

## Infrastructural Facility and the Students' Academic Performance - A Critique

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**Abstract** The paper underscores the infrastructural facility and the student's academic performance in Adekunle Ajasin University, Akungba Akoko, Ondo State, Nigeria. Thirty questionnaires were administered through a systematic sampling technique in each of the six faculties making a total of 180 questionnaires. The paper has found out a positive relationship between the student's academic performance, power supply and health facilities. However, the internet facilities and transportation facilities were not adequate, whereas water supply was adequate. A test of the impact of infrastructural facility on the student's academic performance, using a Chi Square statistical technique revealed a significant value of 177.1 at 0.05 % level. The paper recommends that the existing facilities should be upgraded and significantly improved by the government; urgent attention should be given to the development of the internet facilities and transportation sector of the University. Also, private partnership should be encouraged in the infrastructural development of the University.

**Keywords:** Academic performance, Infrastructural facility, Students, University

**Abstrak** Makalah ini membahas mendasar tentang fasilitas infrastruktur dan prestasi akademik siswa di Universitas Adekunle Ajasin, Akungba Akoko, Ondo State, Nigeria. Tiga puluh kuesioner diberikan melalui teknik sampling sistematis di masing-masing dari enam fakultas yang menghasilkan total 180 kuesioner. Makalah ini telah menemukan hubungan positif antara kinerja akademik siswa, fasilitas catu daya dan kesehatan. Namun, fasilitas internet dan sarana transportasi tidak memadai, padahal pasokan air sudah memadai. Uji dampak fasilitas infrastruktur terhadap prestasi akademik siswa, dengan teknik statistik Chi Square menunjukkan nilai signifikan 177,1 pada tingkat 0,05%. Makalah ini merekomendasikan agar fasilitas yang ada harus ditingkatkan dan ditingkatkan secara signifikan oleh pemerintah; Perhatian mendesak harus diberikan pada pengembangan fasilitas internet dan sektor transportasi Universitas. Selain itu, kemitraan swasta harus didorong dalam pengembangan infrastruktur Universitas.

**Kata kunci:** Mahasiswa, Kinerja Akademik, Sarana Infrastruktur, Universitas

### 1. Introduction

Infrastructure plays a very important role in the growth process of an economy; thereby raising the level of productivity and also leads to a higher potential level of output for the future. Infrastructure refers to the fundamental facilities and systems serving a country, city, or area, including the services and facilities necessary for its economy to function. Infrastructural development involves fundamental structures that are required for the functioning of a community and society. This is usually referred to as structures like roads, water supply, sewers, electrical grids, telecommunications, renewable energy, and so on [Abosedra et al, 2009; Mandel, 2008; Frischmann, 2007; CBN, 2003; Pendse, 1980].

There is actually a general belief that the condition of school's learning environment, especially infrastructure has an important impact on students' academic performance and effectiveness. The facilities that are needed to facilitate effective learning in an educational institution include adequate power and water supply,

good communication system, improved transportation system, adequate classrooms, libraries, laboratories as well as furniture items and sporting equipment. The quality of infrastructure has strong influence on the academic standard which is an index of quality assurance in the school. For instance, Earthman [2002], reporting on California, revealed that comfortable classroom temperature and smaller classes enhance students effectiveness and provide opportunities for participation more fully in discussions, reduce discipline problems and thereby enhanced better performance than students in schools with substandard buildings by several percentage points.

Sustainable economic growth often occurs in an environment where there is a meaningful infrastructural development, and there is evidence that it reduces inequality in the society. It is also clear that development of infrastructure (energy, transport, water, ICT among others) generally contributes significantly to the level and quality of development of an area. University wield tremendous importance to the socio-economic transformation of any region, because knowledge is power, knowledge liberate from ignorance and poverty to all round social economic development. Some impacts expected of a university region are numerous; ranging from employment

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creation, increase housing units to improve adequate infrastructure facilities. Adequate infrastructural facility is therefore a pre-requisite for running these Universities and also for the student to be able to hit the ground running academically. An underdeveloped region can be developed through the establishment of a University, thereby posing a great value to the overall development of such area.

The contribution of infrastructural facility to economic development is enormous, since it provides the environment for productive activities to take place, encourage investment, allows wider movement of goods and people facilitates information flows and helps commercialize and diversify the economy [World Bank, 1994]. The quest for adequate infrastructure in Nigeria tertiary education sector cannot be abandoned because it is the bedrock of development and highly needed for successful, standard and quality education. Infrastructure development can reduce stress and promote good health. It will also reduce crime level. Infrastructure has always played a key role in integrating economies within a region. Well developed and efficient infrastructure is essential for a region's economic development and growth. In a dynamic concept, infrastructure is seen as a regional public good that moves factors of production within and across countries, thus helping the region attain higher productivity and growth.

