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Full Length Research Paper

Assessment of attitude of university and polytechnic communities' members in South-west Nigeria to engineering and technological innovations

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This communication seeks to assess the disposition of members of polytechnic and university communities to locally produced equipment and machines, the bulk of which come from polytechnics and universities, technological institutions. Only 52.56% of total respondents patronise the products with 78.37% of those who do not patronise saying they preferred imported ones, after confirming that the product quality was above average, 70.91% as against 1.08% whose quality is poor and 5.66% who were uncertain. This confirms conclusions in texts that there is a general apathy toward indigenous efforts in equipment and machine production. It was concluded that this negative attitude cannot result in the building of indigenous engineering capacity or local production of machines and equipment.

Key words: Polytechnic and university communities, product quality, machines, equipment.

INTRODUCTION

Since independence Nigeria has struggled with the prospect of attaining technological and economic freedom. A number of policies, referred to as economic development plans, have been introduced (Titiladunayo, 2005) with formation of agencies and establishments to oversee and coordinate its actualization (Aderoba, 1997).

Many of the policies, according to Imevbore (2005), have been dominated by the goals and instruments of the 1970s. These being the importation of inputs for local production of goods that are identical to the imported finished products. It was assumed that this would metamorphose into import displacement where locally made goods will be produced using local inputs and technology. Aderoba (1997) in his own opinion suggests that a better strategy for technological development would be to embrace copy technology, in which machines of proven performance are purchased and dismantled to study their component parts and operating principles in order to develop a variety of suitable designs capable of meeting local industrial needs.

It is not exactly clear which policy the federal government adopted in practice, but there are locally produced machines and equipment that may be said to be suitable for local demands, the bulk of which come from technological institutions. Agun and Oloko (2009) and Ikpi (2007) report that quite a large number of machines and equipments have been produced form polytechnics and universities in Nigeria.

These institutions were established by the federal government in order to move the country from a potential consuming nation to a producing one. They are saddled with the responsibility of training engineers, technologists, technicians, scientists and researchers, competent manpower, who are to handle the nation's industrial base and to carry out researches into development and adaptation of techniques relevant to sustain the industrial base (Adegboyega et al., 2005).

Although this communication is not concerned with discussions about the best policy option for the country, it is worth mentioning that two of the intended roles of engineering and technology in the Millennium Development goals are (1) to build indigenous engineering capacity and (2) encourage local production of machines and equipment.

That locally produced machines and equipments lack the necessary patronage is stating the obvious, Titladunayo

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Table 1. Educational level of respondents.

Institution	SSCE/GCE/WASC	OND/Tech Cert.	HND/B.Sc	Post graduate
Ilaro	5	0	30	45
Yabatech	0	5	33	40
Poly Ibadan	0	5	21	25
FUTA	0	6	10	36
OAU	0	15	15	25
UI	0	5	25	25

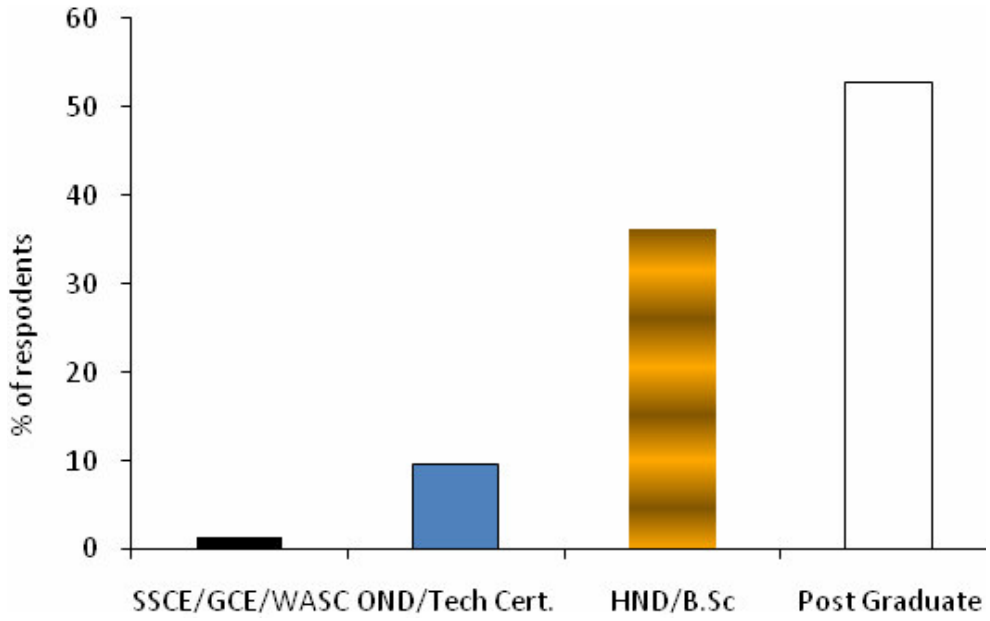

Figure 1. Respondents' educational level.

