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# The Influence of Innovative Characteristics and Work Readiness on Employability of TVET Students in South-South Nigeria Universities

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**Abstract:** This study investigated the influence of innovative Characteristics and Work Readiness on Employability of Technical and Vocational Education and Training (TVET) students. A correlational research design was used, with a sample of 594 participants (students) which was randomly selected across three Federal Universities in South-South, Nigeria. Structured questionnaires was used to collect data from TVET students. Pearson Product Moment Correlation Coefficient (PPMCC) and simple linear regression were used to for data analyses. Innovative Characteristics were found to influence employability of TVET students. Also, Work Readiness were found to influence employability of TVET students. One of the recommendations made for the study is that there is need of more effective intervention programmes or elective courses in TVET programmes so as to promote innovative characteristics and work readiness on employability upon graduation. This should equip TVET students with requisite skills leading to high rate of employability upon graduation.

**Keywords:** Innovative Characteristics, Work Readiness, Technical and vocational education and training

## 1. Introduction

The acronym TVET, standing for Technical, Vocational Education and Training, is subject to evolving definitions that mirror the dynamic nature of these programmes worldwide. In Nigeria, the Federal Republic of Nigeria (FRN, 2013) characterizes TVET as an encompassing term that integrates general education with the study of technology, related sciences, and the acquisition of practical skills, attitudes, and knowledge pertinent to various occupations across the economic and social spectrum. FRN (2013) outlines explicit objectives for TVET, including the generation of a skilled workforce in applied sciences, technology, business, and advanced crafts. Furthermore, it aims to provide training and skills development to foster both employment and self-reliance. Indeed, TVET serves as a catalyst for technical advancement, contributing to enhanced citizen skills, economic expansion, and the pursuit of sustainable development (Akhuemonkhan & Raimi, 2013).

TVET is purposefully designed to cultivate an entrepreneurial and skilled workforce that is essential for wealth creation and mitigating the risks of unemployment and poverty (Maigida & Raymond, 2014). TVET programmes frequently prepare their students for both higher education and the workforce, it is imperative that all citizens have access to them (UNESCO, 2013). Despite the fact that TVET is essential for promoting sustainable development, the rates of unemployment, poverty, insecurity, underemployment, and student dropout are alarming, especially in Nigeria. TVET students' employability may be impacted by the underutilization of inventive qualities and work preparedness, which may be the root cause of these social problems' alarming rates. This suggests that the majority of TVET students are deficient in these attributes, which diminishes their determination for employment and their sense of self.

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Based on this situation, the following questions need to be assessed in this study. First, is there any correlate between innovative characteristics and employability of TVET students'? Second, is there any correlate between work readiness and employability of TVET students? Therefore, the study seeks to: (1) determine if there is any correlate between innovative characteristics and employability of TVET students; and (2) investigate if there is any correlate between work readiness and employability of TVET students? Two hypotheses were formulated to guide the study. $Ho_1$: there is no significant relationship between innovative characteristics and employability of TVET students. $Ho_2$: there is no significant relationship between work readiness and employability of TVET students.

TVET stakeholders can benefit from the study's conclusions in a number of ways. First of all, it makes clear the extent, connection, and direct impact of innovative traits and job preparedness on TVET students' employability. The results can be used to help TVET students become more employable, particularly in terms of their preparation for the workforce. Thirdly, the study's findings would help researchers by helping to create a literature because the topic was nonexistent. This would give researchers who are specifically interested in innovative characteristics and work readiness on the employability of TVET students in Federal Universities in South-South Nigeria useful information.

