ASSURING QUALITY THROUGH THE IMPLEMENTATION OF ISO 9000 IN PERPUSTAKAAN SULTANAH ZANARIAH

By

RUSLIZA YAacob & MOHD SHOKI MD ARIFF

ABSTRACT

Quality assurance (QA) as a management system is being increasingly applied to all business activities including the information service industry. This article describes QA implementation at Perpustakaan Sultanah Zanariah (PSZ), Library of Universiti Teknologi Malaysia through the principles and practice of ISO 9000. PSZ as an ISO 9000 certified library since May 1998 has identified 7 core processes and services for the implementation of this quality standard. This article also examines quality library services from the customers' perspective and the checking system used to ensure that working processes and delivery of services adhere to the organization's quality plans. Practices that the library follow to ensure customer requirements are fulfilled and established continuous improvement of quality library services and materials are also described.

QUALITY ASSURANCE AS A MANAGEMENT SYSTEM

Quality assurance (QA) is being increasingly applied to all business activities including the information service industry to provide a management system which will also assure the quality of a product or service. The implementation of QA as a quality management system is to ensure that the product or service offered meets the expectations of the customers (Dalela and Saurabh, 1997). The purpose of a quality assurance system is to prevent problems from occurring, detect them when they do, identify the causes, remedy the causes, and thus prevent re-occurrence.

QA is an approach intended to ensure consistent outcomes from processes by trying to design errors out and quality in (Dalela and Saurabh, 1997). It typically requires the specification of quality standards (fitness for purpose), with resulting consistent methods of working intended to assure that standards are met consistently. By meeting the standards on a consistent basis, an organization is assured that it delivers a product or service that meets its customers' requirements (Dalela and Saurabh, 1997).

QA is concerned not simply with inspection, but also with how an organization organizes itself to ensure that quality is continuously maintained and improved in all its activities (Dalela and Saurabh, 1997). This principle of quality assurance includes all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality (Clause 3.5 ISO MS 9000: 1991). In order to satisfy or meet the given requirements, a QA system requires many interacting, and thus interdependent departments or functions in an organization.

QA can be implemented through installing a quality management system which allows direct control of all management and production activities (Dalela and Saurabh, 1997). Essential elements that should be considered when implementing a QA assurance are (Freeman, 1993):

- Mission statement to provide direction and a sense of purpose in offering a product or service that meet customers’ requirements;
- A set of procedures which lay down how work shall be carried out to assure that the product or

* Rusliza Yaacob (Head of Administration and Support Services Department, Perpustakaan Sultanah Zanariah, UTM)
* Mohd Shoki Md Ariff (Lecturer, Faculty of Management and Human Resources Development, UTM)
service meets the requirements consistently;

- An auditing system to check compliance to procedures;
- A corrective action system to rectify non-compliance; and
- A management review system to monitor and improve the system.

ISO 9000 standards provide the basic structure for executing quality assurance (Dalela and Saurabh, 1997). In fact, ISO 9000 is a procedural approach to quality assurance (Freeman, 1993). Through ISO 9000, the standard of quality for a product or service offered by an organization is clearly defined according to stated and implied consumer requirements, with procedures written and followed to assure that customer requirement are consistently delivered. The procedures and associated support documents and manuals form a “quality management system” which is “comprehensive, consistent and unambiguous” (Freeman, 1993). These procedures and documents should include the control of all functions and activities that can affect quality of the product or service.

Perpustakaan Sultanah Zanariah (PSZ), the Library of Universiti Teknologi Malaysia has adopted the principle and practice of ISO 9000 as its quality assurance management. PSZ is an ISO 9000 certified library since May 1998. At PSZ, QA, through the implementation of ISO 9000, is an approach to organizing work processes and services, which ensure that:

- The library’s mission and policy are known to all staff and integrated in everyday working practice through quality system documents;
- The ISO 9000 quality system through which work processes and services will be performed are well thought out and communicated to every staff;
- ‘Quality’ from customer’s perspective is well-defined and documented;
- There are systems to check and assure that everything is working according to quality plans;
- There are methods to take necessary corrective and preventive actions if things go wrong; and
- There are systems to continuously improve the library services.

