's stars Setif.
You: Bonjour Futur's stars. · Jun 24
HITEC Institute
You: Bonjour Hitec institute · Jun 24
La Chrysalide
You: Bonjour La chrysalide · Jun 24
LCI Group
You: Bonjour LCI group. · Jun 24
Ecole Privée Algérie Avenir
You: · Jun 22
ESAA - École Supérieure Algérie...
You: J'ai été informé que v... · Jun 22
Bright School
J'ai été informé que votre école est parmi les meilleures de la wilaya alors je sollicite votre participation à une étude qui couvrira la wilaya de Setif.
Je suis un étudiant en master 2 en Management de projet et Entrepreneuriat à l'École Nationale Supérieure De Management. Je réalise une recherche qui porte sur l'impact du capital intellectuel sur la performance des organisations des #Centres_de_formation en Algérie.
J'ai le plaisir de vous demander de m'accorder un peu de votre temps (max 10 min) afin de participer à ce questionnaire en le distribuant avec le reste du personnel (les employés) de votre organisation
Le lien du questionnaire en Français:
https://tinyurl.com/ensm20ahmedsurvey-fr
Le lien du questionnaire en Anglais:
https://tinyurl.com/ensm20ahmedsurvey-en
Votre participation sera fort utile dans mon travail de recherche. Et vos réponses seront utilisées que pour des fins scientifiques.
Pour une meilleure compréhension du thème; le
Type a message, @name...
Bright School
MORE ACTIONS
Search in Conversation
MESSENGER LINK
m.me/bright.school.setif
PRIVACY & SUPPORT


Chats
ALC Algeria- Official
You: J'ai été informé que votr... · Jun 22
مدرسة الخاصة "دليوح" للتربية والتعليم...
You: J'ai été informé que votr... · Jun 22
Privat Pilot Licence - PPL/A
You: J'ai été informé que votr... · Jun 22
WM English School
You: J'ai été informé que votr... · Jun 22
Ecole El-Qima Formations & Cons...
You: J'ai été informé que votr... · Jun 22
REVUP
You: شكرا جزيلا · Jun 22
ULC School
You: J'ai été informé que votr... · Jun 22
École Genius
You sent an attachment. · Jun 22
مدرسة دربال لتعليم اللغات
You sent an attachment. · Jun 22
مدرسة ابن الهيثم للإعلام الآلي واللغات
You sent an attachment. · Jun 22
Bright School
Pour une meilleure compréhension du thème; le capital intellectuel a trois dimensions (capital humain, capital structurel et capital relationnel) et la performance organisationnelle a deux dimensions (performance financière et non financière)
Et si vous avez des questions, n'hésitez pas à me contacter par mail: riacheahmedali@gmail.com
Je vous serai très très reconnaissant pour votre #collaboration et #aide dans mon projet d'étude
L'impact du capital intellectuel sur la performance organisationnelle
Dans le cadre de mon Master Management de projet et...
docs.google.com
JUN 24, 2020, 9:02 AM
جسنا
شكرا جزيلا
U r the best
Type a message, @name...
Bright School
MORE ACTIONS
Search in Conversation
MESSENGER LINK
m.me/bright.school.setif
PRIVACY & SUPPORT


Gmail
in:sent
6 of 136
Demande de participation a une étude scientifique
ahmed ali RIACHE <riacheahmedali@gmail.com>
to bbcschool
22 Jun 2020, 08:40
J'ai été informé que votre école est parmi les meilleures de la wilaya alors je sollicite votre participation à une étude qui couvrira 48 wilayas en Algérie.
Je suis un étudiant en master 2 en Management de projet et Entrepreneuriat à l'École Nationale Supérieure De Management. Je réalise une recherche qui porte sur l'impact du capital intellectuel sur la performance des organisations des #Centres_de_formation en Algérie.
J'ai le plaisir de vous demander de m'accorder un peu de votre temps (max 10 min) afin de participer à ce questionnaire en le distribuant avec le reste du personnel (les employés) de votre organisation
Le lien du questionnaire en Français: https://tinyurl.com/ensm20ahmedsurvey-fr
Le lien du questionnaire en Anglais: https://tinyurl.com/ensm20ahmedsurvey-en
Votre participation sera fort utile dans mon travail de recherche. Et vos réponses seront utilisées que pour des fins scientifiques.
Pour une meilleure compréhension du thème; le capital intellectuel a trois dimensions (capital humain, capital structurel et capital relationnel) et la performance organisationnelle a deux dimensions (performance financière et non financière)
Et si vous avez des questions, n'hésitez pas à me contacter par mail: riacheahmedali@gmail.com
Je vous serai très très reconnaissant pour votre #collaboration et #aide dans mon projet d'étude