## 2. Literature Review

The likelihood of unemployment after graduation is higher for TVET graduates. According to Ishar, Derahman, and Kamin (2020), a large number of TVET graduates are deficient in the inventive and creative abilities required to succeed in the field. TVET students must be imaginative in order to lead or spot chances, create new ideas, concepts, or products, particularly in the rapidly digitizing world. Nevertheless, there is a dearth of research on the connection between TVET students' employability and inventive traits. However, because there are few studies that explicitly assess the association between innovative qualities and employment, it was unable to determine the impact of this attribute in a vocational situation. Work preparedness is one of the key factors that increases the competitiveness of the country. Lau, Chung, and Wang (2019) assert that it is a crucial factor in determining the employment of graduates. In terms of having positive attributes like initiative, creativity, and imagination, students must be ready. When thinking about the Industrial Revolution (IR), these attributes are particularly crucial.

The Innovation Revolution (IR), which has caused a major shift in industries and job positions, is characterized by rapid technology advancement, automation, and digitalization. Employers who appreciate critical thinking, problem-solving abilities, and the capacity to spur creativity are more inclined to seek out students who exhibit these innovative traits. Conversely, students who lack these attributes can have trouble finding work since they might need to get further training to meet the demands of the always changing labor market. Therefore, cultivating innovative traits in TVET students is essential to getting them ready for the cut throat IR job market.

The majority of research on TVET students to date has focused more on the development of vocational and practical abilities, like specialized technical skills. It is less probable that successful career development programmes and support mechanisms to increase TVET students' employability will be created if their existing level of inventive qualities and work preparedness is unknown. Employability should be investigated in relation to pertinent elements from the literature studies, such as inventive traits and job readiness. Research on this subject could close gaps in the literature and increase the employability of TVET students. According to earlier research, TVET graduates lack inventive qualities, which makes them unfit to participate in the labor market (Massetor, Zulfadli, & Marian, 2021). To create new concepts and products, take the initiative, and see chances, University TVET students must possess innovative qualities (Massetor et al., 2021). Mansour (2021) asserts that applicants with a high level of inventiveness are given preference when hiring. Innovative employees possess creativity, leadership, self-efficacy, vitality, and a predisposition for taking risks (Chell & Athayde, 2009). The aforementioned questionnaire was utilized in a recent study by Altinişik, Adigüzel, and Gençer (2023) to examine the association between inventive qualities and vocational students' employability. The researchers suggested using the instrument in any study pertaining to innovative skills.

Previous research indicates that innovative traits directly impact vocational students' employability and entrepreneurship (Li, 2021). Factors such as self-efficacy, optimism, and motivation impact the employability of Chinese vocational students from single-parent households (Zhang, 2021). A vocational student's level of energy also affects their employability since it makes them more inclined to launch their own company (Masri, Abdullah, Asimiran, & Zaremohzzabieh, 2021). The employability of University TVET students depends on their job readiness in addition to their inventive qualities. According to Caballero, Walker, and Fuller-Tyszkiewicz (2011), work preparedness is made up of three parts: social intelligence, work competence, and personal traits. A worker who is prepared for work may regularly deliver quality work at the needed level with less oversight and add value to the organization. According to Bryne (2020), students who possess the requisite competences and are prepared for the workforce are more likely to succeed in their careers after graduation.

According to Lau et al. (2019), students who want to be prepared for the workforce should have strong work ethics, strong interpersonal skills, a clear career goal, optimism about the future, the ability to persevere through

challenges, the ability to adjust to a new work culture, the capacity to learn new things, agility, and the ability to stay mentally and physically fit. Candidates are expected to possess work readiness, which goes beyond certification, and is a factor utilized in recruiting that is becoming more and more appreciated (Prikshat, Kumar, & Nankervis, 2019). Mari, Srirangam, Gunasagaran, Kuppusamy, and Ang (2019) bolster this notion by asserting that a degree by itself does not ensure employment in the competitive labor market if graduates lack work-readiness abilities. There is a lot of demand on University TVET programmes to prepare students for the digitalized industrial environment (Ghavifekr & Radwan, 2021). Jiang (2022) asserts that the employability of TVET students is correlated with their personal issues. TVET students' employability is also impacted by social intelligence. Therefore, it is the responsibility of University TVET programmes to give students the skills they need to manage their future employment.