INTEGRATING THE LIBRARY’S MISSION AND POLICY FOR OPERATIONAL EXCELLENCE

Libraries and information services are intrinsically complex to manage because of the wide range of user expectations and demands placed upon them. User expectations of the ability of a library or information service to deliver high quality services are growing. Ensuring that information services are serving the needs of a library and ultimately of the library’s wider customer base is crucial to meet these expectations. This stimulates the need for quality assurance within a quality-oriented library at all stages of the processes involved in information service management, i.e. the acquisition and development of materials, and delivery of information services.

PSZ’s services include lending of library materials, current awareness service, interlibrary loans, access to databases, and reference services. The services are crucial for academic and administrative staff of UTM, students and industries. In order to give the best to its users as well as providing excellence in its services, the library invests heavily in information technology and uses its network infrastructure as a means of sharing the academic and corporate information. There is a wide area network linking the library with other institutions, locally and abroad and there are plans to expand capacity to support image and compound document transfer. Information from published materials such as books, journals and dissertations are readily accessible through on-line and CD-ROM databases.

PSZ’s mission reads ‘To provide and disseminate current information and knowledge in science and technology, to fulfil users’ needs towards realisation of the Nation’s Vision and becoming a leading international referral centre’. The mission inspires PSZ staff to become leaders in quality information services by providing excellent customer service and up-to-date information. The library’s long-term and short-term plans are also formulated to attain or sustain a quality leadership position. These mission statement and plans are deployed to every department and unit. For instance, the quality policy and objectives, as required by element 4.1 of ISO 9000, are created consistent with the mission and plans of the library.
The quality policy of PSZ reads ‘We believe that quality is the driving force in promoting information services effectiveness. Staff commitment and dedication towards quality will convey to internal and external customers that we provide the best in services and products’. This policy is enhanced by the quality objectives, designed to assure that PSZ is committed to total quality management and to providing services that conform to all established requirements and exceed the expectation of its customers. The policy serves as a foundation for PSZ in relation to its customers, sub-contractors, employees, and stakeholders.

To achieve the quality policy and objectives, PSZ’s Management has ensured that:

- Quality is everyone’s job;
- Quality is attained and improved through corrective and preventive action;
- Quality is assured through process control;
- Quality measures are maintained by every department; and
- Management strives for continuous improvement.

PSZ’s quality policy and objectives are displayed throughout the library building and circulated to every staff to stress on quality service and customer importance. The quality policy and objectives are communicated to all staff in the library through meetings and group discussions, and reinforced by training courses. Special emphasis is given to the following points:

- Quality is not the task of a specific department or unit, but is the responsibility of every employee in PSZ;
- Quality policy is a commitment led by senior librarians;
- Quality improvement is necessary and is a part of employee responsibilities; and
- Quality achievement is measured regularly.

To achieve operational excellence, the quality objectives are integrated into documented procedures and departments/staff performance plans and agreed upon by both the management and the employee. This approach builds a solid foundation for achieving PSZ’s mission. In fact, the mission statement of the library, the long-term and short-term plans, the quality policy and objectives provide a framework for interpreting the job description and understanding the unique and vital contribution every staff member makes to overall organizational success. By instilling the value of such statements into documented procedures, staff can be empowered to carry out their tasks to achieve the library’s mission and objectives and entrusted with responsibility for the quality of their own work.

**PSZ’S ISO 9000 QUALITY SYSTEM**

PSZ’s management is fully committed to providing its customers with high-quality information, materials and services. As part of its commitment to quality, the management ensured that all departments fully meet recognized international standards for the quality system to ensure information materials and services integrity. PSZ adopted the International Organization for Standardization (ISO 9000) quality system as a foundation upon which to build a quality assurance in its library services. By implementing ISO 9000 quality system, PSZ has made clear that excellence is based primarily on the pursuit and consolidation of quality principles within its business mission.

The implementation of ISO 9002 in PSZ has resulted in a total list of 130 detailed process documents. These documented processes are bound in a quality manual, quality operating procedures and working instructions as well as support documents (Refer to Element 4.2 of ISO 9000) located throughout the library. Specifically, there is a quality manual, which provides policy guidelines regarding the implementation of ISO 9000. 26 quality procedures and 76 detailed work instructions. These documents cover the following processes and services:

- Acquisition of information materials
- Indexing
- Circulation of materials
- Service to industries
- Interlibrary loan
- Research support
- Library Newsletter

Documentation of processes in PSZ allows visualization and communication of work assignments. For instance, flowcharting activities involved in...
cataloging different materials and illustrations of workmanship criteria attached to each activity create better understanding and interaction between staff in Indexing Department as well as other departments. These flowcharts and illustrations permit the staff to follow an activity step-by-step and instructs them exactly on how to complete a certain task. Thus, consistent outcomes from processes are ensured and subsequently customer requirements are met consistently.