APPENDIX D

RESULTS FROM IBM SPSS STATISTIC V26

APPENDIX D.1: DESCRIPTIVE STATISTIC OF DEMOGRAPHIC PROFILE

```
FREQUENCIES VARIABLES=Gender Educ_level Age Experience corporate_age
employees_number Schools service1 service2 service3 service4 service5
 /BARCHART PERCENT
 /ORDER=VARIABLE.
```

Frequencies

Statistics

N	Valid	59
	Missing	0

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	26	44.1	44.1	44.1
	Male	33	55.9	55.9	100.0
	Total	59	100.0	100.0	

What is your age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 years – 29 years	49	83.1	83.1	83.1
	30 years – 39 years	9	15.3	15.3	98.3
	More than 50 years	1	1.7	1.7	100.0
	Total	59	100.0	100.0	

Your highest level of education achieved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	8	13.6	13.6	13.6
	Bachelor degree	31	52.5	52.5	66.1
	Masters	19	32.2	32.2	98.3
	PhD	1	1.7	1.7	100.0
	Total	59	100.0	100.0	

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1	17	28.8	28.8	28.8
	1 – 3	33	55.9	55.9	84.7
	3 – 5	5	8.5	8.5	93.2
	5 – 10	4	6.8	6.8	100.0
	Total	59	100.0	100.0	

Name of your organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MBI Algeria Campus	14	23.7	23.7	23.7
	Bright School	8	13.6	13.6	37.3
	la chrysalide	7	11.9	11.9	49.2
	CROWN School SETIF	7	11.9	11.9	61.0
	EMAE SETIF	4	6.8	6.8	67.8
	Éducation Embassy	8	13.6	13.6	81.4
	Imagine Center Language	7	11.9	11.9	93.2
	REVUP	4	6.8	6.8	100.0
	Total	59	100.0	100.0	

corporate age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 – 7	38	64.4	64.4	64.4
	7 – 13	7	11.9	11.9	76.3
	Over 18 years	14	23.7	23.7	100.0
	Total	59	100.0	100.0	

employees' number

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5	4	6.8	6.8	6.8
	5 – 10	41	69.5	69.5	76.3
	15 – 20	14	23.7	23.7	100.0
	Total	59	100.0	100.0	

service 1: Business formations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	15	25.4	25.4	25.4
	yes	44	74.6	74.6	100.0
	Total	59	100.0	100.0	

service 2: Professional formations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	17	28.8	28.8	28.8
	yes	42	71.2	71.2	100.0
	Total	59	100.0	100.0	

service 3: Self-development formations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	14	23.7	23.7	23.7
	yes	45	76.3	76.3	100.0
	Total	59	100.0	100.0	

service 4: Informatics formations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	7	11.9	11.9	11.9
	yes	52	88.1	88.1	100.0
	Total	59	100.0	100.0	

service 5: Foreign Languages trainings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	10	16.9	16.9	16.9
	yes	49	83.1	83.1	100.0
	Total	59	100.0	100.0	

APPENDIX D.2: RELIABILITY

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	59	100.0
	Excluded[a]	0	.0
	Total	59	100.0

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY HUMMAN CAPITAL ITEMS
  /VARIABLES=HC1 HC2 HC3 HC4 HC5 HC6 HC7 HC8 HC9 HC10 HC11 HC12
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE
  /SUMMARY=TOTAL MEANS VARIANCE.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.890	12

