

Continual Improvement with Integrated Management System

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Abstract—Management Systems are powerful tools for businesses to manage quality , environmental and occupational health and safety requirements . where once these systems were considered as stand alone control mechanisms , industry is now opting to increase the efficiency of these documented systems through a more integrated approach . System integration offers a significant step forward, where there are similarities between system components , reducing duplication and administration costs and increasing efficiency .

At first , this paper reviews integrated management system structure and its benefits. The second part of this paper focuses on the one example implementation of such a system at Imam Khomeini Hospital and in final part of the paper will be discuss outcomes of that process .

Keywords—environmental management , Integrated management systems, occupational health and safety management , quality management.

I. INTRODUCTION

MANAGING for quality has traditionally been seen as measuring or testing a product to ensure it fulfils the quality specification of the customer . In the 21 st century , however , the definition of quality is very different . It is about meeting customer 's expectations of quality , cost and delivery , and doing so in a sustainable way that will not harm the environment or disadvantage any of the stakeholders , and will not place anyone at risk of accident or injury .

The quality management system was conventionally one of a number of systems used to direct and control an organisation and today's , organisations use of different kinds of systems . However, it is the proper integration of all the disciplines and techniques to manage all aspects of an organisation that will really differentiate the successful organisation of tomorrow .

There is now a move toward " integrating " management systems , especially when seeking combined certification against more than one external standard , based on an external assessment of a single system description . But the word " integrated " , which suggests that you take discrete systems and somehow combine them , can obscure the fundamental principles involved in running a business .

" Integrated management " should be synonymous with (good) " management " , you must manage your operations , resources , staff , impacts , and a myriad of risks which can cause more problems to fix than to avoid .

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Therefore a management system that integrates all of your systems and processes into one complete frame work , enabling you to work as a single unit with unified objectives .

II.CONCEPTS AND DEFINITIONS

A. Quality

There are many definitions of quality .Quality is degree to which asset of inherent characteristics fulfils requirements and quality is a systematic approach in search for excellence[1] . Quality is never an accident . It is always the result of high intention , since effort , intelligent direction & skillful execution . The quality field offers opportunities for satisfying many different personal interests , skills , aspirations , work values and life styles .

Excellence is the outstanding practice in managing the organisation and achieving results. Truly excellent organisations are those that strive to satisfy their stakeholders by what they achieve , how they achieve it , what they are likely to achieve and the confidence they have that the results will be sustained in the future .

B. Quality improvement

An approach to the study and improvement of the system processes to meet needs of clients .

C.Continual improvement

Continual improvement of the organisation's overall performance should be a permanent objective of the organization[1].

D. Quality management

An ongoing effort to provide services that meet or exceed customer expectations through a structured , systematic process for creating organisational participation in planning and implementing quality improvements[2].

E. Management system

A system to manage a particular activity or a specific type of asset . It means to manage all relevant areas of operation , often in relation to a specific aspect , for example : quality , environment , information security ...

F. Environmental Management System (EMS)

Part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects [3]. An Environmental Management System (EMS) is a set of cohesive elements that an organisation may use to minimize its impact on the environment and also a continuous cycle of planning,

implementing, reviewing and improving the actions that an organisation takes to meet its environmental obligations[4].

G. OH&S Management system

Part of an organisation's management system used to develop and implement its OH&S policy and manage its OH&S risks[5]. OH&S management is a management tool which ensures focus on all major aspects of the working environment.

H. Integrated Management system

An integrated management system is a management system which integrates all components of a business into one coherent system so as to enable the achievement of its purpose and mission[6].

With an integrated system, your organisation becomes a unified whole, with each function aligned behind a single goal: improving the performance of the entire organisation. Instead of "silos" you have a genuinely co-ordinated system: one that's greater than the sum of its parts, and can achieve more than ever before. An integrated system provides a clear, holistic picture of all aspects of your organisation, how they affect each other, and their associated risks. There is less duplication, and it becomes easier to adopt new systems in future.

An integrated management system allows a management team to create one structure that can help to effectively and efficiently deliver an organisation's objectives. From managing employees' needs, to monitoring competitors' activities, from encouraging best practice to minimizing risks and maximizing resources, an integrated approach can help an organisation achieve their objectives[7].

Who is it for?

Integrated management is relevant to any organisation, regardless of size or sector looking to integrate two or more of their management systems into one cohesive system with a holistic set of documentation, policies, procedures and processes. Typically, organisations most receptive to this product will be those who have maturing management system and who wish to introduce other management systems to their organisation with the benefits that those bring [8].

Expectations of the Integrated Management System

Clearly an effective integrated management system will be expected to deliver an organisation's aims and objectives, to improve business performance and to enable the effective management of risks, as would a traditional quality management system.

