

# EMERGENCE OF SIX SIGMA TECHNIQUES AND ITS IMPLICATION FOR MANAGING ENTERPRISES IN THE NIGERIAN ENVIRONMENT

## Abstract

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The six-sigma technique is a novel management technique for effective and efficient business performance. It has profound improvement for organizations that apply it properly. Many business organizations often fail due to failure to do the right thing at the right time and in the right way by ignoring the wind of change as well as failing to imbibe the dynamics of change for improved performance. The paper attempts to examine the modern management technique, six sigma, and its implication for managing specific areas of business organizations in the Nigerian environment with a view to halting the menace of premature business fold up. A number of recommendations have been made which suggest the following; the business class will need positive attitudinal change to accept and adopt the six-sigma technique; regular symposia are necessary at all business levels to create awareness and sharpen managers' skills for improved performance; managers have to be proactive in understanding and assimilating the six-sigma idea to facilitate sound management for sustainable growth in the Nigerian business environment.

## Introduction

The two dominant management techniques, concepts and principles in the 21<sup>st</sup> Century are total quality management and six sigma techniques. The concept of total quality management was designed to improve production and performance of product/service (Oakland 1998). Whereas the six sigma technique was evolved to guarantee loss reduction and organizational improvement (Adeyemi, 2005).

Principles, techniques and concepts serve as an interface between producers/service providers and expected results in the economy. They are indicators and regulators of levels of improvement and performance in business management - micro or macro.

The Nigerian businessman/woman should therefore, look closely inwards with a view to developing business feasibility studies, plans, visions, missions and strategies by applying six sigma principles to reduce periodic loss(s) and substantially improve organization.

## Theoretical Framework of the Six-Sigma Technique

Many management experts have viewed opinions on what they term six-sigma is all about. Ibru (2005) traced the history of six sigma to Motorola, a subsidiary of the General Electric company, where the chairman decided to switch from traditional ways of measuring defects in thousands of opportunities to modern methods of measuring defects per million of opportunities so as to turn around the fortunes of Motorola organization.

According to Ibru, "when in the early and mid 1980s, Motorola with Mr. Bob Galvin as the chairman, decided that the traditional ways of measuring defects in thousands of opportunities did not provide satisfactory results and decided to measure defects per million of opportunities, little did he know that the company was starting a cultural change in the corporate world. Motorola developed a new standard and created the methodology that helped in realizing powerful bottom-line results in organizations. The company documented more than \$16 billion in savings as a result of six-sigma efforts. Since then, hundreds of companies around the world have adopted six-sigma as a way of doing business".

Akpieyi, Trithel Management consulting attributed the emergence of the six-sigma principle from the General Electric Company to "Globalization and instant access to information, products and services which changed the way customers conduct business in today's competitive environment that leaves no room for error" Akpieyi (2005:29).

To the management consultant, the embracing of the new management technique by the general electronic company introduced a culture of knowledge break-through on how to improve their processes, do things better, faster and at a lower cost.

Geoff Tennant, a management strategy analyst viewed six-sigma as "a vision, a philosophy, a

symbol, a metric, a goal and a methodology" which has become the mainstream in the corporate world for the achievement of faster and greater bottom-line results. While Muogboh (2005) summarized his understanding of the principle thus: "six-sigma is arguably, an improvement on a similarly important management concepts-total quality concept".

The following points have been highlighted from the array of opinions on the subject matter of six-sigma principles:

In successful business operations, six-sigma concept has proved to be disciplined data-driven approach to process improvement aimed at the near-elimination of defects from every product, process and transaction. The new found organizational capabilities achievable with six-sigma lead to sustainable business results even in the Nigerian corporate world where the spirit of mergers and acquisition is gradually taking a foothold. The technique is evidently a useful tool in helping to model, measure, modify, and improve companies' business strategies for increased profitability.

Six-sigma directly impacts financial result and customer satisfaction. The concept's philosophy recognizes that processes show some service variation, which can result in defects that cost time and money. These process variations can be reduced by using six-sigma tools to methodically and systematically identify the real cause of the variations and create permanent solutions to any business problems. If the routine management technique processes were improved, the margin for error would be reduced and allocation of resources, both human and monetary, could be much more profitably used. Organizations can make a difference to customers, when they see a problem and come up with improvements using data-driven correction - it is six-sigma at work.

### **The implication of six sigma principle for business management in Nigeria**

The problem that led to the collapse of businesses due to poor performance and poor knowledge of appropriate business strategies can be alleviated. Therefore, the technique can be adapted and incorporated in the following areas and segments of business management.

#### **Service Industry**

Six-sigma technique is a sine qua non to guarantee loss reduction and improve service oriented organizations such as all classes of hotels, laundry and dry cleaning, consultancy, hair dressing/barbing saloons and educational institutions. To reduce loss(s) and improve service, managers need strategies that emphasize quality service and quality personnel. Deviation in employee behaviour could be easily spotted and corrected by managers through instruction as well as regular training.

A survey of service organizations across **the** country by Tyav (2008), a management consultant, indicated that, organizations that ignored six sigma principle in their operation showed the following level of dissatisfaction;

- (a) 3% of customers moved away from service points
- (b) 5% of customers developed friendship with six sigma compliant organizations.
- (c) 9% of customers left for competitive edge reasons
- (d) 14% were dissatisfied with the service in hotels, motor park and consultancy organizations.
- (e) 16% of customers quit due to indifferent attitude of employees and managers of various local hotels in urban areas.

