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THE IMPACT OF TECHNOLOGICAL ENTREPRENEURSHIP ON ACHIEVING HUMAN DEVELOPMENT IN THE EGYPTIAN CHEMICAL COMPANIES

Mohamed Mostafa Ali Albaz[1]

Abstract: Purpose: The main objective of the research is achieving human development in Egyptian chemical companies, increasing the rate of productivity and technological development through the strategic impact of technological entrepreneurship and building authority in the business world at local, regional and global level.

Practical implications: The state seeks to adopt the technological entrepreneurship of Egyptian chemical companies in order to achieve human development in the light of the Strategy of Sustainable Development.

Originality/value: The approach of technological entrepreneurship should be adopted in companies with the aim of developing sustainable human resources. The research paper **covers** the human development framework of chemical companies.

Findings: The dimensions of technological entrepreneurship have a strategic role in building technological production plans and programmes for the chemical companies that achieve the highest performance rate of human development.

Keywords: technological entrepreneurship, research and development policies, technological knowledge, human development, sustainable development.

JEL: M1.

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Introduction

International economy has undergone rapid changes and major challenges as a result of the technological development and growth of innovative and creative thinking. As the competition intensifies, it has become a threat to many companies. The trend is towards adopting technological entrepreneurship, which is strategic innovation and development of existing businesses through the creation of new products, as well as new competitive conditions and independent projects to enhance the spirit of creativity and initiative of employees and enhance the organization's ability to develop, survive and continue their activities in the business world (Elia, G. & Margherita, A., 2018).

Human development is one of the most important contemporary issues that is gaining increasing attention by local and international companies through studying and providing advanced means and suitable working environment for human resources that is strategic wealth for achieving development and facing challenges (Anonymous, I., 2011). The study has confirmed that the challenges, which companies face in the development process, must be met by achieving the objectives of stability and continuity by directing investments towards individuals who are willing to continue to achieve return on investment and maintain the human element that facilitates achieving the highest efficiency of performance (Curson, J. & Skidmore, T., 2010).

The sector of chemical industry is one of the most important strategic sectors supporting the economic, human and development activities, which are the main pillars of investment in Egypt. The achievement of human development is through building strategic leadership and improving the rate of knowledge, creativity and innovation that helps in the development of the industrial sector in order to achieve sustainable development in Egypt.

I.

1. Framework of study

Technological entrepreneurship is one of the most important tools for optimal recruitment of human resources in the social and economic fields. It can be relied upon to find strategic solutions to diversify the sources of

national income. The country is witnessing many transformations towards development through a complete transformation towards knowledge economy through pioneering technological ideas. Investment in human minds aims at reaching the top thirty countries in the Human Development Index, the thirty largest economies in the world and the best thirty countries in the Global Competitiveness Index in the light of sustainable development strategies (Sustainable Development Strategy, 2016).

A study (Qian, H. & Zhao, C., 2018) emphasizes that entrepreneurship is one of the driving forces behind regional and international economic development. Entrepreneurship in high technology is based on the commercial areas of California (America) and Britain. A comparative analysis of statistical results shows that there is a high-tech economy in California (America) rather than Britain. The positive impact of technological entrepreneurship (creating jobs / effective use of market resources/ knowledge marketing) has been demonstrated in the development of entrepreneurship and innovation thus achieving development of economy in the dynamic regional environments of companies.

Pretorius, Davidaviciene, (2018) dealt with some dynamic aspects of technology and interaction in entrepreneurship. A conceptual model of thinking systems representing periodic factors in entrepreneurship through the CLD[2] approach was used and some statistics was collected (OECD)[3] to demonstrate that the dynamic behavioural system in entrepreneurship is a powerful tool for exploring business and industrial entrepreneurship and decision-making in competitive environments.

A study was conducted in 192 industrial companies in Poland. It was focused on the strategic management methods of companies in order to achieve sustainable development and strategic competitiveness of the economic pioneer activities. It included several criteria (expertise, skills, equipment, technology, etc.) to achieve the highest possible income and profits. It showed that the capacity of the core competencies of industrial companies has a positive impact on building a competitive advantage through the efficient quality of the technological products and services,

[2] (CLD) a Causal Loop Diagram Approach.
[3] (OCED) Organization for Economic Cooperation and Development.

providing distinguished human competencies, openness and flexibility in setting the targets for adapting to the environment (Nowak, D., 2018).

