EFFECTIVENESS OF TECHNICAL COLLEGE TRAINING IN DEVELOPING SPARE PARTS MERCHANDISING SKILLS AMONG MOTOR VEHICLE MECHANIC STUDENTS IN SOUTHWEST, NIGERIA

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Abstract

This study examined the effectiveness of technical college training in developing spare parts merchandising skills among Motor Vehicle Mechanic (MVM) students in Southwest Nigeria. The study specifically assessed the availability of instructional resources for teaching spare parts merchandising. The study also evaluated the level of competencies acquired by students in inventory management, parts identification, sourcing, pricing and sales, customer service, and promotional strategies related to transmission system spare parts. A descriptive survey research design was adopted for the study. The population comprised 2,225 Motor Vehicle Mechanic Work (MVMW) students and 37 instructors from 16 state government technical colleges in Southwest Nigeria. Total enumeration was used to select all 412 TEC III students and the 37 instructors. Data were collected using a validated instrument titled Merchandising Transmission System Spare Parts Skills Possessed Questionnaire (MTSSPSPQ), with a reliability coefficient of r=.81. Seven research questions guided the study. Descriptive statistics of mean and standard deviation were used to answer the research questions. The findings revealed that instructional resources for teaching spare parts merchandising were adequate ($\bar{X}$= 2.83). Students demonstrated adequate competencies in inventory management ($\bar{X}$=2.80), parts identification ($\bar{X}$=2.77), sourcing of transmission parts ($\bar{X}$=2.73), pricing and sales ($\bar{X}$=2.71), customer service ($\bar{X}$=2.73), and display and promotional strategies ($\bar{X}$=2.71). The study concluded that technical college training develops active spare parts merchandising skills among MVM students. It recommended continuous maintenance and upgrading of instructional resources and regular professional development for instructors to sustain effective skill acquisition.

Keywords: Technical college training, spare parts merchandising, motor vehicle mechanic students, instructional resources.

INTRODUCTION

Unemployment remains a persistent global challenge with serious social, psychological, and economic consequences for individuals and nations. In Nigeria, the situation has continued to deteriorate as the number of graduates increases annually without corresponding employment opportunities, thereby deepening poverty and social instability (Idris et al., 2020). The International Labour Organization (ILO, 2016) estimated that about 200 million people globally are unemployed, while the National Bureau of Statistics (2016) reported that 10.4% of Nigeria's labour force was unemployed and 18.7% underemployed. Youth unemployment is particularly alarming, with over 64% of Nigerian youths unemployed and more than 25% underemployed, underscoring the urgent need for practical, skill-based educational interventions (Idris et al., 2020).

Evidence suggests that unemployment can be mitigated through structured training programmes that equip youths with technical, productive, and marketable skills for self-employment or gainful employment in industries (Deebom et al., 2024). In response, the Federal Government of Nigeria established Technical Colleges to provide vocational education focused on employability skills acquisition and entrepreneurship development. Technical Colleges are designed to prepare learners with scientific knowledge, practical workshop experience, technical competencies, and appropriate work attitudes required for effective participation in the labour market (Adamu & Mai'anguwa, 2020; Ogbuanya & Tongshuwal, 2020; Olakotan & Lemo, 2019).

Among the programmes offered in Technical Colleges is the automobile engineering trade, which trains students to diagnose, maintain, repair, and service motor vehicles. The trade consists of several occupational units, including motor vehicle mechanics, auto electrical work, auto body repair, and spare parts merchandising (Abutu et al., 2018; Federal Republic of Nigeria, 2013). Spare parts merchandising represents a viable entrepreneurial pathway due to the increasing demand for vehicle maintenance and repair services in Nigeria. Automobiles are complex systems of approximately 2,000-3,000 interrelated components that require regular replacement to prevent downtime and operational losses (Chigbu & Nekhwevha, 2020; Zhang et al., 2021).

Spare parts merchandising involves the sourcing, storage, display, promotion, and sale of automobile components to support vehicle maintenance and repair operations. Effective merchandising ensures the availability of quality spare parts, reduces vehicle downtime, and enhances productivity within the automotive sector (Wahab et al., 2023). However, spare parts merchandising in Nigeria is challenged by inadequate technical and entrepreneurial skills, proliferation of counterfeit products, weak inventory management practices, and limited access to structured, skill-based training curricula (Lemo & Adenuga, 2022). Many spare parts dealers rely on informal apprenticeship systems with little or no formal technical education, resulting in poor business sustainability and compromised vehicle safety (Osuala & James, 2018).

Despite the inclusion of spare parts merchandising in the automobile engineering trade curriculum, evidence indicates that Technical College students, particularly those in Motor Vehicle Mechanic (MVM) programmes, are often inadequately exposed to the variety, quality, and management practices required for effective spare parts merchandising, especially for critical systems such as vehicle transmission systems (Aquino & Garcia, 2023). These gaps may negatively affect students' skill development, employability, and entrepreneurial readiness. Therefore, assessing the effectiveness of Technical College training in developing spare parts merchandising skills among Motor Vehicle Mechanic students in Southwest Nigeria is essential for enhancing self-reliance, improving workforce readiness, and contributing to sustainable unemployment reduction.

Statement of the Problem

The need for mechanics with expertise in both vehicle repair and the management and merchandising of spare parts, particularly those related to transmission systems, is growing in the automotive sector. Technical colleges in Southwest Nigeria that provide MVM programs have not yet fully incorporated thorough spare parts merchandising instruction into their curricula, despite this expanding need. Due to the current training's heavy emphasis on auto diagnostics and repair, students have little understanding of the business side of the sector. Because of this, many graduates do not have the skills necessary to successfully manage, market, and sell transmission spare parts. These skills are crucial for landing a job or starting their own business in the automobile industry. Furthermore, little research has studied how well Technical College instruction develops these crucial spare parts merchandising abilities. To increase MVM students' employability and entrepreneurial potential, this study aims to evaluate how well technical college training equips them with the necessary spare parts retailing competencies, particularly in transmission system components.

Research Questions

The following research questions will guide this study;

1. **RQ_1:** Are there sufficient resources (tools, facilities, equipment, and training materials) to effectively teach the students about spare parts merchandising?
2. **RQ_2:** How adequate are the competencies possessed by the Technical College MVM students in inventory management of transmission system parts?
3. **RQ_3:** Do the Technical College MVM students possess sufficient skills for the identification of transmission system parts?
4. **RQ_4:** How adequate are the competencies possessed by the Technical College MVM students in sourcing transmission system parts?
5. **RQ_5:** How adequate are the skills possessed by the Technical College MVM students in pricing and sales of transmission parts?
6. **RQ_6:** What is the level of skills possessed by the Technical College MVM students in customer service for transmission parts?
7. **RQ_7:** How adequate are the skills possessed by the Technical College MVM students in transmission system parts display and promotion/sales strategies?

LITERATURE REVIEW

Deebom et al. (2024) investigated how acquiring auto-electronics maintenance skills influences the employability of Motor Vehicle Mechanic Works (MVMWs) students in Technical Colleges in Rivers State. Using a descriptive survey design, the study involved all 13 teachers and 91 technicians from registered mechanic workshops, with data collected via a self-developed questionnaire. Analysis using mean, standard deviation, and z-test revealed that skills in electronic ignition systems, electronic suspension systems, and on-board diagnostics significantly improve students' employability. The study recommended that the National Board for Technical Education (NBTE) integrate these auto-electronics maintenance skills into the motor vehicle mechanics curriculum to better prepare students for modern vehicle maintenance and enhance their job prospects.

In Yinusa et al. (2023), the contribution of automobile mechanic services to job creation and income generation was investigated. Using questionnaires, data were collected from 345 auto-technicians, including mechanics, electricians, body panel beaters, wheel workers, and spray painters, selected through simple random and stratified sampling under the National Automotive

Technician Association (NATA). The results, analysed with descriptive and inferential statistics, showed a significant relationship between mechanic service activities and job creation, with strong R-square values. The study also found a significant effect of mechanic services on income generation. It concluded that automobile mechanic services significantly influence job creation and income generation, and recommended establishing mechanic villages and stricter government enforcement against substandard spare parts to reduce operational costs and improve service patronage.

Ajayi (2023) examined the on-board diagnostic (OBD) skills necessary for motor vehicle mechanics in servicing and maintaining ignition systems in Ilorin metropolis. Using a descriptive survey, the study involved 120 workshop supervisors and master automobile electricians, with 109 valid responses. Data were collected through a 25-item questionnaire and analysed using mean, standard deviation, and t-test at a 0.05 significance level. The findings indicated that OBD and safety skills are highly required for mechanics in the maintenance of electronic ignition systems. The study recommended that the Kwara State government provide financial support for workshops to acquire OBD scan tools and protective equipment, and that mechanics engage in continuous professional training to stay updated on best practices.

The factors influencing the profitability of motor mechanics and spare part merchandisers in Ilorin, Kwara State are investigated in Wahab et al. (2023). Also, the authors compared their incomes and profit margins. Convenience sampling was used in the study to select 100 motor mechanics and 100 spare part merchandisers using a survey approach. Questionnaires and guided interviews were used to gather data, and Pearson correlation was used to assess the hypotheses. The results showed that the two groups' income and profit margins differed significantly, with spare part merchandising being more lucrative. Nonetheless, the elements influencing both professions' profitability were comparable. The study found that both professions are lucrative and suggested that entrepreneurial training be incorporated into government programs aimed at eradicating poverty to promote formal motor mechanics education.

