

quality assurance in Open and distance learning

Six sigma as model of assuring quality learner support services in National Open University of Nigeria study centres.

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Introduction,

Six sigma is a philosophy and quality tool or initiative to improve the quality of products or services by improving the system and processes involved. It is a measure of goodness involving the application of statistical methods to business processes to improve operating efficiency, reduce variation and waste, and avoid defects (Onyewuenyi, 2008). Six sigma was originally developed by Motorola in 1981. As of 2010, it enjoys wide spread application in many sectors of industry, although its application are not without controversy. Each six sigma project carried out within an organisation follows a defined sequence of steps and has quantified targets. These targets contribute to financial cost reduction or project increase) or whatever is critical to the process (cycle time, safety, delivery etc). The term “six sigma’ comes from a field of statistics known as process capacity studies. Originally it is referred to the ability of manufacturing processes to produce a very high proportion of output within specification – **six sigma implication goals is to improve all processes to that level of quality.**

In the education industry the customers’ specification expected to be met, includes the expectations of students, staff, and parents, government and employers) Six sigma projects follow two project methodologies in inspired by Deming’s Plan-Do-Check- Act cycle. These methodologies comprising five phases each bear the acronyms DMAIC and DMADV. DMAIC is used for projects aimed to improving an existing business processes while DMADV is used for projects aimed at creating new products or process design. For the purpose of this paper, the DMAIC would be more relevant

DMAIC methodology has five phases

- Define the problems, the voice of the customers and project goals, specifically
- Measure key aspects of the current processes and collect relevant data
- Analyse the data to investigate and verify causes- and- effect relationship. Determine what the relationship are and attempt to ensure that all factors have been considered seek out root causes of the defect under investigation
- Improve or optimise the current process based upon data analysed using techniques such as design of experiments, poka yoke or mistake proofing and standard work to create a new future state processes set up runs to establish process capacity
- Control the future state process to ensure that any deviations from the target are corrected before the result in defect. Control systems are implemented such as statistical processes control. Production boards and visual workplace control. Production boards and visual workplaces and the process is continuously monitored

CONCEPT OF SIX SIGMA IN EDUCATION

Quality of subject matter taught, the mode of delivery, the character generated of the students, the quality of study and school life are areas the six sigma can be applied (Onyewuenyi, 2008). The paper focuses on how to improve the existing processes of providing support services in National Open University of Nigeria in general and specifically, process of support staff interacting with the learners. This translate to how six sigma could be used to improve the existing processes of giving appropriate information, suggesting best approach or courses of action and helping learners exploring and clarifying issues and problems.

Aim and objective of this paper

The aim of this paper, on one hand is to examine the existing processes of interacting with the NOUN students through via provision of information, academic advisory and counselling services vis-à-vis the six sigma model. The objective of examining these processes is to evolve a framework for effective and efficient processes of information, advisory and counselling services delivery in NOUN that will have positive impact on the learners' level of adjustment to distance learning, meet their expectations and students retention. Also suggest ways on how these processes could be quality assured through six sigma

Overview of learner support services

Learner support comprises all the assistance provided by a distance education or an e-learning system which matches the facilities which a face-to-face system provides for the success of its students. Learning support lists the assistance provided by the institution in the actual process of learning to ensure that the learning tasks are performed successfully (Keegan, 2005). He further stated that the role of the student support services was to guarantee the validity of the educational process by providing structures for interpersonal communication and feedback in the distance education system. According to him, Student support services were crucial in the accreditation process of distance education courses and the decision of national and international bodies to award university degrees, college diplomas and training certification for studies done at a distance. In summary, the aim of the support services is to assist the distance learners (prospective and registered) from the point of first inquiry about enrolment through graduation and even after graduation

The basic support a learner in Open and Distance Education need can be broadly categorised into three; tutorial services, advising and counselling, and administrative services

Academic support service

- Tutoring and instructional facilitation
- The Integrated learning Management System and its use in e-learning

Counselling and advising

- Orientation.
- Learning and study skills assistance.
- Academic counselling, information and advising.