In the context of human development (Kim & Park, 2017), through the responses of 400 Korean corporate workers, it was emphasized that the human dimension is one of the fundamental dimensions alongside the economic and environmental dimension of corporate sustainability. One of the most important dimensions of human development is the exchange of information and knowledge because it is the main resource for achieving a competitive advantage for the sustainability of companies. The statistical study has confirmed that the variables of sustainability contribute to the introduction of new ideas and achieve development of cultural behaviour and innovation of individuals, creating an administrative generation capable of supporting sustainable development.

A study on the social dimension shows that it is a strategic component of sustainability and affects the achievement of environmental and economic growth. The conclusion that has been drawn is that sustainable industry needs understanding of the responsibility towards the future generations, respecting the resources of the present and the positive direction towards business development. Promoting Green growth should be a part of the comprehensive corporate approach that affects the sustainable investment rate in the industrial sector and drives economic growth (Reza, K. & Islam, S., 2018).

The state is adopting strategic national plans to support research organizations, government and private sectors in achieving leadership and development. Communication channels between research units in ministries and production sectors and services have been created in order to benefit from the outputs of scientific research and the preparation of technological infrastructure for the development of technological entrepreneurship projects aiming at better qualifications of the personnel. International agreements and Protocols with Japan and China have been concluded with the aim of transferring technological leadership experience (Report of the Ministry of Higher Education and Scientific Research, 2017).

In the light of the state's interest in facing the industrial and social challenges, it is important to maximize various resources and the access to technological entrepreneurship and improve industrial competitiveness and

human development. The State has adopted the Strategic Objectives of Technological Entrepreneurship and Innovation for the Production and Resettlement of Technology to contribute to community and economic development. The most important results are the increase of scientific publishing production of Egyptian universities and Research centres - by 16.4%; access to the Centre - 24 of 106 countries in scientific publications in the field of nanotechnology in 2017 and the establishment of partnerships with international institutions and research bodies such as China, France and Germany (Report of the Ministry of Higher Education and Scientific Research, 2017) .

The business sector was established in 1978 under the Prime Minister's Decision No. 168, under the name of Public Sector Information Center and under the Chairmanship of the Council of Ministers. In 1997, a Republican Law was passed to the public business sector and in 2004 it was joined with the Ministry of Investment (Business Sector Information Center, http://www.bsic.gov.eg/about.asp).

The public business sector provides specialized consultancy, studies and researches in all economic fields and in various sectors with the aim of serving the civil society, the research and decision makers through preparation of reports on the results of the companies' business as well as highlighting the financial and economic indicators supported by technical transactions in all legal forms; information to investors, public and private sector companies, etc. (Business Sector Information Center, http://www.bsic.gov.eg/about.asp) .

The Egyptian public business sector consists of 109 companies representing eight different sectors. In 2017, the public business companies achieved revenues of 92.2 billion Egyptian pounds, a growth rate of 38.7% compared to the previous year. The profits of the sector companies amounted to 14.9 billion Egyptian pounds in the previous year (Report on the Performance of Public Sector Business Indicators, 2017), [(14)] and in the framework of the above mentioned, I will review the most important aspects of the study of the chemical sector, which includes (18) companies as follows:

Table 1
Total Performance Indicators for Chemical Companies In Egypt in 2013-2017 (Value in million pounds)

M	Statement / Years	2013	2014	2015	2016	2017
1	Activity Revenues	9537	9948	10537	11282	15869
2	Investments	946	1159	915	648	960
3	Net Profit	1038	440	680	815	941
4	Total inventory	5084	4858	5244	5016	6688
5	Number of Employees	34197	34028	33398	32897	31721
6	Wage Rate	2119	2545	2765	2915	3463

Source: Prepared by the researcher and based on the Report of the Public Sector Information Center for Holding Companies, Egypt, 2017.

