Integrated Management System in Education

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ABSTRACT: The importance of Integrated Management Systems (IMS) is growing more and more for organizations. Interest in this subject indicates that IMS is seen as "management systems of the future." IMS is one of the most effective tools to lead effectively and make processes in the organization fluent. According to that, the aim of this article characterizes the possibility of building IMS through the identification of common elements and specific requirements by the ISO 9001 and ISO 45001 professional references. Part of the article is the methodology of building IMS in the educational organization. To achieve this aim, the author will try to demonstrate the importance of an integrated management system in the frame of quality management and occupational health and safety in the educational organization. An Integrated Management System (IMS) includes all aspects of an organization's systems, processes, and standards into one smart system. This system allows a business to have effective management tools, save time and increase efficiency. IMS is a combination of all elements as one whole system.

KEYWORDS: Integrated Management System, PDCA cycle, ISO 9001, ISO 45001

Introduction

An Integrated Management System in education combines the integration of an effective Quality Management System (QMS), Occupational Health and Safety System (OHSAS), and Information Technologies Systems (ITS). Especially during the pandemic situation, when the whole educational system in the world had to turn online, we have seen the importance of using technologies not only in teaching but also in leading and management.

For Quality Management Systems, ISO 9001 is the most common and effective way to establish an appropriate management system in the organization. ISO 9001 is defined as the international standard that specifies requirements for quality management systems (QMS). Organizations use the standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements. ISO 9001 is based on the PDCA cycle, which will be discussed later in this article, and provides the organization with all the necessary aspects for effective quality management systems.

As for the Occupational Health and Safety System, ISO 45001 is a way to establish the standard and make health and safety system procedures and processes effectively in the organization. Unfortunately, not all leaders understand the importance of this standard in education, on and mostly it is considered a standard for construction or oil production companies. Later in the article, we will see the importance of integration of both these standards for effective education management.

Finally, Information Technology Management has become vitally important, especially while teaching and working online. It is important to combine Information Technology standards into the IMS to have effective human resources management. The most common and spread standard for implementation is ISO/IEC 20000-1(2018).

PDCA Cycle in Integrated Management

Harrington and McNellis (n.d.) said: "Measurement is the first step that leads to control and eventually to improvement. If you cannot measure something, you cannot understand it. If you cannot understand it, you cannot control it. If you can't control it, you can't improve it." William Edward Deming, a prominent American researcher, similarly to Japanese, believed that management staff and all employees should be involved in the process of continuous improvement. He created 14 principles that later became the basis of the philosophy of quality in the organization and continuous improvement cycle PDCA (Plan - Do - Check - Act), called the Deming wheel. The Deming cycle is a sequence of actions that aim at improvement. This cycle is also designed to solve quality problems and implement new solutions. PDCA model is extremely versatile and it can be successfully used in any type of business (Deming, n.d.). The first "Plan" cycle in integrated management is one of the most important as far as it takes a longer period than the other cycles and requires more work. *"A man who does not think and plan long ahead will find trouble right at his door"* – Confucius. In PDCA Cycle Plan includes such important business components as analyzing previous work with strong and weak sides; setting effective preventive actions; risk assessment; Design and revising business process components to improve results. So planning in IMS for both, Quality Management and Occupational Health and Safety directions should include all the components for effective planning. Planning in the IMS of Education organization includes:

- Analyzing of the previous year's academic achievements
- Employees' evaluation results
- Customer satisfaction
- KPIs achievement
- Incidents and their root causes
- Non conformances and their root causes
- Risk assessment
- Customers and other interested parties' expectations

According to all mentioned above, the next step is making an effective plan, where all the employees will be involved and feel like part of the team. Therefore, to sum up, the "Plan" cycle, starts with analyzing the previous work to make an effective action plan. However, just because we made a good plan, does not mean that it will occur. Hence, the next step of the Deming Cycle is "Do". Here the top management of the education organization needs to implement all the planned processes. Here is very important the term teamwork as far as the teachers, lecturers, technical personnel and other employees should be involved in doing the process. Otherwise, the aim of the organization will not be achieved as effectively as with their involvement.

