Analysis Of HUAWEI Company's International Marketing Strategy
تحليل إستراتيجية التسويق الدولي لشركة هواوي

Dr. Aicha Benatallah (*)
Faculty of Economic sciences, Commercial and Management sciences
University Amar Telidji, Laghouat- Algeria

ملخص :

تُحلل وتناقش دراسة الحالة هذه عملية التدويل لشركة هواوي، الشركة الصينية الرائدة في مجال تصنيع معدات الاتصالات في العالم. تساهم هذه الورقة في تحليل التوجه النظري لإستراتيجية التسويق الدولية ومناقشة إستراتيجية هواوي للتسويق الدولي. يهدف بحثنا إلى استكشاف الميزات الخاصة لتدويل نشاط الشركة محل دراسة الحالة، كما يهدف إلى استكشاف عوامل دخول السوق العالمية لشركات التكنولوجيا الفائقة التي تأسست في الأسواق الناشئة من خلال أخذ شركة هواوي كعينة.

الكلمات المفتاح : التسويق، إستراتيجية، تدويل، هواوي.

Abstract :

This case study analyses and discusses the internationalization process of china's Huawei company, a leading telecommunication equipment manufacturer in world. This paper contributes to the theoretical orientation of international marketing strategy and discuss about Huawei international marketing strategy. Our research aims to explore the special features of the internationalization of a case study, and to explore the factors of entering the global market for high-tech companies which founded in emerging markets, by taking Huawei company as a case.

Keywords : Marketing, Strategy, Internationalization, Huawei.

eMail : (*) aicha_benatallah@yahoo.com

I. Introduction :

After China's entry into the world trade organization, Chinese enterprises have more opportunities to go to global market , at the same time, many strong enterprises of other countries in the world come to China to further develop.1 Unlike their counterparts in developed markets, emerging-market firms are characterized by limited resources, including international experience and access to relevant information, which are essential for developing suitable global marketing strategy .

After more three decades' development, many Chinese technology enterprises stride their first step in internationalization. Among them, the Huawei Technologies P/L is a typical representative. 2 Huawei is a private hi-technology company. It is a leading telecommunication equipment manufacturer in China. In 2005, the contract sales of Huawei are 8.2 billion USD, of which, nearly 58% (4.8 billion USD) comes from foreign markets. Compared with 1999, only less than 4% of the total sales of Huawei came from foreign markets. Indeed, Huawei has achieved great success in internationalization in the past few years.3

Huawei has technology strengths as the world's largest provider of ICT solutions. Today, Huawei has earned a reputation as one of the most dynamic, fastest growing, innovative global technology companies today. 4 In September 2019 mobile vendor market share worldwide are Samsung 31.18%. Apple 22.48%. Huawei 10.02%. Xiaomi 8.26%. Oppo 4.57%. Mobicel 3.32%. 5 Huawei is a Chinese multinational networking and telecommunication equipment and services company headquartered in Shenzhen, Guangdong. It is the largest telecommunications equipment manufacturer in the world, having overtaken Ericsson in 2012. To achieve the objective of the study intend to find answer to the following question: What are the success factors of Huawei's international marketing strategy?.

To analyze the Marketing strategy adopted by HUAWEI company to internationalize its activity and expand its share in the international market, The study was divided into the following axes :

- International Marketing Strategy Conceptual Framework
- Development and Present Situation of Huawei
- Huawei Internationalization Process

---

[1] Jianchun Ke, **Analyses on Strategies of Enhancing Brand Competitiveness of HUAWEI Company**, 2nd International Conference on Intelligent Computing and Cognitive Informatics, 8- 9 September 2015, TBC in Singapore, Singapore, p120.

[2] Or a proprietary limited company (abbreviated as 'Pty Ltd').

[3] Donglin Wu and Fang Zhao, **Entry Modes For International Markets: Case Study Of Huawei, A Chinese Technology Enterprise**, International Review of Business Research Papers.Vol.3 No.1. March 2007,P183.

[4] Weiyi Xia, Zhixia Gan**, The Marketing strategy of HUAWEI Smartphone in China**, 4th International Conference on Management Science, Innovation, And Technology 2017 Faculty of Management Science, Suan Sunandh Rajabhat University, ICMSIT, 2017, P150.

[5] https://gs.statcounter.com/vendor-market-share/mobile/worldwide/#monthly-201003-201910-bar

- The Foreign Entry Modes Used by Huawei

II. International Marketing Strategy Conceptual Framework:

1. International Marketing Definition:

Marketing is the process of building understanding and communication between the supplier and the customer. Sales takes this process one step further, and can be characterized as the process of fulfilling the needs of customers with a satisfactory product or service, consummated by the exchange of money. Commercial transactions are the ultimate goal of international trade and, indeed, trade of any kind. 6

International marketing is the performance of business activities that direct the flow of a company's goods and services to consumers or users in more than one nation for a profit. 7 when the International Marketing Looking at different countries as different markets. Differences in 'NATIONS' are pivotal to keep at the forefront in developing strategy. Each individual nation requires its own marketing strategy. Defining people and markets based on needs and developing products that meet those range of needs rather than just defining based on cultural borders. On the other hand Global Marketing Looking at the world as one big market. Assume customer segments are all the same and sell the same product everywhere.8 there are four different modes of entering an international market: (i) No regular export activities.(ii) Export via independent representatives (agents), (iii) Establishment of overseas sales subsidiary, (iv) Overseas production/manufacturing units.9

The globalization of marketing activity is a well-known phenomenon, and the global marketing strategy (GMS) has been the subject of intense academic debate and research for decades. The GMS is a strategy that aims to coordinate the company's marketing efforts in several different regions across the world.10

2. International Marketing Reasons

Once a company has decided to go international markets, it has to decide the degree of marketing involvement and commitment it is prepared to make. These decisions should reflect considerable study and analysis of market potential and company capabilities– a process not always followed. Many companies begin tentatively in international marketing, growing as they again experience and gradually changing strategy and tactics as they become more committed. Others enter international marketing after much research and with fully developed long range plans.

