

# The Propensity Of The Youth Corps At Engaging In Technological Enterprises In Southwest, Nigeria

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## Abstract

This paper examined the propensity of the youth corps at engaging in technological enterprises in South West, Nigeria. The study was conducted among the National Youth Service Corps (NYSC) members and specifically considered serving batches A, B, and C corps members who were mobilized for the year 2021 and are yet to have businesses, to determine what could actually influence the youth corps members' interest at engaging in technological enterprises or planning to commence one. A snow-ball sampling technique was adopted to administer a well-structured questionnaire on three hundred and eighty-two (382) youth corps in Southwest, Nigeria. Three hundred and fifty (350) copies of the questionnaire were returned, correctly filled and used for the study with a record of 91.6% response rate. The findings suggest that the youth corps should not assume that the programs to develop entrepreneurial skills are a given. They should work to develop the self-employment skills and qualities necessary to run a successful firm. The corps members should also be required to foster constructive interactions, toss aside unfavourable influences, and embrace the difficulties of participating in technological endeavours. According to the report, the youth corps should voluntarily offer themselves up for mentoring programs for prospective graduates and corps members should be implemented by both the colleges and NYSC management. The NYSC management should make an effort to assign corps members to Primary Place of Assignment (PPAs) so that they can take part in the program for skill acquisition and entrepreneurship (SAED). Additionally, they ought to mandate that their employers release them on time so that they can regularly attend training. The report advises potential graduates to receive orientation on the nation's unemployment issue and the necessity to support self-employment initiatives as a significant career choice.

**Key words:** Propensity, Youth Corps, Technological Enterprises, Self-employability, Critical Skills,

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## I. Introduction

The 21<sup>st</sup> century critical skills have been identified as sources of the youth corps propensity at engaging in technological enterprises in the South West, Nigeria (Dada, 2019). Such technological enterprises are Graphic Design (GD), Software Development programme (SD), Engineering Fabrication (EF), Digital Printing/Multimedia Publishing (DP/MP), AutoCAD Design (ACD), 3D - Printing (3D-P), Food Manufacturing (FM), Photoshop Services (PS). Other technological enterprises are Wood Processing/Furniture (WP/F), Leather Footwear (LF), Technology Gadget Rentals (TGR), Paint

Manufacturing (PM), Waste Recycling (WR), Automobile Engineering Services (AES), Soaps and Detergent (S&D), Renewable Energy Production (REP) among others. The national youth service corps (NYSC) is a scheme set up by Nigerian government to involve the graduates of not more than thirty years old as at the time of graduation in national development (Obadare, 2005). Such graduates need to possess some requisite 21<sup>st</sup> century critical skills for possibility (propensity) of becoming Technological Entrepreneurs (TEs). In today's knowledge-based economies, entrepreneurial organisations are crucial. These businesses create the bulk of new jobs, provide radical ideas, boost productivity, and act as a check on incumbent ventures' behaviour. Also, these ventures aid in economic progress by pooling resources and raising competitive pressures (Valliere & Peterson, 2009). A slew of research have looked into the characteristics that influence young people's entrepreneurial intentions and they are also known as the elements that influenced youth corps' ability to be self-employed. It is also known as the elements that influence youth corps' ability to be self-employed.

Mahmoud and Muharam (2014) revealed a substantial positive association existed between entrepreneurial aspirations and attitude, subjective norm, and perceived behaviour control. According to Agbim, Oriarewo, and Owocho (2013), the most influential component is inventiveness and entrep

reneurial goals rise with age. Siyanbola, Afolabi, Jesuleye, Egbetokun, Dada, Aderemi, Sanni, and Razak, (2012), for example, claimed that primary components discovered to significantly explain entrepreneurial interest, parents' educational credentials, family entrepreneurial history, family socio-demographics, student entrepreneurial experience, and student socio-demographics are all important factors to consider. Through self-employment initiatives programs of the National Youths Service Corps (NYSC) or other training programs, adolescents are trained and developed to fit into the current circumstances of the country.

## II. Methodology

**Research Design:** The study was descriptive in nature and it adopted an *Ex-post facto* research design. Furthermore, quantitative method of data gathering was adopted.

**Study area:** The study was conducted in the South West, Nigeria. The South West, Nigeria is the abode of the Yoruba people (Ogundele, 2007). The choice of this geo-political zone is informed by the high level of industrial growth and development against the backdrop of high youth unemployment. The zone also has the highest industrial settings which makes it convenient to represent Nigeria in this wise (Dada & Oyebisi, 2016).

**Study population:** The population of the study comprised all serving Corps members in the six States of the South West, Nigeria. Specifically, the study considered serving batch A, B, and C corps members who mobilized for the year 2021 and are yet to have businesses. The estimation of the corps members was 68,557 (NYSC, 2021).

**Sample Size:** The sample size of the respondents was determined from the result obtained using the formula of Krejcie and Morgan, 1970 Sampling Method. Hence, a total of 382 respondents were sampled for the study. The sample size formula is shown below:

### Krejcie and Morgan, 1970 Sampling Method

$$\text{Sample size} = \frac{x^2 NP (1-P)}{d^2 (N-1) + x^2 P (1-P)}$$

Where: S = Sample Size

X<sup>2</sup> = The table value of chi-square for 1 degree of freedom at the desired confidence level value (e.g. 1.96 for 95% Confidence level)

N = Population Size

P = Population Proportion (expressed as decimal) (assumed to be 0.5) (50%)

d<sup>2</sup> = The degree of accuracy expressed as a proportion (0.5).

A proportionate representation of these groups of respondents from each state in sample size of 382 respondents were purposively selected and used as participants in the survey.

**Table 1: Total Population and Sample size of the respondents in each of the six States in South West, Nigeria**

S/N	State	Study Locations/State Capitals	Population of youth corps in each State	Sample Size of the respondents in each State
1.	Ekiti	Ado-Ekiti	5,413	30
2.	Lagos	Ikeja	21,509	120
3.	Ogun	Abeokuta	16,768	94
4.	Ondo	Akure	3,846	21
5.	Osun	Osogbo	7,865	44
6.	Oyo	Ibadan	13,156	73
	<b>Total</b>		<b>68,557</b>	<b>382</b>

Source: NYSC, 2021

### Sampling techniques and Procedure: Sampling Techniques and Sample Size

The study adopted a multi-stage sampling technique to select the locations and respondents. The first stage was the purposive selection of the six States based on the youth corps' population. The second stage involves a purposive sampling technique, which is a non-probability sampling technique, based on the specific purpose and appropriate characteristics required of samples in line with (Zikmund, 2010) was used to select the State capitals of each State in the South West, Nigeria to make six locations for the study. These are: Ado-Ekiti in Ekiti State; Ikeja in Lagos State; Abeokuta in Ogun State; Akure in Ondo State; Osogbo in Osun State; and Ibadan in Oyo State. The choice of these State capitals is informed by the nature of youth corps' responsibility in their various places of primary assignments such as industries, companies, and government parastatals while in other towns of each state, the corps would be restricted to only secondary schools as teachers. The third stage

involves the purposive selection of the following technology-based enterprises: Graphics Design, Software Development, Digital Printing/Multimedia Publishing, AutoCAD Design, 3D – Printing, Food Manufacturing, Aquaculture, Engineering Fabrication, Photoshop Services, Wood Processing/Furniture, Leather/Footwear, Technology Gadget Rentals, Automobile Engineering Services, Soaps and Detergent, Renewable Energy Production, Paints Manufacturing; and Waste Recycling. The selection of these enterprises is informed by the uniformity of their existence across the six States. Moreover, the enterprises were chosen due to the technology based in them. At stage four, the respondents were chosen from the capital town of each state in the six States of the South West, Nigeria. The reason for the purposive selection of this category of respondents was due to the fact that they were graduates currently serving their fatherland. Thus, seeking employment opportunities after their service year and also needed adequate knowledge on business operations.