- Career and personal counselling
- Monitoring academic progress
- Referral

1) Administrative support services

- Admission, registration and matriculation
- Library and information
- Support for peer tutoring
- Assessment and Evaluation
- Access to multimedia
- Record keeping
- Course material delivery

As mentioned above Guidance services are identified as one of the essential support services in Open and distance education. In other hand, Information, counselling and advisory services are the hallmarks of these guidance services and modes of interacting with learners. Bailey, (1985) and Brown, (1987) identified seven guidance activities in ODL, which are all interrelated:

- Informing, about options & opportunities
- Advising, helping to interpret information & choosing the most appropriate action
- Counselling, helping to discover clarify, assess & understand learning needs
- Assessing, helping to understand educational & vocational development so sound judgements can be made
- Enabling, supporting the student in dealing with other services or in meeting demands of the course
- Advocating, negotiating directly on behalf of the student
- Feeding back, gathering & collating information on learning needs

The main aim of Guidance and Counselling in the University is to track a potential student from the point of first inquiry through graduation and often for life time , plan intervention strategies and assist him or her to painlessly over come both academic and socio-psychological obstacles that will militate against his or her successfully completion of his or her studies.

Basic existing processes of providing information, advisory and counselling services in NOUN

In the subsequent sections of this paper, attention will be focus on the existing processes of providing information, advisory and counselling services in ODL in general and the National Open University of Nigeria in particular. Information is defined as making facts known; the communication of facts and knowledge (Encarta, 2009). The process of providing information involves four steps

- i) Attracting attention to the communication
- ii) Achieving acceptance of the message
- iii) Having it interpreted as intended and

iv) Getting the message stored for later use (Schramm, 1986)

Critical look at the existing process of providing information in NOUN

To draw attention of the general public or marketing its programme, the National Open University of Nigeria, had first and foremost undertook preliminary investigations to find out programmes that were rarely offered by conventional universities in Nigeria or of high demand by potential and prospective students and employers of labour. On the basis of these findings programmes including new ones are mounted and advertised

Step 1, Academic programmes offer by the University are advertised, prerequisite qualifications for enrolment in the programmes, process of online registration, addresses of the study centres, and its staff are spelt out. In order to attract attention of a wide spectra of the general public, the advertisement of these programmes are often on the national television, radio, university prospectus, bronchus, pamphlets and university web page

Step 2 In the advertisement, a learner is advised to contact study centre manager or any of the student counsellors in any NOUN study centre nearest to him or her or student counsellors at NOUN headquarter through phone or internet or visiting the centre for face to face session for more information

Step 3 Two day Induction/orientation for prospective and registered students is organised within the first week of every semester simultaneously in all the NOUN study centres across the country. During the induction/ orientation, information on the following activities are provided

- a. Access to a full range of support services available at the Study centres
- b. About Academic Programmes in order to select the best courses for their needs and to ensure they have a through understanding of what employment opportunities and skills they will have on completion,
- c. what the programme entails and the expectations are of them as learners
- d. Encourage prospective learners who desire to pursue their studies through distance mode.
- e. To provide information about admission procedures and schedules,
- f. About the ODL system and methodology including counselling & assignment schedules, induction, library, tele-interactive sessions, despatch of Course materials and Examination System.
- g. Miscellaneous information about fees, scholarships, financial assistance and Recognition of Prior Learning

Step 4 Registration: During the orientation prospective students and registered student are taken through the nitty-gritty of the process of on line registration and are advised to visit the University web page for that purpose.

Step 5 Registered students could key in to the University Integrated Learning Management System for on line linkages with support staff, faculty staff, administrative staff and other students

Step 5 In every centre a replica of Visit Call Centre (VICC) at the Headquarter, reception under the supervision of the student counsellors has been created. The reception is

equipped with computer and internet facility to provide update information to who ever needs it.

