

**BARRIERS TO ADOPTION OF ISO 14001 ENVIRONMENTAL
MANAGEMENT SYSTEM BY THE NIGERIAN
CONSTRUCTION INDUSTRY**

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BARRIERS TO ADOPTION OF ISO 14001 ENVIRONMENTAL
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CONSTRUCTION INDUSTRY

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Specially dedicated to the Lord God Almighty, my late parents, my wife and son, and other family members for the love, care and support.

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ABSTRACT

Construction industry is considered among the resource exhaustive and environmentally damaging industry. The industry has been making effort to improve its environmental practices using ISO 14001 (EMS). It is a standard which offers the potential for organizations; especially construction firms the opportunity to organize their structure and activities to work in a manner that is environmentally friendly. Previous studies show that Nigeria has revised the law and policy for environmental protection yet not much has changed. This study aimed at identifying barriers to the adoption of ISO EMS by the Nigerian Construction companies and to determine which barriers predicted certification with the hope of improving adoption in Nigerian. The study took both qualitative and quantitative approach. The quantitative method was used for data collection by questionnaire survey. The qualitative approach explored annual reports, related literature from journals, and magazines. 200 questionnaires were distributed but 120 were returned for the analysis; a response rate of 60%. Reliability statistics of barrier factors revealed a Cronbach's Alpha of 0.765 at 95% confidence level, giving a high internal consistency indicating that the result of the survey was reliable. Some of the identified barriers include *level of commitment by top management, the difficulty of identifying environmental aspects, formulating EMS policy, certification procedure, high cost of training company personnel, difficulty of accessing, cost of policy formulation, difficulty in meeting legal requirement, implementation of environmental law and policy, and the level of awareness*. Moreover, analysis has also shown that the most important barriers to be tackled in order to get EMS certification in Nigeria include *constituting the EMS team, awareness on EMS, lack of guidance on EMS, and high cost of implementation*. Respondents also recommended that the process of certification should be simplified to encourage more new certifications and the EMS certification should also be made as a pre-condition to get a new contract as part of incentives to the EMS certified companies.

ABSTRAK

Industri pembinaan dianggap antara industri yang banyak menggunakan sumber yang boleh merosakkan alam sekitar. Kebelakangan ini banyak daripada pihak industri yang telah berusaha untuk memperbaiki amalan dalam memelihara alam sekitar antaranya dengan menggunakan prosedur yang disarankan oleh ISO14001 (EMS). EMS adalah satu standard yang dapat mempertingkatkan potensi amalan memelihara alam sekitar sesebuah organisasi termasuklah firma pembinaan dengan cara menyusun struktur dan aktiviti mereka untuk bekerja dengan cara yang mesra alam. Kajian-kajian sebelum ini menunjukkan bahawa Nigeria telah mengambil langkah menyemak semula undang-undang dan dasar untuk perlindungan alam sekitar. Namun perlaksanaannya masih belum berjaya. Kajian ini bertujuan untuk mengenal pasti halangan-halangan yang dihadapi oleh syarikat-syarikat pembinaan di Nigeria dalam mendapatkan pensijilan EMS. Kajian ini menggunakan pendekatan kualitatif dan kuantitatif. Kaedah kuantitatif telah digunakan untuk pengumpulan data melalui soal selidik. Pendekatan kualitatif pula melibatkan maklumat yang diperolehi daripada laporan-laporan tahunan, literatur dari jurnal dan penerbitan yang berkaitan. Sebanyak 200 soal selidik telah diedarkan, walau bagaimanapun hanya 120 telah dikembalikan untuk analisis; dengan kadar respons sebanyak 60%. Statistik kebolehpercayaan faktor penghalang mendedahkan Alpha Cronbach sebanyak 0.765 pada tahap keyakinan 95% , menunjukkan bahawa hasil kajian ini adalah dipercayai. Antara halangan yang dikenal pasti termasuk *tahap komitmen oleh pengurusan atasan, kesukaran untuk mengenal pasti aspek-aspek alam sekitar, menggubal dasar EMS, prosedur pemerakuan, kos latihan yang tinggi bagi kakitangan syarikat, kesukaran untuk mengakses, kos penggubalan dasar, kesukaran dalam memenuhi keperluan undang-undang, pelaksanaan undang-undang dan polisi alam sekitar, dan tahap kesedaran*. Manakala, analisis menunjukkan bahawa halangan-halangan yang dikenalpasti penting untuk diatasi bagi mendapatkan persijilan termasuklah *membentuk pasukan EMS, kesedaran mengenai EMS, kekurangan panduan tentang EMS, dan kos pelaksanaan yang tinggi*. Responden turut mencadangkan agar proses persijilan perlu dipermudahkan bagi menggalakkan jumlah syarikat pembinaan memiliki persijilan EMS dan persijilan EMS juga perlu diletakkan sebagai pra-syarat untuk tujuan mendapatkan kontrak baru bertujuan sebagai insentif kepada syarikat pembinaan yang telah mempunyai persijilan EMS.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Two decades have passed, since the idea of sustainability was proposed after the Earth Summit and in Rio. The first step for organizations to work towards sustainability was initiated by the implementation of environmental management system (EMS). The system provides a framework for various companies to define and organize their environmental management activities to comply with an acceptable standard practice. ISO 14001 EMS became the first International Standard Organizations (ISO) standard which was published in 1996 to provide international criteria for organizations to adopt and improve their environmental practices. All around the world ISO 14001 certification became increasingly acceptable because it serves as a standard conceptual structure that enables organizations from different sectors in different countries to implement EMS that suites their structure.