**Method of Data collection and Analysis:** A quantitative method was adopted to gather required data for the study. A snow-ball sampling technique was adopted to administer a well-structured questionnaire on three hundred and eighty-two (382) youth corps in Southwest, Nigeria. However, a total of three hundred and fifty (350) questionnaires were retrieved and valid for data analysis with a record of 91.6% response rate.

### III. Review Of Literature

The following sub-headings explore the elements that influence youth corps' likelihood to be self-employed:78

#### **Exposure to technopreneurial activities**

The study requested to know what led the propensity of the youth corps to engage or planning to start a technological enterprises. Table 1 showed that 91.4 per cent of the respondents had exposure to technopreneurial activities since the commencement of their national service while only 8 per cent stated that they did not and the period of the orientation course for new corps exposed them to different technopreneurial activities. The course is specially designed for corps to undergo practical trainings of certain skill although time frame may be small for effective mastering of some of the skills. They have the opportunity to continue the training after their orientation course but unfortunately, it is not all the youth corps that are posted to urban areas where training centres of many of the resource persons are located. Meanwhile, some corps only have flair for the training when they are in the camp and see that their colleagues are engaged in one thing or the other. From the results presented, only very few of the corps do not have the opportunity. Their lack of exposure may be due to lack of interest during their orientation activities at the camp. Iyase-Odozi (2017) revealed the significance and benefits derived in acquiring entrepreneurial skills, particularly through visual arts activities as a way of empowering women and reducing gender disparity in the sector. The result corroborated the previous study by Kadiri and Aliyu (2017) who discovered that Industrial Training Fund provides by the government assist the youths in Kwara State and yet the youths have not been frequently assisted by ITF in developing their entrepreneurial skills. According to Adewusi and Adisa (2018), tertiary institutions and NYSC administration should encourage potential graduates and corps members to consider entrepreneurship as a key career option. The introduction of a required course on entrepreneurship development skills in tertiary institutions is another initiative to promote and teach students to be inventive, acquire managerial skills, and be entrepreneurially competent. According to Ajagbe, Ismail, Isiauwe, and Ogbari (2015).

#### **Developed enterprise interest/plan**

Table 1 reveals that 66.9 per cent of those who have been exposed to entrepreneurial activity during the time of their national service either have an interest in starting a business or have plans to do so, compared to 23.8 per cent who do not and 9.4 per cent who did not respond. Generally, close to 70 per cent of the youths developed enterprise interest/plan after their exposure to entrepreneurial activities while few did not. Majority of the corps who developed interest was because of various programmes that they were opportune to engage in, and their levels of interest to start businesses may be tendency for independence and self-reliance. In NYSC Scheme, it was pointed out that most of the entrepreneurial training centres are concentrated in urban area which makes it easy for the youth corps in capital towns to participate. Siyanbola *et al.*, 2012 found that entrepreneurial interest can be developed in young people especially when they are in school. Oyebola, Ireferin, and Olaposi (2015) confirmed that the Nigerian Universities teach entrepreneurship courses with a view to imparting knowledge and skills that would bring about creation of new venture and increase the inclination of the youths to start their own businesses. Gelard and Saleh (2011) believed that the interest of young graduates always increase towards starting an enterprise through adequate knowledge acquire from entrepreneurship education. Fayolle (2005) supported that knowledge acquired in tertiary institutions could also affect the graduates' entrepreneurial intention. Moreover, Osakede, Lawanson and Sobowale (2017) had contrary opinion, the authors believed that the engagement of the students in academic achievement is not affected by business activity. In addition, Uy, Chan, Sam, Ho, and Chernyshenko (2015) considered that adventure or experience gained while on a journey could influence teenagers' mindset and enthusiasm to start a new

business. Because many abilities are necessary in scientific education for job creation, teachers should teach students using practical techniques (Mbanefo&Eboka, 2021).Current engagement of Youth Corps in technological enterprise.

The study found out if the interest in establishing an enterprise or developing a plan has actually led the youth corps to engage in technological enterprise. From all indications, Table 1 revealed that 85 per cent of the respondents are currently engaged in technological enterprises, 11.2 per cent were not engaged in technological enterprise and 3.7 were not sure they can engage in any technological enterprise. This findings posited that not all intentions to have a business could lead to engaging in technological enterprise. The requirements such as specialised skills/training, substantial knowledge input, machine, and specialized equipment are all examples of input. Research and Development Supports and Government Support Services in addition to funding, start-up mentorship and having a favourable environment may be needed to flag off such enterprise.

**Table 2:Technopreneurial Engagements of the Youth Corps**

<b>Technopreneurial Engagements</b>	<b>Frequency</b>	<b>Percent</b>
No	28	8.0
Yes	320	91.4
No Response	2	.6
Total	350	100.0

  

<b>Developed enterprise interest/plan</b>	<b>Frequency</b>	<b>Percent</b>
No	76	23.8
Yes	214	66.9
No Response	30	9.4
Total	320	100.0

  

<b>Current engagement in Technological Enterprise</b>	<b>Frequency</b>	<b>Percent</b>
No	24	11.2
Yes	182	85.0
No Response	8	3.7
Total	214	100.0

**Determining the Propensity of the Youth Corps at Engaging in Technological Enterprises**

Table 4 shows the Weighted Average Index (WAI) in 5-point Likert Scale of the perception of youth corps on the influence of the knowledge level of 21<sup>st</sup> century critical skills on propensity to engage in technological enterprises. The 5-point likert scale was rated on 1 = very low, 2 = low, 3 = fairly high, 4 = high, 5 = very high. In some, the Table reveals an average of 3.5 (High) influence of the knowledge of 21<sup>st</sup> century critical skills of the youth corps to engage in technological enterprises such as: Graphic Design (GD), Software Development programme (SD), Engineering Fabrication (EF), Digital Printing/Multimedia Publishing (DP/MP); and AutoCAD Design (ACD). Other technological enterprises are: 3D - Printing (3D-P), Food Manufacturing (FM), Photoshop Services (PS), Wood Processing/Furniture (WP/F), Leather Footwear (LF), Technology Gadget Rentals (TGR), Paint Manufacturing (PM), Waste Recycling (WR), Automobile Engineering Services (AES), Soaps and Detergent (S&D) as well as Renewable Energy Production (REP). Each technology firm is further examined in relation to the youth corps’ mastery of 21<sup>st</sup> century critical abilities.