Step 6 Prospective students are advised to visit any of the two professional student counsellors at each study centre for information, counselling and academic advising

The existing process of providing counselling services in NOUN

In the subsequent section of this discourse, the focus will be on the existing process of counselling services in NOUN. Interacting with learners through counselling may be more or less directive. The greater the degree of responsibility the learner takes for his or her own understanding and decisions, the more the counselling is likely to be (COL, 1999). Review of relevant literature has revealed that counselling is an appropriate way to enhance the capacity of students to develop themselves and also to overcome barriers that they may encounter in the process of successful completion of programmes (Wickramaratne, 2001). He further explained that whatever type of counselling services extended to the distance students, it is basically not only to enhance the capacity of the learner to take responsibility for the learning but also to equip and support the distance learner acquisition of the potentials for action from what is learnt. As identified by COL (1999) in some circumstances learners simply need straightforward information; or if heading in a completely unproductive direction, they may benefit from the advice of their tutor or counsellor. In any single counselling session Counsellors take on a range of tasks when interacting with learners. These involve three primary tasks and associated sub-tasks;

1. Clarifying- ensuring the learners' needs are clear
2. Checking – ensuring the counsellor correctly understands the learner's needs
3. Conceptualising -restating the need in the counsellor's own words
4. Challenging- pointing out contradictions and other ways of seeing a point
5. Consequent action- agreeing to what counsellor and the learner might do as a result of a result of their discussion(COL,1999)

STEP 1 . First and foremost, it is expected and incumbent on the counsellor to establish a rapport with the counselee. This helping relationship will dovetail into making the learners feel welcome and valued as individuals. Initial warm welcoming of the counselee will put him or her at ease, good frame of mind, builds confidence and motivates him or her towards self closure or lack of it could mar the whole counselling process. When counselee steps to the counselling office or phone or writes a counsellor he or she expects a warm responses like 'please sit down' "you are welcome" etc,

Step 2 Clarification- At this stage the counselee states his or her inquiry or problem while the counsellor actively listen to him or her in either face to face session, or on the phone or careful reading through the letter. In the process of active intelligent listening, the counsellor encourages the learner to think through his or her query or problem for himself or herself by clarifying what is being said and looking (sometimes) for what is not being said but important to the whole process. The implication of this is to make sure that the learner's needs are clarified, ambiguously and unequivocally stated. In order to effectively and efficiently facilitate this process, the counsellor should ask open-ended questions, show

signs of acknowledgements, reflects on what has been said , and maintains silences at the appropriate point in the process.

Step 3 Conceptualising stage -restating the need in the counsellor's own words. It simply means saying back to the learner something that they have just said but in such a way as to clarify it, reassure the learners that they are being heard correctly and encourage them to go on

Step 4 Checking- going back or follow up to the learner to make sure the problem or issue is now completely clear or at least that it is as clear as it is possible to be at this stage. Checking is important before deciding on any action, to be sure that it is appropriate.

Step 5 Challenging- pointing out contradictions and other ways of seeing a point

Step 6 Consequences- settling with the learners what will be done by them and by the counsellor (action or advice) as a result of the interview. Consequences agreed upon mutually are important because any action or advice not mutually agreed upon is almost certainly to fail. Think how often you have been given advice which you failed to take because you found it unconvincing or inappropriate

Step 7 Epilogue: A short session that ends the counselling or a concluding decision, what and when follow up actions should be or when to meet again to review the progress made so far towards achieving the goals jointly arrived at by the counsellor and counselee

Existing process of providing Academic Advisory services in NOUN

In this section of the discourse, the concern would be on analysis of the existing process of providing academic advisory services. Academic advising is a profession focused on offering constructive counsel and guidance to students in order to assist them in meeting their academic goals (Tatum, 2010). The academic advisor offers assistance in evaluating skills and talents, and advises students in the selection of coursework and other academic programmes (Wikipedia 2010). Academic advising seeks to help the student to combine those abilities with his or her likes and dislikes, and thus develop a plan of action in the pursuit of educational goals that will produce the desired outcome for the student (Tatum, 2010). *Quality academic advising allows the learner to accomplish his or goals in a timely manner and allows him or her to be in control of his or her own educational ambitions. By developing an on-going relationship with student counsellor, will help the student gains insight into academic issues and career options as they relate to his or her academic program (UNESCO,2002)*