The construction industry has been found to be one of the most resource exhaustive and environmentally damaging industry. The industry has since then been working to improve its environmental practices using the EMS in order to

control its impact on the environment. Since its publication, ISO 14001 has proved to be the only set of environmental management standard which an organization can be certified across different sectors irrespective of type and size with relative flexibility. Studies have revealed that ISO 14001 has the capability of increasing operational efficiency and effectiveness. The standard also lays sound guidelines for reducing impacts to the environment while the companies in turn may benefit from cost savings. The standard, however, is not without its setbacks. The common criticism of ISO 14001 is that certification implies that companies have achieved continuous environmental improvement without actually measuring the extent of the companies' performance, (Grozalez-Benito and Grozalez-Benito, 2005; Hewitt and Robinson, 1998; ISO, 2009, Lam et al., 2011 and Myers, 2005, Ofori, 1998 and Spence and Mulligan, 1995, in Chan, 2011).

Construction works in Nigeria has continued to impact negatively on the built environment immensely. The consumption of environmental resources for construction and urban development without a corresponding effort to cater for the source calls for urgent attention. A number of studies have revealed that construction activities in some developing countries continue to apply conventional methods. It is evident that construction works in both Nigeria and Malaysia are still being executed in ways that do not take sustainability into consideration, hence, not environmentally friendly. The practice, particularly in Nigeria, does not strike a balance between environmental, social and economic considerations. If the trend does not change significantly, then the built environment can damage the environment substantially, (Abolore, 2012).

1.2 Problem Statement

ISO 14001 EMS is a world acclaimed standard tool that offers the potential for organizations, especially construction firms the opportunity to organize their

structure, plan activities, work processes in a manner that is environmentally friendly. Several issues, however, have been raised with ISO 14001 EMS adoption around the world. By December 2012, firms that were certified was 285 844. According to ISO, this is a growth of 9% compared to records of previous data. The certification had been issued in 167 countries; this was nine more than the previous year.

The top three countries for the total number of certificates issued around the world were China, Japan and Italy, while the growth in the number of certificates in 2012 was from China, Italy and France. The certification rate in Africa shows Nigeria, which is the most populous African country, in the 7th position after South Africa, Egypt, Algeria, Tunisia, Congo Democratic Republic and Morocco. While South Africa recorded 938 certification, Nigeria has only 44, (ISO 14001:2004). For Nigeria, a country that is aspiring to be among the top 20 developed nations of the world by 2020, this is grossly inadequate. Table 1.1 shows the distribution of ISO EMS certificates some African countries between 2008 and 2012 while figure 1.1 is the graphical distribution in those countries. Figure 1.2 shows the graphical distribution in Nigeria within the same period.