As required by Element 4.5 - Document and data control of the standards, all documents within the library quality system are reviewed by authorized personnel and are constantly up-dated to ensure their suitability and effectiveness to PSZ’s systems. In addition, distribution of procedures and work instructions are controlled to ensure that only accurate, authorized, and up-to-date copies are used and no one who should have a copy is missed in the circulation. This control involves:

- Maintaining a master list of documents highlighting latest version of documents and list of those who are required to use the documents; and
- Up-dating the master list whenever changes are made to the documents.

With the adoption of ISO 9000 standards, it is essential for the library to train its staff so that they understand the meaning and impact of the 17 elements (Elements 4.4 - Design Control, 4.11 - Control of Measuring, Inspection and Test Equipment, and 4.19 - Servicing were not relevant to PSZ’s ISO 9000 quality system) of the standards as well as other related quality concepts. Every employee must have an understanding of ISO 9000 including terminology, the requirements of the standard, the importance of all the system documentation and a clear understanding of his/her role in the quality assurance program. Without proper training, staff cannot be expected to do their jobs properly or to be motivated to improve. Following training programs with the clear aim of reskilling and explaining roles, staff are more likely to take pride in their work and to assume a greater degree of responsibility for the quality of their work (Moreland and Clark, 1998).

In order to assure competency of staff and subsequently meet the training element of ISO 9000 (Clause 4.18 - Training) of the standards, senior librarians of each department in PSZ were given the responsibility for ensuring that relevant personnel are trained to operate at all the required skill levels and to operate any equipment used in the library. Personnel who operate technical equipment such as computer networks and audio-visual equipment are well trained in that particular area.

In addition, training in all aspects of total quality and customer service were given to the staff regularly. PSZ tries to provide at least 40 hours of quality related training for everyone in the library. In addition to external training, PSZ also conducts in-house workshops, led by experienced staff, to install quality awareness in the entire organization. The executives not only attended the training, but they also helped establish and execute the training. In a span of training courses attended by the executives, they were introduced and made aware of the concepts of ISO 9000, Benchmarking and TQM. This awareness was then communicated to all levels of PSZ staff through internal training sessions to ensure all staff understood the requirements of ISO 9000.

QUALITY LIBRARY SERVICES FROM CUSTOMERS PERSPECTIVE

In ISO 9000, the determinant of what should be provided and to what standard is the customer (Freeman, 1993). In the context of a library, users describe quality by the characteristics of the service or information they encounter.

In PSZ, quality means providing goods and services that completely satisfy the requirements of both internal and external customers. Quality in PSZ starts with customer requirements and ends with customer satisfaction. The voice of the customer is carried through purchasing of materials, to indexing the materials, to processing and circulating the materials, and finally, to servicing them. This process assures that PSZ provide a quality service by conforming to customer requirements.

PSZ uses the contract review (4.3) clause of ISO
9000 standards to address issues pertaining to the customers’ requirement and the library’s capability to satisfy the requirements. Specifically, contract review is carried out at PSZ:

- To make sure that customer requirements are adequately defined and documented in the Library Handbook;
- If changes occur, the library will take necessary action to amend the guide and subsequently inform the customers through appropriate channels;
- To ensure that the library has the resources and capabilities to fulfill the requirements; and
- To resolve any differences between customer requirements with those in the Library Handbook.

Customer requirements are gathered in a number of ways, such as:

- Through formal meetings with customers,
- Complaints and suggestions from customer feedback forms; and
- Through recommendations made by process groups and individual PSZ staff.

The key elements for judging customer satisfaction with the library services from the perspective of the user are:

- Delivery of information by due time and in good condition;
- Accuracy of information i.e. the information customer desired materials features and are free of deficiencies;
- Accessibility of the library systems which stresses on a service is available at the specified time;
- Caring and friendliness of staff which is consistent with Garvin (1987), views quality as a means of pleasing customers; and
- Reliability of service which requires the service is of a high quality, and it is delivered by professional, well trained staff.