Purpose of providing academic advisory services

According to UNESCO,(2002) academic advising synthesizes and contextualizes students' educational experiences within the frameworks of their aspirations, abilities and lives to

extend learning beyond campus boundaries and time frames And academic advising fulfills the following purposes:

1. To assist students in developing educational plans that are consistent with their life goals.
2. To provide students with accurate information about academic progression and degree requirements.
3. To assist students in understanding academic policies and procedures.
4. To help student's access campus resources that will enhance their ability to be academically successful.
5. To assist students in overcoming educational and personal problems.
6. To identify systemic and personal conditions that may impede student academic achievement and developing appropriate interventions.
7. To review and use available data about students academic and educational needs performance, aspirations and problems.
8. To increase student retention by providing a personal contact that students often need and request, thereby connecting them to the institution.

Existing process of academic Advising in NOUN

Though the main academic advisors in NOUN are the student counsellors at the forty (40) NOUN study centres across Nigeria, counsellors often a time make referrals to the facility staff if need arises. In order to register for courses, the learner must first of all meet with the student counsellor attached to his or her facility or school as academic advisor. The process is as follows:

Step 1

Two days in each semester are set aside for induction/orientation before registration. These two day are very important because all the students are expected to register online. During the induction/orientation, Study centre managers, student counsellors, tutorial facilitators are expected to make themselves available to their advisees in order to provide advice on academic programmes, how to select the best courses for their needs and to ensure they have a through understanding of what employment opportunities and skills they will have on completion, Also the advisors explain to the students, the requirements of their programmes and the expectations are of them as learners. Advisors also encourage prospective learners who desire to pursue their studies through distance mode. During the orientation, the advisor discusses with the students how the current semester will progress, what students' academic goals are at the University as well as transfer potential, how the University may assist the students with their career aspirations, and what courses the students may need and/or wish to take in the next semester.

Step 2

In each semester, a list of is posted in the University web page and study centres that indicate the name of the student counsellors attach to each school and for each

matriculated and non-matriculated students to consult for academic advisory services. Student, who wants to change his or her status, is advised to contact the Student counsellors attached to his or her school and completes the appropriate forms.

Step 3

To ensure that a student receives the best possible advice, he or she is advised to follow these guidelines:

1. Print your transcript from University web page – www.nou.edu.ng for your advising appointment.
2. If you are unable to do this, obtain a copy from the Student counsellor or administrative officer
3. If you are considering transferring to another university or college, bring in a copy of that institution's catalogue.
4. Familiarize yourself with your own curriculum and the requirements for graduation for your course of study.

Step 4

Prior to meeting with academic advisor, the student is expected to review both the curriculum in which he or she enrolled and the course offerings for that particular semester. Develop a list of courses in he or she is interested as well as a list of questions he or she may have for the counsellor concerning degree requirements and/or the relevance of certain courses to meet his or her individual career /transfer goals.

Step 5

The academic advising process should be a counselling sessions. Ask questions to clarify information and take notes. Evaluate the information you receive and act accordingly. Some cases referrals are made to faculty and staff by the counsellor in order to assist the students in the decision making process; however, ultimately, responsibility for his or her education lies with the student.