Lemo and Adenuga (2022) investigated entrepreneurship and skill development in automobile technical education in Nigerian universities. Using a descriptive survey design, the study involved 120 randomly selected students from Tai Solarin Federal University of Education, Ijebu Ode, and the University of Nigeria, Nsukka. Data were collected through a structured questionnaire. The findings indicated that technical knowledge and skill development significantly influence automobile technical education, and that integrating entrepreneurship and skill development programs positively affects the curriculum. Additionally, students' self-reliance was found to significantly influence the application of scientific knowledge in automobile technical education. The study recommended that adequate tools be provided to guide students toward entrepreneurship and enhance skill development in automobile technical programs.

Yana et al. (2022) developed an augmented reality (AR) learning module for the Sub-Subject Special Service Tools (SST) in automotive basics. An initial survey revealed that 90% of 30 students lacked modules or handbooks for studying SST. Using the ADDIE research and development model, the study created an AR-based module accessible via smartphone, allowing students to view 3D SST tools and their usage. Evaluation results indicated the module was highly feasible and practical, with expert and trial ratings of 93%, 87.89%, 88.55%, and 90.83%, respectively.

These studies promoted a comprehensive strategy for enhancing the car repair sector through talent development, process optimization, financial assistance, and curriculum change. To ensure that the industry satisfies the demands of contemporary automotive technologies, they offered stakeholders practical suggestions to improve efficiency, employability, and sustainability, especially in developing economies. To the best of the researcher's knowledge, no research has been done on motor vehicle mechanic students at Technical Colleges in Southwest Nigeria on the

need assessment for marketing transmission system spare parts. Therefore, our study aimed to close this gap.

METHODOLOGY

The study adopted a descriptive survey research design to collect data on perceptions and competencies related to transmission system spare parts merchandising among MVMW students and instructors. The population comprised 2,225 students and 37 instructors from 16 State Government Technical Colleges offering MVMW programmes in Southwest Nigeria. Using total enumeration, all 412 final-year (TEC III) students and the 37 instructors were selected, as the students had completed relevant coursework and industrial attachment. Data were collected using a researcher-developed questionnaire titled *Merchandising Transmission System Spare Parts Skills Possessed Questionnaire (MTSSPSPQ)*, structured on a four-point Likert scale (SA: Strongly Agree, A: Agree, D: Disagree, and SD: Strongly Disagree). The instrument covered respondents' demographic characteristics and assessed the availability of instructional resources and students' skill levels. The questionnaire was subjected to face and content validation by experts, while reliability was established through a test–retest method, yielding a Pearson correlation coefficient of $r = .81$. Data analysis involved descriptive statistics (frequency counts, percentages, mean ($\bar{X}$) and standard deviation (S_D)) to answer the formulated research questions.

RESULTS

RQ_1: Are there sufficient resources (tools, facilities, equipment, training materials) to effectively teach the students about spare parts merchandising?

Table 1
Summary of the Opinion of Students on the Sufficiency of Resources to Effectively Teach the Students About Spare Parts Merchandising

S/N	ITEM STATEMENT	SA	A	D	SD	$\bar{X}$	S_D
1	School has sufficient tools, facilities, equipment, training materials to effectively teach the students about spare parts merchandising.	173 (42.0%)	85 (20.6%)	91 (22.1%)	13 (6.5%)	2.89	1.12
2	The department works with **auto parts suppliers** to provide students with **real parts catalogues** and training materials.	133 (32.3%)	120 (29.1%)	95 (23.1%)	64 (15.5%)	2.78	1.06
3	They introduce **inventory management software** like Auto-Fluent or similar ones that students can use in class for realistic practice.	145 (35.2%)	116 (28.2%)	77 (18.7%)	74 (18.0%)	2.80	1.11
4	The instructors use diverse teaching methods to impart knowledge and skills to students	143 (34.7%)	137 (33.3%)	73 (17.7%)	59 (14.3%)	2.88	1.04
5	The instructors are highly knowledgeable and experienced in teaching competencies needed for parts merchandising.	136 (33.0%)	127 (30.8%)	90 (21.8%)	59 (14.3%)	2.82	1.05

Note. Source: Field Data 2025

From Table 1, analysis of item 1 shows that 258 (62.6%) respondents agreed that the school has sufficient tools, facilities, equipment, training materials to effectively teach the students about spare parts merchandising. Meanwhile, 106 (37.4%) respondents disagreed with a mean of 2.89, for item 2, 253 students representing 61.4% agreed that the department works with auto parts suppliers to provide students with real parts catalogues and training materials while 159 (38.6%) students disagreed ($\overline{X}$ = 2.78), for item 3, 261 respondents agreed that the teachers introduce inventory software like Auto-Fluent or similar ones that students can use in class for realistic practice while 151 (36.7%) respondents disagreed with a mean of 2.89. The analysis of item 4 indicates that 280 students representing 68.0% agreed that the instructors use diverse teaching methods to impart knowledge and skills to students while 132 (32.0%) respondents disagreed (item $\overline{X}$ = 2.88). For item 5, 263 (63.8%) respondents agreed that the instructors are highly knowledgeable and experienced in teaching competencies needed for parts merchandising while 149 (36.1%) respondents disagreed (item $\overline{X}$ = 2.82). To answer **RQ_1**, the grand mean for the items is 2.83, which is greater than 2.50 (the baseline for decision), showing that there are sufficient resources (tools, facilities, equipment, training materials) to effectively teach the students about spare parts merchandising.

RQ_2: How adequate are the competencies possessed by the Technical College MVM students in inventory management of transmission system parts?

From Table 2, analysis of item 6 shows that 264 (64.1%) respondents agreed that they can keep accurate records of spare parts inventory. Meanwhile, 148 (35.9%) respondents disagreed with a mean of 2.73, for item 7, 248 students representing 60.2% agreed that they can track transmission system spare parts in inventory while 164 (39.8%) students disagreed ($\overline{X}$ = 2.73), for item 8, 251 (61.0%) respondents agreed that they can use inventory management software to track spare parts while 161(39.0%) respondents disagreed with an item mean of 2.69. The analysis of item 9 indicates that 267 students representing 64.8% agreed that they can regularly check the status and availability of spare parts in the inventory while 145 (35.2%) respondents disagreed (item $\overline{X}$ = 2.88) for item 10, 258 (62.6%) respondents agreed that they can categorize spare parts to ensure easy identification and retrieval while 154 (37.4%) respondents disagreed (item $\overline{X}$ = 2.77), for item 11, analysis shows that 266 (64.6%) respondents agreed that they are aware of the minimum and maximum stock levels required for transmission system spare parts while 146 (35.4%) respondents disagreed (item $\overline{X}$ = 2.79), for item 12, 241 (58.5%) respondents agreed that they know when to reorder transmission system spare parts before they run out of stock while 171 (41.5%) respondents disagreed with an item mean of 2.68. The analysis of item 13 indicates that 243 students representing 59.0% agreed that they understand how to conduct regular stock checks to prevent overstocking or stockouts while 169 (41.0%) respondents disagreed (item $\overline{X}$ = 2.88), in item 14, 257 respondents representing 64.4% agreed that they feel confident in managing stock turnover rates for spare parts while 155 (37.6%) respondents disagreed with an item mean of 2.75. for item 15, 286 (69.4%) respondents agreed that they believed that maintaining proper stock levels of spare parts is essential for efficient vehicle repairs while 126(30.6%) respondents disagreed with an item mean of 2.86, in item 16, 261 (63.4%) students agreed that they are familiar with proper storage methods for transmission system spare parts while 151 (36.7%) respondents disagreed with an item mean of 2.86 (Item $\overline{X}$ = 2.77). Analysis of item 17 shows that 260 (63.1%) respondents agreed that they can efficiently organise spare parts to minimise time spent searching for them while 152 (36.9%) respondents disagreed with a mean of 2.75, in item 18, 256 (62.1%) students agreed that they understand the importance of labelling spare parts to avoid confusion while 156 (37.8%) respondents disagreed with an item mean of 2.77, 261 representing 63.3% in item 19 agreed that they are confident in managing different types of transmission system parts in the

inventory while 151 representing 36.7% disagreed (Item $\overline{X}$ = 2.72), for item 20, 315 which is 76.4% of the respondents agreed that they can keep spare parts in a safe and secure environment to prevent damage or loss while 23.6% which is 97 respondents disagreed (Item $\overline{X}$ = 3.10), for the analysis of item 21, data show that 280 which is 68.0% of the respondents agreed that they are knowledgeable about the process of sourcing transmission system spare parts from suppliers while 132 (32.0%) respondents disagreed with an item mean of 2.88, the analysis of item 22 indicates that 287 (69.6%) of the respondents agreed that they understand the importance of maintaining relationships with reliable spare parts suppliers while 30.5% which is 125 respondents disagreed (Item $\overline{X}$ = 2.98), for item 23, analysis shows that 277 (67.2%) respondents agreed that they are able to negotiate pricing and delivery terms with spare parts suppliers effectively while 135 (32.8%) respondents disagreed (item $\overline{X}$ = 2.88). 278 representing 67.5% of the respondents in item 24 agreed that they can evaluate the quality of spare parts before purchasing them while 134 representing 32.5% disagreed (Item $\overline{X}$ = 2.91) and lastly for the analysis of item 25, data show that 272 which is 66.0% of the respondents agreed that they are aware