Possessing the qualities and dispositions required for success in the workplace is the essence of job ready (Lau et al., 2019). Students that are prepared for the dynamic and demanding IR employment market will be more employable. Therefore, the limitations of earlier and more recent papers inform the need for the current study, indicating that more research is needed on the impact of innovative characteristics and work readiness on employability of TVET students' in South- South Nigeria.

## 3. Conceptual Framework

Figure 1 shows the conceptual framework of this study. University TVET students' employability is influenced by their innovative characteristics (creativity, leadership, energy, self-efficacy, risk-propensity) which are stated in Chell and Athayde (2009), and work readiness (personal characteristics, work competence, social intelligence) by Caballero et al. (2011). The purpose of this study is to determine how innovative traits and preparedness for the workforce affect university TVET students' employability. The DOTS employability model and the Career EDGE theory both support the relationship between these factors and employability. The five elements that can contribute to employability include career development learning, experience, degree topic knowledge, comprehension and skills, generic skills, and emotional intelligence, according to the career EDGE theory. Decision learning, opportunity awareness, transition learning, and self-awareness are all crucial employability skills, according to Paadi (2014), who cites DOTS employability (Watts, 2006).

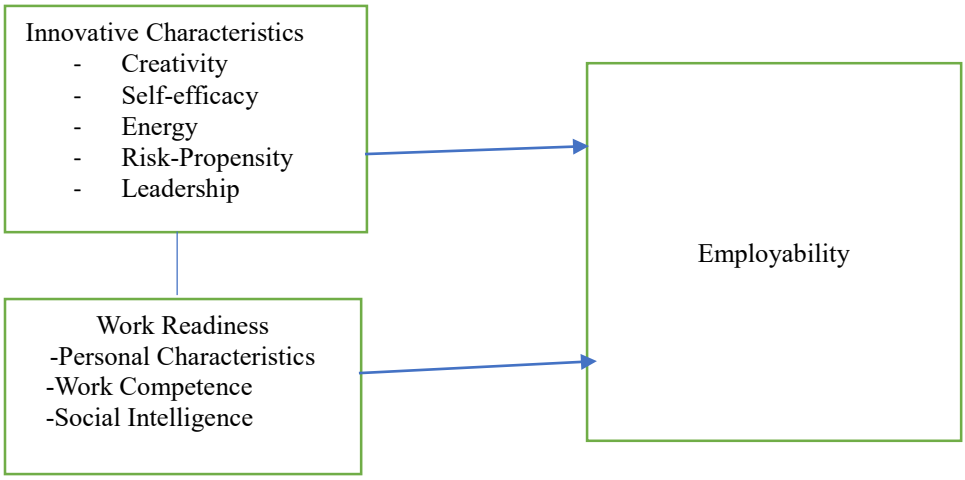


**Figure 1: Conceptual Framework**

## 4. Method

A quantitative correlational design was carried out to achieve the objectives of the study. The study participants were selected from the federal universities in South-South, Nigeria, using simple random sampling technique so that students can be adequately represented in the study. A representative sample of 594 were utilized in the investigation, which comprised 594 undergraduate students who were haphazardly chosen from the Department of Vocational and Technical Education over the three Federal Universities in South-South, Nigeria. Three research questionnaire were used for data collection. The Youth Innovation Skills Measurement Tool (TYISMT), which aims to offer strong measure of student's innovation skills, to show the ways of revealing this capacity, that would promote the development of innovative attitudes and behaviour (Chell & Athayde, 2009), the Work Readiness Scale (WRS) to assess "being ready" for job skills in universities graduates with different background specializations (Caballero et al.,