Every process in business should be studied or checked. Within PDCA (Plan – do-check-act) Cycle Deming also uses PDSA (Plan-Do-Study-Act) cycle. To study or check, we should first have effective measurement tools. By this, I mean objective and reflective employees' observation forms; appropriate customer satisfaction questionnaires, where both, quality and occupational health and safety standards requirements will be included. At the stage of Check/Study, we should make clear feedback as far as this stage is tightly connected with continuous improvement. Our Academic Personnel's professional development is based on an effective evaluation system. At the same time, incidents, non-conformances, risks, and near misses should be studied and investigated deeply to set effective preventive actions and avoid them in the future (Weinstein & Vasovski 2004).

The final stage of the Cycle is "Act", which includes taking actions based on the results of measurement. Setting effective actions to reduce the risks and avoid incidents

and/or nonconformance is a path to continuous improvement. The act is a part of the cycle, which analyses all other stages and leads to improvement. PDCA cycle and its implementation in an integrated management system are given below in Figure 1.

It is important to mention that in November 2021, there was made small research in educational organizations (private and public schools and Universities of Tbilisi, Georgia). Participants of the survey were teachers/lecturers, top managers, and customers (parents and students). According to the research, 100% of interviewed educational organizations have an action plan and they are aware of it. However, 75 % of the public sector and 40% of the private sector mentions that the plan is not based on the analyses of the previous academic year and/or employees do not have any information about last academic year's achievements, strengths, and weaknesses. It may lead us to doubt whether the plan can be effective and oriented toward continuous improvement. Moreover, there is another question about the consideration of interested parties' expectations. Most of the interviewed customers say that they have access to the calendar of the educational organization, however, they do not have any information about the achievements, strengths, and weaknesses of their institution.

94.4% of interviewed employees notice that they have systematic observations and receive the observation feedback on time. However, the result of Teachers' Subject Area Examinations, according to the statistics of the Ministry of Education and Science of Georgia, does not even exceed 25% (Edu Aris 2017).

As for the Occupational Health and Safety, unfortunately, there are no schools or Universities in South Caucasus with this Standard, while top Universities in the United Kingdom, the US, and Western European countries are proud to have the standard and effective integrated management system of ISO 9001 and ISO 45001. In the list of these educational organizations are such top institutions as Boston College in the UK, University of South Carolina, Imperial College of London, University of Warwick, and others.

To sum up, PDCA or Deming Cycle is a method of leading the educational organization effectively; however, case of implementation of PDCA in an integrated management system (IMS) is much more beneficial for business operation and managing educational organization, which finally should lead to the good educational system in the country.

Figure 1. Deming Cycle

Source: https://www.pqbweb.eu/platform.php?i=&if=69&ch=1853
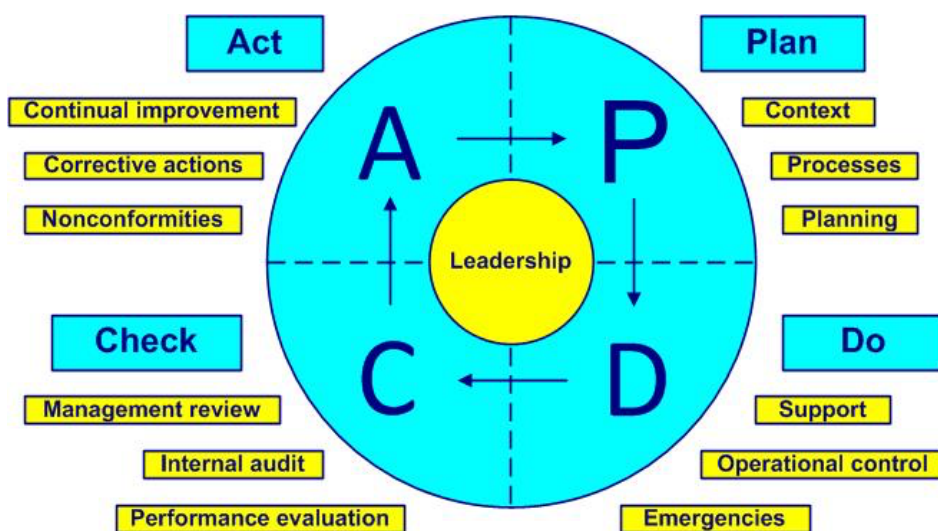
Quality Management in Integrated Management System of Education