Table 2

Summary of the Opinions of Students on The Adequacy of Competencies Possessed by Technical College MVM Students in Inventory Management of Transmission System Parts

S/N	ITEM STATEMENT	SA	A	D	SD	$\overline{X}$	S_D
6.	I have ability of keeping accurate records of spare parts inventory.	108 (26.2%)	156 (37.9%)	77 (18.7%)	71 (17.2%)	2.73	1.03
7.	I have ability to track transmission system spare parts in inventory.	129 (31.3%)	119 (28.9%)	89 (21.6%)	75 (18.2%)	2.73	1.09
8.	I have ability to use inventory management software to track spare parts.	114 (27.7%)	137 (33.3%)	81 (19.7%)	80 (19.3%)	2.69	1.08
9.	I have ability regularly to check the status and availability of spare parts in the inventory.	133 (32.3%)	134 (32.5%)	74 (18.0%)	71 (17.2%)	2.80	1.07
10.	I have ability to categorize spare parts to ensure easy identification and retrieval.	134 (32.5%)	124 (30.1%)	80 (19.4%)	74 (18.0%)	2.77	1.09
11	I am aware of the minimum and maximum stock levels required for transmission system spare parts.	135 (32.8%)	131 (31.8%)	71 (17.2%)	75 (18.2%)	2.79	1.09
12.	I know when to reorder transmission system spare parts before they run out of stock.	119 (28.9%)	122 (29.6%)	93 (22.6%)	78 (18.9%)	2.68	1.08
13.	I understand how to conduct regular stock checks to prevent overstocking or stockouts.	133 (32.3%)	110 (26.7%)	94 (22.8%)	75 (18.2%)	2.73	1.09
14.	I feel confident in managing stock turnover rates for spare parts.	129 (31.3%)	128 (31.1%)	78 (18.9%)	77 (18.7%)	2.75	1.09
15.	I believed that maintaining proper stock levels of spare parts is essential for efficient vehicle repairs.	133 (32.3%)	153 (37.1%)	60 (14.6%)	66 (16.0%)	2.86	1.04
16.	I am familiar with proper storage methods for transmission system spare parts.	121 (29.4%)	140 (34.0%)	88 (21.4%)	63 (15.3%)	2.77	1.03

17.	I can efficiently organise spare parts to minimize time spent searching for them.	125 (30.3%)	135 (32.8%)	77 (18.7%)	75 (18.2%)	2.75	1.08
18.	I understand the importance of labelling spare parts to avoid confusion.	127 (30.8%)	129 (31.3%)	92 (22.3%)	64 (15.5%)	2.77	1.05
19.	I am confident i280 n managing different types of transmission system parts in the inventory.	118 (28.6%)	143 (34.7%)	70 (17.0%)	81 (19.7%)	2.72	1.08
20.	I can keep spare parts in a safe and secure environment to prevent damage or loss.	172 (41.7%)	143 (34.7%)	64 (15.4%)	33 (8.0%)	3.10	.940
21.	I am knowledgeable about the process of sourcing transmission system spare parts from suppliers.	137 (33.3%)	143 (34.7%)	78 (18.9%)	54 (13.1%)	2.88	1.01
22.	I understand the importance of maintaining relationships with reliable spare parts suppliers.	169 (41.0%)	118 (28.6%)	74 (18.0%)	51 (12.4%)	2.98	1.04
23.	I am able to negotiate pricing and delivery terms with spare parts suppliers effectively.	145 (35.2%)	132 (32.0%)	75 (18.2%)	60 (14.6%)	2.88	1.05
24.	I can evaluate the quality of spare parts before purchasing them.	157 (38.1%)	121 (29.4%)	73 (17.7%)	61 (14.8%)	2.91	1.06
25.	I am aware of the lead time required for spare parts delivery and its impact on inventory management.	122 (29.6%)	150 (36.4%)	72 (17.5%)	68 (16.5%)	2.79	1.04

Note. Source: Field Data 2025

of the lead time required for spare parts delivery and its impact on inventory management, while 140 (34.0%) respondents disagreed with an item mean of 2.79. To answer RQ_2, the grand mean for the items is 2.80, which is greater than 2.50 (the baseline for decision), showing that the competencies possessed by the Technical College MVM students in inventory management of transmission system parts are adequate.

RQ_3: Do the Technical College MVM students possess sufficient skills for the identification of transmission system parts?

From Table 3, Analysis of item 26 shows that 274 (66.5%) respondents agreed that they are familiar with the different types of transmission system spare parts commonly used in motor vehicles while 141 (34.2%) respondents disagreed with a mean of 2.87, for item 27, 270 students representing 65.6% agreed that they can identify various transmission system parts based on their appearance while 142 (34.5%) students disagreed ($\overline{X}$ = 2.80), for item 28, 257 (62.4%) respondents agreed that they are confident in their ability to distinguish between original and counterfeit transmission parts while 155 (37.6%) respondents disagreed with an item mean of 2.80. The analysis of item 29 indicates that 262 students representing 63.6% agreed that they are knowledgeable about the functions of different transmission system components while 154 (37.3%) respondents disagreed (item $\overline{X}$ = 2.80) for item 30, 264 (64.1%) respondents agreed that they understand the specifications of each spare part used in a transmission system while 148 (35.9 %) respondents disagreed (item $\overline{X}$ = 2.83), for item 31, analysis shows that 266 (60.5%) respondents agreed that they are able to identify transmission system parts by their part numbers while 146

(39.5%) respondents disagreed (item $\overline{X}$ = 2.81), for item 32, 251 (60.9%) respondents agreed that they can recognise transmission parts based on their shape, size, and material while 161 (39.1%) respondents disagreed with an item mean of 2.81. The analysis of item 33 indicates that 247 students representing 60.0% agreed that they are comfortable using catalogues or manuals to identify the right transmission parts while 165 (40.0%) respondents disagreed (item $\overline{X}$ = 2.73), in item 34, 250 respondents representing 60.6% agreed that they know how to use parts identification system (e.g., barcodes, RFID) to locate specific part while 162 (38.8%) respondents disagreed with an item mean of 2.73. For item 35, 253 (61.4%) respondents agreed that they can identify the correct transmission parts needed for different vehicle models while 159 (38.6%) respondents disagreed with an item mean of 2.75, in item 36, 253 (61.4%) students agreed that they are familiar with the tools used to identify transmission parts, such as catalogues or parts databases while 159 (38.6%) respondents disagreed (Item $\overline{X}$ = 2.75). Analysis of item 37 shows that 253 (63.4%) respondents agreed that they are able to use online resources to verify the identification of transmission system parts while 159 (38.6%) respondents disagreed with a mean of 2.75, in item 38, 256 (62.1%) students agreed that they feel confident in their ability to use part identification software or systems while 156 (2.75%) respondents disagreed with an item mean of 2.75 253 representing 61.4% in item 39 agreed that they can easily access parts manuals or electronic databases to find information about transmission parts while 159 representing 38.6% disagreed (Item $\overline{X}$ = 2.76), for item 40, 261 which is 63.4% of the respondents agreed that they know how to cross-reference different part numbers to ensure they have the correct spare parts 36.6% which is 151 respondents disagreed (Item $\overline{X}$ = 2.78), for the analysis of item 41, data show that 245 which is 59.4% of the respondents agreed that they can identify the right spare parts based on a description or visual representation of the parts while 167 (40.6%) respondents disagreed with an item mean of 2.74, the analysis of item 42 indicates that 257 (62.4%) of the respondents agreed that they understand how to match the correct transmission part to the specific repair or replacement task while 37.6% which is 155 respondents disagreed (Item $\overline{X}$ = 2.74), for item 43, analysis shows that 231 (56.1%) respondents agreed that they are able to identify the wear or damage of transmission system parts to decide if they need replacing while 181 (43.9%) respondents disagreed (item $\overline{X}$ = 2.63). 245 representing 58.5% of the respondents in item 44 agreed that they are capable of providing the correct part identification to customers based on their needs or vehicle specifications while 167 representing 40.5% disagreed (Item $\overline{X}$ = 2.75) and lastly for the analysis of item 45, data show that 255 which is 61.9% of the respondents agreed that they are confident in their ability to identify the necessary parts for transmission repairs or maintenance tasks while 157 (38.1%) respondents disagreed with an item mean of 2.87. To answer RQ_3, the grand mean for the items (26 to 45) is 2.77 which is greater than 2.50 (the baseline for decision), indicating that the Technical College MVM students possessed sufficient skills required for the identification of transmission system parts.