---

6 https://www.citeman.com/7460-stages-of-international-marketing-involvement.html

4 Phases of International Marketing Involvement. (2016, Dec 07). Retrieved September 26, 2019, from https://newyorkessays.com/essay-4-phases-of-international-marketing-involvement/

7 **Pervez N. Ghauri; Philip R. Cateora, International Marketing, Edinburgh Business School. Heriot-Watt University, Edinburgh - United Kingdom. 2011. p7.**

8 https://quizlet.com/155459425/global-marketing-ch-1-flash-cards/

9 Donglin Wu and Fang Zhao, **Op Cit**, P184.

10 Jiang. Y, **The Global Marketing Strategy for High-tech Companies Which Founded in the Developing Countries for Entering the Global Market: Case Study of Huawei Technologies.**

Marketing strategy has the fundamental goal of increasing sales and achieving a sustainable competitive advantage. Marketing strategy includes all basic, short-term, and long-term activities in the field of marketing.[11] Following are the reasons to go global: [12]

To Extend the sales of merchandise

Slow growth of domestic Market

National Market saturated

To attract more Customers

Potential for Growth

Compete with success in National Market

Increases Profitability

Table1:Strategic dimensions and key issues in international marketing

Strategic dimension	Key issues	Main contributors
Generic strategies	Optimal use of competitive advantages	Porter, Cool /Schendel, Dess/Davis, Morrison,
Competitive marketing strategies	How to meet competitors (market leader, challenger, follower, niche)	Kotler/Keller 2
Integration/operation modes	Governance and control	Anderson/Gatignon, Hennart, Brouthers et al, Benito/Welch
Pace of internationalisation	Control vs. risk	Johanson/Vahlne, McDougall / Oviatt, Knight /Cavusgil, Madsen
Geographic spread	Resources relative to market opportunities and necessity	McDougall & Oviatt, Cavusgil & Knight, Madsen & Servais
Standardisation	Economies of scale vs. local acceptance of marketing mix	Levitt, Quelch/Hoff, Douglas/ Wind, Samiee / Roth, Cavusgil /Zou , Solberg.

Source; Solberg, Carl Arthur & Durrieu, Francois (2008), p525.

3. International Marketing Involvement Phases

Regardless of the means employed to gain entry into a foreign market, a company may, from a marketing viewpoint, make no market investment, that is, its marketing

[11] Mujun Wang, **The Study of Huawei Mobile Phone Marketing Strategy That Impacts Customer Satisfaction**, International Journal of Social Science and Humanities Research. Vol. 4, Issue 2, April - June 2016, p175.

[12] https://www.coursehero.com/file/p1c58n0/a-second-mover-ought-to-judge-initial-customers-reactions-to-the-first-movers/

involvement may be limited to selling a product with little or no thought given to development of market control. Or a company may become totally involved and invest large sums of money and effort to capture and maintain a permanent, specific share of the market. In general, a business can be placed in at least one of five distinct but overlapping phases of international marketing involvement.

In general, one of five stages can describe the international marketing involvement of a company.13 a firm may begin its international involvement at any one stage or be in more than one stage simultaneously. Company may not necessary have to follow the process and stages by stages when entering international marketing. This is depending to the market potential and the capability of the company. 14

No direct Foreign Marketing:

A company in this stage does not active cultivation of customers outside national boundaries; however, this company's products may reach foreign markets. Sales may be made to trading companies and other foreign customers who come directly to the firm. Or products reach foreign markets via domestic wholesalers or distributors who sell abroad on their own without explicit encouragement or even knowledge of the producer. An unsolicited order from a foreign buyer is often what piques the interest of a company to seek additional international sales.

Infrequent Foreign Marketing:

Temporary surpluses caused by variations in production levels or demand may result in infrequent marketing overseas. The surpluses are characterized by their temporary nature; therefore, sales to foreign markets are made as goods are available, with little or no intention of maintaining continuous market representation. As domestic demand increases and absorbs surpluses, foreign sales activity is withdrawn. In this phase, there is little or no change in company organization or product lines.

However, few companies today fit this model because customers around the world increasingly seek long term commercial relationships. Further, evidence exists that financial returns from initial international expansions are limited.

Regular Foreign Marketing:

At this level, the firm has permanent productive capacity devoted to the production of goods to be marketed on a continuing basis in foreign markets. A firm may employ foreign or domestic overseas middlemen or it may have its own sales force or sales subsidiaries in important foreign markets. The primary focus for products presently being produced is to meet domestic market needs. Investments in marketing and management effort and in overseas manufacturing and/or assembly are generally begun in this phase. Further, some products may become specialized to meet the needs of individual foreign markets, pricing and profit policies tend to become equal with domestic business, and the company begins to become dependent on foreign profits.