Item Statistics	Mean	Std. Deviation	N
Our organisation has a highly competent management team	3.98	.707	59
Our employees are experts in their particular jobs and functions	3.85	.690	59
Our employees have a preoccupation to improve their professional skills and formation	4.03	.642	59
Our employees generally understand the target markets and customer profiles	3.83	.769	59
In our organisation, employees are satisfied with the top management	3.73	.715	59
In our organisation, employees are motivated, creative and bright	3.97	.718	59
Our employees take initiative to launch new ideas and services	4.12	.560	59
Our employees value the sharing of ideas, knowledge and practices	3.95	.600	59
Our employees are proud of working in the organization	3.83	.699	59
Our organisation recognizes the importance of knowledge as a strategic asset	3.69	.749	59
Our organisation implements a large portion of great new ideas	3.85	.611	59
Our organisation provides opportunities to upgrade the education level and skills of employees.	4.03	.850	59

```
RELIABILITY STRUCTURAL CAPITAL ITEMS
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  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE
  /SUMMARY=TOTAL.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.902	12

Item Statistics	Mean	Std. Deviation	N
There is a culture to transmit the experiences to the new employees	3.98	.656	59
Our organisation allows easy info access to employees.	4.25	.544	59
In our organisation knowledge is embedded in the structures, systems and procedures	3.81	.656	59
Our organization provide perfect conditions in work	4.10	.607	59
Our organisation's policies, procedures, databases and networks are up-to-date	3.97	.586	59
Our recruitment department is fully dedicated to use high recruiting standards to select employees.	3.81	.754	59
Our organisation has coordination among different departments and strong internal relationship, e.g. respect, friendship, communication, etc.	4.14	.507	59
Our employees are involved in the organisation's decision-making	4.08	.677	59
In our organisation, technological knowledge is easy to understand, transfer and use.	4.17	.562	59
Our organisation uses latest tech equipment & technology to remain competitive	3.85	.738	59
Our organisation allocates sufficient budget for technological development and innovation.	3.42	.894	59
Our organisation has good systems to secure and protect our intellectual property	3.34	.779	59

```
RELIABILITY RELATIONAL CAPITAL ITEMS
  /VARIABLES=RC1 RC2 RC3 RC4 RC5 RC6 RC7 RC8 RC9 RC10 RC11 RC12
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  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE
  /SUMMARY=TOTAL.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.899	12

Item Statistics	Mean	Std. Deviation	N
Our organisation's profitability is continuously increasing	3.97	.742	59
Our organisation's return on assets is continuously increasing	3.85	.715	59
Our organisation's return on investments is continuously increasing	3.73	.691	59