Table 1.0: Excerpt of International Standard Organization 14001 EMS Certification in 10 African Countries from 2008 -2012. Source: ISO 14001:2004 Survey Database: 2012.

ISO 14001 Africa					
Year	2008	2009	2010	2011	2012
Country	1515	1531	1675	1740	2109
Algeria	24	37	86	66	113
Botswana	0	2	2	5	10
Congo D.R.	1	2	1	2	51
Côte d'Ivoire	5	7	8	8	15
Egypt	410	347	495	526	593
Kenya	28	18		33	32
Morocco	35	49	63	38	45
Nigeria	22	40	22	29	44
South Africa	752	757	815	857	938
Tunisia	102	135	88	68	80

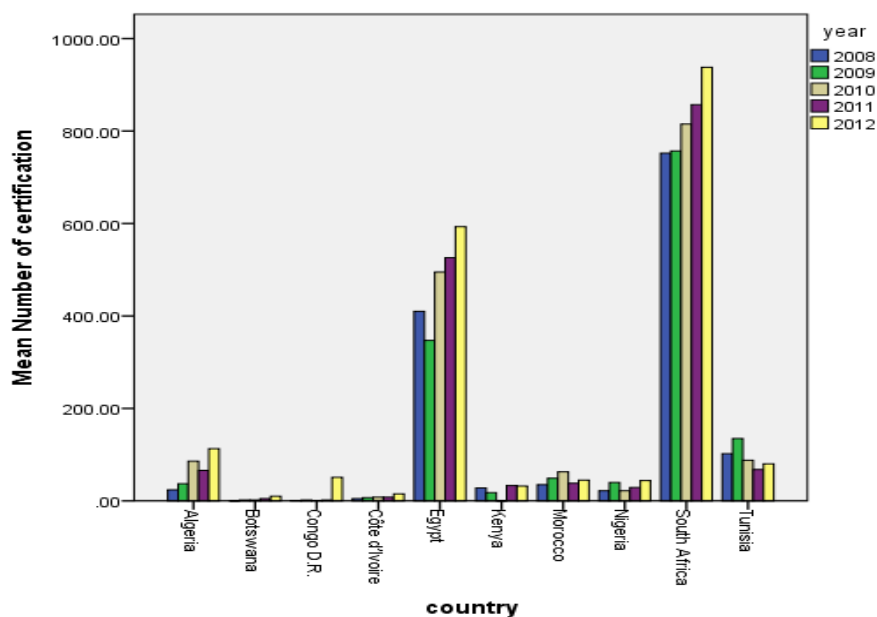


Figure 1.1: ISO certification in Africa for the period of 2008 to 2012, (ISO 140:2004)

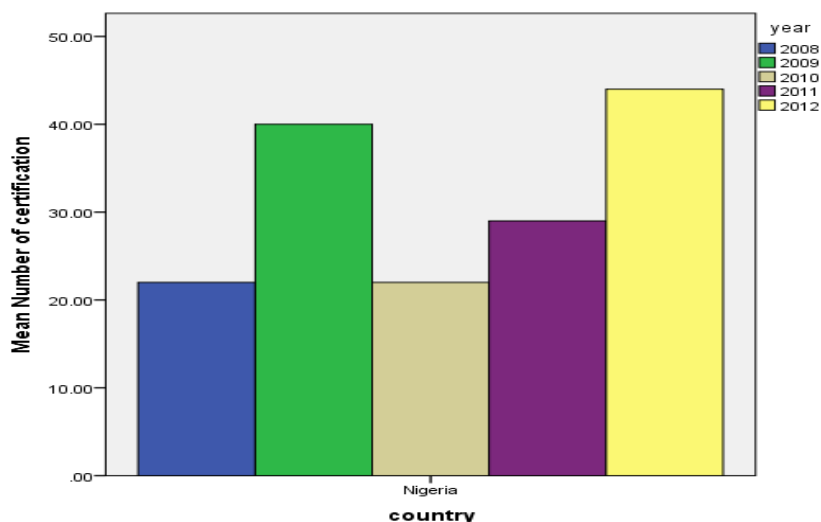


Figure 1.2: ISO certification in Nigeria for the period of 2008 to 2012. (ISO 140:2004)