International Marketing :

---

[13] Pervez N. Ghauri; Philip R. Cateora, **International Marketing,** Edinburgh Business School. Heriot-Watt University, Edinburgh - United Kingdom. 2011. PP 18-19.

[14] For example a short product life cycle and a thin but widespread market for many technology products, many high tech companies large and small see the entire world, including their home market, as a single market and strive to reach all possible customers as rapidly as possible.

Companies in this phase are fully committed and involved in international marketing activities. Such companies seek markets throughout the world and sell products that are a result of planned production for markets in various countries. This generally entails not only the marketing, but also the production of goods throughout the world. At this point, a company becomes an international or multinational marketing firm dependent on foreign revenues.

Global Marketing:

At the global marketing level, companies treat the world, including their home market, as their market. This is one step further than the multinational or international company that views the world as a series of country markets (including their home market) with unique sets of market characteristics for which products and marketing strategies must be developed. A global company develops an overall strategy and image to reflect the existing commonalities of market needs among many countries to maximise returns through some global standardisation of its business activities – as much as it is culturally possible to achieve efficiencies.

III. Previous studies and reviewofliterature on Information Systems

1. Previous studies: The most important of the previous studies of this subject are summed up as follows:

1.1- Study of (Tayeb Benaoun, 2008) titled The effect of the Internet on the performance of the employee in the Algerian institution**, Study objective**:The study aims at identifying the effect of the use of the internet and ICTs by the employees, (Evaluating the efficiency and effectiveness of the intranet)as a means of communication on the individual and collective performance of the employees of the Algerian institution, **Research location** Maintenance Department of Laghouat DML, **Most important conclusions**:

- There is a correlation between the quality of the internet and the information it produces, betweenE-mail and GMAO, and between the performance of employees.The study confirmed the efficiency, quality, and speed of these systems;
- There is superiority in the performance of executivesover the performance of control agents because their performance was affected by the degree of connection and use of the Internet;
- The ability of independent variables to explain the differences in performance.

1.2- Study of (Mourad Rayes, 2005) titled The effect of information technology on human resources in the institution. Study case DML Laghouat. **Study objective:** Evaluation of the status of information technology in the study period;Providing an insight into the nature of human resources in the information era, and the requirements for its success, **Research location**: Maintenance Department of Laghouat DML **, Most important conclusions**:

- Intensive use of information technology in the business world leads to human capacity structure;
- The growing complementarity of the activities required to be filled, and minimizing work pressures.

Both studies focused on the importance of communication and its impact on human resources performance. They shared the same study case with ours, but what is additionalin our study is that it focuses on the CIMIX system and studies the differences between the performances of employees at all levels.

2. The concept of Information systems

J .Capirossi(2002) see that:"A set of organized and systematic information applied in an organization that has characteristics of the regulatory lines, in addition to the procedures and means necessary to identify, research, form, preserve, and disseminate information."

For R.Reix& al (2011)"An organized set of resources, tools, software, personnel, etc. that allow the collection, processing, and storage of information in the form of data (texts, images, sounds) in the organization or in a set of factors that record, store, and transfer informationvia information technology or organizational procedures."

We have reformulated the definitions in our own words as follows:"a variety of resources, tools and software, hardware ... taking into account the social actors working together in full integration to record, save, classify, index, and disseminate the information to support the work of the administration and the organization as a whole, and to develop and use information to achieve the objectives of the organization in a way that includes effectiveness and efficiency ".

3. Quality of information system

Concept of the quality of Information:

The degree to which they provide a value to their users directly or to the organization as a whole, to take decisions, and to conduct processes and organized activities, which lead to targeted outputs (B.Davis, 1986).

- **Data completeness:** Get all information stored, not forgotten or deleted;
- **Accuracy of data:** No error in information and data is not valid;
- Outputs easy to understand: Provide information with clear symbols for the user such as: indicators, titles, dates, content of the lists;
- **Response rhythm & time:** Information accessed by the user when needed;
- **Relevance of the outputs:** Information is useful for the user to make a decision;
- **Confidentiality:**Confidential information of strategic importance is not allowed to be previewed or updated only by officials;
- **Safety:**Information systems have programs protected against electronic damage, or hacking, and have protection and rescue measures in some cases.
- There are those who believe that the quality of information should be divided into:

A- Quality of information systems from a statistical point of view

This statistical trend focuses on the process of transferring information in terms of time (speed) and in terms of access (flexibility) (M.Gillet, P.Gillet, 2008**).**

- **Speed of the transmission**: This criterion is not absolute. It indicates that the speed of rotation must be infinite in the maximum possible time for the decision and the actions used, and its suitability to the competitive content. This speed is evolutionary in functionality and in a timely manner, and is not changeable by the function of activities and the nature of its activities;
- **Flexibility in the transmission**: The flexibility in quality must be absolute, and it shows that the information must be complete and appropriate in the case of possession, and must follow the transmission without transfernor loss along the transmission path, and focuses on the non-interference that can be encountered, so it can be said:The information is complete in terms of deletion or misuse.

The information is appropriate in terms of attachment and measurement.