Infrastructure can have a strong impact on the incidence and depth of poverty by supporting inclusive growth, i.e., economic growth that can facilitate a meaningful and sustainable poverty reduction [World Bank, 2009]. Research on infrastructure dwells on different issues such as education, roads, water supply, power grids, telecommunication and hospitals [Abosedra et al. 2009; Mandel, 2008; Frischmann, 2007; CBN 2003; Pendse, 1980]. According to Kathmandu Final Workshop Report [2009], infrastructure can help solve four problems: social; health and environment; development; and, economics. Abosedra et al [2009] stated that infrastructure development involves fundamental structures that are required for the functioning of a community and society.

The importance of infrastructural services to economic development is enormous. As observed by Fox [1994], Jimenez [1994], World Bank [1994], Lanjouw [1995], and ADB [2009] infrastructure provides the conducive environment for productive activities to take place and facilitate the generation of economic growth. For instance, in the absence of adequate power supply, water, transportation and communication facilities, production process or location advantages may not be optimized. On the other hand, availability of an efficient infrastructure network can stimulate new innovation in the other sectors.

## 2. The Methods

Akungba-Akoko is situated in Akoko southwest

local government area of Ondo-state in south western part of Nigeria. It is the community in which Adekunle Ajasin University is located. Its geographical coordinates are latitude 7°24 '0 and 7°28 '0 'North, and longitude 5°44 '0 and 5°45 '0' East. The town is surrounded by little hills and bounded by some towns such as Ikare in the North, Oka in the East, Etioro in the South, and Supare in the West.

Adekunle Ajasin University, Akungba-Akoko was established in March 1982 by the government of the old Ondo State, headed by the late Chief Adekunle Ajasin. At present, Adekunle Ajasin University Akungba-Akoko (AAUA) has a well over 10,000 students, and over 1,200 staff – academic and non-academic - and six Faculties – Arts, Education, Law, Science, Social and Management Sciences and Agriculture.

Data was collected through a systematic random sampling technique. First, five departments in each of the six faculties were randomly sampled, while six questionnaire was administered in each of these department. On the whole thirty questionnaires were administered in each of the six faculties, making a total of one hundred and eighty. Secondary data were also employed and the data analyzed descriptively and inferentially.

Table 1 shows the socio-economic characteristics of the respondents, 108(60%) were males, while 72(40%) were females. Also, 83(46%) were between 18 and 28 years, whereas 23(13%) were above 40 years. Furthermore, 24 (13%) were in 100 level, while 50 (28%) were in 300 level; another 22(12.2%) were in 500 level. One hundred and twelve respondents are Christian, whereas 7(04%) were involved in traditional religion.

Table 2 depicts the influence of power supply on the student's academic performance, 79 (44%) respondents opined very satisfactory, whereas 36 (20%) opined not satisfactory; another, 19 (10%) agreed averagely satisfactory. It is therefore, apparent that power supply has a positive influence on the student's academic performance.

Figure 1 reveals the effects of internet facilities on the student's academic performance, (12 6.6%) believed that the internet facilities has very significant effect, whereas 126(70%) were of the opinion that it the internet facilities has contributed insignificantly to the students performance academically.

Table 3 reveals that 141 (78%) respondents agreed that water supply has a very adequate contribution to the student's academic performance, whereas only 1(1%) opined grossly inadequate.

Figure 2 shows that 139(77%) respondents believed that the health facilities has led to the student's academic excellent performance, whereas 05(03%) were of the opinion that the impacts of health facilities was fair.

Table 1. Socio-Economic Variables of the Respondents

Gender		
Sex	Number of respondents	Percentages
Male	108	60
Female	72	40
Total	180	100
AGE (Years)		
< 18	45	25
18-28	83	46
29-39	29	16
Above 40	23	13
Total	180	100
Levels		
100	24	13
200	40	22.2
300	50	28
400	44	24.4
500	22	12.2
Total	180	100
Religion		
Christianity	112	62
Muslim	61	34
Traditional	07	4
Total	180	100

Table 2. Influence of Power supply on Students Academic Performance

Effects	Number of Respondents	Percentages
Very satisfactory	79	44
Satisfactory	46	26
Averagely Satisfactory	19	10
Not satisfactory	36	20
Total	180	100

Field Survey, 2015

Table 3. Water Supply and the Students Academic Performance

Effects	Number of Respondents	Percentages
Very Adequate	141	78
Adequate	25	14
Inadequate	13	07
Grossly Inadequate	1	1
Nil	-	
Total	180	100

Field Survey, 2015.