Our organisation has positive cash flows.	4.02	.707	59
Our organisation is able to continuously provide competitive services.	4.15	.485	59
Our organisation achieves a high success rate in new creative and innovative services launched.	4.05	.570	59
Our employee's productivity is continuously increasing.	4.08	.726	59
Our customers are satisfied with our products and services and their loyalty level is increasing.	4.24	.597	59
Our organisation looks forward to become technological leader in the market	4.10	.736	59
Our organization can generate better managerial effectiveness, operation efficiency, and organizational innovation.	4.08	.677	59
Our employees keep learning and expanding their knowledge and skills within the organization.	4.17	.497	59
Our organisation is very responsive to local & international market needs.	4.05	.506	59

```
RELIABILITY ORGANIZATIONAL PERFORMANCE ITEMS
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  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE
  /SUMMARY=TOTAL.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.877	12

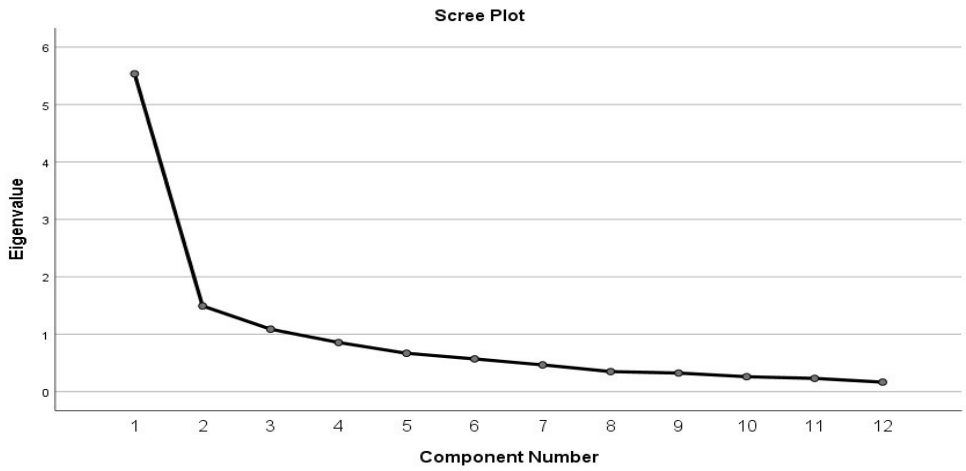
Item Statistics	Mean	Std. Deviation	N
Our organisation's profitability is continuously increasing	3.97	.742	59
Our organisation's return on assets is continuously increasing	3.85	.715	59
Our organisation's return on investments is continuously increasing	3.73	.691	59
Our organisation has positive cash flows.	4.02	.707	59
Our organisation is able to continuously provide competitive services.	4.15	.485	59
Our organisation achieves a high success rate in new creative and innovative services launched.	4.05	.570	59
Our employee's productivity is continuously increasing.	4.08	.726	59
Our customers are satisfied with our products and services and their loyalty level is increasing.	4.24	.597	59
Our organisation looks forward to become technological leader in the market	4.10	.736	59
Our organization can generate better managerial effectiveness, operation efficiency, and organizational innovation.	4.08	.677	59
Our employees keep learning and expanding their knowledge and skills within the organization.	4.17	.497	59
Our organisation is very responsive to local & international market needs.	4.05	.506	59

APPENDIX D.3: VALIDITY

Factor Analysis for Human Capital

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,836
Bartlett's Test of Sphericity	Approx. Chi-Square	345,247
	df	66
	Sig.	,000



Component Matrixa (Human Capital items)

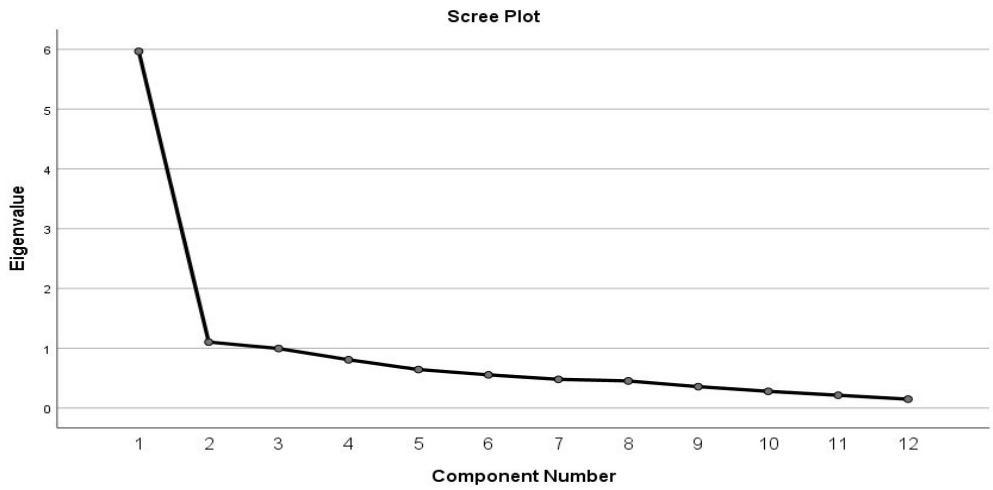
	Component
	1
Our employees value the sharing of ideas, knowledge and practices	,783
In our organisation, employees are satisfied with the top management	,755
Our employees are proud of working in the organization	,748
In our organisation, employees are motivated, creative and bright	,713
Our employees have a preoccupation to improve their professional skills and formation	,672
Our organisation provides opportunities to upgrade the education level and skills of employees.	,652
Our employees generally understand the target markets and customer profiles	,649
Our employees take initiative to launch new ideas and services	,647
Our organisation has a highly competent management team	,632
Our organisation recognizes the importance of knowledge as a strategic asset	,631
Our employees are experts in their particular jobs and functions	,622
Our organisation implements a large portion of great new ideas	,621

Extraction Method: Principal Component Analysis
a. 1 components extracted.

Factor Analysis for Structural Capital

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,837
Bartlett's Test of Sphericity	Approx. Chi-Square	353,578
	df	66
	Sig.	,000



Component Matrixa (Structural Capital items)

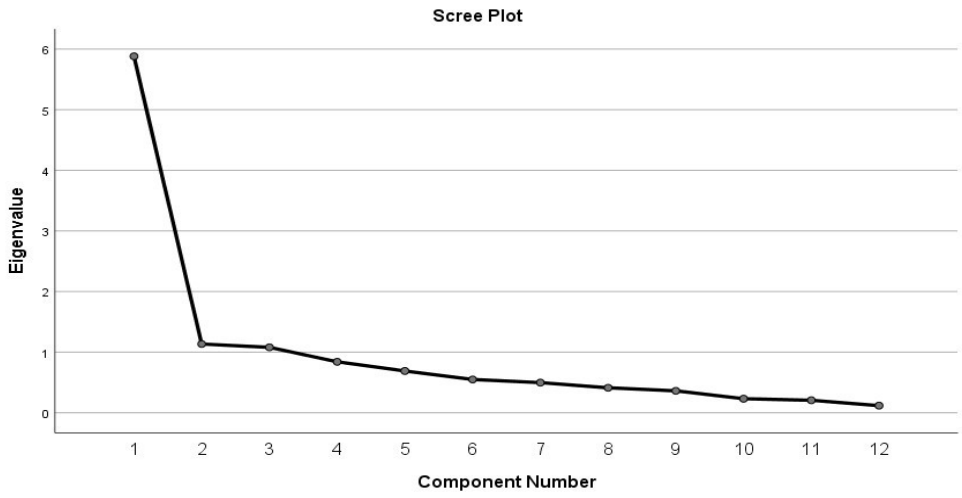
	Component 1