Table 3

Summary of the Opinions of Students on The Skills Possessed by MVM Students for the Identification of Transmission System Parts

S/N	ITEM STATEMENT	SA	A	D	SD	$\bar{X}$	S_D
26.	I am familiar with the different types of transmission system spare parts commonly used in motor vehicles.	147 (35.7%)	127 (30.8%)	76 (18.4%)	65 (15.8%)	2.87	1.06
27.	I can identify various transmission system parts based on their appearance.	126 (30.6%)	144 (35.0%)	75 (18.2%)	67 (16.3%)	2.80	1.05

28.	I am confident in my ability to distinguish between original and counterfeit transmission parts.	126 (30.6%)	131 (31.8%)	86 (20.9%)	69 (16.7%)	2.80	1.06
29.	I am knowledgeable about the functions of different transmission system components.	131 (31.8%)	131 (31.8%)	85 (20.6%)	69 (16.7%)	2.80	1.06
30.	I understand the specifications of each spare part used in a transmission system.	150 (36.4%)	114 (27.7%)	77 (18.7%)	71 (17.2%)	2.83	1.10
31	I am able to identify transmission system parts by their part numbers.	148 (35.9%)	118 (28.6%)	65 (15.8%)	81 (19.7%)	2.81	1.12
32.	I can recognize transmission parts based on their shape, size, and material.	139 (33.7%)	112 (27.2%)	77 (18.7%)	84 (20.4%)	2.81	1.83
33.	I am comfortable using catalogues or manuals to identify the right transmission parts.	128 (31.1%)	119 (28.9%)	91 (22.0%)	74 (18.0%)	2.73	1.09
34.	I know how to use parts identification system (e.g., barcodes, RFID) to locate specific parts.	132 (32.0%)	118 (28.6%)	80 (19.4%)	82 (19.9%)	2.73	1.11
35.	I can identify the correct transmission part needed for different vehicle models.	124 (30.1%)	129 (31.3%)	92 (22.3%)	67 (16.3%)	2.75	1.06
36.	I am familiar with the tools used to identify transmission parts, such as catalogues or parts databases.	129 (31.3%)	124 (30.1%)	87 (21.1%)	72 (17.5%)	2.75	1.08
37.	I am able to use online resources to verify the identification of transmission system parts.	128 (31.1%)	125 (30.3%)	89 (21.6%)	70 (17.0%)	2.75	1.07
38.	I feel confident in my ability to use part identification software or systems.	131 (31.8%)	125 (30.3%)	79 (19.2%)	77 (18.7%)	2.75	1.09
39.	I can easily access parts manuals or electronic databases to find information about transmission parts.	124 (30.1%)	129 (31.3%)	95 (23.1%)	64 (15.5%)	2.76	1.05
40.	I know how to cross-reference different part numbers to ensure I have the correct spare part.	133 (32.3%)	128 (31.1%)	77 (18.6%)	74 (18.0%)	2.78	1.09
41.	I can identify the right spare part based on a description or visual representation of the part.	132 (32.0%)	113 (27.4%)	96 (23.3%)	71 (17.3%)	2.74	1.09
42.	I understand how to match the correct transmission part to the specific repair or replacement task.	130 (31.6%)	127 (30.8%)	72 (17.5%)	83 (20.1%)	2.74	1.11
43.	I am able to identify the wear or damage of transmission system parts to decide if they need replacing.	112 (27.2%)	119 (28.9%)	99 (24.0%)	82 (19.9%)	2.63	1.08
44.	I am capable of providing the correct part identification to customers based on their needs or vehicle specifications.	140 (34.0%)	105 (25.5%)	90 (21.8%)	77 (18.7%)	2.75	1.12
45.	I am confident in my ability to identify the necessary parts for transmission repairs or maintenance tasks.	139 (33.7%)	116 (28.2%)	89 (21.6%)	68 (16.5%)	2.87	1.08

Note. Source: Field Data 2025

RQ_4: How adequate are the competencies possessed by the Technical College MVM students in sourcing transmission system parts?

From Table 4, analysis of item 46 shows that 254 (61.6%) respondents agreed that they are aware of the different sources for acquiring transmission system spare parts while 158 (38.4%) respondents disagreed with a mean of 2.73, for item 47, 254 students representing 61.7% agreed that they understand the importance of sourcing high-quality transmission parts for vehicle repairs while158 (38.3%) students disagreed ($\overline{X}$ = 2.74), for item 48, 243 (59.0%) respondents agreed that they can identify reliable suppliers for transmission system spare parts while 169 (41.0%) respondents disagreed with an

Table 4

Summary of the Opinions of MVM Students on the Possession of Adequate Competencies for Sourcing Transmission System Parts

S/N	ITEM STATEMENT	SA	A	D	SD	$\bar{X}$	S_D
46.	I am aware of the different sources for acquiring transmission system spare parts.	125 (30.3%)	129 (31.3%)	81 (19.7%)	77 (18.7%)	2.73	1.09
47.	I understand the importance of sourcing high-quality transmission parts for vehicle repairs.	119 (28.9%)	135 (32.8%)	89 (21.6%)	69 (16.7%)	2.74	1.05
48.	I can identify reliable suppliers for transmission system spare parts.	121 (29.4%)	122 (29.6%)	87 (21.1%)	82 (19.9%)	2.68	1.09
49.	I am aware of the different factors to consider when sourcing spare parts for transmission systems.	145 (35.2%)	117 (28.4%)	70 (17.0%)	80 (19.4%)	2.80	1.12
50.	I know how to determine which suppliers offer the best value for transmission system parts.	126 (30.6%)	125 (30.3%)	92 (22.3%)	69 (16.7%)	2.75	1.07
51	I understand the significance of building strong relationships with suppliers of transmission parts.	108 (26.2%)	136 (33.0%)	91 (22.0%)	77 (18.7%)	2.67	1.06
52.	I am able to communicate effectively with suppliers to ensure timely delivery of parts.	110 (26.7%)	134 (32.5%)	88 (21.4%)	80 (19.4%)	2.67	1.07
53.	I know how to evaluate and select suppliers based on product quality and delivery time.	121 (29.4%)	124 (30.1%)	88 (21.4%)	79 (19.2%)	2.70	1.09
54.	I can negotiate terms with suppliers to ensure competitive pricing for transmission parts.	140 (34.0%)	107 (26.0%)	89 (21.6%)	76 (18.4%)	2.75	1.11
55.	I am confident in my ability to assess supplier performance to ensure continuous supply.	126 (30.6%)	126 (30.6%)	79 (19.2%)	79 (19.2%)	2.73	1.09
56.	I know how to verify the quality of transmission system spare parts before sourcing them.	137 (33.3%)	109 (28.2%)	89 (21.6%)	77 (18.7%)	2.74	1.11

57.	I understand the importance of sourcing transmission parts from certified manufacturers.	124 (30.1%)	116 (28.2%)	100 (24.3%)	72 (17.5%)	2.71	1.08
58.	I ensure that sourced transmission parts meet the required safety and quality standards.	123 (29.9%)	128 (31.1%)	78 (18.9%)	83 (20.1%)	2.71	1.10
59.	I am/are able to detect potential counterfeit or substandard transmission parts during sourcing.	106 (25.7%)	124 (30.1%)	85 (20.6%)	97 (23.5%)	2.58	1.11
60.	I am familiar with industry standards for quality when sourcing transmission system spare parts.	159 (38.6%)	108 (26.2%)	68 (16.5%)	77 (18.7%)	2.85	1.13
61.	I understand how to balance cost efficiency and quality when sourcing transmission parts.	147 (35.7%)	109 (26.5%)	82 (19.9%)	74 (18.0%)	2.80	1.11
62.	I am/are able to assess the total cost of sourcing transmission parts, including shipping and handling.	140 (34.0%)	118 (28.6%)	84 (20.4%)	70 (17.0%)	2.80	1.09
63.	I am/are aware of the potential risks associated with sourcing transmission parts from low-cost suppliers.	126 (30.6%)	128 (31.1%)	79 (19.2%)	79 (19.2%)	2.73	1.09
64.	I am/are able to find cost-effective suppliers while ensuring the parts' reliability and performance.	124 (30.1%)	122 (29.6%)	82 (19.9%)	84 (20.4%)	2.69	1.11
65.	I regularly review my sourcing strategies to ensure that I am obtaining the best value for transmission system parts.	110 (26.7%)	144 (35.0%)	86 (20.9%)	72 (117.5%)	2.71	1.05

Note. Source: Field Data 2025

item mean of 2.68. The analysis of item 49 indicates that 262 students, representing 63.6%, agreed that they are aware of the different factors to consider when sourcing spare parts for transmission systems, while 150 (36.4%) respondents disagreed (item $\overline{X}$ = 2.80). For item 50, 251 (60.9%) respondents agreed that they know how to determine which suppliers offer the best value for transmission system parts. While 161 (39.1 %) respondents disagreed (item $\overline{X}$ = 2.75). For item 51, analysis shows that 244 (59.2%) respondents agreed that they understand the significance of building strong relationships with suppliers of transmission parts while 168 (40.8%) respondents disagreed (item $\overline{X}$ = 2.67). For item 52, 244 (59.2%) respondents agreed that they are able to communicate effectively with suppliers to ensure timely delivery of parts while 168 (40.8%) respondents disagreed with an item mean of 2.67. The analysis of item 53 indicates that 245 students representing 59.5% agreed that they know how to evaluate and select suppliers based on product quality and delivery time while 167 (40.5%) respondents disagreed (item $\overline{X}$ = 2.70). In item 54, 247 respondents representing 60.0% agreed that they can negotiate terms with suppliers to ensure competitive pricing for transmission parts while 165 (40.0%) respondents disagreed with an item mean of 2.75. For item 55, 252 (61.2%) respondents agreed that they are confident in their ability to assess supplier performance to ensure continuous supply while 152 (38.8%) respondents disagreed with an item mean of 2.73. In item 56, 246 (61.5%) students agreed that they know how