Table 4. Students Academic Performance and the Transportation System

Effects	Number of Respondents	Percentages
Positive	23	13
Negative	126	70
Nil	31	17
Total	180	100

Field Survey, 2015.

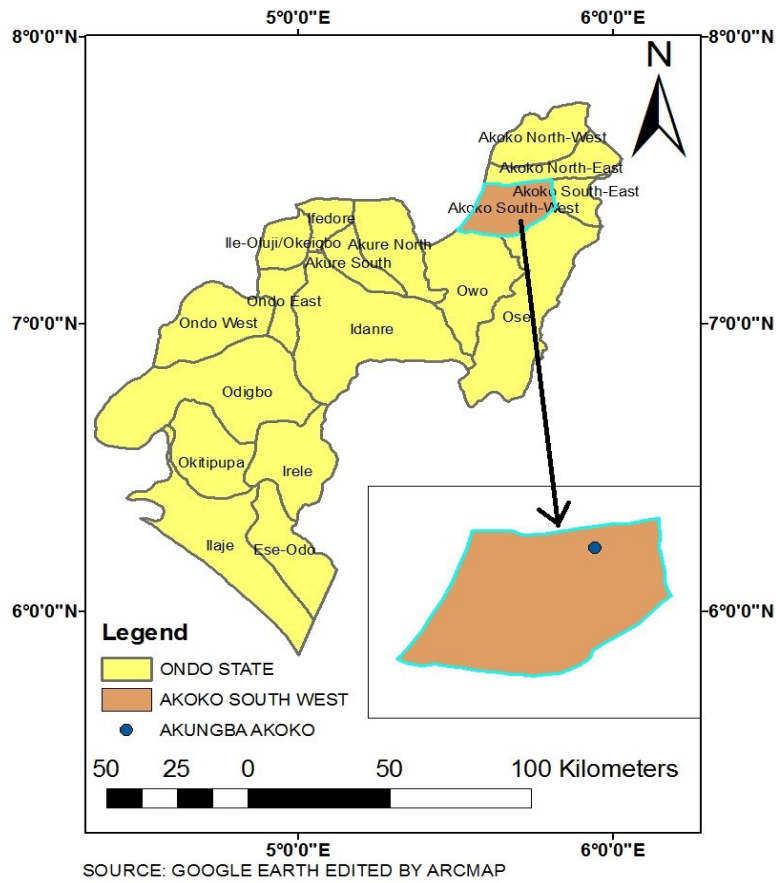
Table 4 shows that 126 (70%) respondents asserted that there has been a negative relationship between the student's academic performance and the transportation system, while 23(13%) believed that positive relationship exists between the student's academic performance and the transportation system

Table 5. Adequacy of Infrastructural Facilities in Adekunle Ajasin University

Adequacy	Number of Respondents	Percentages
Adequate	78	43.3
Inadequate	96	53.3
Nil	06	03.3
Total	180	100

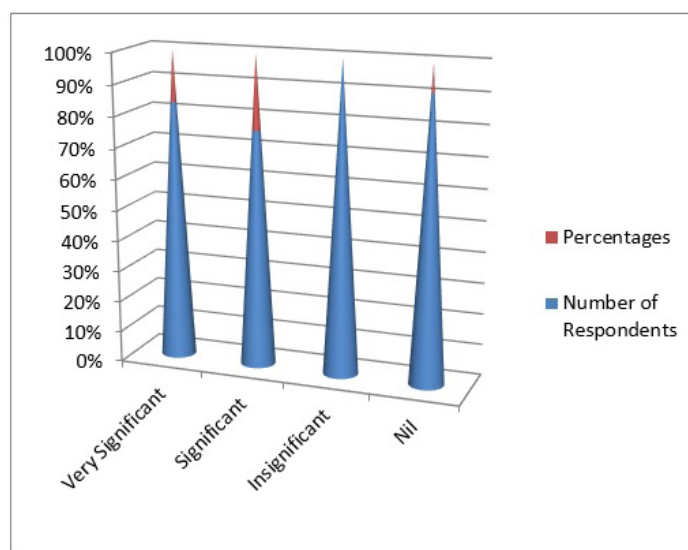
Field Survey, 2015.

Figur 1. Internet Facilities and the Students Academic Performance



Source: Ministry of Lands and Housing, Akure, 2013

Figure 2. The Impacts of Health Facilities on Students Academic Performance



Field Survey, 2015.

Table 5 shows the adequacy of infrastructural facilities in Adekunle Ajasin University, out of 180(100%) respondents, 96(53.3%) opined inadequate, whereas 78(43.3%) agreed that infrastructural facilities is inadequate.