**The Influence of 21<sup>st</sup> Century Critical Skills on the Propensity of Youth Corps to engage in Graphic Design (GD)**

Images and text are combined in graphic design to achieve a communication purpose. It represents thoughts or messages with typography, images, and colours. It is also a skill in which experts generate visual content and deliver messages to social groups with specific goals (Petterson, 2021). Graphic design is an essential tool for improving interpersonal communication. How we produce and consume information is always changing thanks to technology. In this study, as shown in Table 4, the knowledge of Creativity and Innovation

(CI), Self-Efficacy (SE), Conscientiousness (CON), Perseverance (PERS), and Motivation (MOT) contributed very high (between 4.5 and 5.0) to the propensity of engagement of the youth corps in Graphic Design (GD). In a study conducted by Cheong (2017) on 21<sup>st</sup> Century of Graphic Design Learning with Thinking Skills Infusion, he confirmed that critical and creative thinking abilities help graphic designers to improve individual problem-solving and decision making. Similarly, a study conducted in Russia by Shakirova (2007) on Technology for the shaping of College Students' and Upper Grade Students' Critical Thinking found that critical thinking allows youths to identify problems faster, easier, and to deal with them effectively as social, scientific, and practical issues. Paul and Elder (2009), on the other hand, suggest that a standard of thinking must be linked with a program for its growth and awareness of its existence. However, according to Schneerson, Persov, and Bigger (2019), graphic designers that regularly exercise critical thinking would be better able to generate unique and valuable solutions.

Moreover, the skills of Critical Thinking and Problem Solving (CTPS), Collaboration (COL), Analytical and Investigative Abilities (AIA), Global Relevance and Sustainability (GRS), and Verbal and Written Communication (VWC) have high (between 3.5 and 4.0) significant influence on the propensity of the youth corps to engage in Graphic Design (GD). Nevertheless, Computer and Information (CI) has the least ranking of 3.0 (fairly high) significant influence on the proclivity of the youth corps to engage in Graphic Design (GD). Generally, the outcome of the analysis presented in Table 4 reveals that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high significant influence with mean ranking of 3.0 on the propensity of youth corps to engage in Graphic Design (GD). This may be because innovative thinking could help designers to improve its innovation capability through its development to increase design effect (Ma, 2014). The success in graphic design is measured by the strength of a solution's imagination and there may be higher probability of failure if originators are unable to think critically and creatively. Ng (2013) supported youths to be digitally literate in preparing them to adapt to new mind sets and developing technologies more easily. Treado (2018) also stated that in graphic arts degree programs, critical thinking and other 21st Century Skills should be emphasized. Meyer (2021) believed that students enter design programs in order to build, create and importantly for motivational purposes.

### **The impact of 21<sup>st</sup> century critical skills on the likelihood of youth corps members participating in software development**

According to International Business Management research, Software development is a set of computer science activities devoted to the creation, deployment, and maintenance of software. This includes the creation, maintenance, and testing of applications and frameworks, as well as the process of conceiving, designing, documenting, testing, specifying, programming, and bug resolving. Software development (SD) is critical for businesses because it allows them to differentiate themselves from competitors and become more competitive by improving customer experiences.

Table 4 shows that Critical Thinking and Problem Solving (CTPS), Collaboration (COL), Perseverance (PERS), Conscientiousness (CON), Analytical and Investigative Abilities (AIA) and Motivation (MOT) have the highest significant influence of very high (between 4.5 to 5.0) on the probability of the youth corps to engage in Software Development (SD). In a study conducted by Boehm (2006) on some future trends and implications for systems, he found that the growing rate of change in the global market is driving organisations to increase levels of agility in their software development methodologies in a research. In a similar vein, Santos and Werner (2011) identified software as a critical component for most existing systems in terms of impact, function, resource, and risk in several industries. Likewise, Chouseinoglou and Bilgen (2014) believed critically thinking requires a set of intellectual for individuals with these talents can better convey their ideas, opinions, and views. Critical thinking incorporates creativity and outside the box thinking as a way of thinking that may convey their ideas, opinions, and views.

Moreover, Creativity and Innovation (CI), Self-Efficacy (SE), <sup>1</sup>Verbal and Written Communication (VWC), Computer and Information (CI), and Global Relevance and Sustainability (GRS) have high (4.0) significant influence on the probability of the youth corps to engage in Software Development (SD). Table 4 reveals that the level of knowledge of 21<sup>st</sup> century critical skills has a high significance influence on ranking of 3.5 on the propensity of youth corps to engage in software development programme (SD). This may be because creativity is the source to improvise solutions to problems for dominating software development. Software development programmers can see beyond answers to issues. They deal with the treatment of tangled technical, economic and social issues. The decision you make affect the quality of your life. Geisinger (2016) saw critical thinking, creativity, innovation, and communication as some of the requirements of economic success and importance of 21<sup>st</sup> century skills. Lamb, Maire and Doecke (2017) reveals Critical Thinking and Problem Solving (CTPS) as one of deep learning skills identified to be very vital for the grow of people who are

prepared to face the difficulties of today' globally connected world. It is the ability to efficiently solve human problems by applying knowledge, facts, and statistics.

### **Impact of 21<sup>st</sup>-Impet of 21<sup>st</sup> century critical skills on youth corps' intention to participate in Engineering Fabrication**

Fabrication is a broad term referring to any process that cuts, shapes or moulds metals materials into Finished product. In engineering, fabrication is the process of bending, cutting, welding, profiling, and assembling metal to create structures. Fabrication engineers make, install and repair metal products. The economy relies on metal fabrication processes and without it, we would not be able to run our electric systems or create parts that keep our houses, kitchen, vehicle operation and computer functioning. The significance level of Analytical and Investigative Abilities (AIA), and Computer and Information (CI) discloses a very high (5.0) influence on the probability of Youth Corps to start Engineering Fabrication. The majority of 21<sup>st</sup> century critical skills, such as Critical Thinking and Problem Solving (CTPS), Collaboration (COL), Self-Efficacy (SE), Perseverance (PERS), Verbal and Written Communication (VWC), Conscientiousness (CON), Motivation (MOT), and Global Relevance and Sustainability (GRS) show a high (4.0) significance level of probability to engage in Engineering Fabrication.

Samavedham and Ragupathi (2012) conducted a study on enabling 21<sup>st</sup> century skills in engineering students. The researchers were not convinced that teamwork is a valuable ability, they believed that the important skill needed by youths to work effectively in industrial set-ups and complete tasks is ability to work independently and not a teamwork. However Gordon (2017) believed in the ability to look beyond technology to use human-centred design to address the complex problems of development. Though, Creativity and Innovation (CI) was reported as low (2.0) significance influence on the probability of the Youth Corps to commence Engineering Fabrication enterprise. Table 4 shows that 21<sup>st</sup> century key skills have a high (4.0) significant impact on the young corps' willingness to engage in Engineering Fabrication (EF). This could be due to the fact that engineers are required to play a critical part in creatively addressing global and complicated energy concerns.