to verify the quality of transmission system spare parts before sourcing them while 166 (38.5%) respondents disagreed (Item $\overline{X}$ = 2.74). Analysis of item 57 shows that 240 (58.3%) respondents agreed that they understand the importance of sourcing transmission parts from certified manufacturers while 172 (41.7%) respondents disagreed with a mean of 2.71, in item 58, 251 (61.0%) students agreed that they ensure that sourced transmission parts meet the required safety and quality standards while 161 (39.0%) respondents disagreed with an item mean of 2.71. 230 respondents representing 55.8 % in item 59 agreed that they are able to detect potential counterfeit or substandard transmission parts during sourcing while 182 representing 44.2% disagreed (Item $\overline{X}$ = 2.58), for item 60, 267 which is 64.8% of the respondents agreed that they familiar with industry standards for quality when sourcing transmission system spare parts while 35.2% which is 145 respondents disagreed (Item $\overline{X}$ = 2.85), for the analysis of item 61, data show that 256 which is 62.2% of the respondents agreed that they understand how to balance cost efficiency and quality when sourcing transmission parts while 156 (37.2%) respondents disagreed with an item mean of 2.80, the analysis of item 62 indicates that 258 (59.0%) of the respondents agreed that they are able to assess the total cost of sourcing transmission parts, including shipping and handling while 41.0% which is 154 respondents disagreed (Item $\overline{X}$ = 2.80), for item 63, analysis shows that 254 (61.7%) respondents agreed that they are aware of the potential risks associated with sourcing transmission parts from low-cost suppliers while 158 (38.3%) respondents disagreed (item $\overline{X}$ = 2.73). 246 representing 59.7% of the respondents in item 64 agreed that they are able to find cost-effective suppliers while ensuring the parts' reliability and performance while 166 representing 40.3% disagreed (Item $\overline{X}$ = 2.69) and lastly for the analysis of item 65, data show that 224 which is 61.7% of the respondents agreed that they regularly review their sourcing strategies to ensure that they are obtaining the best value for transmission system parts while 188 (38.3%) respondents disagreed with an item mean of 2.71. To answer RQ_4, the grand mean for the items (i46 to i65) is 2.73 which is greater than 2.50 (the baseline for taking a decision), indicating that the Technical College MVM students possessed adequate competencies for sourcing transmission system parts.

RQ_5: How adequate are the skills possessed by the Technical College MVM students in pricing and sales of transmission system parts?

From Table 5, analysis of item 66 shows that 252 (61.1%) respondents agreed that they understand the factors that influence the pricing of transmission system spare parts. Meanwhile, 160 (38.9%) respondents disagreed with a mean of 2.71, for item 67, 247 students representing 59.9% agreed that they can set competitive prices for transmission system parts while ensuring a reasonable profit margin while 165 (40.1%) students disagreed ($\overline{X}$ = 2.67), for item 68, 241 (58.5%) respondents agreed that they are familiar with the concept of cost-based pricing for transmission parts while 171 (41.5%) respondents disagreed with an item mean of 2.69. The analysis of item 69 indicates that 251 students representing 61.0% agreed that they can adjust the prices of transmission parts based on market demand and supply while 161 (39.0%) respondents disagreed (item $\overline{X}$ = 2.74), for item 70, 258 (62.6%) respondents agreed that they understand how to offer discounts or promotions while maintaining profitability for

Table 5

Summary of the Opinions of MVM Students on The Adequacy of The Skills Possessed in Pricing and Sales of Transmission System Parts

S/N	ITEM STATEMENT	SA	A	D	SD	$\overline{X}$	S_D
66.	I understand the factors that influence the pricing of transmission system spare parts.	118 (28.6%)	134 (32.5%)	83 (20.1%)	77 (18.7%)	2.71	1.07

67.	I can set competitive prices for transmission system parts while ensuring a reasonable profit margin.	104 (25.2%)	143 (34.7%)	88 (21.4%)	77 (18.7%)	2.67	1.05
68.	am/are familiar with the concept of cost-based pricing for transmission parts.	122 (29.6%)	119 (28.9%)	92 (22.3%)	79 (19.2%)	2.69	1.09
69.	am/are able to adjust the prices of transmission parts based on market demand and supply.	123 (29.9%)	128 (31.1%)	91 (22.1%)	70 (17.0%)	2.74	1.06
70.	I understand how to offer discounts or promotions while maintaining profitability for spare parts.	124 (30.1%)	134 (32.5%)	73 (17.7%)	81 (19.7%)	2.73	1.09
71	I can effectively communicate the value of transmission system spare parts to customers.	127 (30.8%)	130 (31.6%)	85 (20.6%)	70 (17.0%)	2.76	1.07
72.	I am confident in my ability to sell transmission parts to both individual customers and businesses.	133 (32.3%)	119 (28.9%)	90 (21.8%)	70 (17.0%)	2.76	1.08
73.	I understand the importance of up selling and cross-selling related transmission parts to customers.	119 (28.9%)	131 (31.8%)	89 (21.6%)	73 (17.7 %)	2.72	1.07
74.	I can identify customer needs and recommend the right transmission parts accordingly.	124 (30.1%)	117 (28.4%)	99 (24.0%)	72 (17.5%)	2.71	1.08
75.	I am familiar with different sales techniques, such as direct sales, online sales, and telesales, for spare parts.	134 (32.5%)	117 (28.4%)	94 (22.8%)	67 (16.3%)	2.77	1.07
76.	I am able to build strong relationships with customers by providing excellent service and product knowledge.	129 (31.3%)	126 (30.6%)	78 (18.9%)	79 (19.2%)	2.74	1.09
77.	I listen to customers' needs and preferences when recommending transmission parts.	121 (29.4%)	126 (30.6%)	91 (22.1%)	74 (18.0%)	2.71	1.07
78.	I can effectively address customer complaints related to pricing or product quality.	117 (28.4%)	128 (31.1%)	84 (20.4%)	83 (20.1%)	2.68	1.09
79.	I understand how to negotiate pricing with customers to reach a mutually beneficial agreement.	128 (31.1%)	119 (28.9%)	85 (20.6%)	80 (19.4%)	2.72	1.10
80.	I am comfortable offering price quotes and discussing payment terms with customers.	112 (27.2%)	129 (31.3%)	91 (22.1%)	80 (19.4%)	2.66	1.07
81.	I regularly review sales data to evaluate the performance of transmission system parts sales.	125 (30.3%)	120 (29.1%)	95 (23.1%)	72 (17.5%)	2.72	1.07
82.	I understand how to assess the profitability of the sales of transmission parts.	104 (25.2%)	129 (31.3%)	99 (24.0%)	80 (19.4%)	2.62	1.06

83.	I am able to track sales trends for specific transmission parts and adjust pricing or marketing strategies accordingly.	128 (31.1%)	112 (27.2%)	96 (23.3%)	76 (18.4%)	2.71	1.09
84.	I can identify which transmission parts are the bestsellers and which ones need improvement in marketing or pricing.	120 (29.1%)	128 (31.1%)	97 (23.5%)	67 (16.3%)	2.73	1.05
85.	I am familiar with sales forecasting techniques for predicting demand and planning inventory for transmission parts.	126 (30.6%)	116 (28.2%)	94 (22.8%)	76 (18.4%)	2.71	1.09

Note. Source: Field Data 2025

spare parts while 154 (37.4%) respondents disagreed (item $\overline{X}$ = 2.73), for item 71, analysis shows that 257 (62.4%) respondents agreed that they can effectively communicate the value of transmission system spare parts to customers while 155 (37.6%) respondents disagreed (item $\overline{X}$ = 2.76), for item 72, 252 (61.2%) respondents agreed that they are confident in my ability to sell transmission parts to both individual customers and businesses while 160 (38.8%) respondents disagreed with an item mean of 2.76. The analysis of item 73 indicates that 250 students representing 60.7% agreed that they understand the importance of up selling and cross-selling related transmission parts to customers while 162 (39.3%) respondents disagreed (item $\overline{X}$ = 2.70), in item 74, 241 respondents representing 58.5% agreed that they can identify customer needs and recommend the right transmission parts accordingly. Meanwhile, 171 (41.5%) respondents disagreed with an item mean of 2.71. for item 75, 251 (60.9%) respondents agreed that they are familiar with different sales techniques, such as direct sales, online sales, and telesales, for spare parts while 161 (39.1%) respondents disagreed with an item mean of 2.77, in item 76, 255 (61.9%) students agreed that are able to build strong relationships with customers by providing excellent service and product knowledge 157 (38.1%) respondents disagreed (Item $\overline{X}$ = 2.74). Analysis of item 77 shows that 247 (60.0%) respondents agreed that they listen to customers' needs and preferences when recommending transmission parts while 165 (40.0%) respondents disagreed with a mean of 2.71, in item 78, 245 (59.5%) students agreed that they can effectively address customer complaints related to pricing or product quality while 167 (40.5%) respondents disagreed with an item mean of 2.68. 247 respondents representing 60.0% in item 79 agreed that they understand how to negotiate pricing with customers to reach a mutually beneficial agreement while 165 representing 40.0% disagreed (Item $\overline{X}$ = 2.72), for item 80, 241 which is 58.5% of the respondents agreed that they are comfortable offering price quotes and discussing payment terms with customers while 41.5% which is 171 respondents disagreed (Item $\overline{X}$ = 2.66), for the analysis of item 81, data show that 245 which is 59.4% of the respondents agreed that they regularly review sales data to evaluate the performance of transmission system parts sales while 167 (40.6%) respondents disagreed with an item mean of 2.72, the analysis of item 82 indicates that 233 (56.5%) of the respondents agreed that they understand how to assess the profitability of the sales of transmission parts while 43.5% which is 179 respondents disagreed (Item $\overline{X}$ = 2.62), for item 83, analysis shows that 240 (58.3%) respondents agreed that they are able to track sales trends for specific transmission parts and adjust pricing or marketing strategies accordingly while 172 (41.7%) respondents disagreed (item $\overline{X}$ = 2.71). 248 representing 60.2% of the respondents in item 84 agreed that they can identify which transmission parts are the bestsellers and which ones need improvement in marketing or pricing while 164 representing 39.8% disagreed (Item $\overline{X}$ = 2.73)

and lastly for the analysis of item 85, data show that 242 which is 58.8% of the respondents agreed that they are familiar with sales forecasting techniques for predicting demand and planning inventory for transmission parts while 170 (41.2%) respondents disagreed with an item mean of 2.71. To answer **RQ$_5$**, the grand mean for the items (66 to 85) is 2.71 which is greater than 2.50 (the baseline for taking a decision), indicating that the Technical College MVM students possessed adequate skills in pricing and sales of transmission system parts.