4. The quality of the information system from a dynamic point of view

- **Evolution of the system:** The information system must be able to keep pace with the developments of the institution, and at the same level of "impact, frequency". This is in order to obtain some characteristics that allow this development to measure the institution as an open system in a variable and uncertain environment, and they are considered as a series of chains or rings, which take,in these circumstances, this infinite development to construct an evolutionary information system, which includes elements of rigor by incorporating the factors involved and replacing them by the parameters of the effect for changingthe value and several other available variables;

- **Complexity**: In order to effectively control the functioning of the organization's system, complexity must be achieved less than the organization itself. This complexity must be measured by several elements that can be between the organization's interactions and development. The complexity involved here is not the entanglement but the ability of the system to dissolve and fully integrate into the functions of the organization,and its ability to link them, whether from the tangible entity as facilitating some work that has physical consequences, such as automating some tasks and reducing work efforts, to some hidden work.

4.1- The concept of Performance:

According to Silijanen (2010), "the degree to which workers engage in a behavior that contributes to the accomplishment and achievement of the objectives of the administration."(Khalid Kraouni, 2012)

According to Sarayrah, "the employee's ability to achieve the objectives of the work, accomplished in accordance with the time set for the following criteria: discipline, completion of tasks, relationship with the heads, career, service to the public, cooperation with colleagues."(Khaleda Sarayrah, Mohammed Al-Qudat, 2009)

According to Djamal (1995): "An activity that enables the individual to accomplish the task or goal assigned to them successfully, depending on the normal constraints to the reasonable use of available resources."(Abdul-Fattah Saleh Khleifiyat, Sherine Mohamed Al-Mutarnah, 2010)

We have therefore proposed another definition to Performance based on the concept of regulation as an attempt to reconcile the idea of system with performance: it is the ability of the employee to transform the input of labor (responsibilities, tasks, ...) by interacting with internal practice including skills and knowledge to achieve outputs, which consist of the effective achievement of the organization objectives efficiently and effectively.

4.2- Dimensions of performance:

There are many dimensions of performance(Zaki Abdel Moati Abu Ziada, 2012)

- Al Shaouish(1996): Speed of achievement, level of cooperation, dealing with the work team, accuracy of work schedules and relationship with officials.

- Rama & Al Otaibi (1999):Speed, communication, efficient time utilization, extent of achievement, cooperation, budget, occupational experience, coordination, leadership, supervision, planning.

- Schermnhorn (1999):The amount of work accomplished and its accuracy, knowledge of work, coordination with others, acceptance of new tasks and creativity.

- Abdeldjawad(2005):Amount of performance, quality of performance, speed of achievement, efficiency of performance, simplifying of work.

- Alqais(2005):The amount of work, the speed of achievement, the accuracy of achievement, the quality of the work accomplished and the incrfacility in the work knowledge.

5. What is CIMIX

According to Bougrine (2000):

⇨ CIMIX is a standard application that applies to several fields (banks, hospitals, industry, petrochemicals ...).

⇨ CIMIX wasdeveloped by means and tools (relational database management system) (SGBDR ORACLE).

⇨ CIMIX is a database of several dimensions (material, function, suppliers, ...).

⇨ CIMIX:

Computer Integreted, Manufacturing

IX: display system UNIX

CIMIX is a complementary application to manage maintenance that takes into account all the needs of running DML. The most important is CIM (Computer Intergated Manufacturing), which in fact goes beyond maintenance and inventory management and integrates with accounting and financial management, by invoice tracking units, raising the value of stocks or assets in the budget management field by budget tracking units.**(Bougrine,2000)**

5.1. Difference between application and program:

There is a clear contrast between the application and the program**(Bougrine,2000)**

✓ Software: A non-editable standard program such as: Exel, Word.

✓ Software package: is an open program that allows to be adapted according to the activities such as: CIMIX.

5.2.Files comprised in CIMIX:

In the computing (computers) the file can consist of**(Bougrine,2000)**:

✓ Knowledge base.

✓ Program.

✓ A collection of data that is organized into the field combined archives.

In the case of the data file in question there are three data submissions:

Table interface screen.

5.3.Database:

A database consisting of several data files linked together by Links (CODE orLOGIN).

A database can be defined as a combination of data.

A database that can be used by different applications and aggregated at the same level, which allows to avoid problems because of the doubling of the same information, and the database is oriented by a database management system.

Such as:

- DBMS a database management system; it is a means of managing and controlling the use of data files (tables), such as DBASE.

- In order to allow and control multiple files, it is necessary to build links between them.

- In the case of links created by programmer or user, SGBD must be set.

5.4.Display System:

A set of programs that ensure computer running and display environment such as: DOS, UNIX.**(Bougrine,2000)**

UNIX UNIX is the display system used for the GMAO project

UNIX UNIX multi-functional and multi-user.

Eventually, MS_ UNIX users will gain access to sources and UNIX server files that are installed on several previously known sites at the GMAO project level.

5.5. Display system of CIMIX:

Bougrine (2000) Is a program that covers all maintenance operations on a large scale with supply perimeter and finance.