### **The knowledge of 21<sup>st</sup> Century Critical Skills on the possibility of Youth Corps to participate in Digital Printing/Multimedia Publishing (DP/MP)**

Digital Printing/Multimedia Publishing (DPMP) is a method of printing from a digital-based image straight to a number of media substrates. It takes a unique method, assembling print ready images from a complex set of data and formulae. This is a more recent addition to the printing world, and it entails intricate computational instructions to the machine on how to create the image on paper. Digital printing is great for goods that require a lot of detail and orders in small quantities. The significance impact of the propensity of the youth corps to engage in Digital Printing/Multimedia Publishing (DPMP) exposes the skills of Self-Efficacy (SE), Verbal and Written Communication (VWC), Conscientiousness (CON), and Collaboration (COL) to be very high (between 4.5 to 5.0). Furthermore, Analytical and Investigative Abilities AIA), Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), and Perseverance (PERS), Motivation (MOT), Computer and Information (CI), and Global Relevance and Sustainability (GRS), all have a high (4.0) significance impact on the youth corps perception of starting Digital Printing/Multimedia Publishing (DPMP). On a broad level, the study in Table 4 demonstrates that the inclination of youth corps to begin Digital Printing/Multimedia Publishing (DPMP) has a mean ranking of 4.0 (high) significant influence. This could be due to the fact that the publishing industry's products have a significant impact on the socio-political and cultural milieu. Waiter (2021) believes that social media has fundamentally changed how people interact with one another and traverse the modern social environment. In addition, Furht and Boko (1998) believes many industry segments are now engaged in developing new products and services in order to position themselves for the 21<sup>st</sup> century.

### **The Probability of the Youth Corps to commence AutoCAD Design Enterprises through the Knowledge of 21<sup>st</sup> Century Skills**

AutoCAD is a computer aided drafting software application that is used to design plans for structures, bridges, and computer chips. The AutoCAD application is used by Architects, engineers, project managers, graphic designers, and city planners in the industry. It allows for faster and easier drawing and editing of 2D and 3D designers than can be done by hand. AutoCAD reduces human error and assists users in bringing their ideas to life with precision. The likelihood of the young corps participating in AutoCAD design (ACD), as shown in Table 4, which indicates that collaboration (COL) skills are important, Motivation (MOT), Computer and Information (CI), Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), Analytical

and Investigative Abilities (AIA), and Perseverance (PERS) have a significant impact on the likelihood of the youth corps to participate in AutoCAD Design (between 4.5 and 5.0).

Computer and Information (CI), Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), Analytical and Investigative Abilities (AIA), and Perseverance (PERS) all have a significant impact on the likelihood of the youth corps to participate in AutoCAD Design (between 4.5 and 5.0). (ACD). Furthermore, the skills of Verbal and Written Communication (VWC), Global Relevance and Sustainability (GRS), and Self-Efficacy (SE) shows high (Between 3.5 to 4.0) influence. However, the skill of Conscientiousness (CON) has fairly high (3.0) significance influence on probability of the youth corps to engage in AutoCAD Design (ACD). Generally, the outcome of the analysis presented in Table 4 shows that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high significant influence with mean ranking of 3.0 on the tendency of youth corps to commence in AutoCAD Design (ACD). This is supported by Wang and Wu (2014) who believed that AutoCAD provides technical training guidance to students through the learning materials and expand the training to become self-intermediate and advanced graphics experts.

### **The Impact of 21<sup>st</sup> Century Critical Skills on the likelihood of Youth Corps members participating in 3D-printing**

3D-printing is a technique for creating three dimensional physical objects from a digital model. It is also known as additive manufacturing and a process that involves depositing successive layers of material until the full product is created. The traditional manufacturing technologies do not allow of the planning does. This method has been effectively employed in creating the world and producing the majority of items used today, ranging from simple plastics to advanced ceramics and metals (Shahrubudin&Ramlan 2019).The impact of the 21<sup>st</sup> century critical skills on the youth corps' propensity to engage in 3D Printing shows that Critical Thinking and Problem Solving (CTPS), Analytical and Investigative Abilities (AIA), Perseverance (PERS), Motivation (MOT), Global Relevance and Sustainability (GRS), Creativity and Innovation (CI), Self-Efficacy (SE), and Verbal and Written Communication (VWC) skills have very high (between 4.5 to 5.0) significant influence on the propensity of youth corps to start 3D – Printing. Furthermore, Conscientiousness (CON), Computer and Information (CI), and Collaboration (COL) have high (between 3.5 and 4.0) significance influence on the propensity of youth corps to start 3D-Printing. The analysis presented in Table 4 exposes the level of knowledge of the 21<sup>st</sup> century critical skill to be fairly high significant influence with mean ranking of 3.1 on the propensity of youth corps to engage in 3D - Printing (3D-P).This may be because 3D printing technology improved the ability to make larger items as well as more detailed objects to become more commonplace, and it also leads to a reduction of wastes. Trust and Maloy (2017) saw 3D projects as a promising approach to prepare students for life and work in a digital age. It is an innovation which fuels more innovation. Also, according to Clark (1994) young learners are interested in 3D-printing, not because of its technology, but because it disrupt the established teacher and students relationship that requires students to have more responsibility over their learning (Loy, 2014; Pantazis&Priavolou, 2017).

### **The level of Significance influence of 21<sup>st</sup> Century Critical Skills on the Propensity of Youth Corps to engage in Food Manufacturing**

Food manufacturing is the process of taking edible raw materials and transforming them into food products that can be bought and sold. The influence on the propensity of the youth corps to engage in Food Manufacturing (FM) shows that Collaboration (COL), Self-Efficacy (SE), Computer and Information (CI), Conscientiousness (CON) skills have very high (5.0) significant effect on the <sup>1</sup> probability of youth corps to engage in Food Manufacturing.

Furthermore, the skills of Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), Verbal and Written Communication (VWC), and Motivation (MOT) have high (4.0) influence on the probability of youth corps to engage in Food Manufacturing. Also, the skills of Analytical and Investigative Abilities (AIA), Perseverance (PERS), Global Relevance and Sustainability (GRS) shows fairly high (3.0) significance influence on the propensity of youth corps to engage in Food Manufacturing (FM).The mean ranking of the general outcome of the analysis as presented in Table 4 revealed that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high (3.2) significant influence on the propensity of youth corps to engage in Food Manufacturing (FM). This may be because attention is gradually needed to be paid to the demand for quality differentiated food products, and nowadays, lifestyle factors should be applied to how consumers make good decisions. Senauer (2001) also revealed that food consumers have moved up Maslow's hierarchy of needs pyramid from satisfying basic physiological needs.

### **The Propensity of the Youth corps to commence Photoshop Services through the Knowledge of 21<sup>st</sup> Century Skills<sup>37</sup>**

Photoshop is a popular image changing software package. It is a predominant photo editing and manipulation software on the market that is widely used by photographers for photo editing. Adobe Photoshop is a faster graphics editor that allows users to create and edit images and then save them in one of many formats. The knowledge of 21<sup>st</sup> critical skills that motivated the youth corps to start Photoshop services shows that Critical Thinking and Problem Solving (CTPS), Analytical and Investigative Abilities (AIA), Motivation (MOT), Perseverance (P) and Computer and Information (CI) have very high (between 4.5 to 5.0) influence on the propensity of youth corps to commence Photoshop Services. Moreover, the skills of Creativity and Innovation (CI), Verbal and Written Communication (VWC), Conscientiousness (CON), Collaboration (COL), Self-Efficacy (SE), and Global Relevance and sustainability skill (GRS) reveals high (between 3.5 and 4.0) significance influence on the probability of youth corps to commence Photoshop Services. The result indicated on Table 4 shows that the level of knowledge of 21<sup>st</sup> century critical skill have fairly high (3.0) significant level on the probability of the youth corps to engage in Photoshop Services (PS). This reason may be because creative industry plays a critical role in shaping a nation's socio-economic growth that directly affects society. People who are responsible for skills development do not seem to have a clear overview about what professionals creative industries entails and the skill education and training should focus on (Laar, Alexander, Deursen, Dijk&Haan (2019).