Understanding of those requirements is cascaded through the management system (ISO 9000 documentation) to all staff of PSZ. This allows customers requirements and values be built into the documented procedures at all levels of management and supervision.

CHECKING SYSTEM TO ENSURE ADHERENCE TO QUALITY PLANS

Quality has to be established and maintained at all levels of services. In order to check that quality aspects are well established at all stages, PSZ focuses on effective plans for quality, i.e. PSZ’s ISO 9000 documents prepared for assuring tasks can be implemented in shortest possible time with least effort and resources. Apart from this, the management conducts internal quality audits and management reviews. Internal quality audits, which are carried out on annual basis, is a systematic and regular monitoring of the elements of the working quality system (ISO 9000) to ascertain whether authorized procedures are understood, being worked to and are effective. On the other hand, management review, conducted in the form of Head of Department meetings every four months, is a regular review of the adopted quality system to ensure its continuing suitability and effectiveness.

The processing of materials from Acquisitions Department to Indexing, Circulation and finally to servicing are highly screened and controlled. Prior to release for use by customers, all materials are reviewed for conformance assessment. Several types of inspection are performed including initial inspection, in-process and final inspection (Refer to 4.10 element of ISO 9000). For instance, materials purchased for customer reference are released only when they conform to specified requirements. Such requirements are the material supplied is in accordance to order specifications, free from deficiencies and accompanied by proper invoicing documentation.

It is important to note that some of the materials are handed in as compulsory deposit or gratis from PSZ’s customers. PSZ treats these materials as customer-supplied products (Refer to Clause 4.7 - Control of Customer-supplied Product of the standards). These materials are checked prior to conformance assessment to assure they are in good condition.

Conformances are demonstrated by segregating the materials into item status such as books approved for further processing, books awaiting feedback from suppliers regarding invoices, additional copies, or accompanying materials. These materials are then
moved to Cataloguing Department, where they are
cataloged according to the international cataloguing
standard. The purchase order and materials are
checked to determine that the materials are in good
condition. If the materials do not pass inspection,
Corrective and Preventive Action Forms will be used
for handling the nonconforming materials to ensure
that unintended use or delivery is avoided (Refer 4.13
- Control of Nonconforming Product of the ISO 9000
Standards). At the Cataloging Department,
identification of the materials, as required by Clause
4.8 (Product Identification and Traceability), are
performed (This process is also performed at every
department to ensure the traceability of materials).

Upon completion of indexing, the materials are then
sent to the Circulation Department for customer use.
Final inspection activity is performed on fully
cataloged materials to verify compliance with final
product specifications. Final inspection tasks are
designed to cover aspects of quality materials. Again,
if the materials do not pass final inspection, the materials
are returned using the Corrective And Preventive
Action Form, for handling the nonconforming material
(Procedure No. P(PTMK)PSZ/4.13 of PSZ explains
in greater detail on how to handle and control
nonconforming materials). This approach is to ensure
that 100% of the materials meet specifications and to
weed out nonconforming materials.

PSZ views its entire services as a process that focus
on QA. As such, the coordination between every
department and staff is crucial to meeting customer
requirements. This coordination requires transparency
of work process and teamwork.

In a total quality environment, employees understand
the importance of all the service areas of the
organization. Frequent meetings are attended by
certain groups in the library who work together to
analyze and study the core processes within the
library. Thus in PSZ, work is viewed as inter-related
activities between departments to better service the
customers.

This approach requires PSZ to practice the following:

- Processes as value chains serving the customer;
- The degree to which these value chains serve
customer satisfaction determines the success and
attainment of its mission;
- The quality of management process is the prime
driver in maintaining quality service; and
- Total involvement and commitment of staff is
achieved through the integration of processes.

With developments in information technology, the
library has incorporated these advances into its
processes to deliver quality services. PSZ’s library
services include borrowing and returning of materials,
interlibrary loan service, research support service,
content pages delivery and information dissemination.
In performing some of these services, staff use a
highly automated library system given the name
INFOLAN, which is the DYNIX integrated library
system. This system enables the library to perform
integrated work processes and ensures reliable and
up to date information on materials in the library.
End user searching on this system is well developed
and user friendly.

To disseminate latest information regarding library
services, new books, journals and the like, the
Library provides many designated channels of
information. Information is rapidly disseminated
through the library home-page, corporate e-mail
system and via published information such as the
library newsletter. Where possible, information is
delivered electronically rather than in hard copy.