(2005) states that 'the attitude of majority of Nigerians to locally produced goods (machines and equipment) is something close to rejection'. The dominance of imported equipment on Nigerian markets has forced the few local engineering and technology innovations out of the system, and the government is doing little to help matters (Adegoke, 2005). As a matter of fact, according to Agun et al. (2005), government efforts have been to condemn locally produced machines, a situation Stewart (1982) believes is responsible for the nation being technologically dependent.

This research work seeks to evaluate the level of patronage by academic and non academic staffs that constitute the communities within some universities and polytechnics in south-western Nigeria.

RESEARCH METHODOLOGY

One hundred questionnaires were administered in three polytechnics - Federal Polytechnic, Ilaro, Yaba College of Technology, Yaba, Lagos and The Polytechnic, Ibadan, three universities - Federal University of Technology, Akure; Obafemi Awolowo University and University of Ibadan, making a total of 600 question-naires. 371 questionnaires were analysed while 110 and 119 were returned uncompleted and improperly completed respectively.

Eighty questionnaires were returned properly completed from The Federal Polytech-nic, Ilaro, 78 from Yaba College of Technology, Yaba, 51 from The Polytechnic, Ibadan, 52 from Federal University of Technology, Akure, 55 from both Obafemi Awolowo University, Ile Ife and University of Ibadan, Ibadan. The questions were open ended. The data collated were analysed using simple and weighted percentages.

RESULTS AND DISCUSSION

Table 1 shows the distribution of respondents' educational level from each of the selected institution while Figure 1 is the graphical representation of the educational level of total respondents. 1.39% of total respondents have the West African School Certificate equivalent and all are from the Federal Polytechnic, Ilaro, which also has the largest number of respondents with post graduate

Table 2. Working experience of the population.

Institution	Less than 5 years	5 years and above
Ilaro	45	35
Yabatech	25	53
Poly Ibadan	6	45
FUTA	12	40
OAU	15	40
UI	0	55

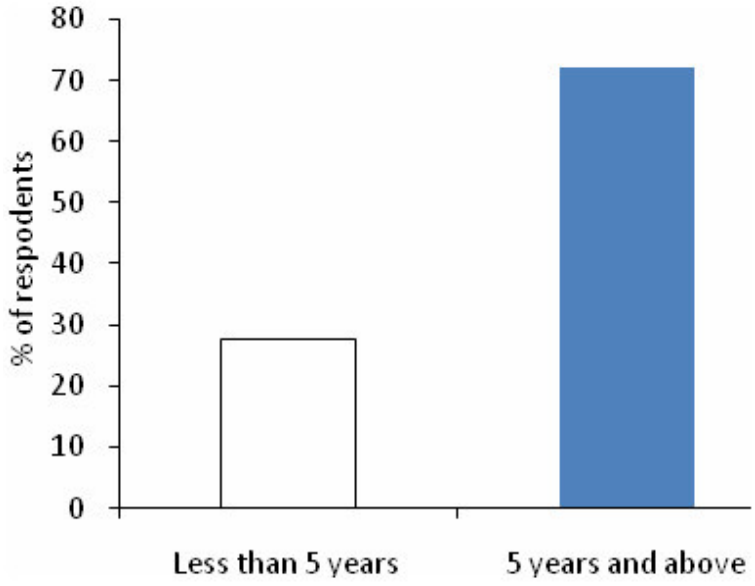

Figure 2. Respondents' work experience.

Table 3. Duty department of the population since employment.

Institution	Eng'g/Science/Tech.	Non- Eng'g/Science/Tech
Ilaro	50	30
Yabatech	64	14
Poly Ibadan	41	10
FUTA	45	7
OAU	55	0
UI	49	6

qualification, 45, making up 12.47% of total respondents. Table 2 shows the distribution of respondents' work experience.

All the respondents from University of Ibadan, 15.24%, of total respondents have worked in the institution for at least five (5) years. Distribution of respondents' work experience is represented in Figure 2. 27.76% of total respondents have worked for less than five (5) years while 72.24% have been in the institution for five (5) years and above. 81.94% of total respondents work in science/engineering/technology departments while 18.06% work in non-science/engineering/technology departments. This is represented in Table 3 while Figure 3 shows distribution of respondents.