If CIMIX is built for three basic operations: storage, procurement, works ... 13 field, which represents the group of activities in maintenance service and organization:

- ✓ Means management.
- ✓ Inventory management.
- ✓ Equipment management.
- ✓ Work management
- ✓ Predictive management.
- ✓ Inspectorate management.
- ✓ Tours management.
- ✓ Planning.
- ✓ Purchase management
- ✓ Budgeting.
- ✓ Analysis and reports.
- ✓ Rules management.
- ✓ Electronic messages

6.CIMIX PRINCIPLES:

6.1.CIMIX-related concepts

It is necessary to define the following concepts:

⇨ **Classification plan**: A display of four levels (family, subfamily, individual, subindividual) that allow very fast selection and a different recording of the CIMIX objectives (materila, job, suppliers…)

The current version of CIMIX comprises seven classifications:

Material, function, processing, operational group, suppliers, performance, reservation, such as: searching in the interface the «List of values" relating to the coding material and the editorial backing associated with Klinger.

⇨ **The concept of Position:** new and complex.

It is necessary to difine it in order to avoid all confusions and interferences

1- Position is above all a cost center.

2- Position is mainly defined as follows:

- Alphanumericcoding, edited, PERE (or starting from), counting deletion, associated with the analytical accounting function.

- The position can be administrative such as: department / service/ district or technical: pump / main pump / turbine 1; the latter functions through processing, such as (Turbine 1 Turbine N. 20 (processing)

⇨ For each function, the following database can be collected: We distinguish three types In **CIMIX**:

- Consumable material such as coils, connectors, …
- Repairable materials, such as: injection pump, pump.
- Registered materials (processing): For this type, there are three classes (storage, restoration, functional server).

In CIMIX, processing can be:

- Registered materials.
- Can serve function.
- Technical and financial follow-up as a function.

For all equipment, the following database can be collected:

⇨ In CIMIX, any database recording is known as encoding, which is used by the system but is rarely used by CIMIX. This encoding can benumeric or alphanumeric. The number of encoding properties is generally 10, with some exceptions:

- 5 encoding properties for FAM; SFAM; GR; SGR in classification schemes.
- 25 properties for encoding deletion and authentication accounts.

6.2.Types of CIMIX interfaces

Types of interfaces (Ali Kiboub, 2003)

- **Screen menus:** Allows access to the transaction screen and selection from a tree of two levels: Key menu / submenu Such as: Accessing the DA screen from the Business Preparation menu
- **Transaction screen:** Allows creating, editing, deleting, or previewing data on a home screen and a completion screen such as (Executor of screen completion "creation" according to transactions "BT preparation")
- **Select screen:** Allows performing database, sorting criteria by selecting the following criteria: (delivering business documents, traffic points, maintenance program, purchase orders)
- **Comment screen:**Transmitting basic or complementary information displayed in the comment screen (alphanumeric coding)
- **Assistance screen:** Each screen can assemble an assistance screen comprisingprocedures and operating guide related to the interface in question

IV. Results and discussion:

–**Testing the study instrument consistency:**We shall test the consistency of the study instrument (the questionnaire); in other words, the stability of this tool and the absence of contradiction with itself, i.e., its ability to yield the same results in case the questionnaire is redistributed to the same sample under the same conditions. Cronbach's Alpha along with SPSS19 was used in order to measure internal consistency,

It is noted from the (table 2, see **annexe**)that the total Cronbach's Alpha coefficient is on the order of (0.944), higher than (0.9). Accordingly, we conclude that the measuring instrument has good consistency. In other words, the questionnaire, as a study instrument, is reliable in measuring the variables under study, owing to its ability to yield results that are in accordance with the answers of the questioned employees, with respect to the questionnaire expressions. Allowing us thus to generalize the results to the entire sample population, ie, the Directorate of Maintenance.

– **Model Hypotheses:** The hypotheses were tested using the SPSS19 program. The(table 3, see **annexe**) shows the results,

The selection coefficient reflects the level of variation in performance which is caused by the independent variable CIMIX

– **Presentation and discussion of the first hypothesis:**

The first hypothesis H0 states that: there is no statistically significant effect between the speed of CIMIX and performance at a statistical significance level 5%, From (table 04, see **annexe**), we find (Sig = 0.0001).Which means that the first hypothesis is accepted, that is: there is a statistically significant relationship between the speed of the CIMIX system used by the employees and their performance in the DML Company; none of the workers has denied the ability of this system to function with quality and high speed. They underlined that there are big differences in their performance and its ability to exchange information quickly between the branches, as well as the possibility of processing a large amount of information in a short time, as the speed of the fiber network adopted GM1 between the main server and the rest of computers, and 100MO between the computers.In addition, it isan excellent means to work with, for all the requirements related to intervention and all the work vouchersare transmittedvia this application, i.e. to dedicate financial and human resources needed to intervene in a given district. This impact occurred in a confidence interval estimated at 95%, any occurrence of this coincidence does not exceed 5%.

– **Testing and discussing the results of the second hypothesis**

Hypothesis:There is an effect between CIMIX safety and performance.

H0: There is no significant effect between CIMIX safety and performance atthe statistical significance 5%,From (table 05, see **annexe**). we find (sig = 0.0001). Hence, the second hypothesis is accepted, this means that there is a positive relationship of statistical significance between the safety of the CIMIX system used by employeestaking part in the study (sample) and their performance at work in DML Laghouat.As this system preserves privacy and confidentiality at work because everyone has Limited Access to the interface and has the right to view the interfaces of other departments via the interface.Also, itcomprises a record of the transactions that prevents losing or altering them. This impact occurred in a confidence interval estimated at 95%, any occurrence of this coincidence does not exceed 5%.