### **The Probability of the Youth corps to start Wood Manufacturing/Furniture Enterprises by the Knowledge of 21<sup>st</sup> Century Skills<sup>47</sup>**

Wood manufacturing/Furniture refers to movable objects intended to support various human activities such as seating chairs, tables, and bed. Furniture is needed for our comfortable lives. The level of knowledge of 21<sup>st</sup> century critical skill of the youth corps to start wood manufacturing/furniture enterprises reveals that the skill of Creativity and Innovation (CI), Collaboration (COL), Self-Efficacy (SE), Verbal and Written Communication (VWC), and Motivation (MOT) have very high (5.0) significance influence. The study shows that the skills of Critical Thinking and Problem Solving (CTPS), Conscientiousness (CON), and Global Relevance and Sustainability Skill (GRS) have high (4.0) influence, Analytical and Investigative Abilities (AIA), and Perseverance (PERS) have fairly high (3.0) influence on the propensity of youth corps to start Wood manufacturing/Furniture. However, Computer and Information (CI) that has no significance influence on the probability of the youth corps to commence Wood manufacturing/Furniture. The outcome of the analysis presented in Table 4 reveals that the level of knowledge of the 21<sup>st</sup> century critical skills has high (4.3) significant influence on the tendency of youth corps to engage in Wood Processing/Furniture (WP/F). This may be because wood has a future treatment at all levels of use and if technological preparation is done, the wood receives the best treatment, through the smallest waste. Wegner *et al.*, 2010 revealed that the desirability of specific properties is driven by a number of social, economic, and environmental factors that influence wood use trends. Also, Namichev&Petrovsk (2019) believed that the essence of wood influences on the technological preparation of furniture production lies in the analysis of the wood and all its properties, from physical, chemical to ergonomic, wear, surface coating. They also pointed out that, each wood properties and defects, and noting this can influence it in order to increase productivity and reduce costs, which means that for a shorter period of time, more work will be done. Most commercial and production furniture is created by large machinery, much of it automated and controlled by computer.

### **The Influence of 21<sup>st</sup> Century Critical Skills on the Propensity of Youth Corps to engage in Leather Footwear**

Leather Footwear refers to garments worn on the feet, which typically serves the purpose of protection against adversities of the environment such as ground textures and temperature. Shoes do not only helping our feet to heal but can also aid in support and stability of our foot. They are popular favourite for people to give their feet extra comfort and protection. The level of knowledge of 21<sup>st</sup> century critical skills reveals that the skills of Motivation (MOT), Global Relevance and sustainability Skill (GRS), Critical Thinking and Problem Solving (CTPS), Collaboration (COL), Perseverance (PERS), and Conscientiousness (CON) have very high (between 4.5 and 5.0) significant influence.

The study shows that Creativity and Innovation (CI), Analytical and Investigative Abilities (AIA), Verbal and Written Communication (VWC), Computer and Information (CI), and Self-Efficacy (SE) have high (between 3.5 and 4.0) significant influence on the probability of the youth corps to engage in Leather Footwear (LF). The analysis shown on Table 4 indicates that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high (3.0) significant influence on the propensity of youth corps to engage in Leather Footwear (LF). This may be because leather is one of the first materials used by man to meet his needs. Hatice (2021) opined that



leather products are among the most traded products worldwide and are based on a renewable and readily available resources.

#### **The knowledge of 21<sup>st</sup> Century Critical Skills on the possibility of Youth Corps to participate in Technology Gadget Rentals (TGR).<sup>5</sup>**

In the 21<sup>st</sup> century, technology has been known to play an important role in stimulating teaching and learning exercise. Technology has had and would continue to have a huge effect on the rental industry.

The level of knowledge of 21<sup>st</sup> century critical skills on the probability of youth corps to start Technology Gadget Rentals (TGR) indicated that Creativity and Innovation (CI), Analytical and Investigative Abilities (AIA), Perseverance (PERS), Motivation (MOT), Collaboration (COL), and Verbal and Written Communication (VWC) showed very high (between 4.5 and 5.0) significance influence. Moreover, the study showed that Critical Thinking and Problem Solving (CTPS), Conscientiousness (CON), Computer and Information (CI), and Global Relevance and Sustainability Skill (GRS) have high (4.0) influence on the possibility of the youth corps to start Technology Gadget Rentals (TGR). Also, the skill of Self-Efficacy (SE) showed fairly high (3.0) significance influence on the probability of youth corps to engage in Technology Gadget Rentals (TGR). Generally, the analysis of the study on Table 4 shows that the level of knowledge of the 21<sup>st</sup> century critical skills has high (4.0) significant influence on the propensity of youth corps to engage in Technology Gadget Rentals (TGR). In today's knowledge based economy, technical processes and entrepreneurial talents are the true sources of power (Mashingaidze, (2016). Seme, Gamede, and Uleanya (2021) emphasised the formation of a strong alliance between the Department of Basic Education, parents, and education to manage learners' usage of online gadgets.

#### **Impact of 21<sup>st</sup> Century Critical Skills on the Probability of Youth Corps at engaging in Paint Manufacturing (PM)**

Paint is defined as a unique homogeneous mixture of three major ingredients. It is a main part of coating. Paint is essentially composed of a binder, pigment and solvent. Paint can be used to embellish a surface or substance as a coating. Colour, texture, finishes, and gloss level are all varied. The level of knowledge of <sup>1</sup>Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), Perseverance (PERS), Conscientiousness (CON), Global Relevance and Sustainability Skill (GRS), and Self-Efficacy (SE), Verbal and Written Communication (VWC), and Motivation (MOT) showed very high (between 4.5 to 5.0) significant influence on the propensity of the youth corps to engage in Paint Manufacturing (PM). Furthermore, the skills of Analytical and Investigative Abilities (AIA), and Computer and Information (CI) reveals high (4.0) significance influence on the probability of the youth corps to engage in Paint Manufacturing (PM). However, only the skill of Collaboration (COL) has fairly high (3.0) significant influence on the probability of the youth corps to engage in Paint Manufacturing (PM). The study presented the result of the analysis in Table 4 has high (4.0) significant influence on the propensity of youth corps to engage in Paint Manufacturing (PM). Technology in painting came into existence on the very first day man started painting. Sarfo (2018) advised that effective tuition be provided to students on the relationship between technology and painting.