All respondents from Obafemi Awolowo University, Ile Ife work in science/engineering/technology departments. It is expected that those who work in science/engineering and related departments would be able to appreciate engineering innovations.

70.91% of total population adjudged the products to be

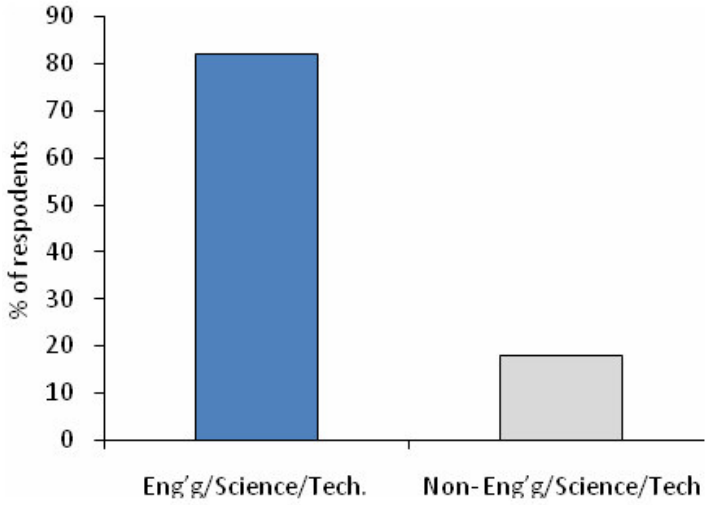

Figure 3. Respondents' duty department.

Table 4. Opinions on quality of product.

Institution	Excellent	Very good	Good	Average	Poor	Can't say
Ilaro	0	35	30	10	0	5
Yabatech	5	24	30	4	4	11
Poly Ibadan	0	31	20	0	0	0
FUTA	0	25	22	0	0	5
OAU	0	20	35	0	0	0
UI	0	20	30	5	0	0

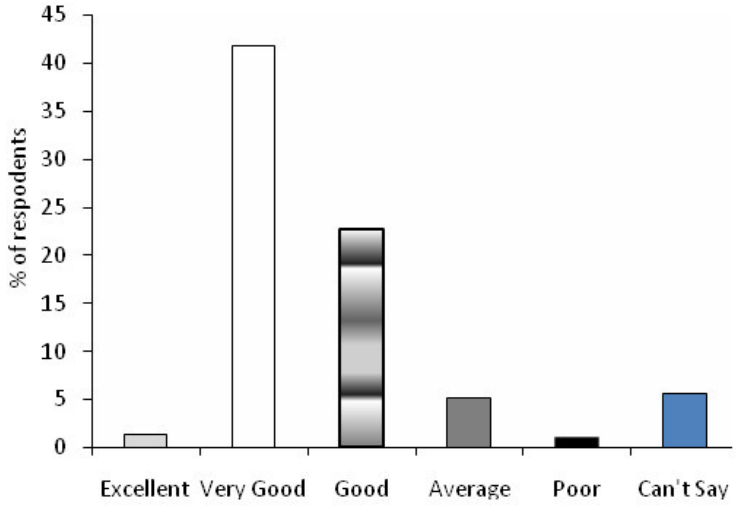

Figure 4. Respondents' assessment of product quality.

of at least average quality, 1.08% believe the qualities are poor while 5.66% could not say (Table 4 and Figure 4). In comparing with imported similar products 16.17% believe the quality of local products is better, 38.54% say there is no difference, 2.7% believe the quality is lower while 42.59% could not say. This is shown and represented

Table 5. Comparison of products quality with imported substitutes.

Institution	Better quality	Same quality	Lower quality	Can't say
Ilaro	20	25	0	35
Yabatech	5	24	0	49
Poly Ibadan	10	30	0	11
FUTA	15	16	0	21
OAU	0	28	10	17
UI	10	20	0	25

