

AN INVESTIGATION OF TECHNOLOGY TRANSFER IDEAS IN TECHNICAL COLLEGES IN EKITI STATE, NIGERIA

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ABSTRACT

Recently, there has been enormous pressure on developing nations to maximize technological advancement for economic stability in line with global sustainability trends. Although, African countries, Nigeria in particular, are making efforts through education and society collaborations to be part of the paradigm shift in which Technology is the pivot of economic development. However, to ensure a scientific and adequate relationship between institutions and society, it is essential to realize the sharing of knowledge, skills, samples, and methods that can enhance technological facilities in our community. This study, therefore, investigates technology transfer ideas in Technical Colleges in Ekiti state, Nigeria. It is a survey research type comprising 120 instructors (Male and Female) purposively selected from the Six 6 Technical Colleges in Ekiti state, Nigeria. Questionnaire on Technology Transfer Ideas QTTI was used to gather information from the sample. Data collected and collated were analyzed using descriptive statistics of frequency counts and percentages. The results showed a visible difference in the awareness of male and female instructors on technology transfer ideas in Technical Colleges in Ekiti state. Generally, it also indicates that male instructors had better perceptions of technology transfer ideas in Technical Colleges in Ekiti state. Therefore, presumed that curriculum contents and implementation in Technical schools in Nigeria should be enhanced so that instructors will be well informed and improved on technology advancement in line with global sustainability trends. These findings would assist Technical Colleges instructors, policymakers and the board of Technical Education in Nigeria in further exploring technology transfer ideas in Technical schools in Nigeria.

Keywords: Technology Transfer Ideas, Sustainability, Technical Schools, Instructions.

INTRODUCTION

For decades, Technology was seen as a tool and machine but more importantly today, it is a set of knowledge, skills, experiences, ideas and techniques through which human beings change, transform and maximize the environment. However, the outcome of this development would be the manufacturing of tools and machines that can also lead to processes, products and services to meet the needs and desires of human society. Technology, to man, is not only in tools and machines but in problem-solving. Therefore, this medium will undoubtedly lead to more expectations, particularly in a globalized world where there is a need for improved skills, entrepreneurial skills and self-reliance.

It has been shown by Tinio (2003) that Institutions should play an essential role in technological development, especially with the transition from a manufacturing-based to a knowledge-based economy. This medium will have implications for Educational Institutions to be more responsible for economic growth, according to Obanya (2002). Moreover, Giuri, Paola, Munari, Scandura and Tuchi (2019) ascertained that educational institutions would

play an essential role in technology transfer because learning and acquiring new knowledge seems to be at the root of most landmark success and inventions in all areas of life. The previous is not far from the submission of Ossabutey and Jin (2016), who have shown that educational institutions are recently the major player in research and entrepreneurship.

Moreover, the knowledge-based economy demands the production of goods and services through knowledge-intensive activities to advance technical and scientific innovation. Schiliro (2012) ascertained that a Knowledge-based economy is primarily rooted in specialization, research, innovation and learning and, however, highlighted four requirements to belong in the knowledge economy.

1. Education and Training; and this is because it requires an educated and skilled population to create, share and use knowledge.
2. Information Infrastructure; that every knowledge economy will thrive on effective communication, especially multimedia resources.
3. Economic Incentive and Institutional System; enable the free flow of knowledge through an effective communication system and conducive environment that encourages entrepreneurship and investment.
4. Innovation Systems by adopting or adapting knowledge acquired through a network of research centres, institutions (both private and public), think tanks, and community groups necessary to access global knowledge, or instead create one to solve problems locally.

A reflection on several studies (Maskin, 2000; Kim, 2002; Schiff & Wang, 2002; Correa, 2003), that technological advancement bothers the free flow of information between those that have it and those who do not. It is also similar to the submission of Hargadon (2003), who refers to this process as the commercialization of Technology. Additionally, Perri (2003) has identified the process of transferring skills, knowledge, methods, samples and samples of Technology within the society as Transfer of Technology (TOT) or Technology transfer.

This process ensures that scientific and technological developments are accessible to a wide range of users who can further develop and explore the Technology into new products, applications, applications and services. It corroborates Danquah (2002), who identified technology transfer in two components as tangible and intangible. In the same vein, researchers such as; (Canada's Science, Technology and innovation system, 2008; Worldbank, 2006) have considered technology transfer as a process of moving promising research topics into the level of maturity and implementation.

Association of University Technology Managers (2010) defines Technology transfer as the systematic way of authorizing knowledge based discovery from one organization to another for further development and commercialization. Therefore, knowledge creation in institutions is more often a product of discoveries from research, which should be further encouraged and protected through adequate investment in education. It also means that Investments in intellectual property are returned to the public through products that benefit the public, increased employment and taxes, according to Wolfram (2003).

Therefore, this study investigates Technology Transfer Ideas in Technical Colleges in the Ekiti state of Nigeria.

Research Hypothesis

The following null hypotheses were tested at a $P= 0.05$ level of significance in this study

1. What is the difference in awareness of male and female instructors on Technology Transfer ideas in Technical Colleges in Ekiti State, Nigeria?
2. What is the difference in perceptions of male and female instructors on Technology Transfer ideas in Technical Colleges in Ekiti State, Nigeria?