RQ$_6$: What is the level of skills possessed by the Technical College MVM students in customer service for transmission system parts?

From Table 6, analysis of item 86 shows that 236 (57.3%) respondents agreed that they can greet customers politely and professionally when they inquire about transmission parts. Meanwhile, 176 (42.7%) respondents disagreed with a mean of 2.67, for item 87, 249 students representing 60.5% agreed that they listen attentively to customer inquiries about transmission system spare parts while 163 (39.5%) students disagreed ($\overline{X}$ = 2.70), for item 88, 246 (59.7%) respondents agreed that they can provide clear and concise explanations of transmission parts to customers while 146 (40.3%) respondents disagreed with an item mean of 2.70. The analysis of item 89 indicates that 241 students representing 58.5% agreed that they are comfortable interacting with customers to understand their spare part needs while 171 (41.5%) respondents disagreed (item $\overline{X}$ = 2.66), for item 90, 254 (61.6%) respondents agreed that they make customers feel valued and respected during every interaction regarding spare parts while 158 (38.4%) respondents disagreed (item $\overline{X}$ = 2.75), for item 91, analysis shows that 254 (61.6%) respondents agreed that they can answer most customer questions about the different types of transmission system parts while 155 (37.6%) respondents disagreed (item $\overline{X}$ = 2.74), for item 92, 246 (59.7%) respondents agreed that they are confident in their knowledge of the features and benefits of

Table 6

Summary of the Opinions of MVM Students on The Level of Skills Possessed in Customer Service for Transmission System Parts

S/N	ITEM STATEMENT	SA	A	D	SD	$\bar{X}$	S_D
86.	I am able to greet customers politely and professionally when they inquire about transmission parts.	114 (27.7%)	122 (29.6%)	100 (24.3%)	76 (18.4%)	2.67	1.07
87.	I listen attentively to customer inquiries about transmission system spare parts.	123 (29.9%)	126 (30.6%)	81 (19.7%)	82 (19.9%)	2.70	1.10
88.	I can provide clear and concise explanations of transmission parts to customers.	119 (28.9%)	127 (30.8%)	89 (21.6%)	77 (18.7%)	2.70	1.08
89.	I am comfortable interacting with customers to understand their spare part needs.	109 (26.5%)	132 (32.0%)	94 (22.8%)	77 (18.7%)	2.66	1.06
90.	I make customers feel valued and respected during every interaction regarding spare parts.	134 (32.5%)	120 (29.1%)	81 (19.7%)	77 (18.7%)	2.75	1.10
91	I can answer most customer questions about the different types of transmission system parts.	127 (30.8%)	127 (30.8%)	80 (19.4%)	78 (18.9%)	2.74	1.09

92.	I am confident in my knowledge of the features and benefits of various transmission parts.	121 (29.4%)	125 (30.3%)	77 (18.7%)	89 (21.6%)	2.67	1.11
93.	I can quickly locate and recommend the right transmission part for a customer's specific needs.	125 (30.3%)	118 (28.6%)	78 (18.9%)	91 (22.1%)	2.67	1.13
94.	I stayed informed about the latest developments in transmission system technology to better assist customers.	130 (31.6%)	114 (27.7%)	77 (18.7%)	91 (22.1%)	2.69	1.14
95.	I am knowledgeable about the warranty and return policies related to transmission parts.	130 (31.6%)	124 (30.1%)	75 (18.2%)	83 (20.1%)	2.73	1.11
96.	I am able to handle customer complaints about transmission system parts in a calm and professional manner.	116 (28.2%)	130 (31.6%)	75 (18.2%)	91 (22.1%)	2.66	1.11
97.	I know how to resolve issues related to defective or incorrect spare parts efficiently.	151 (36.7%)	106 (25.7%)	79 (18.4%)	76 (18.4%)	2.81	1.12
98.	I ensure that customers are satisfied with the solutions offered to resolve their complaints.	150 (36.4%)	99 (24.0%)	92 (22.3%)	71 (17.2%)	2.80	1.11
99.	I actively seek customer feedback to improve the quality of service provided.	143 (34.7%)	112 (27.2%)	80 (19.4%)	77 (18.7%)	2.78	1.11
100.	I am capable of managing difficult situations, such as out-of-stock parts, in a way that reassures customers.	127 (30.8%)	130 (31.6%)	83 (20.1%)	80 (19.4%)	2.76	1.07
101.	I follow up with customers to ensure they are satisfied with the transmission parts they purchased.	128 (31.1%)	125 (30.3%)	83 (20.1%)	76 (18.4%)	2.74	1.09
102.	I provide support for installation or maintenance of transmission parts after the sale, if needed.	135 (32.8%)	126 (30.6%)	86 (20.9%)	65 (15.8%)	2.80	1.06
103.	I offer assistance to customers who require additional information on how to care for their transmission parts.	118 (28.6%)	129 (31.3%)	90 (21.8%)	75 (18.2%)	2.70	1.07
104.	I ensure customers are aware of the maintenance schedules and services related to their purchased parts.	141 (34.2%)	115 (27.9%)	85 (20.6%)	71 (17.2%)	2.79	1.09
105.	I am always ready to help customers with any concerns or issues they may encounter after purchasing spare parts.	126 (30.6%)	130 (31.6%)	85 (20.6%)	71 (17.2%)	2.75	1.07

Note. Source: Field Data 2025

various transmission parts while 166 (40.3%) respondents disagreed with an item mean of 2.67. The analysis of item 93 indicates that 243 students representing (58.9%) agreed that they can quickly locate and recommend the right transmission part for a customer's specific needs. Meanwhile, 169 (41.1%) respondents disagreed (item $\overline{X}$ = 2.67), in item 94, 254 respondents representing 59.3% agreed that they stayed informed about the latest developments in transmission system technology to better assist customers while 168 (40.7%) respondents disagreed with an item mean of 2.69. For item 95, 254 (61.7%) respondents agreed that they are knowledgeable about the warranty and return policies related to transmission parts. Meanwhile, 158 (38.3%) respondents disagreed with an item mean of 2.73, in item 96, 246 (59.9%) students agreed that they can handle customer complaints about transmission system parts calmly and professionally, while 166 (40.1%) respondents disagreed (Item $\overline{X}$ = 2.66). Analysis of item 97 shows that 257 (62.4%) respondents agreed that they know how to resolve issues related to defective or incorrect spare parts efficiently while 155 (37.6%) respondents disagreed with a mean of 2.81, in item 98, 249(60.4%) students agreed that they ensure that customers are satisfied with the solutions offered to resolve their complaints while 163 (39.6%) respondents disagreed with an item mean of 2.80. 255 respondents representing 61.9% in item 99 agreed that they actively seek customer feedback to improve the quality of service provided while 157 representing 38.1% disagreed (Item $\overline{X}$ = 2.78), for item 100, 257 which is 62.4% of the respondents agreed that they are capable of managing difficult situations, such as out-of-stock parts, in a way that reassures customers while 37.6% which is 155 respondents disagreed (Item $\overline{X}$ = 2.76), for the analysis of item 101, data show that 253 which is 61.4% of the respondents agreed that they follow up with customers to ensure they are satisfied with the transmission parts they purchased while 159 (61.4%) respondents disagreed with an item mean of 2.74, the analysis of item 102 indicates that 261 (63.4%) of the respondents agreed that they provide support for installation or maintenance of transmission parts after the sale, if needed while 36.6% which is 151 respondents disagreed (Item $\overline{X}$ = 2.80), for item 103, analysis shows that 247(59.9%) respondents agreed that they offer assistance to customers who require additional information on how to care for their transmission parts while 165(40.9%) respondents disagreed (item $\overline{X}$ = 2.70). 256 representing 62.1% of the respondents in item 104 agreed that they ensure customers are aware of the maintenance schedules and services related to their purchased parts while 156 representing 37.9% disagreed (Item $\overline{X}$ = 2.79) and lastly for the analysis of item 105, data show that 256 which is 62.2% of the respondents agreed that they are always ready to help customers with any concerns or issues they may encounter after purchasing spare parts while 156(37.8%) respondents disagreed with an item mean of 2.75. To answer RQ_6, the grand mean for the items (i86 to i105) is 2.73 which is greater than 2.50 (the baseline for taking a decision), indicating that the Technical College MVM students possessed an adequate level of skills in customer service for transmission system parts.