2011), and the Perceived Future Employability Scale(PFES) to measure students' perceived future employability, their perceptions on their future skills, experience, networks, personal traits, labour market knowledge and institutional reputation at the time of completing their formal education when they are on entering the labour market ( Gunawan, Creed, & Glendon, 2018). Each questionnaires was adapted and designed as a four – point likert scale ranged "Strongly Disagree"(SD) 1 point, "Disagree"(D) 2 points, "Agree(A) 3 points " and "Strongly Agree(SA) 4 points ", the bench mark for these section were 2.50, for the collection of data. Ten items measured the influence of innovative characteristics, ten items measured the influences of work readiness and ten items measured the employability of undergraduate TVET students, The instruments used were validated by two research experts, one in Vocational and Technical Education Department of Ambrose Alli University, (AAU) Ekpoma and one from Measurement and Evaluation Department, University of Benin (UNIBEN), both from Edo state. The corrections were incorporated in the final questionnaire. A reliability test was conducted to determine the internal consistency of the instruments, and the results showed coefficients of α=0.72 for TYISMT, α=0.81 for WRS and α=0.91for PFES through Cronbach's alpha statistic. The technique was carried out by administering copies of the instruments to a group of thirty (30) undergraduate TVET students in Federal University in South-East, Nigeria, which is not included in the target sample.

For the method of data collection, questionnaires were personally administered to the respondents, by the author with the help of two trained research assistants. To assess the influence of innovative characteristics and work readiness on employability of TVET students. Pearson Product Moment Correlation coefficient (PPMCC) was used to answer the research questions and simple linear regression was used to test the hypotheses at 0.05 level of significance. The null hypothesis is rejected if the P-value is less than 0.05 and vice versa.

## 5. Results and Discussion

**Research Question 1**: is there any correlate between innovative characteristics and employability of TVET students'?

**Table 1: Correlations between innovative characteristics and employability of TVET students'**

| S/N | Variables | *M* | *SD* | N | Pearson *r* | *p*– value | Remark |
|---|---|---|---|---|---|---|---|
| 1. | Innovative characteristics | 3.23 | .367 | | | | |
| | | | | 594 | 0.763 | 0.000 | High Correlation |
| 2. | Employability | 3.47 | .517 | | | | |

**Note.** $p < 0.05$.

**Table 1** revealed that there was a high and positive correlation (r = 0.763) between innovative characteristics and employability of TVET students'. This positive correlation (r = 0.763) indicated that there is a direct relationship between innovative characteristics and employability of TVET students'. These results depicted that increase in innovative characteristics will lead to high employability of TVET students to this end, as innovative characteristics improves, the employability of TVET students 'becomes high.

**Research Hypothesis $Ho_1$**: there is no significant relationship between innovative characteristics and employability of TVET students.

**Table 2: Linear regression on the relationship between innovative characteristics and employability of TVET students**

| Innovative characteristics → employability of TVET students | | | | | | |
|---|---|---|---|---|---|---|
| **R/β** | **$R^2$** | **Adj.$R^2$** | **F** | **T** | **P <** | **Decision** |
| .862 | .673 | .684 | 311.117 | 15.425 | .001 | Sig |

Note Sig – Significant, Adj.-adjusted

Data presented in **Table 2** revealed the test of the hypothesis, the table revealed that role of innovative characteristics on employability of TVET students is significant (F = 311.117, t = 15.425, β =.862, P< .001). The hypothesis that there is no significant relationship between innovative characteristics and employability of TVET students was therefore rejected.

**Research Question 2:** Is there any correlate between work readiness and employability of TVET students?

**Table 3: Correlations between work readiness and employability of TVET students'**

| S/N | Variables | *M* | *SD* | N | Pearson *r* | *p*– value | Remark |
|---|---|---|---|---|---|---|---|
| 1. | work readiness | 4.26 | .421 | | | | |
| | | | | 594 | 0.873 | 0.000 | High Correlation |
| 2. | Employability | 4.72 | .613 | | | | |

**Note.** $p < 0.05$.

**Table 3** revealed that there was a high and positive correlation (r = 0.873) between work readiness and employability of TVET students'. This positive correlation (r = 0.873) indicated that there is a direct relationship between work readiness and employability of TVET students'. These results depicted that increase in work readiness will lead to high employability of TVET students to this end, work readiness improves, the employability of TVET students 'becomes high.