Table 2
Comparison of Exports of Chemical Sector Companies with Exports of other Sectors in Egypt for 2017

M	Statement / Sectors	Number of companies Per sector	Exports (One thousand pounds)	Ratio to total exports%
1	Pharmaceutical	11	283881	2.4802 %
2	Chemical industries	18	467152	7.0552 %
3	Textile and cotton	32	352376	5.5285 %
4	Construction and reconstruction	17	419528	7.2445 %
5	Metal Industries	15	4208809	60.6778 %
6	Shipping and land transportation	16	944945	17.0138 %
7	Total	109	11445990	100 %

Source: Prepared by the researcher and based on the Report of the Public Sector Information Center for Holding Companies, Egypt, 2017.

From Table 1 and 2 it can be concluded that:

1. The largest revenues for the chemical companies in 2017 were LE 15,869 million, while the lowest revenues were in 2013 at LE 9,537 million. The smallest investment volume for the chemical companies was LE

648 million for 2016, while the sector achieved the highest investment volume in 2014 with a value of LE 1,159 million.

2. In 2013, the chemical companies achieved the largest net profit of 1,038 million Egyptian pounds, while in 2014 the chemical companies achieved the lowest net profit of 440 million Egyptian pounds.

3. The highest rate of wages in the chemical companies in Egypt in 2017 (EGP 3,463 million), followed by 2016 (2,915 million pounds), and the lowest number of wages in 2013 (2,119 million pounds).

4. There is a similarity between the size of stocks in chemical companies in 2013 and 2016, respectively: 5,084 million Egyptian pounds and 5,016 million Egyptian pounds.

5. The Mineral industry sector achieved the highest exports among the other industrial sectors in Egypt with a value of 4,208,809 Egyptian pounds with a contribution of 60. 6778%. The lowest exports for the pharmaceutical sector were the lowest exports among the other industrial sectors: the pharmaceutical sector - at 203,029 Egyptian pounds and by 2. 4802%.

6. The chemical sector is the third largest export sector after the mineral sector and the construction and reconstruction sector with an export rate of 7.0552% of the total public business sector.

In addition to the above mentioned, the conclusions that have been drawn in the study related to the current situation are the following:

1. Egyptian chemical companies are considered one of the most important strategic sectors that support the economic and social development, as they are among the most important sources of Egyptian national income.

2. The study indicates that two companies in the sector are currently suspended from investment, which results in loss of productivity and finance and a decrease in profit and growth rate for the sector as a whole.

3. It has turned out that there are nine chemical companies that do not export abroad, which results in a decrease in sales and profits, and affects the growth rate of Egyptian national income.

4. A study on the current situation of chemical companies revealed nine companies to have reported a loss for the chemical sector out of 18 companies studied.

2. The Research Problems

The chemical sector in Egypt faces many strategic development challenges, which leads to a decline in investment and sales rates. The bad situation in companies has led to the suspension of export operations, which, in turn, has led to a decrease in exports to LE 467,152 compared to the other sectors. The low levels of technological development, the weak training and development activities in companies and the loss of nine chemical companies require identifying the causes of deterioration and finding solutions and practical proposals to meet the challenges of this industry, and determine the strategic role of technological entrepreneurship in achieving the sustainability of human development in chemical companies in Egypt.

3. The Importance of the Study

3.1. The subject of technological entrepreneurship is a relatively modern strategic topic in the field of business management.

3.2. The research highlights the role of technological entrepreneurship in the development of sources of national income and finds strategic solutions to the administrative, economic and social problems of companies.

3.3. The research helps identify the indicators of measurement of technological entrepreneurship and human development in companies, thus contributing to the development and improvement of the performance of individuals.

3.4. The research analyzes and studies the relationship between technological entrepreneurship and human development in chemical companies, and proposes a framework for human development in companies.

3.5. The Study derives its importance from the field of application; the chemical sector generates revenue of LE 15,869 million according to the Report of the General Business Center for chemical companies in 2017. It also invests LE 960 million according to the Report of the Public Business Sector in 2017.

4. Study Objectives

4.1. The main objective is to achieve human development in the Egyptian chemical companies through the strategic impact of technological entrepreneurship in order to increase production rate and technological development and continue building authority in the business world at local, regional and global levels.