All these processes are controlled under Element
4.9 of the standards including ensuring documented
procedures are in place, use of suitable servicing
equipment operating within a suitable working
environment, approval of processes and use of
appropriate equipment as well as criteria for
workmanship.
Delivery) to prevent damage and deterioration.

PSZ realizes that the management of supplier (or sub-contractor) relations is the most significant factor to assure quality supplied-products and subsequently achieve customer satisfaction. Thus, PSZ has selected its suppliers based on a clearly defined evaluation criteria. The following are PSZ’s requirements for local government contractors and direct suppliers:

- A supplier must provide quality materials and products;
- A supplier must make consistent, on-time order deliveries; and
- Materials and products must meet PSZ’s exact order specifications.

The Acquisitions Department produces a summary report of supplier performance annually as a checking mechanism to monitor its suppliers’ performance. These reports include:

- Delivery performance reports (by supplier, category, and classification);
- Accuracy and quality of materials delivered (by supplier and category);
- Time taken to solve problems regarding delivery of materials; and
- Continual product consistency.

Suppliers occasionally do site visits to discuss with Acquisition Department Officers on aspects of specific expectations and propose solutions to any difficulties encountered. To meet the purchasing element of ISO 9000 (4.6), PSZ continuously controls and maintains its approved supplier list based on supplier performance.

Sub-Clause 4.1.3 of the standards requires a supplier or an organization to perform management review meetings to oversee overall performance of a quality system and initiate improvement in the system. This provides opportunity for assuring quality by taking appropriate action to eliminate problems and improve the quality system. Consistent with this Sub-Clause, management review meetings in PSZ addresses the following:

- Initiate action to prevent the occurrence of any non-conformities relating to the materials/service, process and quality system;
- Identify and record any problems relating to the materials/service, process and quality system;
- Initiate, recommend, or provide solutions through designated channels; and
- Verify the implementation of solutions.

These management review meetings scheduled at four months interval, and incorporated into Head of Department meetings held every two months, is not only to ensure that the library’s quality system conforms to all of the requirements of the standards, but also to continually review the system’s suitability and effectiveness.

A quality assurance must be monitored for suitability and effectiveness (Lamprecht, 1994). One way of doing this is to conduct periodic internal audits, as specified in Clause 4.17 Internal Quality Audit of the standards. In PSZ, these audits are properly planned according to the importance of activities and conducted by trained personnel, inside and outside the library. The internal quality audits cover all aspects of the quality assurance as defined in the Procedure No. P(AD)PSZ/4.17 of PSZ. It is important to state that PSZ received only six nonconformance reports from SIRIM’s external auditors during its Compliance Audit that took place in May, 1998 and one conformance report during its recent Surveillance Audit in March, 1999.

An efficient and successful QA system will seek every opportunity to use everyday working documents as quality records (Freeman, 1993). As such, PSZ has updated its existing document format in order to become quality records and subsequently provide evidence for quality system effectiveness (Refer to 4.16 - Quality Records of the standards).

CORRECTIVE AND PREVENTIVE ACTIONS

At PSZ, the practice of corrective action is at the heart of QA, because in addition to putting immediate problems right, corrective action can lead to amending procedures for the better. In line with this, PSZ believes that quality is created by a system of
prevention, not appraisal, where the performance standard is “zero defect” or meeting service specifications 100% of the time. PSZ’s policy is to take every measure possible to ensure that it is meeting its goal of customer satisfaction by avoiding problems before they develop. By maintaining tight control throughout the entire process and with cooperation among staff, it can find and correct minor excursions before they develop into major problems.

Consistent with the requirements of 4.14 - Corrective and Preventive Action of the standards and procedure No. P(TPP)/PSZ/4.14 of PSZ, the following are performed continuously to ensure customer requirements are consistently met and to maintain effectiveness of the quality system:

- Investigation of non-conformities that have been identified from the analysis of in-process and final inspections and customer or staff complaints of materials/services;
- Determination and implementation of appropriate corrective action on the non-conformities;
- Ensuring the corrective action taken is effective;
- Ensuring that relevant information on the actions taken is submitted for management review; and
- Initiating preventive action.