Figure 3 shows that 38(21%) respondents opined an excellent academic performance of students as a result of infrastructural facilities, whereas 59(33%) believed that infrastructural facilities have a fair effects on students performance. Another, 10(5%) agreed that infrastructure has impacted poorly on the student's academic performance.

Table 6. Chi- Square Test on the Effect of Infrastructural Facilities on Students Academic Performance

Option	O	E	O -E	(O-E)2	(O-E)2
E					
Excellent	38	90	52	2704	30
Very good	46	90	44	1936	21.5
Good	27	90	63	3969	44.1
Fair	59	90	31	961	10.7
Poor	10	90	80	6400	71.1
					177.4

The Chi-Square test carried out in table 6 on the effects of infrastructural facilities on the student's academic performance has revealed Calculated Chi-Square value 177.1 and tabulated Chi-Square value 15.815. This further lends credence to the fact that infrastructural facilities have a positive relationship to the academic performance of students in Adekunle Ajasin University, Akungba Akoko.

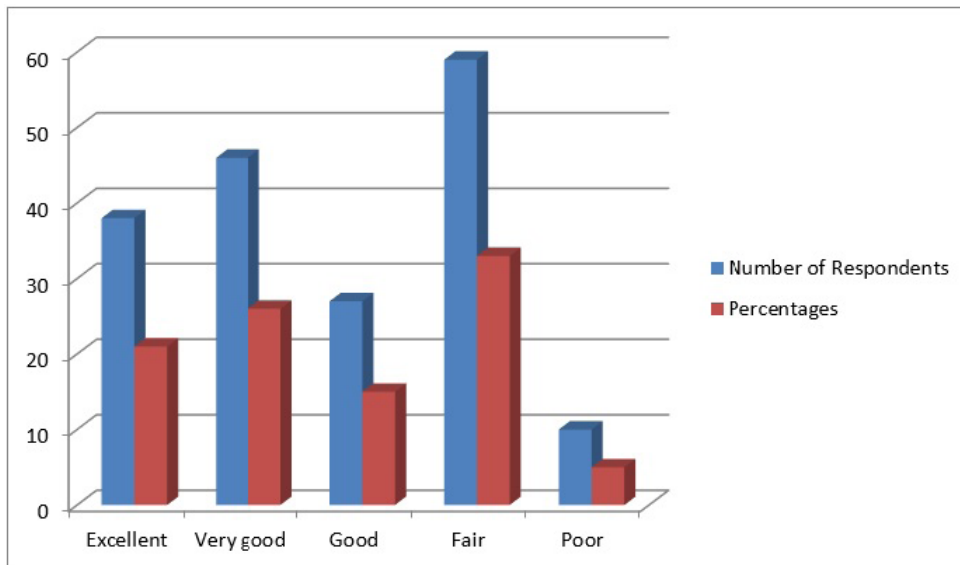
**4.Conclusion**

The paper has examined the influence of infrastructural facilities on the student's academic performance of Adekunle Ajasin University Akungba Akoko. Universities play a crucial role in society as producers and transmitters of knowledge, teaching and research which is the most important function of university leads to development in diverse ways. It must be noted that the teaching and research could be effectively enhanced under conducive atmosphere of adequate infrastructural facilities. The paper has revealed a significant positive relationship between power supply and the student's academic performance. The research further revealed that the following infrastructural facilities such as, water supply and the health facilities have contributed tremendously to student's performance.

The paper shows that infrastructural facilities like, the internet facilities and transportation has insignificant contribution to the student's academic performance. Despite the fact that research reveals inadequacy of infrastructural facilities, the chi-square test carried out on the effects of infrastructural facilities on the student's academic performance at 0.05 significant levels reveals a calculated chi square value of 177.1 compared to the tabulated chi-square value of 15.82. This connotes that infrastructural facilities has positively affected the student's academic performance.

Despite the role of University in knowledge transfer activities and its contribution to economic development, infrastructural facilities has been one of the major clog in the wheel of meaningful contribution of Universities to regional socio economic revamping. The paper has revealed that much is still needed to be done in two critical areas of transportation and the internet facilities, in this era of globalization adequate internet facilities is very germane, as it will enhance the

Figure. 3 Effects of Infrastructural Facilities on Students Academic Performance



Field Survey, 2015.

students to favourably compete with their counterparts in any part of the world.

The student's performance, contribution to socio economic development, ability to compete excellently in the technological world is hinged on infrastructural facility development. It is therefore, recommended that the government should be more concerned, involved and invested on the infrastructural facilities in the University. The University management should try to secure a private partnership in infrastructural development and must in turn adequately maintained the existing infrastructural facilities, while the students also needs to be sensitized on the need to maintain the existing infrastructural facilities on campus.

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