#### **The level of Significance influence of 21<sup>st</sup> Century Critical skills on the Probability of Youth Corps at Waste Recycling (WR)**

Recycling is a good practice to the environment. Padi (2018) also supported that recycling is very good financially and environmentally. Nevertheless he emphasised that burning of materials such as plastics and electronics for recycling be discouraged in our society. The level of knowledge of Self-Efficacy (SE), Verbal and Written Communication (VWC), Motivation (MOT), and Computer and Information (CI) shows very high (5.0) significance influence on the possibility of youth corps to engage in Waste Recycling (WR). Moreover, the skills of Critical Thinking and Problem Solving (CTPS), Conscientiousness (CON), and Global Relevance and Sustainability Skill (GRS) reveals high (4.0) level of impact on the probability of the youth corps to commence Waste Recycling (WR). Also, the skill of Analytical and Investigative Abilities (AIA) showed fairly high ((3.0) impact on the youth corps inclination to begin Waste Recycling (WR). However, the skills of Collaboration (COL), Perseverance (PERS), and Verbal and Written Communication (VWC) have no significant effect on the propensity of youth corps to engage in Waste Recycling (WR). Generally, the result of the <sup>2</sup>analysis presented in Table 4 specifies that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high (4.4) significant influence on the propensity of youth corps to engage in Waste Recycling (WR). According to Mmereki, Li, and Li'ao (2015), e-waste is challenging to work as due to its various toxic materials. Also, Akinniyi, Phetsopha, and Salazar (2018). Recycling Electronic Waste: A 21<sup>st</sup> Century Challenge. *Conference: Pioneer Research at the Mall*, 11 stressed that Due to the difficulties of recycling crucial components for reuse, e-waste management

is quickly becoming global issue. Impact of 21<sup>st</sup> Century Critical Skills on the probability of youth corps at engaging in Automobile Engineering Services (AES).

Engineering design is considered as an effective means for developing engineering technical skills. The level of knowledge of Self-Efficacy (SE), Computer and Information (CI), Critical Thinking and Problem Solving (CTPS), Collaboration (COL) and Motivation (MOT) showed very high (between 4.5 and 5.0) significance influence on the propensity of the youth corps to engage in Automobile Engineering Services (AES). The study also specified that the skills of Creativity and Innovation (CI), Analytical and Investigative Abilities (AIA), Verbal and Written Communication (VWC), Conscientiousness (CON), and Global Relevance and Sustainability Skill (GRS) have high (4.0) significance influence on the propensity of youth corps to engage in Automobile Engineering Services (AES). However, the skill of Perseverance (PERS) reveals fairly high (3.0) influence on the probability of the youth corps to engage in Automobile Engineering Services (AES). In general, the result of the analysis in Table 4 shows that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high (3.3) significant influence on the propensity of youth corps to engage in Automobile Engineering Services (AES). This might be as a result of the vehicle adding ling and recovering kinetic through appropriate braking. According to Taub (2006), the worldwide population and economic expansion, particularly in developing nations, have positive effects on the automotive industry. 1

### **The Influence of 21<sup>st</sup> Century Critical Skills on the Propensity of Youth Corps to engage in Soap and Detergent (S&D)**

Soaps are common cleansing agent well known to everyone which are produced for variety of purpose ranging from washing, bathing and medical use. Warra (2013) defined soap as any cleaning agent, manufactured in granules, bars, flakes, or liquid form obtained from by reacting salt of sodium or potassium of various fatty acidic Soap and Detergent (S&D) are very essential for our personal hygiene. Detergents of the 21<sup>st</sup> century depend on evolutions in household appliances. The level of knowledge of Critical Thinking and Problem Solving (CTPS), Creativity and Innovation (CI), Analytical and Investigative Abilities (AIA), Self-Efficacy (SE), Motivation (MOT) skills have very high (5.0) significance influence on the probability of the youth corps to engage in Soap and Detergent (S&D). Moreover, the skills of Collaboration (COL), Perseverance (PERS), Conscientiousness (CON), and Global Relevance and Sustainability Skill (GRS) have high (4.0) significance influence on the probability of the youth corps to engage in Soap and Detergent (S&D). Also, the skill of Verbal and Written Communication (VWC) has fairly high (3.0), while the skill of Computer and Information (CI) has no significant effect on the probability of the youth corps to engage in Soap and Detergent (S&D). Generally, the result of the analysis presented in Table 4 reveals that the level of knowledge of the 21<sup>st</sup> century critical skills has significant influence with mean ranking of 4.4 on the propensity of youth corps to engage in Soap and Detergent (S&D). Kogawa, Cernic, DomingosdoCouto, and Salgado, (2017) highlighted that soaps and detergents completed 100 years as synthetic detergents in the year 2016 and they are already part of the routine of thousands of people worldwide.

### **Impact of 21<sup>st</sup> Century Critical Skills on the Probability of Youth Corps at engaging in Renewable Energy Production (REP) 34**

Renewable Energy Production (REP) is energy from sources that are naturally replenishing on a human timescale. It includes sources like sunlight, wind, Rain, tides, waves, and geothermal heat. The level of knowledge of Collaboration (COL), Self-Efficacy (SE), Perseverance (PERS), Motivation (MOT), Computer and Information (CI), Global Relevance and Sustainability Skill (GRS), and Creativity and Innovation (CI) skills have very high (between 4.5 and 5.0) significant influence on the propensity of the youth corps to engage in Renewable Energy Production (REP). Furthermore, the skills of Critical Thinking and Problem solving (CTPS), Analytical and Investigative Abilities (AIA), Verbal and Written Communication (VWC), and Conscientiousness (CON) have high (4.0) significant influence on the propensity of the youth corps to engage in Renewable Energy Production (REP). On the general note, the outcome of the analysis presented in Table 4 shows that the level of knowledge of the 21<sup>st</sup> century critical skills has fairly high significant influence with mean ranking of 4.2 on the propensity of youth corps to engage in Renewable Energy Production (REP). This may be because investments should be made only in energy efficiency and renewable, since only renewable fuel sources' can ultimately be sustained. Syngellakis, Magaril, and Al-Kayiem (2020) believed a key issue on the conversion of new sustainable sources of energy into useful forms electricity, heat, fuel while finding efficient ways of storage and distribution.