#### **Government Policies and Programmes:**

The technique is important to purpose - driven technocrats. The only true way for government's activities such as budget and decisions to work with effective results is when personnel with sense of six sigma principle are entrusted with duties. "They are serious minded and experience success of a winning team" (**Kumuyi, 2008**). This is a panacea to failure of government's periodic programmes like annual budgetary proposals- Enlightened government officials who apply the six sigma concept tool of discipline and data driven statistics can strategize policies that will reposition government departments for effective/efficient service delivery.

#### **Marketing Activities**

The six sigma technique enhances marketers' dynamics of creative selling of quality product and marketing of services. This enhancement is through sharpening of the marketer in following traits charisma, creativity and foresight. For instance, marketers using six sigma tool in product/service marketing use their expertise to stimulate buyers of the benefits leading to high sales,

thereby reducing losses. Its application to market research helps to provide entrepreneur with information about marketing opportunities. This enables the business man to "measure and evaluate such opportunities in terms of their potential for profit" (fyanda, 1988).

### **Feasibility Studies**

It helps in the proper guidance of managers in their feasibility studies. For instance it helps in critical consideration of the cost, purpose and benefit of what to produce with a view to making profit in a challenging business environment. This agrees with the view that six sigma is required by every improvement oriented manager before implementation of a worthwhile proposal. The reason why many business feasibility studies do not meet the standard of several finance houses for funding could be attributed to initiating business ideas without a certainty of loss reduction and organizational improvement.

A six-sigma guided feasibility study is expected to answer the following questions unambiguously:

- (a) What to do? Definition of the project
- (b) Where to do it? (Location)
- (c) How to do it: (Process, financing)

### **It is a Useful Cost-Cutting Tool**

Organizations that have tall hierarchical levels with high bureaucratic costs find the six-sigma principle a useful tool for trimming tall hierarchical levels to a flat level. For instance, where communication between the top and bottom of hierarchy takes long due to a lengthy chain of command for an organization to introduce a new product to the market, the levels can be reduced to a flat level of say four. When applied to flatten structure in this way, six sigma technique solves the problem of the cost of inflexibility and valuable time that would have been lost to another competing organization. It is useful for inefficient business organizations and government agencies which desire to restructure for effectiveness and efficiency.

### **Small Scale Businesses**

The fundamental reason for the failure of small business enterprises is that, they are not well managed. Small business organizations require ideas to guarantee loss reduction and improved management of resources for sustainable growth.

Such organization can achieve level of growth only, if they are well planned, properly capitalized and have strong accounting systems. Good management, using the six sigma technique, involves the skillful use of resources. It equally, deals with questions of organization, planning and control. In a nut shell, the organization is concerned with the structure, clear understanding of function and its relationship to other activities in the organization. Planning has to do with the main corporate objective and several supporting objectives of the enterprise while control is concerned with assessment and feedback mechanism to determine level of performance.

### **Determinant Tool for Accountability**

Every business requires a systematic recording of business transactions in such a way which enables the financial relationships of a business with other persons to be disclosed. This makes it possible for the ascertainment of cumulative effect of the transactions on the financial position -whether there is a loss or profit and improved performance or otherwise. Oluwole (1988) in his 'Where did the money Go<sup>7</sup>' seemed to agree with the fact that, the six sigma principle supports the reasons why accounts have to be properly kept in all business organization.

He adduced the following reasons:

- (a) It shows whether the business is making a profit or loss thus facilitating the taking of corrective measure. This agrees with the six sigma technique.
- (b) It shows who owes the business and whom the business owes. This is to indicate the financial position of the organization.
- (c) It provides the basis for internal control thereby fraud may be prevented or detected. This invariably leads to organizational improvement.
- (d) It shows via the balance sheet, how the capital and assets of the business are being utilized. This helps to indicate the financial position of the business organization.

### **Recommendations**

If we have to surmount problems of business and public organizations failure so as to produce profit oriented quality product and render customer oriented services, the following suggestions have been recommended for implementation.

1. The Nigeria business class has to adopt a positive attitudinal change towards the innovative six sigma management principle. This will take the form of a radical reorientation of the business class to increase its level of awareness and acceptance.
2. Acceptance of better techniques for proactive service delivery is recommended for both small and big business people through the process of diagnosis and customization.
3. Regular seminars and symposia on current business trends and techniques should be organized at rural and urban levels to acquaint business managers with modern management techniques.
4. Investigative work is needed in various operational activities of business management especially into why people do not easily embrace innovative techniques, and strategies for optimal business service delivery at micro and macro levels.

### Conclusion

Business stakeholders need to keep themselves continually abreast of relevant management techniques to achieve their missions and goals. The onus of sustaining organizations into a foreseeable future rests squarely on the shoulders of professional managers of enterprises - sole proprietorship, small and medium scale, state and multi-nationals.

Loss reduction and improvement are major solutions to the problem of frequent business collapse in Nigeria - managers require planning and administration, communication, strategic action as well as team work competencies to apply techniques.

Six-sigma is a land flowing with milk and honey... Edgeman (2005). It has much to offer when competent managers properly apply and link it to other approaches. Six-sigma is capable of delivering what is desired of it - superior products, services and performance in less time, at lower cost, to the enrichment of society and with no harm to the competitive business environment.

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