**Table 4: Linear regression on the relationship between work readiness and employability of TVET students**

| Innovative characteristics → employability of TVET students | | | | | | |
|---|---|---|---|---|---|---|
| **R/β** | **$R^2$** | **Adj.$R^2$** | **F** | **T** | **P <** | **Decision** |
| .912 | .714 | .721 | 421.116 | 17.135 | .002 | Sig |

**Note Sig** – Significant, Adj.-adjusted.

Data presented in **Table 4** revealed the test of the hypothesis, the table revealed the role of work readiness on employability of TVET students is significant (F = 421.116, t = 17.135, β =.912, P< .002). The hypothesis that there is no significant relationship between work readiness and employability of TVET students was therefore rejected.

## 6. Discussion of Finding

The results demonstrated a direct correlation between TVET students' employability and their inventive qualities. In light of this, TVET students' employability rises as their inventive qualities do. Previous research supports the findings. According to a Chinese study, the employability and future entrepreneurship of vocational college students are impacted by the qualities of innovation. It is believed that the best method to boost student employment is to have a strong innovative spirit (Li, 2021).

In contrast to other literature reviews, this study supports Mansour's (2021) assertion that candidates with high innovation abilities are given preference for jobs because they are thought to be adept at coming up with new ideas and choosing the best course of action for any issues that may arise. According to the authors of the youth innovation skills assessment utilized in this study, the beginning pack for employment includes creativity, leadership, energy, self-efficacy, and risk-propensity (Chell & Athayde, 2009).

From the test of hypothesis 1, data reveals that there is a significance relationship between innovative characteristics and employability of TVET students. This finding agreed with the study conducted by Ahmid, Tiew, and Abdullah (2023) who found that there is a significance relationship between innovative characteristics and employability.

Data from research question 2 reveals that there is a direct relationship between work readiness and employability of TVET students'. To this end, work readiness improves, the employability of TVET students 'becomes high. The findings are supported by past studies. According to Jaafar, Zakaria, and Rasheid (2018), students with high work readiness skills will know how to manage a job. Study by Jiang (2022) shows that there is a high relationship between self-personal problems and vocational students' employability**.**

From the test of hypothesis 2, data reveals that there is a significance relationship between work readiness and employability of TVET students. Past studies have found that there is a significant relationship between work readiness and employability. According to Zhang (2021), psychological resilience like social behavior and emotional intelligence has a significant positive relationship with employment. The higher their psychological resilience, the more they can cope with any social problems in the workplace and any employment process (Zhang, 2021). This finding agrees with the study conducted by Ahmid, Tiew and Abdullah (2023) who found that there is a significance relationship between work readiness and employability. There is a need to cultivate the students' mental health and cultivate people-skill among them to prevent frustration in working place (Luo**,** Wang & Wang**,** 2022).

## 7. Conclusion and Recommendation

The data gathered from this study has indicated that innovative characteristics and work readiness influence employability of TVET students. The data also indicates a significance relationship between innovative characteristics and employability in TVET programmes. Furthermore, the data also indicates a significance relationship between work readiness and employability in TVET programmes. Thus, the author concluded that the innovative characteristics (creativity, leadership, energy, self-efficacy, and risk-propensity etc.) and work readiness (personal characteristics, work competence, and social intelligence), influences employability in TVET programmes and that students' innovative characteristics and work readiness should be enhanced.

Based on the findings of the study and conclusions arising therefore, it is recommended that first, there is a need of studies on the relationship and influence of family environment on the employability of TVET students. Second, there is need of more effective intervention programmes or elective courses in TVET programmes so as to promote innovative characteristics and work readiness on employability. This should equip TVET students with requisite skills leading to high rate of employability upon graduation.

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