What needs to be explored is what it will deliver over and above the traditional quality management system.

An organisation can expect to see fewer problems caused by lack of consistency or understating, a reduction in activities that do not add value, the more efficient utilisation of staff and fewer rejects and customer complaints.

An integrated management system requires less paperwork and administration and that there are significant time savings. Also an integrated management system is better management effectiveness and the better use of resources resulting from the coordinated sharing of management system information and leading to better decision making at all levels of the organizations[9].

Key benefits of Integrated Management System

- Encourages risk management
- Gives you a competitive edge
- Attracts investment
- Improves and protects brand reputation
- Raises stakeholder perception and satisfaction.

So with an integrated management system:

- There is less duplication of efforts
- Lower operation cost than supporting overlapping or redundant systems
- There is a simpler documentation system with one quality manual and one set of standard procedures
- There is a more complete compliance to the multiple standards[7,10,11].

III. INTRODUCING IMAM KHOMEINI HOSPITAL SYSTEMS

In this section, this paper is focused on an example implementation of such a system at Imam Khomeini Hospital.

Imam Khomeini Hospital (I.KH.H) affiliated with social security organisation and was located in Arak – Iran. It is a 160 bed, general Medical Surgical hospital.

The strategy of this hospital is to excel at quality development by constantly orientating towards and taking actions to fulfil the needs and expectations of its patients. I.KH.H opted to integrate, to the extent possible, its systems for quality, environmental and occupational health and safety.

The hospital systems has been designed and then I.KH.H achieved independent certification for each system ⁽¹⁾ under relevant Iso from IMQ Management service (the Italian company).

Management systems in Imam Khomeini Hospital:

Management systems provide the important framework to ensure hospital manage the quality of its health care services, the safety of its employees and the impact to the surrounding environment. Management systems are fundamentally concerned with what this hospital needs to do to manage the processes involved with health care quality, environment and safety.

Whilst different management systems have several unique elements, they also have many common ones such as policy development, documentation and reporting, auditing, emergency and awareness, operational procedures and process

¹ Hospital systems include:

1) Iso 9001 : 2008
2) Iso 14001 : 2004
3) OHSAS 18001 : 2007

control and training and awareness . For these reasons I.KH.H decided to integrated 3 its systems. I.KH.H systems consist :



Fig. 1 View of one Integrated Management System

1) Quality management system

Today's quality management system in health care organisation has evolved as a complex and tightly coupled system . Rapidly escalating health care costs , increasing patient expectations , and the increasing complexity of systems have raised questions about the quality of health services . The result is the emergence of " health care quality management " as an organized discipline . In this hospital , health care quality management has been efforting to continuously improve the quality of health care services by :

- Establishing the system more responsive to patient needs .
- Providing cost effective health care solutions .
- Supporting the health care service performs correctly and dependably at the first time .
- Increasing the patients satisfaction by emphasizing the patients needs and expectations .

Imam Khomeini Hospital has adopted the Iso 9001:2008 standard as a key tool in its commitment to continuously improving health care quality and patient satisfaction .

The hospital has identified the key processes necessary to ensure patient satisfaction and continuous improvement of the IMS . Also the hospital has established a set of corporate objectives which are supported by the following quality objectives:

- Reduce the cost of quality (health care quality)
- Maintain and grow the Integrated Management system

- This system with input from patients , employees and suppliers using a structured problem solving methodology
 - Developing and deploying basic quality training for all employees
 - Reducing waiting time at the emergency ward
 - Reducing waiting time for admitting & discharging
 - Reducing unnecessary cancellations of general operations
 - Lowering the rate of caesarean sections
 - Decreasing mortality and morbidity in the health care processes

2) Environmental management system

Environmental management systems assist an organisation to meet the requirements of increasing government legislation and community expectations , in regards to the impact ⁽¹⁾ it has on the surrounding environment . I.KH.H takes its obligation to responsibly manage its environmental impacts seriously and it has adopted the Iso 14001:2004 standard as the foundation of its Environmental care system.

The requirements of the IMS for Environmental care apply to all hospital wards and administrative departments and to all operations conducted within the physical bounds of those wards & departments . This hospital is dedicated to the protection through the implementation of responsible environmental practices . Continuous improvement, waste minimization , pollution prevention , as well as commitment of its employees are the basis for implementation of this system . Therefore they perform :

- Maintain compliance with all applicable regulatory requirements.
- Determin those activities that can have a significant impact on the environment and identify ways to improve them .
- Exercise care in how they use materials and energy and minimize waste .