4.2. To identify the causes of deterioration of the chemical industry in Egypt and identify the factors that have led to weak industrial performance in the chemical companies in Egypt.

4.3. To analyze the strategic role of technological entrepreneurship in achieving human development in Egyptian chemical companies.

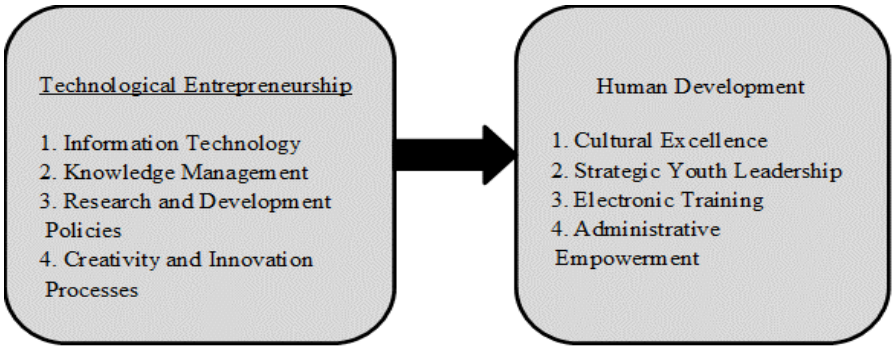
4.4. To identify the most important indicators of the measurement of technological entrepreneurship and human development, while identifying the basic pillars for building human development in companies.

4.5. To try to achieve human development in the context of the impact of technological entrepreneurship in chemical companies in Egypt.

4.6. To make recommendations that contribute to the human development of chemical companies in Egypt.

5. Model of Study Variables and Measurement Indicators

5.1. Study Variables Model



Source: Prepared by the researcher.

Figure 1. Sample Study Variables

5.2. Measurement indicators

Table 3
Measuring indicators

Technological Entrepreneurship	Human Development
1. The Budget allocated for Entrepreneurship 2. Modern Information and Communication Systems 3. Providing Technological Infrastructure 4. Knowledge Balance 5. Disseminate and update Knowledge 6- Technical Skills of Human Cadres 7. Number of Patents	1. Rehabilitation Programs for New Individuals 2. Development Rate and Intelligence Skills 3. The Efficiency of Human Structures 4. Budget for Development 5. Building Strategic Leadership 6. The Efficiency and Effectiveness Criterion for Performance 7. Rate of Incentives and Job Satisfaction

Source: Prepared by the researcher.

II.

1. Analysis of the relationship between entrepreneurship and human development in companies

Today, companies are moving towards enhancing technological entrepreneurship in various fields of production and services. Technological entrepreneurship needs to support research and development Processes and increase creativity and innovation to provide creative research solutions to the problems facing companies. This contributes to building new technological projects, exploiting emerging opportunities and attracting investments while adopting a culture of risk. This is accomplished by strengthening the technological infrastructure and modernizing new solutions, thus achieving the technological, administrative and economic development of companies and society (Technological Innovation and Entrepreneurship Center, http://www.tiec.gov.eg) .

The world is moving towards the importance of human development in terms of sustainable development. This relationship is highlighted by the

strong need for balance between individuals on the one hand, and resources available, on the other hand. In this way, the relationship between the present and the future will ensure a better level for the future generations; there should be a constant link between environmental issues and development, as there is no sustainable development without human development.

Based on Egypt's vision towards developing the investment climate to promote human, economic and productive growth, the Ministry of Investment and International Cooperation conducted a comprehensive analysis of the current situation to identify key challenges. It also carried out several integrated procedures, namely preparing strategic plans and strengthening alliances with all parties, local or international investors or companies related to the development of technological and information infrastructure, empowerment of youth leaders, and promotion of entrepreneurship. In light of this, the new Investment law No. 72 of 2017 was prepared, which was a major step in enhancing the investment climate in order to improve Egypt's international classification (Annual Report on Investment in Development, 2017, pp. 17-20).