The existing medium of communication with distance learners

In NOUN the student counsellors have the responsibility of keeping in constant touch with distance learners and providing any early warning signals regarding difficulty with studies in order to provide prompt remedial actions and prevent dropping out. This constant interactive and transactional communication at distance could only effectively and efficiently be carried out through a well defined communication policy. In other word, the processes of providing information, advisory and counselling services as described above could only be essentially carried through well defined communication policy. Educational communication concerns itself with the process of how the teacher/support staff and students act and interact to enhance to enhance the knowledge of the latter. I n

educational communication, the sources information are teachers/institutions that is, agencies which intend to transmit knowledge, skills values and culture and related activities which educate, inform, train, enlighten, inspire and entertain the students. The receivers are the students and the media to transfer the content include various teaching strategies such as demonstrations, tutorials, textbooks, assignments, audio-visual components, libraries. The challenges are whether the channel of communication selected are effective, efficient and appropriate in delivering clearly and accurately information to the students as desired by the source without interruptions and distortions. To determine whether the selected media of communication are appropriate, effective and efficient in delivering information clearly and accurately, qualitative and quantities research must be carried out before use or action research is very necessary. In NOUN, to the best of my knowledge such research has not been carried out. The purpose of such research is to determine;

- a) if it is capable of presenting all the intended information to the counselee in clear and unambiguous manner
- b) if it can enable the counselee to take active part in the information process

Other issues to be considered while selecting medium of information in Open and Distance Education include;

- 1) Access: that is how accessible is a particular technology for counselees?
- 2) Flexibility: How flexible is it for a particular target group?
- 3) Cost: What is the cost structure of each technology and the unit cost per counselee?
- 4) What kinds of counselling needs of students are to be met through this medium?
- 5) What is the best technology that supports a specific counselling strategy?
- 6) Interactivity and user friendliness: What kinds of interaction does the technology permit? How easy it is to use?
- 7) Organisational issues: what are the organisational requirements and the barriers to be removed before this technology can be used successfully
- 8) Novelty: How new is this technology?
- 9) Speed: How quickly can information be disseminated through the medium

In terms of providing guidance services to students at NOUN study centres, 64 profession counselling psychologists have been recruited and posted to the centres across Nigeria. The purpose of this is to provide guidance services are accessible to all the students of the University where they may be. NOUN combines face-to-face, telephone, correspondence, teleconferencing, e-mail, print materials, audio tapes, referrals video tapes, CD-ROM, radio and television broadcasts to provide information, advisory and counselling services to its teeming student's population. This is with the view that these media of communication would be able to meet learners' needs, target groups philosophies, resources and content of learners support services. The nature of the interaction or communication in open and distance education is likely to shift back and forth while providing information, advisory and counselling services (COL, 1999). According to COL, (1999) range of ways of interacting with learners can be group according to

- The extent to which the learner is actively included in the process as a agent or subject rather than merely an object of the process;
- And the extent to which the interaction is focused or centred on the problem or on the learner

NOUN is aggressively pursuing a technologically driven service delivery in most of its activities (through computer and internet, CD Rom and cassette) These include filling of admission form online, online registration, e-payment of fees, information dissemination, student records and data, major publication, 399 course materials are uploaded on the web for students to download, video conferencing, 196 course materials on CD ROM, Cassette and as of June 2010, this year On Demand Examination and e-examination on Maple platform have commenced. From the Frequently Asked Questions, the Directorate is sure the counsellors are very much aware of the needs which distance learners expressed. With the introduction of Integrated Learning Management System, (e-platform) on line Counselling through email and computer conferencing (posters, mailing, e-mailing e-chat) has commenced in the University. With the large population of students in need of counselling services, on line counselling now adopted in NOUN will hopefully provide respond quickly and timely to students' inquiries, complaints, information dissemination, advising and counselling needs of the students. Despite the effort of the University some other barriers to effective and efficient processes of information, advisory and counselling service delivery remain to be addressed.