Table 3: Contingency Table of Observed Frequency for Propensity of the Youth Corps' Engagement in Technological Enterprises

	CTPS	CI	COL	AIA	SE	P	VWC	CON	MOT	CIS	GRSS	Row Total
GD	2	1	2	1	2	2	1	1	2	1	1	16
SD	2	1	1	2	1	1	1	1	2	1	1	14
EF	1	1	1	1	1	1	1	1	1	1	1	11
DP/MP	1	1	2	1	1	1	1	1	1	1	1	12
ACD	2	2	1	2	1	2	2	1	1	1	1	16
3D-P	2	2	2	1	2	1	2	1	1	1	1	16
FM	1	1	1	1	3	1	1	1	2	1	1	14
PS	1	3	2	1	2	1	2	1	1	2	2	18
WP/F	1	1	1	1	1	1	1	1	1	0	1	10
LF	2	1	2	1	2	2	1	2	1	1	1	16
TGR	1	1	2	1	1	1	2	1	1	1	1	13
PM	1	1	1	1	2	1	2	1	2	1	1	14
WR	1	1	0	1	1	0	0	1	1	1	1	8
AES	2	1	2	1	1	1	1	1	2	1	1	14
S&D	1	1	1	1	1	1	1	1	1	0	1	10
REP	1	2	1	1	1	1	1	1	1	1	1	12
Column Total	22	21	22	18	23	18	20	17	21	15	17	214

Source: Field Survey, 2021 Key

- GD = Graphic Design
- ACD = AutoCAD Design
- PS = Photoshop Services
- TGR = Technology Gadget Rentals
- AES = Automobile Engineering Services
- DP/MP = Digital Printing/Multimedia Publishing
- SD = Software Development programme
- 3D-P = 3D - Printing
- WP/F = Wood Processing/Furniture
- PM = Paint Manufacturing
- S&D = Soaps and Detergent
- EF = Engineering Fabrication
- FM = Food Manufacturing
- LF = Leather Footwear
- WR = Waste Recycling
- REP = Renewable Energy Production

Table 4: Weighted Average Index (Likert Scale) of Perception of the Youth Corps on the Influence of 21<sup>st</sup> Century Critical Skills on Propensity to engage in Technological Enterprises

	CTPS	CI	COL	AIA	SE	P	VWC	CON	MOT	CIS	GRSS	RowTotal	Mean	
GD (n=16)	4.0	5.0	4.0	4.0	4.0	5.0	4.5	3.5	5.0	4.5	3.0	4.0	46.5	3.0
SD (n=14)	5.0	4.0	5.0	4.5	4.0	5.0	4.0	4.0	5.0	4.5	4.0	4.0	49.0	3.5
EF (n=11)	4.0	2.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	44.0	4.0
DP/MP (n=12)	4.0	4.0	4.5	4.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	47.5	4.0
ACD (n=16)	4.5	4.5	5.0	4.5	3.5	4.5	4.0	3.0	5.0	5.0	5.0	4.0	47.5	3.0
3D-P (n=16)	5.0	4.5	3.5	5.0	4.5	5.0	4.5	4.0	5.0	4.0	5.0	5.0	50.0	3.1
FM (n=14)	4.0	4.0	5.0	3.0	5.0	3.0	4.0	5.0	4.0	5.0	3.0	45.0	3.2	
PS (n=18)	5.0	4.0	3.5	5.0	3.5	4.5	4.0	4.0	5.0	4.5	3.5	46.5	3.0	
WP/F (n=10)	4.0	5.0	5.0	3.0	5.0	3.0	5.0	4.0	5.0	5.0	0.0	4.0	43.0	4.3
LF (n=16)	4.5	4.0	4.5	4.0	3.5	4.5	4.0	4.5	5.0	4.0	5.0	5.0	47.5	3.0
TGR (n=13)	4.0	5.0	4.5	5.0	3.0	5.0	4.5	4.0	5.0	4.0	4.0	4.0	48.0	4.0
PM (n=14)	5.0	5.0	3.0	4.0	4.5	5.0	4.5	5.0	4.5	4.0	5.0	5.0	49.5	4.0
WR (n=08)	4.0	5.0	0.0	3.0	5.0	0.0	0.0	4.0	5.0	5.0	5.0	4.0	35.0	4.4
AES (n=14)	4.5	4.0	4.5	4.0	5.0	3.0	4.0	4.0	4.5	5.0	4.0	4.0	46.5	3.3
S&D (n=10)	5.0	5.0	4.0	5.0	5.0	4.0	3.0	4.0	5.0	0.0	4.0	4.0	44.0	4.4
REP (n=12)	4.0	4.5	5.0	4.0	5.0	5.0	5.0	4.0	4.0	5.0	5.0	5.0	50.5	4.2
Gross Total													740.0	3.5

Ranking

Scale: 1 = Very Low, 2 = Low, 3 = Fairly High, 4 = High, 5 = Very High  
 Weighted Average Index (WAI) = Gross Total of the Observed Frequency divided by summation of Row Total  
 AI = 740/214 = 3.5 Approximately 4.0 (High)

**Table 5: Contingency Table for Observed and Expected Frequencies for Propensity of the Youth Corps' Engagement in Technological Enterprises**

CTPS	CI	COL	AIA	SE	P	VWC	CON	MOT	CIS	GRSS	
<b>GD</b>	2(2)	1(2)	2(2)	1(1)	2(2)	2(1)	1(2)	1(1)	2(2)	1(1)	1(1)
<b>SD</b>	2(1)	1(1)	1(1)	2(1)	1(2)	1(1)	1(1)	1(1)	2(1)	1(1)	1(1)
<b>EF</b>	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)
<b>DP/MP</b>	1(1)	1(1)	2(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)
<b>ACD</b>	2(2)	2(2)	1(2)	2(1)	1(2)	2(1)	2(2)	1(1)	1(2)	1(1)	1(1)
<b>3D-P</b>	2(2)	2(2)	2(2)	1(1)	2(2)	1(1)	2(2)	1(1)	1(2)	1(1)	1(1)
<b>FM</b>	1(1)	1(1)	1(1)	1(1)	3(2)	1(1)	1(1)	1(1)	2(1)	1(1)	1(1)
<b>PS</b>	1(2)	3(2)	2(2)	1(2)	2(2)	1(2)	2(2)	1(1)	1(2)	2(1)	2(1)
<b>WP/F</b>	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	0(1)	1(1)
<b>LF</b>	2(2)	1(2)	2(2)	1(1)	2(2)	2(1)	1(2)	2(1)	1(2)	1(1)	1(1)
<b>TGR</b>	1(1)	1(1)	2(1)	1(1)	1(1)	1(1)	2(1)	1(1)	1(1)	1(1)	1(1)
<b>PM</b>	1(1)	1(1)	1(1)	1(1)	2(2)	1(1)	2(1)	1(1)	2(1)	1(1)	1(1)
<b>WR</b>	1(1)	1(1)	0(1)	1(1)	1(1)	0(1)	0(1)	1(1)	1(1)	1(1)	1(1)
<b>AES</b>	2(1)	1(1)	2(1)	1(1)	1(2)	1(1)	1(1)	1(1)	2(2)	1(1)	1(1)
<b>S&amp;D</b>	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	0(1)	1(1)
<b>REP</b>	1(1)	2(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)

\*\*\* Values in parenthesis ( ) are the Expected Frequencies

$$\text{Chi-Square } (X^2) \text{ n}^{\text{th}} \text{ term} = \sum \frac{(\text{Observed Frequency} - \text{Expected Frequency})^2}{\text{Expected Frequency}}$$

**Test of Hypothesis of the Propensity of Youth Corps on 21<sup>st</sup> Century Critical Skills at Engaging in Technological Enterprises**