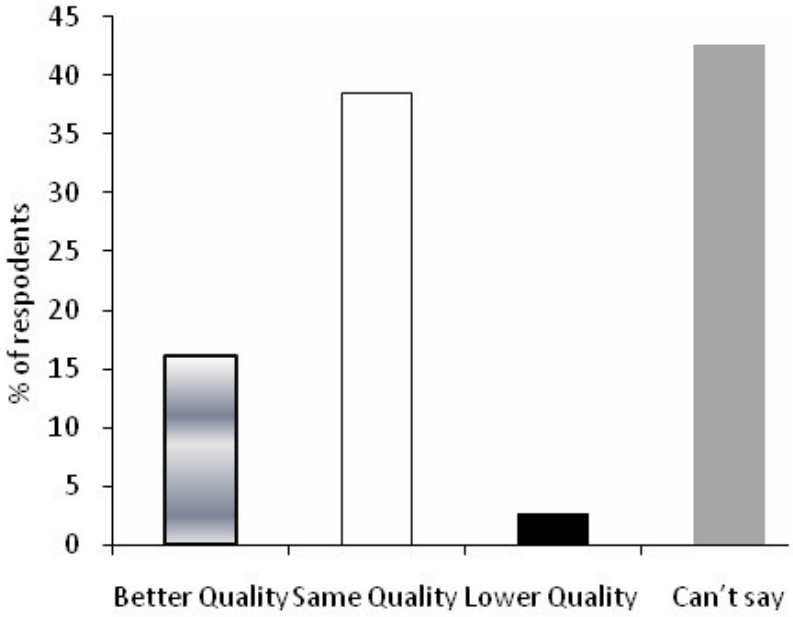

Figure 5. Respondents' comparison of product quality with imported similar products.

Table 6. Product patronage.

Institution	Have bought or/and bought for someone	Not bought or bought for someone
Ilaro	45	35
Yabatech	24	54
Poly Ibadan	31	20
FUTA	30	22
OAU	30	25
UI	35	20

in Table 5 and in figure 5.Table 6 and figure 6 shows the percentage of respondents that have patronised the products.

52.56% of total respondents claimed to have either bought one or more of the equipment/machines produced from their institution or have bought for someone while 47.44% said they have not purchased any.

17.37% of those who patronised the goods gave better quality despite higher cost as reason for purchasing them, 43.68% claimed that the lower cost despite lower quality was their reason while 38.75% claimed that there was no difference in either price or quality (Table 7 and Figure 7); and 12.87% of those that had not purchased any of the products said the quality was not good enough, 8.77% said the finishing was poor while 78.37% said they preferred imported products (Table 8 and Figure 8). Many of those who gave poor finishing and quality not good enough as reasons for not patronising

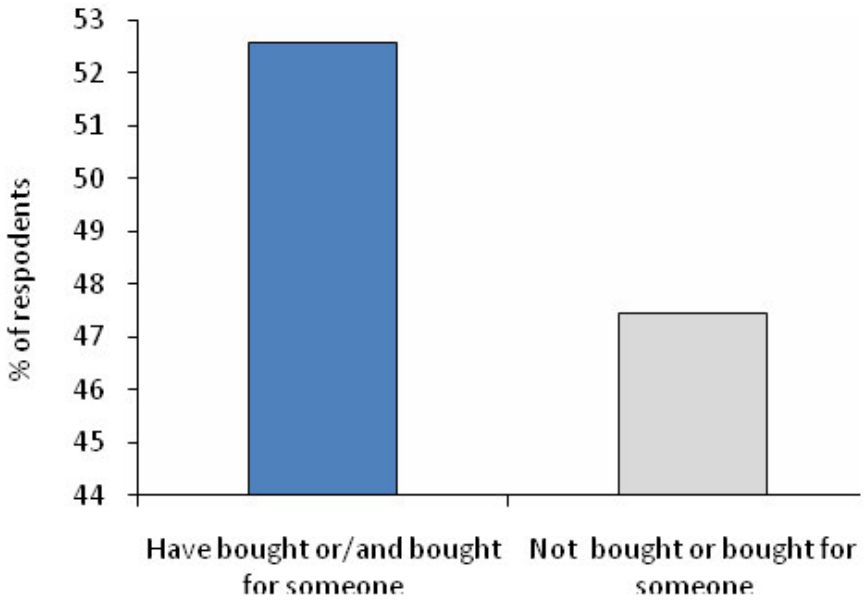

Figure 6. Respondents' patronage of products.

Table 7. Reasons for patronage.