RQ_7: How adequate are the skills possessed by the Technical College MVM students in transmission system parts display and promotion/sales strategies?

From Table 7, the analysis of item 106 shows that 244 (59.2%) respondents agreed that they are aware of the importance of properly displaying transmission system spare parts for easy access while 168 (40.8%) respondents disagreed with a mean of 2.73, for item 107, 249 students representing 60.4% agreed that they can arrange transmission system spare parts in an organised and visually appealing manner while 133 (39.6%) students disagreed ($\overline{X}$ = 2.68), for item 108, 254 (61.7%) respondents agreed that they use clear labeling and signage to indicate different types of transmission parts. Meanwhile, 158 (38.3%) respondents disagreed with an item mean of 2.75. The analysis of item 109 indicates that 257 students representing 62.4% agreed that they are familiar with creating product displays that highlight key features of transmission system parts

while 155 (37.6%) respondents disagreed (item $\overline{X}$ = 2.74), for item 110, 254 (61.7%) respondents agreed that they ensure that high-demand or popular transmission parts are prominently displayed for easy visibility while 158 (38.3%) respondents disagreed (item $\overline{X}$ = 2.75), for item 111, analysis shows that 249 (60.5%) respondents agreed that they provide clear and accurate information about the features and benefits of each transmission part on display while 163

Table 7
Summary of the Opinions of MVM Students on The Adequacy of The Skills Possessed in Transmission System Parts Display and Promotion/Sales Strategies

S/N	ITEM STATEMENT	SA	A	D	SD	$\overline{X}$	S_D
106.	I am aware of the importance of properly displaying transmission system spare parts for easy access.	125 (30.3%)	119 (28.9%)	101 (24.5%)	67 (16.3%)	2.73	1.06
107.	I can arrange transmission system spare parts in an organised and visually appealing manner.	104 (25.2%)	145 (35.2%)	90 (21.8%)	73 (17.7%)	2.68	1.04
108.	I use clear labelling and signage to indicate different types of transmission parts.	128 (31.1%)	126 (30.6%)	83 (20.1%)	75 (18.2%)	2.75	1.09
109.	I am familiar with creating product displays that highlight key features of transmission system parts.	127 (30.8%)	130 (31.6%)	75 (18.2%)	80 (19.4%)	2.74	1.10
110.	I ensure that high-demand or popular transmission parts are prominently displayed for easy visibility.	131 (31.8%)	123 (29.9%)	82 (19.9%)	76 (18.4%)	2.75	1.09
111	I provide clear and accurate information about the features and benefits of each transmission part on display.	123 (29.9%)	126 (30.6%)	84 (20.4%)	79 (18.4%)	2.71	1.09
112.	I ensure that product information is visible and easily accessible to customers.	123 (29.9%)	120 (29.1%)	90 (21.8%)	79 (18.4%)	2.70	1.09
113.	I understand how to use brochures or catalogues effectively to support product displays.	122 (29.6%)	120 (29.1%)	87 (21.1%)	83 (20.1%)	2.68	1.10
114.	I provide detailed pricing information alongside each transmission system part.	129 (31.3%)	113 (27.4%)	97 (23.5%)	73 (17.7%)	2.72	1.09
115.	I can explain to customers the specific use and advantages of various transmission system parts displayed.	111 (26.9%)	147 (35.7%)	86 (20.9%)	68 (16.5%)	2.73	1.03
116.	I am familiar with creating promotional offers for transmission parts to increase sales.	132 (32.0%)	123 (29.9%)	82 (19.9%)	75 (18.2%)	2.76	1.09
117.	I understand how to advertise discounts or special deals for	122 (29.6%)	114 (27.7%)	103 (25.0%)	73 (17.7%)	2.69	1.08

	transmission parts to attract customers.						
118.	I use signage or other promotional materials to inform customers of ongoing sales or offers.	125 (30.3%)	117 (28.4%)	93 (22.6%)	77 (18.7%)	2.70	1.09
119.	I am confident in my ability to organise and implement promotional campaigns for transmission parts.	104 (25.2%)	124 (30.1%)	107 (26.0%)	77 (18.7%)	2.62	1.06
120.	I believe that effective promotions can significantly boost the sales of transmission system parts.	120 (29.1%)	138 (33.5%)	72 (17.5%)	82 (19.9%)	2.72	1.09
121.	I engage with customers to inform them of special promotions related to transmission parts.	120 (29.1%)	120 (29.1%)	102 (24.8%)	70 (17.0%)	2.70	1.06
122.	I encourage customers to ask questions about the transmission parts on display to increase sales.	131 (31.8%)	131 (31.8%)	82 (19.9%)	68 (16.5%)	2.79	1.06
123.	I am able to offer additional promotional items related to transmission parts when appropriate.	125 (30.3%)	132 (32.0%)	80 (19.4%)	75 (18.2%)	2.75	1.08
124.	I provide assistance in guiding customers to the right products based on their needs or preferences.	125 (30.3%)	126 (30.6%)	94 (22.8%)	67 (16.3%)	2.75	1.06
125.	I make use of cross-selling techniques by suggesting complementary transmission parts during promotions.	122 (29.6%)	107 (26.0%)	88 (21.4%)	95 (23.1%)	2.62	1.14

Note. Source: Field Data 2025

(39.5%) respondents disagreed (item $\overline{X}$ = 2.71), for item 112, 243 (59.0%) respondents agreed that they ensure that product information is visible and easily accessible to customers while 169 (41.0%) respondents disagreed with an item mean of 2.70. The analysis of item 113 indicates that 242 students representing (58.7%) agreed that understand how to use brochures or catalogues effectively to support product displays. Meanwhile, 170 (41.3%) respondents disagreed (item $\overline{X}$ = 2.68), in item 114, 242 respondents representing 58.7% agreed that they provide detailed pricing information alongside each transmission system part while 170 (41.3%) respondents disagreed with an item mean of 2.72. For item 115, 258 (62.6%) respondents agreed that they can explain to customers the specific use and advantages of various transmission system parts displayed. Meanwhile, 154 (37.4%) respondents disagreed with an item mean of 2.73, in item 116, 255 (61.9%) students agreed that they are familiar with creating promotional offers for transmission parts to increase sales while 157 (38.1%) respondents disagreed (Item $\overline{X}$ = 2.76). Analysis of item 117 shows that 236 (57.3%) respondents agreed that they understand how to advertise discounts or special deals for transmission parts to attract customers while 176 (42.7%) respondents disagreed with a mean of 2.69. In item 118, 242 (58.7%) students agreed that they use signage or other promotional materials to inform customers of ongoing sales or offers while 170 (41.3%) respondents disagreed with an item mean of 2.70. 228 respondents representing 55.3% in item

119 agreed that they are confident in their ability to organise and implement promotional campaigns for transmission parts while 184 representing 44.7% disagreed (Item $\overline{X}$ = 2.62), for item 120, 258 which is 62.6% of the respondents agreed that they believe that effective promotions can significantly boost the sales of transmission system parts while 37.4% which is 154 respondents disagreed (Item $\overline{X}$ = 2.72), for the analysis of item 121, data show that 240 which is 58.2% of the respondents agreed that they engage with customers to inform them of special promotions related to transmission parts while 172 (41.8%) respondents disagreed with an item mean of 2.70, the analysis of item 122 indicates that 262 (63.6%) of the respondents agreed that they encourage customers to ask questions about the transmission parts on display to increase sales while 36.4% which is 150 respondents disagreed (Item $\overline{X}$ = 2.79), for item 123, analysis shows that 257 (62.3%) respondents agreed that they are able to offer additional promotional items related to transmission parts when appropriate while 155 (37.7%) respondents disagreed (item $\overline{X}$ = 2.75). 251 representing 60.9% of the respondents in item 124 agreed that they assist in guiding customers to the right products based on their needs or preferences while 161representing 39.1% disagreed (Item $\overline{X}$ = 2.75) and lastly for the analysis of item 125, data show that 229 which is 55.6% of the respondents agreed that they make use of cross-selling techniques by suggesting complementary transmission parts during promotions. Meanwhile, 183 (44.4%) respondents disagreed with an item mean of 2.62. To answer RQ_7, the grand mean for the items (i106 to i125) is 2.71 which is greater than 2.50 (the baseline for taking a decision), indicating that the Technical College MVM students possessed adequate skills in transmission system parts display and promotion/sales strategies.

DISCUSSION OF FINDINGS

The findings for RQ_1 revealed that adequate resources such as tools, facilities, equipment, and training materials were available to effectively teach students spare parts merchandising. This suggests that the Technical Colleges investigated were sufficiently equipped to support both practical and theoretical learning experiences required for the development of students' vocational competence. The result aligns with the mandate of Technical Colleges, which emphasises the provision of appropriate tools, equipment, and instructional materials to facilitate competency-based vocational training (NBTE, 2025). The availability of these resources enables instructors and students to actively engage in hands-on learning activities that closely reflect real-world practices in spare parts management, thereby improving learners' understanding, retention, and employability skills. This finding supports the view of Ogbuanya and Anekwe (2022), which noted that adequate instructional facilities in vocational and technical education significantly enhance teaching effectiveness and students' practical skill acquisition. In a similar vein, Adeoye and Ajayi (2023) reported that access to modern tools and equipment makes instructional delivery more engaging and effective, leading to improved student performance in vocational subjects.