Research Method

The study comprises instructors from all the Six 6 Technical Colleges in the three senatorial districts of Ekiti state, Nigeria. They are Technical Colleges from Ado-Ekiti (49) and Ijero-Ekiti (12) representing Ekiti Central, Technical Colleges from Igbara-Odo-Ekiti (18) and Iluomoba-Ekiti (7) representing Ekiti south, Technical Colleges from Otun-Ekiti (23) and Ikole-Ekiti (16) representing Ekiti north. There are One hundred and twenty-five 125 instructors (Male and Female) in all six 6 Technical Colleges, whereas five were not available at the time of this research. In all, one hundred and twenty 120, representing seventy-eight 78 Male Instructors and forty-two 42 Female instructors, participated in the study. Questionnaire on Technology Transfer Ideas QTTI was used to gather information from the sample. The questionnaire is a 20-item statement about awareness and perception of technology transfer ideas. It has Ten (10) positive scoring of Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1, and not sure = 0. The remaining Ten (10) has reverse scoring such that Strongly disagree = 4, Disagree = 3, Agree = 2 and strongly agree = 1, and not sure = 0. The instrument was content validated by experts in measurement and evaluation while it was trial tested on two Technical Colleges outside Ekiti state to give a reliability coefficient of 0.83. Data collected and collated were analyzed using descriptive statistics of frequency counts and percentages.

RESULTS AND DISCUSSIONS

Hypothesis One: what is the awareness of Male and Female instructors on Technology transfer in Technical Colleges in Ekiti State, Nigeria?

Table 1: Contingency table to compare awareness of Male and Female Instructors on Technology Transfer Ideas in Technical Colleges in Ekiti state, Nigeria.

Variables	N	X	SD	Tc	Tt	Df	Result
Male	78	23	09	3.39	1.96	118	*
Female	42	18	07				
Total	120						

P= 0.05 *: Significant result

The independent t-test analysis in table 1 showed that $T_c=3.39$ is greater than $T_t = 1.96$ at $P=0.05$ level of significance and $Df = 118$. Therefore, $T_c = 3.39$ is significant to establish a visible difference in the awareness of Male and Female instructors on Technology Transfer ideas in Technical Colleges in Ekiti State, Nigeria. Furthermore, a cursory look at the table showed that the Mean and SD of 23 and 09 by Male instructors as compared to the Mean and SD of 18 and 07 by Female instructors revealed a generally better awareness and understanding of Technology Transfer by Male instructors in Technical Colleges in Ekiti State, Nigeria.

Hypothesis Two: What are the perceptions of Male and Female instructors on Technology Transfer ideas in Technical Colleges in Ekiti State, Nigeria?

Table 2: Contingency table to compare perceptions of Male and Female Instructors on Technology Transfer Ideas in Technical Colleges in Ekiti state, Nigeria.

Variables	N	X	SD	Tc	Tt	Df	Result
Male	78	54	11	13.83	1.96	118	*
Female	42	30	08				
Total	120						

P= 0.05 *: Significant result

The independent t-test analysis in table 2 showed that the $T_c = 13.83$ is greater than $T_t = 1.96$ at $P = 0.05$ level of significance and $Df = 118$ the $T_c = 13.83$ indicates a difference in the perceptions of Male and Female instructors on Technology Transfer in Technical Colleges in Ekiti state, Nigeria. A further look at the table showed that the Mean and SD of 54 and 11 by Male instructors as compared to the Mean and SD 30 and 08 by Female instructors revealed a generally better perception of Technology by Male instructors in Technical Colleges in Ekiti State, Nigeria.

CONCLUSION

This research notably embraced the fact that Technology Transfer is a move toward problem-solving in line with sustainable development goals today. However, the above assertion is a reminiscence that perceptions of science educators, both males and females, in state-owned tertiary institutions of Ekiti state favour technology transfers. Also, the non-significance result between the perception of same either from universities or colleges of education buttressed a resounding necessity for technology transfer in technical colleges, of course, can be generalized to other states of the federation as well research institutes, companies and other government organizations.

RECOMMENDATIONS

The following recommendations are considered necessary based on the findings of this study:

1. Creation of Technology transfers offices in technical colleges to serve as a medium of exchange of ideas and information regarding technology transfer.
2. Government should assist technical colleges in raising the economic recovery and the betterment of the entire populace since ICT has been seen as a nation-building vehicle.
3. Technology transfer organizations can generally emerge in technical colleges society for sensitization and establishment.
4. Provision of incentives and partnerships by the government to a technical college to share both the risks and rewards of bringing new scientific knowledge to market
5. Establishment of regulating body on technology transfer, especially for licensing agreements and quality assurance by the government
6. Encouragement of researchers for necessary will resources or skills to develop new scientific know-how
7. Provision of adequate information and communication flows with multilateral cooperation in recognition of technical standards' role in diffusing the production and certification of technologies.

Building links between tertiary institutions, industry and local communities by the community to better exchange of information, knowledge and skills will provide a better structure for the sharing and development of life-saving technology research and in-demand skills by outlining good practice and showing what works, helping Nigeria economy to prosper and enhancing society.

Knowledge exchange (KE) refers to any action through which knowledge and research are shared between institutions and partner organizations and turned into an impact on society and the economy.

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