– **Testing and discussing the results of the second hypothesis,**

The hypothesis text: There is an effect between the CIMIX inclusion and performance.

H0: There is no statistically significant effect between CIMIX and performance at the statistical significance of 5%, From (table 06, see **annexe**).we find (sig = 0.0001). Hence, the second hypothesis is accepted, this means that there is a positive relationship of statistical significance between the safety of the CIMIX system used by employees in the sample and their performance at work in DML Laghouat. As this system preserves privacy and confidentiality at work because everyone has Limited Access to the interface and has the right to view the interfaces of other departments via the interface. Also, it comprises a record of the transactions that prevents losing or alteration them. This impact occurred in a confidence interval estimated at 95%, any occurrence of this coincidence does not exceed 5%.

– **Testing and discussing the results of the fourth hypothesis:**

Hypothesis text: There is an effect between CIMIX flexibility and performance at statistical significance of 5%, From(table 07, see **annexe**). we notice that we accept the fourth hypothesis, in that, there is a statistically significant relationship between the accuracy of the CIMIX system used by the employees(study sample) and their performance in the company of DML.The CIMIX interfaceis well designedand includes all the basic requirements, as it is based on fixed technical and mathematical bases that prevent the occurrence of error.This effect occurred in a confidence intervalestimated at 95%, any occurrence does not exceed 5%.

– **Testing and discussing the results of the fifth hypothesis**

Hypothesis text: There is an effect between CIMIX flexibility and performance.

H0: There is no statistically significant effect between CIMIX flexibility and performance at statistical significance of 5%,from the table we note that (table 08, see **annexe**). and therefore accept the fifth hypothesis, that is, there is a positive relationship among the employeesthat took part in the study sample and their performance in the company of DML Laghouat.CIMIX has the ability to adapt to the requirements of each job and contributes to the flexibility of the task completion. This effect occurred in a confidence interval estimated at 5%.

– **Testing and discussing the results of the fifth hypothesis**

Text Hypothesis: There is an effect between CIMIX facility and performance.

H0: There is no significant effect between CIMIX facility and performance at statistical significance 5%, From the table we note that (table 09, see **annexe**). and therefore accept the sixth hypothesis.This means that there is a statistical relationship between the facility of using CIMIXby the individuals who took part in the study and their performance in the company of DML Laghouat. This system facilitates access to several command boards whose access is only allowed to senior executivesgiven that they are decision-makerswith respect to the data. It is also noted that any employee is capable of using it within few days because CIMIX does not require a period of training outside the company. This effect occurred in a confidence interval estimated at 95%, any occurrence does not exceed 5%.

– **The hypotheses of the variables of the sample characteristics:**

The seventh hypothesis predicts a significant difference between the performance of employees who have afull permeability to CIMIX,and those of low-permeability to CIMIX.Therefore,T-test for two independent groups will be the most appropriate test.

Hypothesis Text: There is a significant difference between the performance of employees who have a fullpermeability to CIMIX and those of low-permeability to CIMIX, for the benefit of the first category.

We can put the null hypothesis **H0** on the assumption that there are no significant differences between the differences or dispersion of the permeability and permeability categories for the employees in the following mathematical formula: H0:

The alternative hypothesis, which we expect to be true, is:
We have selected a significant level of 0.05.That is, the occurrence of the difference between the two categories will occur at a confidence interval of 95%, the group statistics SPSS19

Comment on (table 11, see **annexe**). We notice from the table that the significant value (0,110) in the table is greater than the supposed significant value, namely 0.05

Test result:

The seventh hypothesis is not valid;in that, there is no significant statistical difference between the performance related to CIMIX of full-permeability-employees and limited-permeability-employees. This is because most workers understand how to use this system and have the ability to control its data. However, the administration authorizes the job procedures to avoid inaccuracies and in order to facilitate the process of accountability, by strengthening the heads of services in DML.

Hypothesis 8: As per to the main role of the Maintenance Directorate, Sonatrach, as well as the qualitative distribution of theemployees' positions that tend to be more technical, we may wonder whether there are significant differences between the performance of the support employeesand theperformance of main jobs;it can be expressed as follows:

There is a fundamental difference between the performance of the employees of support and the performance of those occupying "technical" jobs, in favor of the first category.

We can put the null hypothesis H0: assuming that there are no significant differences between the variations or the dispersion of the two categories of the employees of support and those occupying the main functions, We selected a significant level, i.e., the difference between the two categories will occur with a confidence interval of 95%.(table12, see annexe).

Comment on (table 13, see annexe).**:**We notice in the table that the significant value of 0.166 in the table is greater than the assumed significant value for the test, namely 0.05; thus accepting the null hypothesis, and reject the alternative hypothesis.

The eighth hypothesis is not validsince there is no fundamental difference between the performance of the employees of support and that of the technical employees. This is due to the convergence of their educational levels and training and ease in using the system.