According to a report by global construction and Oxford Economics, construction in the Middle East and Africa will grow rapidly by an estimated 83% over the next decade. The growth expected in the construction industry in Nigeria will be the fastest of the markets surveyed in the report, slightly higher even than the

forecast for India, reflecting increased wealth and urbanization resulting from the country's oil production. Nigeria is expected to be the second fastest growing construction market amongst 46 countries examined, behind Qatar, with an average growth in construction of 8% per annum between 2012 and 2025.

The Federal government of Nigeria made some changes in respect of the law and policy for the protection of the environment in 2007 by establishing a National Environmental Standards and Regulations Enforcement Agency (NESREA) in place of Federal Environmental Protection Agency (FEPA) with more sweeping powers to prosecute violators of environmental laws. An environmental policy was also put in place.

As good as the policy looks; there is no corresponding action towards enforcement of environmental law and policy, particularly in the construction industry as much as is being done in other sectors of the economy. It is 7 years that this new law and policy came into force but, going by the statistics from ISO 14001 survey databases of 2012, only 44 firms are certified for environmental friendly practices, (ISO, 2012).

The population of Nigeria, the seventh-largest in the world, is growing rapidly with at an average rate of 2.5% per annum forecasted for 2012 to 2025. This is much higher than the global average. The GDP is also forecast to grow by an average of 5.4% per annum over the same period, significantly above the global average. It is also estimated that an average of slightly less than 1.5 million new homes each year will be needed in Nigeria within the same period, making Nigeria the fifth largest housing market in the world after the US. Government agencies that are charged with the responsibilities of enforcing compliance to standard are constrained in their effort to ensure that standards are complied with, (Alli, 2014). These contrasting reports places Nigeria's construction industry in an unsustainable path as such environmental management in Nigeria will not be in accord with the

global initiative for sustainability, (ISO 14001:2004). This is what prompted this study with the outlined objectives below.

1.3 Objectives of the Study

This study aimed at investigating how Nigeria's construction industry found itself in a situation where environmental management is not working towards the sustainability initiative. In specific terms, the study was carried out:

1. To identify barriers that makes adoption of ISO 14001 EMS low in the Nigerian construction Industry.
2. To determine important barriers to ISO 14001 EMS certification in the Nigerian construction Industry that needs tackling to improve certification.
3. To recommend ways to improve adoption of ISO14001 EMS by the Nigerian Construction Industry.

1.4 Scope

The study was focused on those factors that stand as barriers for Nigerian construction companies to ISO 14001 EMS adoption and certification as well as finding out what strategies can change the situation to promote better adoption and certification with the hope that this will make construction activities in Nigeria more environmentally friendly and sustainable.

1.5 Significance of the Study

This study is coming at a time when the Nigerian government claims to have put in place all that is necessary to ensure that all industrial practices, including construction, abide with the provisions of environmental laws and policies. The construction industry, as predicted by global construction and Oxford Economics, is to grow significantly. With this growth, the tendency of the construction industry to impact on the environment both positively and negatively, is very high. The negative impact will be most undesirable because it will be detrimental to the wellbeing of Nigerians as well as counterproductive. Since the Nigerian construction industry is undergoing a significant growth then there must be a corresponding growth in awareness and good practices of environmental management for a sustainable environment to check carbon emission. The study therefore, identified those barriers that cause Nigerian construction industry's EMS ISO 14001 certification low. The study also analyzed these barriers to identify where there are lapses in legislation and policy implementation with a view to see how these can be corrected and activities by the construction industry will be environmentally friendly and sustainable.

1.6 Limitations of the Study

The study had limitation of time and availability of pertinent relevant documented information and data. The Nigerian environmental standard and regulatory enforcement agencies as well as standards organization of Nigeria were unwilling to release information and data due to policy. This made data collection and verification difficult. Companies were unwilling to release vital data to the researcher in a bid to guard their competitive market advantage. There was a poor system of data collection, storage and retrieval in Nigeria, particularly the construction industry.