The study further tested the hypothesis on the propensity of youth corps. This was carried out using Chi-Square Statistical analysis. The technopreneurial propensity of the youth corps in South West, Nigeria was tested using Chi-Square model (Table 6), and the result reveals Chi-Square ( $X^2$ ) calculated to be 32.50. Since Chi-Square calculated ( $X^2 = 32.50$ ) greater than Chi-Square tabulated ( $X^2 = 24.99, p \leq 0.05$ ), one can conveniently accept the alternative hypothesis ( $H_A$ ) with rejection of null hypothesis ( $H_0$ ). The implications of this decision is that the level of knowledge of 21<sup>st</sup> century critical skills possessed by the youth corps in the South West zone has significant ( $X^2 = 32.50, p \leq 0.05$ ) influence on the probability of the corps members to engage in technological enterprises. The 21<sup>st</sup> century critical skills have been identified as sources of the youth corps propensity at engaging in technological enterprises that enhanced self-employability in the South West, Nigeria. Such technological enterprises are Graphic Design (GD), Software Development programme (SD), Engineering Fabrication (EF), Digital Printing/Multimedia Publishing (DP/MP), AutoCAD Design (ACD), 3D - Printing (3D-P), Food Manufacturing (FM), Photoshop Services (PS). Other technological enterprises are Wood Processing/Furniture (WP/F), Leather Footwear (LF), Technology Gadget Rentals (TGR), Paint Manufacturing (PM), Waste Recycling (WR), Automobile Engineering Services (AES), Soaps and Detergent (S&D), Renewable Energy Production (REP). In a similar study conducted by Lamb et al., (2017) in Australia, the authors identified Critical Thinking and Problem Solving (CTPS) as one of deep learning skills that is very essential to the development of individual who are ready to take challenges of today's globally interconnected world.

In the same vein, Ledward and Hirata (2011) pronounced 21<sup>st</sup> century skills as the content knowledge, literacies, and proficiencies that prepare individuals to meet the challenges and opportunities of today's world. Moreover, Schneorson, Persov and Bigger (2019) established that graphic designers who practice their critical thinking actively deepen their abilities to develop innovative and valuable solution. Nevertheless, Meyer (2021) believed that students enter into design programmes in order to build, create and more importantly for their motivational purposes.

**Table 6: Table of Chi-Square for the Propensity of Youth Corps' Engagement in Technological Enterprises**

	CTPS	CI	COL	AIA	SE	P	VWC	CON	MOT	CIS	GRSS
<b>GD</b>	0.0	0.5	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0	0.0
<b>SD</b>	1.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0	1.0	0.0	0.0
<b>EF</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>DP/MP</b>	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>ACD</b>	0.0	0.0	0.5	1.0	0.5	1.0	0.0	0.0	0.5	0.0	0.0
<b>3D-P</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
<b>FM</b>	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0	0.0	0.0
<b>PS</b>	0.5	0.5	0.0	0.5	0.0	0.5	0.0	0.0	0.5	1.0	1.0
<b>WP/F</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
<b>LF</b>	0.0	0.5	0.0	0.0	0.0	1.0	0.5	1.0	0.5	0.0	0.0
<b>TGR</b>	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
<b>PM</b>	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0
<b>WR</b>	0.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0
<b>AES</b>	1.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
<b>S&amp;D</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
<b>REP</b>	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Field Survey, 2021

$$\Sigma = 32.5$$

Critical level of  $X^2$  or Tabulated  $X^2 = 24.99$

$X^2$  Calculated or Determined = 32.50

Since  $X^2$  calculated >  $X^2$  Tabulated = 32.50 > 24.99

Alternative hypothesis is accepted

#### IV. Discussion

The study further uses binary logistic regression to test this hypothesis as shown in Table 6. This section explain the influence of each skill on the technopreneurial propensity of youth corps in the study area under the subsections underneath. The binary logistic regression model contained eleven independent variables. The statistical significance of individual regression coefficient for the critical skills (i.e.,  $\beta$ s) is tested using the Wald chi-square statistic (Table5). As shown in the Table, only Collaboration( $\beta = .812, p < .05$ )<sup>44</sup> made a unique and highest statistically significance contribution to the model. It recorded an odds ratio of 2.252. This indicated that youth corps who had technopreneurial propensity are over 2 times more likely to report a technopreneurial propensity than those who did not have technopreneurial propensity, controlling for all other factors in the model. It can be inferred from this outcome outcome that, each of the identified critical skills with the exception of collaboration, has not individually contributed significantly to technopreneurial propensity of youth corps in the study area. This shows that critical thinking and problem solving, creativity and innovation (CI), Analytical and Investigative Abilities (AIA), Self-Efficacy (SE), Perseverance (P), Verbal and Written Communication (VWC), Conscientiousness (C), Motivation (MOT), Computer and Information Skills (CIS), Global Relevance and Sustainability (GRS), and other skills are like a single tree that single tree that does not make a forest. They cannot individually contribute uniquely to youth corps' drive for the establishment of technological enterprise unlike collaboration. This shows the need to consider collaboration in promoting technopreneurial. Partnership, teamwork, cooperation, alliance and group efforts, all point to collaboration. Collaboration promotes better idea, division of labour and pulling of resources together for business success.

#### V. Conclusion

Every Nigerian youth stands the chance to be self-employed if they do not take entrepreneurial skill acquisition for granted. Youths must also endeavour to build in themselves the entrepreneurial traits and characteristics such as passion, perseverance, persistence and willingness to work hard and be self-reliance which will give any individual what it takes to operate a successful business. There is also the need to nurture and engage positively and discard negative influencers and challenges of engaging in self-employment through the Government, community and the household.

#### VI. Recommendations

These recommendations are made to improve the propensity of the youth corps at engaging in technological enterprises. They are as follows:

1. The youth corps should willingly submit themselves for mentorship. Both the institutions and NYSC coordinators should introduce mentorship programmes for potential graduates and corps members respectively because mentorship enhances the need to be self-reliant.
2. Youth corps must be able to maintain entrepreneurial characteristics and traits so as to be self-employed and successful in their chosen enterprises.

3. <sup>2</sup>Government should ensure that they create entrepreneurial training and workshop for corps members. This will serve as a guide for them to facilitate their self-employability.
4. Tertiary institutions should maintain <sup>2</sup>balance between theory and practical during entrepreneurship education classes in order to broaden the knowledge of the students on enterprise creation.
5. Most importantly, the NYSC management <sup>2</sup>should endeavour to post corps members to Primary Place of Assignments (PPAs) that will afford them to engage in the Skill Acquisition and Entrepreneurship Programme (SAED). And they <sup>2</sup>should make it mandatory for employers to release corps members as at when due in orders for them to attend the training at regular interval.
6. There is a need to orientate potential graduates on the state of unemployment in Nigeria and the need to promote self-employment initiatives as a major career choice.
7. Institutions should include the areas of specialised subfields in their curriculum for entrepreneur- ship training so as to afford potential graduates to engage themselves in specific self-employment training during undergraduate schooling. Government should put in place fair policies in other to encourage the youth corps to be self-employed.
8. The Federal Government in collaboration with financial institutions should make funds available and accessible for prospective entrepreneurs among the corps members to start their enterprises.
9. The government and concerned stakeholders should invest in electricity and ensure there is great improvement in the supply.
10. The government <sup>2</sup>should systematically discourage the desire for foreign goods by Nigerians and encourage local goods and services consumption. This will motivate corps members to start their businesses and stay in existence.

Following the above recommendations strongly and carefully by youth corps and through the government supports in various forms, this would lead corps members to mass self-employability and reduce unemployment drastically in the country.

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