The results of RQ_2 demonstrated that the Technical College MVM students' competencies in inventory management of transmission system parts were satisfactory. This implies that the students had learned the necessary practical knowledge and technical abilities to detect, classify, record, and store various transmission components effectively. The adequacy of these abilities shows the efficacy of the instructional delivery techniques used in Technical Colleges, where competency-based education emphasises hands-on experience, skill demonstration, and industry-relevant training.

The findings of RQ_3 indicated that Technical College MVM students possessed adequate skills for identifying transmission system parts. This implies that the students had developed the capacity to accurately recognise, differentiate, and explain the functions of key transmission components such as gears, shafts, clutches, synchronizers, and differentials. The observed level of

skill competence suggests that the teaching and learning approaches adopted in the Technical Colleges were effective in fostering the cognitive and psychomotor abilities required for a sound understanding of transmission systems. This finding aligns with the study by Chukwuma and Dike (2023), which reported that students in well-equipped Technical Colleges demonstrated strong practical skills in identifying and classifying automobile components as a result of hands-on instructional strategies and project-based learning. Likewise, Ibrahim and Salihu (2022) observed that adequate exposure to demonstration lessons and sustained practical engagement in automotive workshops enhances learners' mastery of component recognition, particularly in complex systems such as vehicle transmissions. In a related study, Adegboye and Onuoha (2021) found that students who participated in frequent practical sessions involving real vehicle parts showed a higher level of proficiency in identifying mechanical and transmission components than those taught mainly through theoretical methods. Similarly, Olaniyi and Musa (2024) emphasised that competency-based education strengthens students' ability to identify, handle, and maintain automotive parts by enabling learning through direct interaction with actual tools and systems.

The findings of RQ_4 revealed that Technical College MVM students possessed adequate competencies in sourcing transmission system parts. This level of competence suggests that the training provided in Technical Colleges extends beyond mechanical operations to include the commercial and logistical dimensions of the automotive trade. Effective sourcing of transmission system parts requires a sound understanding of part specifications, quality standards, supplier reliability, and pricing considerations, skills that are critical for employability and entrepreneurial success in the automotive industry. This finding is consistent with the study by Nwosu and Ogbuanya (2022), which reported that students trained in competency-based learning environments demonstrated high proficiency in procurement and inventory-related tasks, including spare-parts sourcing. Similarly, Amadi and Eze (2021) found that industry-based learning experiences significantly enhanced students' ability to source automotive parts, as learners acquired practical knowledge of supplier networks and quality assessment through direct engagement. In the same vein, Olarinoye and Iroegbu (2023) observed that the availability of adequate workshop facilities, effective teacher supervision, and collaboration with local spare-parts markets jointly contributed to students' competence in sourcing vehicle transmission components. Collectively, these findings reinforce the view that experiential learning and strong industry linkages are key determinants of students' success in sourcing automotive parts.

The findings of RQ_5 revealed that Technical College MVM students possessed adequate skills in pricing and sales of transmission system parts. This implies that, in addition to their technical knowledge, they could determine appropriate prices for transmission system parts, interact with customers, negotiate sales, and manage profit margins responsibly. Such skills reflect the integration of entrepreneurial and business management concepts into the technical education curriculum, which is vital for promoting self-employment and financial independence among Technical College graduates. This result is supported by the findings of Adamu and Jimoh (2023), who reported that students who participated in entrepreneurship-based technical training displayed high proficiency in sales negotiation, price determination, and customer relations in automotive trades. Similarly, Okorie and Igwe (2022) found that technical students exposed to practical market experiences and product-based learning developed better sales and marketing competencies than those taught through conventional classroom instruction. In the same vein, Ibrahim and Akinola (2021) observed that the integration of entrepreneurial modules into technical education significantly enhanced students' pricing and sales abilities, thereby improving their readiness for self-employment. Furthermore, Eze and Nwachukwu (2023) affirmed that real-world exposure to automotive parts markets during industrial attachments equipped students with practical knowledge of spare-parts pricing, supply management, and basic retail strategies.

The findings of RQ_5 revealed that Technical College MVM students possessed adequate skills in the pricing and sales of transmission system parts. This suggests that, beyond technical

competence, the students have developed the ability to set appropriate prices, engage effectively with customers, negotiate sales, and manage profit margins responsibly. Such competencies indicate the successful integration of entrepreneurial and basic business management concepts into the technical education curriculum, which is essential for fostering self-employment, sustainability, and financial independence among Technical College graduates. This finding is supported by Adamu and Jimoh (2023), who reported that students exposed to entrepreneurship-oriented technical training demonstrated high proficiency in price determination, sales negotiation, and customer relations within automotive trades. Similarly, Okorie and Igwe (2022) found that technical students who participated in practical market experiences and product-based learning exhibited stronger sales and marketing skills than those taught solely through conventional classroom methods. In the same vein, Ibrahim and Akinola (2021) observed that the integration of entrepreneurial modules into technical education significantly improved students' pricing and sales competencies, thereby enhancing their preparedness for self-employment. Furthermore, Eze and Nwachukwu (2023) affirmed that real-world exposure to automotive spare-parts markets during industrial attachments equipped students with practical knowledge of pricing strategies, supply management, and essential retail practices.

The findings of RQ_6 revealed that Technical College MVM students possessed an adequate level of customer service skills related to transmission system parts. This indicates that the students are capable of attending to customers courteously, providing accurate and relevant information about transmission system parts, handling complaints professionally, and building trust through effective service delivery. Such competencies are essential for employability, entrepreneurship, and customer retention within the automotive industry. The result further suggests that the curriculum content and instructional approaches adopted in the Technical Colleges place strong emphasis on practical exposure to customer relations and service ethics, often through real-life or simulated business environments. This finding is supported by Obot and Udeh (2022), who reported that technical students involved in industrial work experience programmes developed stronger interpersonal and customer-service skills due to direct interaction with clients during repair and sales activities. Similarly, Abubakar and Onyekachi (2023) found that the integration of entrepreneurship education and customer-service training into automotive mechanics programmes significantly improved students' communication skills and their ability to manage customer satisfaction. In another related study, Ezeanya and Okafor (2021) observed that technical trainees exposed to customer simulations and market visits demonstrated greater competence in addressing customer concerns, offering informed advice on parts selection, and ensuring effective post-service follow-up. Furthermore, Bello and Nwankwo (2023) affirmed that effective instructor supervision and role modelling during customer-interaction exercises contributed significantly to students' acquisition of service-oriented skills.

The findings of RQ_7 revealed that Technical College MVM students possessed adequate skills in the display, promotion, and sales strategies of transmission system parts. This suggests that, through their training, the students have developed the ability to organise, present, and market spare parts in an attractive and persuasive manner to potential customers. Such competence reflects not only sound product knowledge but also effective merchandising skills and promotional communication abilities, which are essential for successful participation in the automotive spare-parts business. This result is consistent with the findings of Eze and Umeh (2023), who reported that technical students trained under competency-based and entrepreneurship-oriented curricula demonstrated stronger marketing and product-display skills in automotive-related trades. Their study further indicated that exposure to practical merchandising activities enhanced students' confidence and effectiveness in product promotion. Similarly, Akanbi and Ojo (2024) observed that MVM students who participated in industry-based training and spare-parts marketing simulations gained valuable experience in advertising, salesmanship, and customer persuasion. They concluded that the incorporation of real-life business practices into technical training fosters

the entrepreneurial mindset required for effective spare-parts merchandising. Similarly, Adeyemi (2022) emphasised that effective instruction in product display and sales management within technical education significantly enhances students' readiness for self-employment and small-scale industrial ventures.

CONCLUSION

The findings of this study indicate that Technical College MVM students are being adequately equipped with the requisite competencies and resources needed for effective participation in transmission spare-parts merchandising. The availability and sufficiency of tools, facilities, equipment, and training materials suggest that the learning environment is well structured to support meaningful skill development and hands-on engagement in transmission system merchandising. The students' demonstrated competencies in inventory management, parts identification, sourcing, pricing, and sales further reveal that the objectives of the MVM programme are being successfully realised. Moreover, the acquisition of customer-service and display or promotional skills indicates that the students are not only technically competent but also well prepared to engage in the entrepreneurial and business-oriented dimensions of the automobile trade.

RECOMMENDATIONS

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

1. The curriculum for MVM students should be periodically reviewed and updated to reflect current industry practices, emerging technologies, and innovations in transmission system parts merchandising. This will help ensure that students' competencies remain relevant, practical, and aligned with labour-market demands.
2. Technical Colleges should strengthen and formalise partnerships with automobile workshops and spare-parts companies in order to provide students with sustained hands-on industrial training and greater exposure to real-world merchandising practices, particularly in the areas of inventory management, sourcing, and sales of transmission system parts.
3. Given that MVM students demonstrated strong competencies in pricing, sales, and customer service, Technical Colleges should further integrate structured entrepreneurship development programmes into the curriculum. Such programmes would equip graduates with the managerial and business skills required to successfully establish and sustain their own spare-parts enterprises.
4. School administrators, in collaboration with relevant government agencies, should ensure the continuous maintenance, upgrading, and replacement of tools, equipment, and instructional resources. This will sustain effective teaching and learning and enhance the long-term success of spare-parts merchandising training in MVM programmes.

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