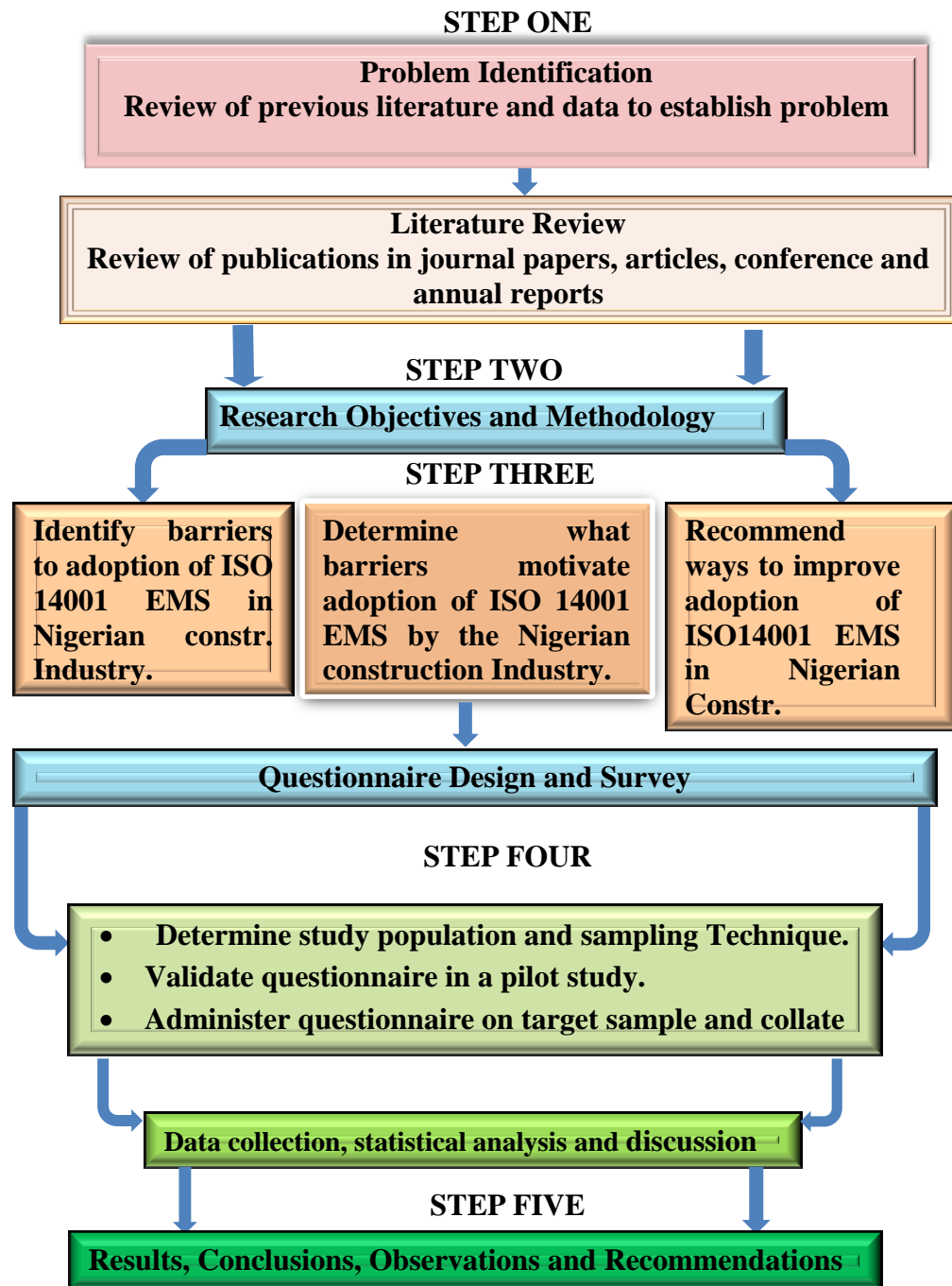


Figure 1.3: Framework of Research Methodology

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