Our organization provide perfect conditions in work	,830
Our organisation uses latest tech equipment & technology to remain competitive	,793
Our organisation allocates sufficient budget for technological development and innovation.	,792
Our organisation's policies, procedures, databases and networks are up-to-date	,785
There is a culture to transmit the experiences to the new employees	,749
Our employees are involved in the organisation's decision-making	,700
Our organisation has coordination among different departments and strong internal relationship, e.g. respect, friendship, communication, etc.	,677
Our organisation allows easy info access to employees.	,644
Our organisation has good systems to secure and protect our intellectual property	,642
In our organisation, technological knowledge is easy to understand, transfer and use.	,624
In our organisation knowledge is embedded in the structures, systems and procedures	,584
Our recruitment department is fully dedicated to use high recruiting standards to select employees.	,582

Extraction Method: Principal Component Analysis
a. 1 components extracted.

Factor Analysis for Relational Capital

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,811
Bartlett's Test of Sphericity	Approx. Chi-Square	369,699
	df	66
	Sig.	,000



Component Matrixa (Relational Capital items)

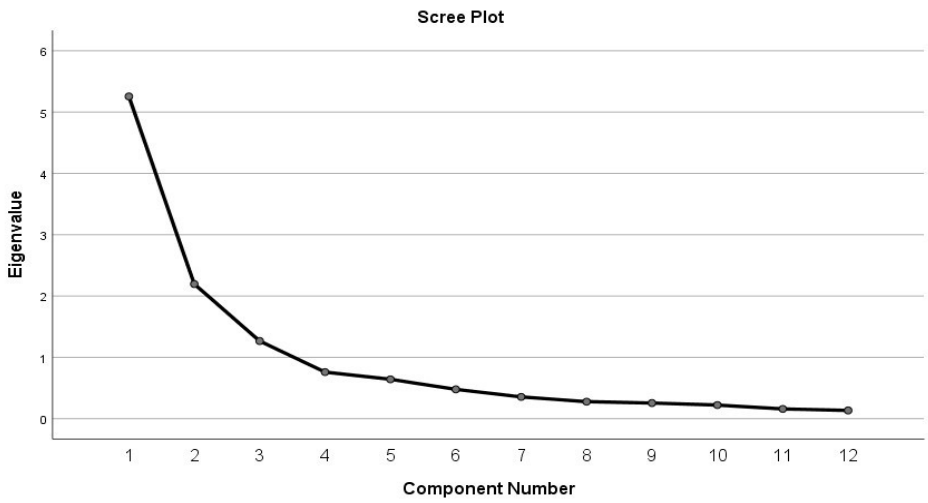
	Component 1
Our organisation has a good relationship with governmental institutions and Public Administration	,816
Our organisation has good relationships with its suppliers and alliance partners.	,811
Our organisation has relationships with other competitors in the same sector	,759
We have enough distribution channels for the satisfaction of our customers	,703
Our organisation always considers environmental health & public social benefits.	,690
Our organisational market share is increasing continuously	,685
Our organisation maintains long-standing relationships with commercial partners.	,684
The strategy of the company is oriented to promote agreements of cooperation with other companies.	,665
In the company, there is a system to observe the systematic form of markets.	,659
Our organisation has relationships with Quality Improvement and Promotion Institutions.	,657
Our organisation makes efforts to create and sustain organisational culture in the market.	,642
Our organisation has good brand name in the market	,595

Extraction Method: Principal Component Analysis
a. 1 components extracted.

Factor Analysis for Organizational Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,806
Bartlett's Test of Sphericity	Approx. Chi-Square	414,922
	df	66
	Sig.	,000



Component Matrixa (Organizational Performance)

	Component 1
Our organization can generate better managerial effectiveness, operation efficiency, and organizational innovation.	,767
Our organisation's return on assets is continuously increasing	,765
Our organisation is able to continuously provide competitive services.	,728
Our organisation achieves a high success rate in new creative and innovative services launched.	,695
Our organisation's return on investments is continuously increasing	,676
Our organisation's profitability is continuously increasing	,648
Our organisation is very responsive to local & international market needs.	,640
Our employee's productivity is continuously increasing.	,638
Our organisation has positive cash flows.	,633
Our customers are satisfied with our products and services and their loyalty level is increasing.	,606
Our employees keep learning and expanding their knowledge and skills within the organization.	,565
Our organisation looks forward to become technological leader in the market	,537

Extraction Method: Principal Component Analysis

a. 1 components extracted.

APPENDIX D.4: CORRELATIONS