CHALLENGES TO PROCESSES OF INFORMATION, ADVISORY AND COUNSELLING SERVICES IN NOUN

. Other challenges include:

- ❖ Poor communication between the senders and receivers especially when using phone for interaction with the learners partly due to poor GSM services
- ❖ Inability of most learners in National Open University of Nigeria to use computer and internet facilities etc proficiently and most of learners cannot afford personal computers
- ❖ External factors such as lack of or accessibility to information and communication facilities like computer and internet, constant electricity supply, telephone service etc. in most of the NOUN study centres hamper efficient delivery of guidance guidance's through these means
- ❖ The cost structure of telephoning, face to face counselling, computer and internet facilities per unit cost per counselee and per counselling session is enormous in terms of staff, time and travel and could also be inaccessible to distance learners

Organisational issues: what are the organisational requirements and the barriers to be removed before counselling media can be used successfully

- ❖ Most of the NOUN study centres lack appropriate channels of counselling (Phones, video and audio cassettes, computer and Internet facilities, radio and television etc) which delivery clearly, accurate and quality information to the students as desired by the source (the counsellor or education institution) without any distortion
- ❖ Novelty: The use of technologies like phone, computer and internet, radio, television, video and audio cassettes for guidance and counselling is new in Nigeria educational system. Because of the novelty of these technologies and their cost implications NOUN is unable to provide them in most of its study centres for guidance and counselling
- ❖ Abysmal network services from Global Service Mobile providers in term of counselling through phone and also telephone services are expensive in developing economy
- ❖ lack of facilities and equipment eg counselling office in some Study centres is another bottleneck in effective deliverance of counselling in NOUN

- ❖ In NOUN media selection is left to the discretion of individual counsellors and availability of the media. There is no policy or bench mark to determine the minimum media of counselling that should be provided for a counsellor at the study centres.
- ❖ Abysmal postal service in Nigeria is another bottleneck in the deliverance of guidance services in NOUN. It takes weeks for letters to reach its destination, whereby create a big communication gap between the sender and receiver

Recommendations

Although the fact that, student counsellors in NOUN are professional counsellors, perception of counsellors as unapproachable especially at the study centres by the students remains a clog on the wheel of progress. This is partially due to ignorance on the functions of a counsellor in open and distance education by the students. And also is due to the fact learner support services as a wholesome package is exclusively practised as in National Open University of Nigeria among Nigeria universities.

To improve the process of counselling in NOUN study centres, One of these areas of concern is for the support staff to authenticate his or her source of information, and see that it is update, unbiased, relevant to the need of the students. For a support staff to be effective in discharging his responsibilities he or she must attain a certain level of competency in communication skills, the language of the receiver, selecting of appropriate media and efficient use of communication devices especially computer and internet and there must be constant electricity supply etc

One other important thing the support staff must do is to research into the information needs of the student before sourcing and disseminating any information. This could be done through qualitative or quantitative or action research. Other recommendations include

- Establishment of well equipped counselling office with modern multimedia facilities and equipment must be established.
- Provision of adequate fund for support services at all the centres specially for answer phone and SMS
- Guidance service needs of students such as information, advising and counselling should be assessed and frequently asked questions should be addressed
- Since ODL is information and communication media driven, minimum standard or bench mark should be set in the provision of media facilities. This is because to get in touch with a learner at a distance involves the use of other communication technologies apart from face to face means.
- Study Centre managers, counsellors and facilitators should undergo more regularly computer literacy training programmes
- The availability and process of media selection must be considered in designing guidance services. In selecting media of counselling, consideration must be given to the media that are capable of presenting all the intended information to the counselee in clear and unambiguous manner
- The chosen medium of counselling should enables the counselee to take active part in the counselling process,
- The chosen technology should be flexible to the needs of the target group
- Cost structure of each technology chosen and the unit cost per counselee must be assessed and be within the affordable level of the counselees

- The chosen medium should be capable of meeting counselling strategy, needs of every student, target group, accessible to all students, enable interactivity, easy to use and be user friendly

Conclusion

In conclusion, therefore, paper x-rayed the existing process of interacting with learners via information, advisory and counselling services in National Open University of Nigeria study centres vis-à-vis the six sigma model. The paper also identified the challenges the University is currently facing in providing these services and suggested ways on how these processes of support services delivery can be enhanced. Therefore the implication goal of paper is to provide a frame work using the DMAIC project methodology of six sigma philosophy to enhance the existing process of interacting with NOUN students

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