The structure of EMS in this hospital is based on Plan-Do-Check-Act (PDCA) cycle :

- Identifying hospital activities impacts on the environment & providing and developing a list of Enviromental aspects ⁽²⁾ by every hospital ward .
- Identifying risks of every activities in hospital .
- Identifying applicable legal requirements .
- Defining objectives and targets (such as : Reduction in energy consumption)
- Setting up control plans to achieve the objectives and targets include : establishing of some procedures for controlling of significant aspects)
- Preparing emergency response plan
- Verifying achievement of objectives and targets

¹- Environmental impact : Any change to the environment , whether adverse or beneficial , wholly or partially resulting from an organisation's activities , products , or services .

²- Environmental aspect : An element of an organisation 's activities , products , or services that can interact with the environment .

- Continuously improve control plans , objectives and targets

This system's adherence to Iso 14001 will definitely help to sustain their long-term competitiveness , as discerning patients around the country are becoming more environmentally conscious .

3) Occupational health and Safety management system

Safety management systems allow an organisation to demonstrate both internally and externally that they are able to systematically control occupational health and safety risks and hazards to each and every employee . The requirement for OH&S management systems are defined in the international standard OHSAS 18001 . OHSAS 18001 was developed in line with ISO 14001 to help industries take environmental impacts and occupational risks into the whole scope of their management system to prevent damage to nature and the employees themselves . In according to reasons this hospital has adopted the OHSAS 18001:2007 standard with the benefits , such as :

- Fewer accidents and fewer interruptions of services through better control of workplace related hazards.
- Reduced likelihood of occupational disease and better working conditions . Consideration of employee needs creates a stable and motivated workforce .
- Ensure legal compliance with minimum of administrative effort .
- Support of sustainable hospital development by reducing costs caused by accidents and emergencies.

I.KH.H developed , established and implemented OH&S Objectives .This objectives concluded :

- Reducing number of patients and employees (Doctors,nurses,...) injuries
- Decreasing costs due to personnel injury
- Reducing personnel compensation insurance costs
- Minimizing resource constraints from personnel injuries
- Increasing employee safety awareness and improving employee motivation
- Identifying and accessing the legal and compliance requirements of OH&S
- Identifying of hazards and safety risks in every ward of hospital

Integrated management system outcomes in Imam Khomeini Hospital

For management systems to function effectively they need to be utilised by all employees (such as : doctors – nurses and ...) . The management framework that each system subscribes to need to be incorporated into daily activities of all

employees . These systems will fail to protect hospital from quality , environmental and safety nonconformances unless adopted by all employees and all requirements of the individual system are adhered to .

The first hurdle was that adopting and certifying three individual management system was not only a timely and costly exercise , it might also required employees to undertake similar tasks for the separate management systems .

These tasks , especially where duplicated between systems could seem unnecessary and wasteful of employee resources , to avoid this problem, this hospital applied to IMS .

Integration of the quality , environmental and OH&S management systems has been a way the hospital has reduced the dysfunctionality of three individual systems . The integration of management systems allowed the common elements of the systems to be identified and merged as one , whilst still recognized individual requirements that each system would have .

Other recognised associated with integration of system include :

IV. CONCLUSION

Hospitals have a great responsibility in our community to provide and offer health care and medical services with high quality , to meet all environmental requirements and to ensure the safety of their patients and employees . It is these responsibilities that have led most hospitals to implement quality, environmental and OH&S management systems into their daily operations.

Integration of management system is a logical step for every organisation such as: hospital, that has or is seeking to implement one or more certifiable systems.

The successful integration of management systems depends on a variety of factors [11] , however the most important is acceptance and willingness to use by all members of staff . It is therefore essential for the integrated system to be easy to use, whilst still satisfying all requirements of each management system of course , implementing an integrated

TABLE I
CONSIDERABLE IMS OUTCOMES

| Number | OUTCOMES |
|--------|---|
| 1 | - Avoiding duplication or triplication of internal resources to administration and management of the systems . |
| 2 | - Reducing the costs and overlap associated with documenting separate systems for accreditation purposes . |
| 3 | - Reduction of risk – for example: employees only requiring to access one set of work instructions to cover quality , environment and OH&S issues related to a particular process . |
| 4 | - Enhanced corporate image-an IMS is seen as a clear indication of an organisation,s commitment as a good corporate citizen . |
| 5 | - Improved hospital performance |

management system for quality , environment, health and safety is not a simple task .

Implemented carefully it can yield a rapid return in investment in conjunction with a better grip on operation.

With an ongoing continual improvement to the integrated management system framework the use of IMS will have enormous benefits in the way organisations are able to manage their quality, environmental and OH&S responsibilities.

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