V. Conclusion :

Success of companies lies in achieving their objectives which requires them to take serious measures in ordertoupdate their information systems to suit the different methods of their work, by encouraging and motivating the readiness of their employees to accept technological updates. The CIMIX system is of great importance to the Directorate of Maintenance, due to the fact thatit one of the most important elements upon which the performance of its human resources is based. Furthermore,it is viewed as a necessary means to achieve the global objectives, besides being an important tool in providing the conditions for the employees to perform their work efficiently and effectively.Accordingly, appropriate infrastructure and specialized workforce must be made availableso that valuable informationbe obtained, leading to a better performance at work.

Since we have validated all the partial hypotheses of the model related to the speed of information access,transmission between branches,safety in the privacy of work,preservation of devices and information, as well as the inclusion of the outputs of this system, accuracy of its information and reductionin the human errors, its flexibility in the course of transactions,andfacility tolearn and use it.The aforementioned advantages that CIMIX offers to the employees have contributedin increasing their productivity, and made it possible for them to solve the daily problems and enable them to predict the amount of future work.This has led tomake good and quick decisions.

As for the hypotheses regarding the variables outside the model, the results were contrary to what was predicted previously. The former were about CIMIX inclusionand limited permeability. The results of the test showed that there were no significant differences in performance due to the CIMIX permeability, because all employeesare able to access the system data and perform their tasks in accordance with their job requirements. They also have the ability to understand the functioning of the system. Another reason for the lack of significant difference in performance is that the Directorate itself does not make full use of all applications in CIMIX.

As for the result of the hypothesis regarding the significant difference in the performance of the technical employees and support employees, theywere incorrect, and this is due to the convergence of education and training levels of the two categories and the divergence of their fields of study, despite their insistence to take CIMIX training to improve their knowledge.However, thereis a similarity in their performance and a difference in the way ofusingthis system but not in knowing it. Further to our research, wehave come up with a set of results, the most important of which are:

⇨ There is a great expectation on the part of employees to open up more to the contents of CIMIX.

⇨ Despite all the advantages of CIMIX in meeting the requirements of work, employeesfeel the need to free access of practice.

⇨ The CIMIX system is used sololy in the maintenance Directorate DML Laghouat.

⇨ The system applications need to be developed.

⇨ CIMIX system has achieved a qualitative leap forward in the performance of employeesby saving time and effort.

This component will include two types of first research recommendations related to the experience they have gone through, and the second practical recommendations resulting from the results of our research.

VI. Recommendations:

Through the modest trial that we have made in this study, we have noticed some phenomena related to the methodology of the research and the process of its design, and the obstacles that reduce the enthusiasm to achieve the desired results and objectives of the company. It is not possible for the researcher to pose specific study problems withoutexploring practically the technology to be studied, which contributes in changing and discarding some misconceptions about the nature of work and the organizational environment in the maintenance Directorate (DML) - subject of the study.

PRACTICAL:

The practical recommendations that we can suggest based on the study results are:

⇨ The Directorate has to schedule specialized training courses in CIMIX especially for executives, and this is to improve their knowledgeon this program in order to make it effective in view of a good performance.

⇨ CIMIX is expected to:

❖ Open more space for writing and submitting reports in detail, in order to avoid reference to the original developer.

❖ Contain a special section to develop the employees' proposals related to the work.

❖ Have a tool that assesses the quality of work using this system and provide incentives for the practice.

⇨ The need to open the CIMIX operating area via an external network connected to the other directorates and the HQ of Sonatrach.

⇨ The Company must give great importance to update the CIMIX versions to comply with global development and mutations.

⇨ The company must add a new application that is specific to technical employees in the form of a file containing a list of the materials to be used.

VII. Annexes des tableaux :

Table(01):Sources rooting of the study model variables

Variable	dimensions and measurements of variables	Variable Studies (sources of theoretical rooting)
	Facility or Complexity 4 Expressions	Davis (1982), Karwan, Belarlo (1982); Wallace

Quality of Information System		& Thompson (1991), Venkqtes (2003); MooerkBenbasat (1991)
	Flexibility 3 expressions	Mahmoud (1987); Bailey Person (1987); Iveskal (1983)
	Safety 4 expressions	Karwan, Belardo (1982); Wallace &Srinivasan (1985); Seddon, Kiew (1996); Goodhue (1995)
	Speed 3 Expressions	Huff & Bart, Ginsberg (1985); Kin (1981); SnitkinSrinivasan (1985)
	Accuracy 3 expressions	Torkzadeh& Doll Bradoui phrases (1988); Oriliki&Baroudi (1988)
	Inclusion 2 expressions	Person & Bailey (1986); Ives & al (1986); Orlikozski&Baruodi (1988)
Individual performance Consists of 9 terms of decision-making	Decision-making index	Wallace &Karwan (1986); Belardo, Zmud, Blocher&Moffie (1987), Sanders Courtney (1985)
	Productivity Index	Crawford (1982); Millman&Hartwike (1987); Huff &Rivard (1985)
	Workflow troubleshooting index	Wallace &Mclachlan; Lee (1986); Srinivasan (1985); Luzi& Mackenzie (1982)
	Work-scale prediction index	Kaspar (1985)
Source: Taieb Ben Aoun, Evaluation of the Use of ICT-based Information Systems on the Performance of Algerian Institutions, PhD Thesis in Management, University of Laghouat, pp. 216-219		

Table(02): Cronbach's Alpha test results of the study variables			
Number	Variable	Number of	Cronbach's

		expressions	Alpha
Average of the questionnaire		28	0.944
Source: conceived by the researcher as per SPSS19 outputs			