Institution	Better quality though more expensive	Less expensive though lower quality	No difference in price and quality
Ilaro	10	15	20
Yabatech	0	9	15
Poly Ibadan	6	20	5
FUTA	11	9	10
OAU	0	15	10
UI	6	15	14

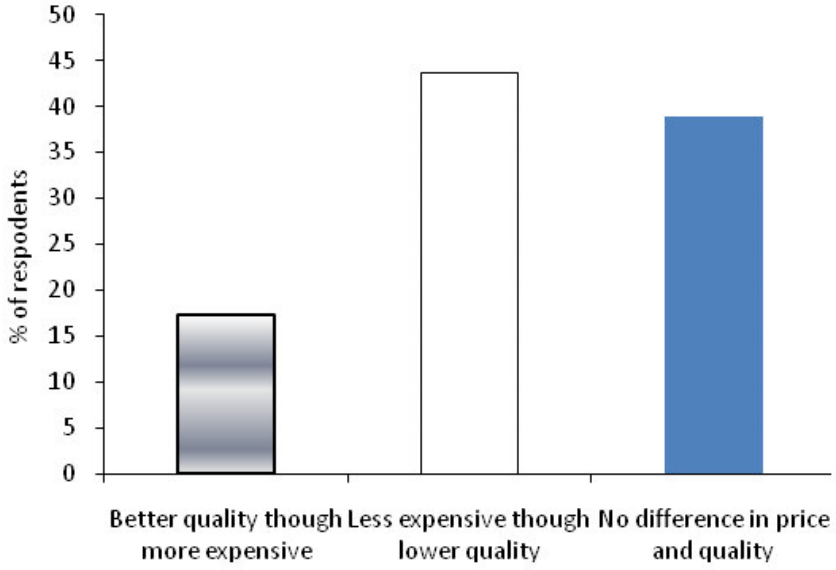

Figure 7. Respondents' reasons for patronage.

Table 8. Reasons for not patronising.

Institution	Quality not good enough	Finishing poor	Prefer imported ones
Ilaro	5	5	25
Yabatech	5	10	39
Poly Ibadan	0	0	20
FUTA	7	0	15
OAU	0	0	20
UI	5	0	15

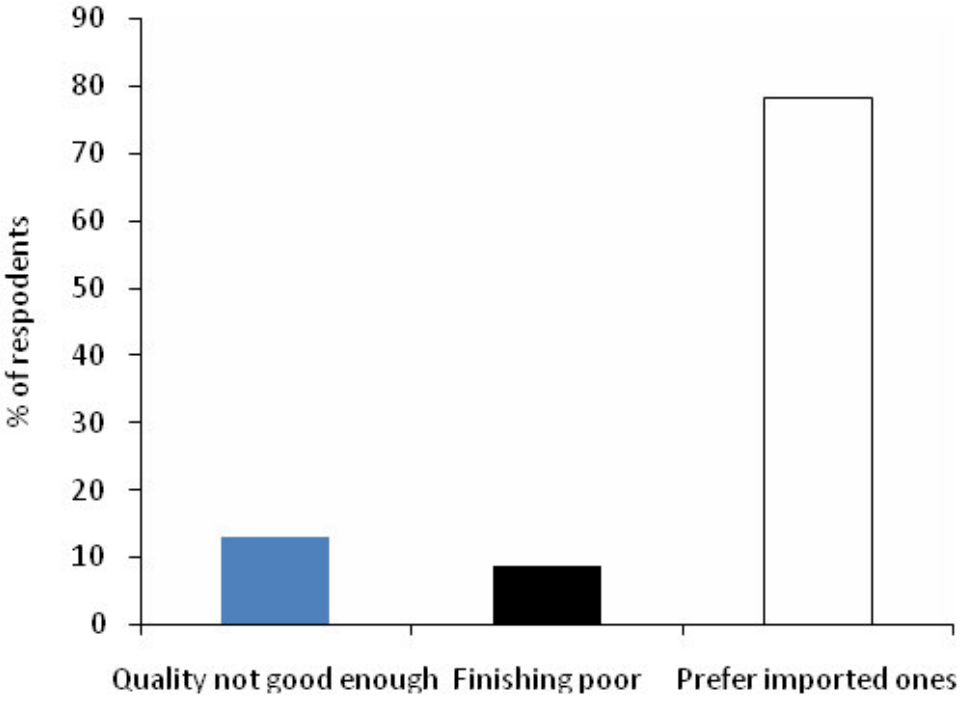

Figure 8. Respondents' reasons for non-patronage.

had given the products pass marks in terms of quality. Many also work in science/engineering/technology departments.

Conclusion

The findings of this research work show that a little over half of the members of university and polytechnic communities patronise the products, indicating low or little appreciation of innovations and productions that some of them probably supervised or oversaw.

This lack of appreciation by those who are expected to have first hand information, those who should know better, is a major setback for the nation. When members of the immediate communities do not seem impressed how is the larger community and government expected to know, let alone encourage? How is indigenous engineering capacity going to be built for local production of machines and equipment? A change of attitude toward indigenous and local equipment and machines is necessary on the part of government and the citizens for Nigeria to begin the journey toward attaining technological independence.

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