The most important achievements of the investment for 2017 were: an increase of 28.5 % in private investments of LE 270.8 billion in 2017, an increase of 26% in new companies, establishment of partnership programmes with international institutions, launching of LE100, 000 for every qualified entrepreneur, establishment of a $ 4 billion Development Project (Annual Report on Investment in Development, 2017, pp. 22-23).

Today, technological entrepreneurship is one of the main sources to achieve sustainable development in various fields in an era characterized by digital revolution of technological culture, so Egypt is keen to consolidate and strengthen its strategic development by highlighting its role as a model for regional and international growth and an example of progress and development. In the framework of the above mentioned the researcher deals with how to analyze the relationship between technological entrepreneurship and human development in chemical companies through the following elements:

1.1. The impact of technological entrepreneurship in improving the performance of companies.

In recent years, emerging and existing companies have shown interest towards adopting and implementing technology policies and mechanisms through innovation, knowledge and successful entrepreneurial programmes that positively affect administrative, economic and investment development (Hove, J., 2018). In the context of the adoption of maximizing entrepreneurial value, the study (Machado, V, 2018) referred to the interest in establishing and exploring business opportunities to organize and maximize five Brazilian companies by adopting the role of technological and innovative entrepreneurship and developing a strategy for entrepreneurship in technology. The study cited the Singapore government model of entrepreneurship technology for achieving human, technological and economic development.

One of the studies in the framework of looking forward to the future has demonstrated the use of the entrepreneurial approach to business management and the focus on emerging technology and the digital business field through the development relationship of technological entrepreneurship and knowledge management in the promotion and sustainability of emerging businesses (Passerini, K. & Bartolacci, M., 2018).

Considering the above mentioned, the researcher believes that technological entrepreneurship has a strategic role in improving the performance of companies by providing the requirements of modern information systems and technological knowledge as well as providing electronic training methods for human cadres and adopting research and development policies to support the continuous improvement of products provided by companies and the development of advanced technological logistics systems to increase the efficiency of the distribution outlets of the products of chemical companies.

1.2. The role of technological entrepreneurship in the development of human cadres in companies.

A study has confirmed that entrepreneurship in the field of technology is one of the basic solutions for the exploration and production of ideas for new products or services through innovation activities,

technological knowledge, research and development, thus achieving productive advantages, human and economic development (Machado, V., 2018, Op cit., pp.13-14). In the context of global competition requirements, contemporary management tends to adopt sustainable human development issues in order to strike a balance between the company's objectives and individuals' goals. The study (Lempert & Nguyen, 2017) on planning sustainable development and conducting statistical analysis emphasizes the key role of technology in sustainability (Lempert, D. & Nguyen, H., 2017) .

The study points out that sustainable development of industry includes the following dimensions: environmental, economic and social (human). Since the social dimension is the strategic component of sustainability and affects the achievement of economic growth, the study indicates that a sustainable industry needs to understand the responsibility it has for the future generations, to have respect for the resources of the present and a positive attitude towards business development (Reza, K. & Islam, S., 2018).

In light of the shift towards Digital Economy, the industrial sectors have adopted various issues related to the development of production processes, while developing the competencies of creators and innovators to achieve strategic competitive advantage (Altukhova, N. & Vasileva, E. & Yemelyanov, V., 2018) .The local and international youth forums are a part of Egypt's approach to sustainable human development strategy, which includes a group of applied intellectual axes: the Axis of sustainable development, Technology and entrepreneurship, the Axis of global youth issues, the Axis of cultural and civilization dialogue, the Axis of future leaders, the United Nations Simulation Model, Arab-African countries (World Youth Forum, Egypt, www.wyfegypt.com).