Preventive action is the responsibility of all employees in PSZ. Any opportunity to detect or eliminate potential causes of non-conformities is processed via the process teams and management review meetings. In addition, every individual employee is encouraged to propose new ways of doing things to continuously improve quality and reduce work cycle times. Suggestions and solutions approved by consensus are first tested for effectiveness prior to being formally incorporated within the system.

**CONTINUOUS IMPROVEMENT IN PSZ**

Continuous improvement in PSZ is basically to establish a culture of ongoing improvement of quality of library services and materials. In PSZ, service is not only centered around the user’s needs but also in anticipating and exceeding the demands of the fast changing environment of service delivery in libraries.

This initiates the library management to commit themselves to the process and set an example of commitment to continuous quality improvement. The top management is dedicated to the ongoing improvement of quality, not simply a one-step improvement to an acceptable plateau. In addition, the management maintains an open door policy that keeps them in touch with feedback from customers and staff.

Continuous improvement in PSZ involves every level of staff in the organization. The process owners of quality procedures and work instructions are empowered to initiate changes and improve the procedures. Process owners define their processes and identify their customers and local and direct suppliers. Each owner’s objective is to continuously improve quality and reduce work cycle times. This approach of managing processes effectively has resulted in significant processing time improvement and error-free materials.

In an effort to empower employees, selected professional and non-professional staff were appointed to serve as process groups. Process groups are self-directed teams assigned to study work processes that deliver a product or service to an internal or external customer. Each cross-functional team comprises of about 12 members, working together on an ongoing, month-to-month basis to recommend solutions or continuous improvements and future developments.

The process teams meet regularly to address issues based on specific objectives and time-scales. The meeting is not limited to the exchange of information and common activities, but include programs to fix problems and to improve services.

The establishment of self-directed teams has led to the following benefits:

- Improved and processing time of materials;
- Flexibility in adapting to changes in environment;
- Accurate, reliable measures of service performance.

The process teams enhance the quality and
productivity of PSZ by increasing communication among the diverse departments and units and encouraging all staff to think beyond the demands of day-to-day activities.

The establishment of process teams that look into the future work plans of the library, focuses not only in changing procedures, but a total rethink of all its operations to practice the concept of ‘digital library’, where the culture is quality-driven, customer oriented and marked by teamwork and quality service to users through the full utilization of information technology.

The use of statistical techniques (Refer to Clause 4.20 - Statistical Techniques) in PSZ is prescribed by Procedure No. P(TS)/PSZ/4.20. The ultimate purpose of data collection and analysis under the application of statistical technique is to monitor internal and external customer satisfaction. Specifically, data are used to:

- Measure the achievement of meeting quality objectives;
- Evaluate products/services nonconformity and identify causes to reduce overall service variation;
- Measure and improve services and delivery performance;
- Evaluate the effects of improvements; and
- Reduce costs of quality.

The principle types of data from daily operations and process control include the following:

- Order cycle time and budget used for acquisition of materials,
- On time delivery and acceptance rates of supplied materials,
- In-process inspection defect and final inspection reject rates for processing of materials,
- Customers’ service time at specified rates,
- Number of customer complaints.

Decisions to modify or adjust current processes are based on process effectiveness, changes in organizational objectives and statistical evidence. This helps the management to distinguish between common and special causes of problems. The common causes such as issues related to control of documents and training are due to the ‘system’ and can be corrected only by management. Special causes such as issues related to indexing and processing of materials and customer-supplied products, in contrast, are due to the ‘process’ and with management’s support, can be resolved at the operating level. Until April 1999, 43 processes were modified and improved.

In a comprehensive perspective, PSZ staff are not only encouraged to fix obvious problems but to make improvements in the process. PSZ focuses on improving and managing processes to ensure products and services offered meet the needs and expectations of the customers. Priority is given to how tasks are passed from department to department, i.e. focusing on how staff handle and process the products and subsequently service the customers. PSZ’s management emphasizes organizational-wide total quality control and participation by all staff of PSZ which permit a common process and understanding between cross-functional departments for processing and communicating activities and in decisions regarding library services. Further, this practice allows the library to avoid duplication of effort and reduces waste. Thus, the implementation of ISO 9000 as a quality assurance system in PSZ becomes the catalyst for librarians to examine issues such as leadership, staff empowerment, work simplification, innovation, performance evaluation and continuous improvement.
REFERENCES