```
CORRELATIONS
  /VARIABLES=human capital structural capital relational capital organizational
performance
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

		Human Capital	Structural Capital	Relational Capital	Organizational Performance
Human Capital	Pearson Correlation	1	.756**	.786**	.688**
	Sig. (2-tailed)		.000	.000	.000
	N	59	59	59	59
Structural Capital	Pearson Correlation	.756**	1	.856**	.810**
	Sig. (2-tailed)	.000		.000	.000
	N	59	59	59	59
Relational Capital	Pearson Correlation	.786**	.856**	1	.793**
	Sig. (2-tailed)	.000	.000		.000
	N	59	59	59	59
Organizational Performance	Pearson Correlation	.688**	.810**	.793**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	59	59	59	59

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

APPENDIX D.5: REGRESSION

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN (.05) POUT (.10)
  /NOORIGIN
  /DEPENDENT organizational performance
  /METHOD=ENTER human capital structural capital relational capital.
```

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	relationalcapital, humancapital, structuralcapital[b]	.	Enter

a. Dependent Variable: organizationalperformance

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.695	.679	.23835

a. Predictors: (Constant), relationalcapital, humancapital, structuralcapital

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.130	3	2.377	41.836	.000[b]
	Residual	3.125	55	.057		
	Total	10.255	58			

a. Dependent Variable: organizational performance

b. Predictors: (Constant), relationalcapital, humancapital, structuralcapital

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.059	.281		3.767	.000
	Human capital	.059	.112	.066	.530	.598
	Structural capital	.423	.134	.469	3.152	.003
	Relational capital	.293	.136	.340	2.154	.036

a. Dependent Variable: organizational performance