2. Proposed Framework for Human Development in Companies in the light of the impact of Technological Entrepreneurship

Over the last century, analysis and study of learning systems programs and models of entrepreneurship and innovation strategy have been launched in the United States and China, leading to the arrival of the

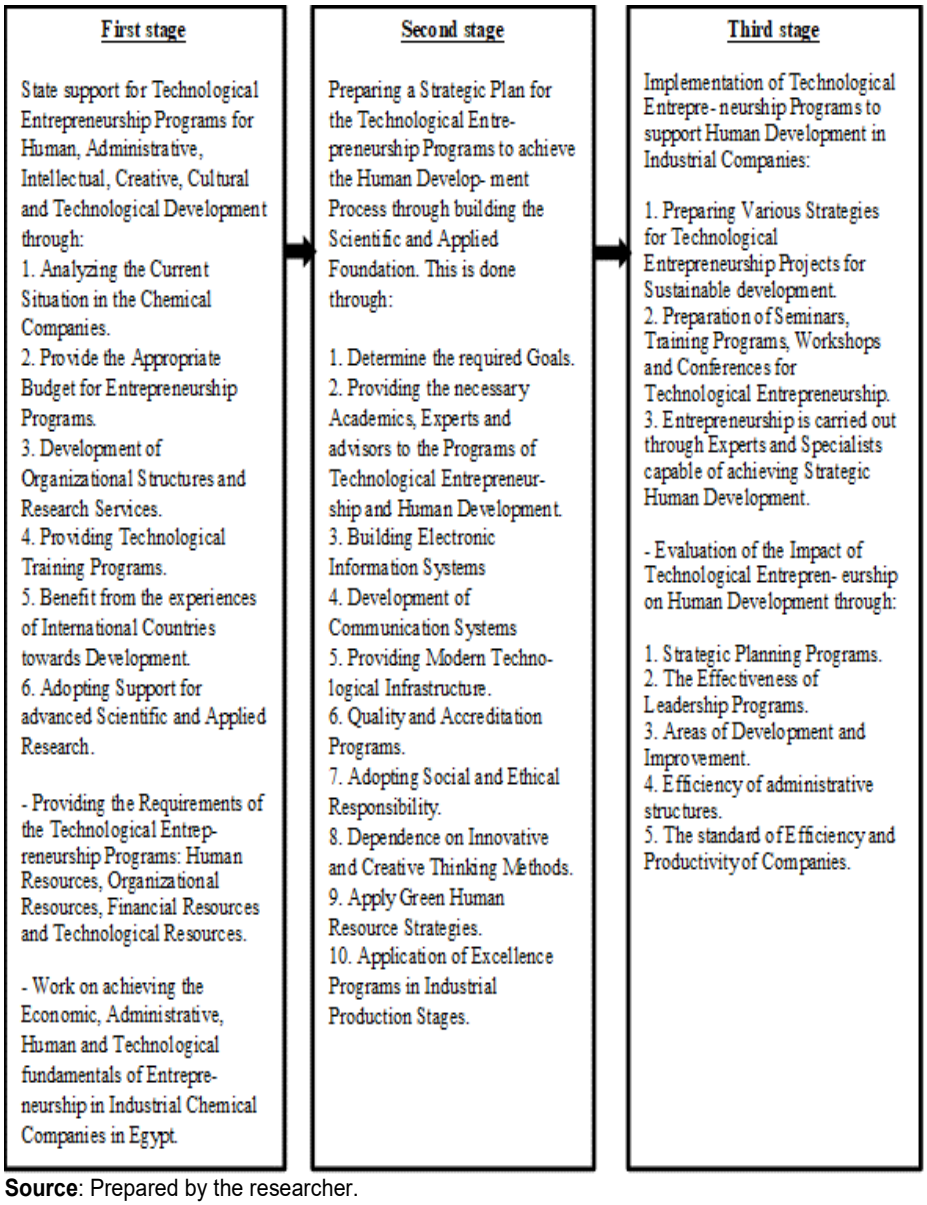
world's two largest economic and entrepreneurial forces (Yu, C., 2018). Technological entrepreneurship is the main dimension of economic growth and human development. The practices and applications of technological entrepreneurship contribute to the development of modern knowledge in the area of performance of production processes (Sobel, R. & Clark, J., 2018).

A study has confirmed that the strategic directions of innovative knowledge and the regulatory environment have a positive impact on the development of technological entrepreneurship initiatives. They support new technological projects and companies (Urbano, D. & Guerrero, M. & Ferreira, J. & Fernandes, C., 2018) and the adopting of human development within the framework of the basic requirements and objectives of sustainable development of the United Nations (2015), the challenges to sustainable development and the development of solutions to the problems of financial and technological resources. Another study (Klarin, T., 2018) has confirmed that sustainable human development is one of the main pillars of economic and technological growth that sustains future generations.