M: axis
NM: CIMIX system

Table (03): Testing the study hypotheses				
Independent variables	The dependent variable	Selection Coefficient	Probability Value	Relationship Model
Speed	Performance	47.1%	0,000	M 7 = 1,04 +0.668 M 1
safety	Performance	42.5%	0,000	M 7 = 0.897 + 0.719 M 2
Inclusion	Performance	21.4%	0,000	M 7 = 2,432 + 0.354 M 3
Accuracy	Performance	43.3%	0,000	M 7 = 1,515 +0,574 M 4
Flexibility	Performance	53.2%	0,000	M 7 = 1,104 + 0,685 M 5
Facility	Performance	50.4%	0,000	M 7 = 1,167 + 0.666 M 6
CIMIX	Performance	70.6%	0,000	M 7 = - 0.117 + 1,012 NM 1
Source: conceived by the researcher as per SPSS19 outputs				

Table(04): Testing the hypotheses of the effect of the speed variable on the performance variable					
Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
a. Dependent Variable: PERFORMANCE					
Source: conceived by the researchers as per SPSS19 outputs					

Table (05):Testing the hypothesis of the effect of the accuracy variable on performance					
Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
a. Denpendent Varaiable :PERFORMANCE					
Source: conceived by the researchers as per SPSS19 outputs					

Table (06) Testing the hypothesis of the effect of the accuracy variable on performance:

Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
Source: conceived by the researchers as per SPSS19 outputs					

Table (07) Testing the hypothesis of the effect of the accuracy variable on performance

Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
Source: conceived by the researchers as per SPSS19 outputs					

Table (08):Testing the hypothesis of the effect of the accuracy variable on performance

Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
Source: conceived by the researchers as per SPSS19 outputs					

Table (09):Testing the hypothesis of the effect of the accuracy variable on performance

Model	Unstandardized Coefficients		Strandardized Coefficient	T	Sig
	B	Std.Error	Beta		
(Constant)	1,040	0,288		3.613	0.000
Axe	0,668	0,073	0,686	9,199	0.000
Source: conceived by the researchers as per SPSS19 outputs					

Table (10) Descriptive statistics of the permeability degree variable in the study

Standard deviation	Arithmetical Average	Sample	Permeability degree	
0.5725	3.7290	41	Exhaustive	Individual performance
0.7472	3.5873	56	Limited	
Source: conceived by the researchers as per SPSS19 outputs				

Table(11): Analysis of the T-test statistics for the seventh hypothesis

Levenve's test for equity of variances			T- test for equality of mean					
performance	Equal variance assumed Equal	f	Sig	T	Dr	Sig(2-tailed)	Mean difference	Std error difference

	variances not assumed	2.599	0,110	95	0,313	0,14170	0,3960	
				94,776		0,14170	0,13404	
Source: conceived by the researchers as per SPSS19 outputs								

Table (12): The descriptive statistics of variable of the nature of the job

Standard deviation	average	sample	Position	
0.5725	3.7290	41	Support positions	Individual performance
0.7472	3.5873	56	Technical positions	
Source: conceived by the researchers as per SPSS19 outputs				

Table (13): the analysis statistics of T-Test

Levenve's test for equity of variances				T- test for equality of mean				
performance	Equal variance assumed	f	Sig	T	Dr	Sig(2-tailed)	Mean difference	Std error difference
	Equal variances not assumed	1,944	0.166	0,171-	94	0,92	-2.24707	0,14522
				0,750-	70,367	0,85	-2,24707	0,14121
Source: conceived by the researchers as per SPSS19 outputs								

VII. REFERENCES:

- Abdul-Fattah SalehKhleifiyat, Sherine M. Al-Mutarneh(2010), " The Effect of Stress on the Performance of the Directorate of Basic Government Schools in Southern Jordan", Damascus University Journal, Vol 26, No. (1,2), p606 SNDL
- Ali Kiboub(2003), " CIMIX, mémoire de fin de stage ", INGM, Département de Maintenance, Boumerdes, p 14
- B. Davis, (1986)," Systèmes d'information pour le management (Les approfondissement) ", Paris, volume2, edition G. Vermette, P289
- J. Capirossi, (2002), " Une introductin ou management des systémes d'information ",dulon, p1_7
- Khaleda Al-Sarayrah, Mohammed Al-Qudah(2009), "The Bureaucratic Values of the Administrative Staff of the University of Mu'tah and their Relation to their Functional Performance from the Point of View of the Administrative Leaders", Jordanian Journal of Educational Sciences, Volume 5, No. 3, 235 pp. 233_247
- Khalid Karaouni, (2012), " The Effect of the Organizational Climate in the Salfit Educational Area on the Functioning of Their Employees from Their Point of View", Al-Quds Open University Journal for Research and Studies, Issue 26, Issue 2, 10,
- M.Gillet, P.Gillet (2008), " Management des systèmes d'information", Paris, édition Dunod, pp38_44

- R.Reix& autre (2011), "Systémes d'information & management de organization", paris, edition vuidert.p4
- Zaki Abdel Moati Abu Ziada(2012), " Time Management and Overall Quality and their Effect on Job Performance - Field Study in a Sample of Palestinian Commercial Banks "- Jordan Journal of Business Administration - Volume 8, Issue 1, pp. 168_196