Another study (Kim, W. & Park, J., 2017) highlights the importance of the human dimension as well as the economic and environmental dimensions of Korean companies, which has led to knowledge excellence of human cadres, promotion of innovative ideas and development of performance rates.

Based on the above mentioned, the author believes that technological entrepreneurship and its dimensions (IT / knowledge management / R & D / creativity and innovation processes) have a strategic role in the sustainability of human development (cultural excellence / strategic youth leadership / E-training / administrative empowerment) via supporting senior management of innovative ideas for leading human resources, providing Information Technology infrastructure, electronic training modules and adopting research and development policies in order to support continuous product improvement processes; development of strategic technological logistics systems in order to increase the efficiency of the distribution of products of chemical companies.

Considering the above stated, the proposed framework for human development can be clarified in the light of the impact of technological entrepreneurship as shown in Figure 2 as follows:



Source: Prepared by the researcher.

Figure 2. Proposed Framework for Human Development in Companies

Considering the above stated, the author makes some special recommendations concerning the technological entrepreneurship programmes that support human development in the Egyptian companies as follows:

1. To develop strategic plans for developing Technological Learning and Supporting Digital Culture in order to achieve entrepreneurship.
2. To support the State in developing pioneering technological ideas for the development of industrial and service projects and companies that affect the development of national income.
3. To increase the financial budget for research and development activities with the aim of achieving scientific and applied development in order to support the productive and service activities of companies.
4. To establish an independent Technological Logistics Department in the industrial companies responsible for supporting production and marketing operations.
5. To establish Technological Training Centers to qualify human cadres in companies and develop leadership and technical skills to achieve strategic productive development.
6. To establish local and international alliances with Expert Houses and technology companies that will help increase the efficiency of the production process and develop the intellectual level of human resources in the industrial sector.

Conclusion

This article focuses on the most important strategic issues nowadays - the technological entrepreneurship and its impact on achieving human development through studying one of the most important industrial sectors in Egypt, the chemical companies. This article explores the adoption of technological entrepreneurship (Information Technology, knowledge management, research and development policies, creativity and innovation), and its role in improving the performance of companies and human resources development in companies in general, and chemical companies

in particular. International models have to be applied in order to achieve sustainability of human development in companies in the future.

The Strategy of sustainable development (Egypt Vision 2030) is based on achieving human development in order to achieve cultural excellence, build strategic youth leadership and administrative empowerment, and rely on technological systems in training to identify the opportunities and strategic solutions and how to prepare new investment projects and achieve interaction and productive development.

The study focuses on the number of chemical companies in Egypt (18) through analysing the framework of the study and preparing the model of the variables and measurement indicators, analysing the relationship between technological entrepreneurship and human development and the preparation of a proposed framework for human development in the chemical companies in the light of the impact of technological entrepreneurship.

References

Altukhova, N. & Vasileva, E. & Yemelyanov, V. (2018). How to Add Value to Business by Employing Digital Technologies and Transforming Management Approaches. *Journal of Business Management,* D. A. Tsenov Academy of Economics, Bulgaria, ISSN 0861 – 6604, pp. 71-72, pp. 82-83.

Anonymous, I. (2011). Putting People First: Employee Retention and Organizational Performance, Development and Learning in Organization: *An International Journal, Vol. 25, No.1*, pp. 25-27.

Annual Report on Investment in Development. (2017). *Ministry of Investment and International Cooperation*. Available online: http://www.miic.gov.eg , pp. 17-20, pp. 22-23.

Business Sector Information Center, Available online: http://www.bsic.gov.eg/about.asp

Curson, J. & Skidmore, T. (2010). Retaining a High Quality Workforce Keeping a hold of Family Silver. *Strategic HR Review*, Available online: www.emeraldinsight.com, Vol. 9, Issue 5, pp. 17-23.

Elia, G. & Margherita, A. (2018). *Assessing the Maturity of Crowd venturing for Corporate Entrepreneurship*, Kelly School of Business, Indiana University, Available online: www.sciencedirect.com, pp. 271-283.

Hove, J. (2018). Research on Technology Entrepreneurship and Accelerators, PhD Dissertation, Faculty of Economics and Business Administration, Ghent University, Belgium, pp. 14-28.

Kim, W. & Park, J. (2017). Examining Structural Relationships between Work Engagement, Organizational Procedural Justice, Knowledge Sharing, and Innovative Work Behavior for Sustainable Organizations. *Published in the Journal of Sustainability*, Available online: www.mdpi.com/journal/sustainability, pp. 2-4, 12-13.

Klarin, T. (2018). The Concept of Sustainable Development **:**From its Beginning to the Contemporary Issues. *Zagreb International Review of Economics & Business,* Croatia, Vol. 21, No. 1, pp. 67-94.

Lempert, D. & Nguyen, H. (2017). Accounting for Threats to Sustainable Development: An Indicator for Holding NGOs and International Organizations Accountable to Creating the Context for Sustainable Development. *The Journal of Sustainable Development, Vol. 17*, Issue 1, pp. 220:223, 240:241.

Machado, V. (2018). Technology Entrepreneurship: An Exploratory Study. Masters Dissertation, University of Caxias do Sul, Brazil, pp. 13-95.

Nowak, D. (2018). The Core Competences of Polish Industrial Enterprises. *Journal of Business Management*, D.A. Tsenov Academy of Economics, Bulgaria, ISSN 0861 6604, pp. 23 - 43.

Passerini, K. & Bartolacci, M. (2018). *Introduction to Entrepreneurship and Knowledge Management Minitrack.* Proceedings of the 51st Hawaii International Conference on System Sciences, ISBN: 978-0-9981331-1-9, p. 412.

Pretorius, L. & Davidaviciene, V. (2018). *Towards Technology and Entrepreneurship***:** *A Perspective with Cyclic Conditions*. 10th International Scientific Conference - Business Technologies and Sustainable Entrepreneurship, Available online: https://doi.org/10.3846/bm.2018.20, 3-4 May, pp.174-182.

Qian, H. & Zhao, C. (2018). *Space-Time Analysis of High Technology Entrepreneurship: A Comparison of California and New England.* Available online www.sciencedirect,com/science/journal/01436228, 14 May, pp. 111-119.

Report of the Ministry of Higher Education and Scientific Research. (2017). Scientific Research and Technology, Available online: http://portal.mohesr.gov.eg

Report on the Performance of Public Sector Business Indicators. (2017). Available online: http://www.bsic.gov.eg/bs.asp

Report of the Public Sector Information Center for Holding Companies. (2017). Egypt, Available online: http://www.bsic.gov.eg/

Reza, K. & Islam, S. (2018). Measuring the Sustainability of the knitwear sector of Bangladesh: Sustainability Vulnerability Index. *Business Strategy and Development*, Available online: wileyonlinelibrary.com/journal/bsd2, DOI: 10.1002/bsd2.3,10 Sep., pp. 1-10.

Sobel, R. & Clark, J. (2018). The use of knowledge in Technology Entrepreneurship: A Theoretical Foundation. *The Review of Austrian Economics*, DOI 10.1007/s11138-017-0380-5, pp.195-206.

Sustainable Development Strategy, Available Online: http://sdsegypt2030.com/

Technological Innovation and Entrepreneurship Center (TIEC), Available online: http://www.tiec.gov.eg

Urbano, D. & Guerrero, M. & Ferreira, J. & Fernandes, C. (2018). New Technology Entrepreneurship Initiatives: Which Strategic Orientations and Environmental Conditions Matter in the New Socio-Economic Landscape?. *The Journal of Technology Transfer,* Available online: https://doi.org/10.1007/s10961-018-9675-3 , June, pp. 2-22.

World Youth Forum, Egypt, Available online: www.wyfegypt.com

Yu, C. (2018). Understanding the Ecosystems of Chinese and American Entrepreneurship Education. *Journal of Entrepreneurship Education,* Bridgewater State University, USA, Available online: http://vc.bridgew.edu/management_fac,Vol. 21, Issue 2, pp. 2-17.

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