Quality Management means that the organization is focused on customer satisfaction through an integrated system of tools, techniques, training, and other different methods. This involves the continuous improvement of organizational processes, resulting in high-quality products and services. According to Deming, a system of quality improvement is suitable for any organization, which aims to launch a product or is involved in any type of service. The industrial analogy that compares workers and managers to students and teachers/lecturers is accurate and appropriate. In schools, students are the workers and products. Teachers and administrators are managers. The difference between success and failure of the educational organization depends on the quality of their work. Teachers are the first-level managers. Therefore, the teacher is a class leader, who emphasizes giving students the correct direction and teaching them how to learn and thus teach themselves. In modern teaching, teachers are managers, who show students the correct directions. Heads of Departments/Deans are the middle and upper-level management. The productivity of any educational institution depends mostly on the skills of those who directly manage the workers, i.e. the teachers/lecturers. According to Deming (n.d), their success in turn depends on how well they are managed by the administration above them. Therefore, any attempt at educational quality is best centered around organizational improvement efforts. The Board of Education is the board of directors thus responsible directly to the clients, and board members are overseers of the administration.

To promote quality management in educational organizations, there is a need to change management philosophy. The new management philosophy focuses on achieving quality, which is defined as meeting and exceeding the needs and expectations of clients. According to PDC(S)A cycle, customers' and other interested parties' expectations must be considered at the planning stage when the organization is focused on creating a strategic plan. Hence, the goal and aim of the organization should consider customers' and interested parties' expectations and interests. A second focus is on the acceptance of continuous improvement. The philosophy of continuous improvement is based on the readiness of the top management and the whole staff to be involved in analyzing work and setting effective corrective action plans.

To provide leadership for quality management and mostly for integrated management, people in leadership must be able to understand and apply these concepts:
- Systematic Thinking – this is the interdependence of functions with their sub-processes and the organization with its people.
- Theory of Variation – this is the understanding of the difference between common and special causes. An understanding of variation will enable educational leaders to work toward quality within the framework of individual differences. The existence of variation is why a state of zero defects does not occur and why numerical goals are not feasible (Darling-Hammond et al. 2020).
- Theory of Knowledge – only through a theory of knowledge can one understand the past and predict the future. A major component of total quality management is prediction. Only through prediction and long-term perspective can educational organizations expect to succeed over a long period.
- Knowledge of Psychology – the new philosophy is based on the understanding of people and their differences, and a commitment to applying systems thinking to the people system. School leadership aims to free up the potential of the different attributes of the people of the organization (Darling-Hammond et al. 2020).

Quality comes not from inspection but from improvements in the process. In education, teachers/lecturers need to involve the student as a worker to evaluate the quality of his/her work, product, or outcome. When students buy into the self-evaluation

process the quality of their work is greatly enhanced. Using reality therapy techniques to find out what students want and what they are doing to get what they want sets the stage for this process of self-evaluation.

Occupational Health and Safety System in Education

The integration of Occupational Safety And Health (OSH) into the educational system is an essential aspect of the development of a risk prevention culture. This allows everybody, teachers/lecturers, students, and parents alike to learn how to live and work safely and in a healthy environment. The educational staff must be aware of the risk factors in their working environment and must realize the importance of accurate investigation of any incidents and near misses. They must also become acquainted with the legal regulations on safety and health at work to prevent accidents at the workplace. An educational institution must be a safe and healthy working environment for all the staff, students, and other persons involved with it to make it suitable for the teaching and learning process. Implementation of Occupational Health and Safety into the integrated management system of education is not as simple as it may seem. First of all, it is mostly connected with the educational organization staff's philosophy and mentality. Employees and top managers should feel and understand the importance of an integrated management system within OHS as a path to an effective management system. A very good and effective way to implement OHS Standard is ISO 45001.

To ensure occupational health and safety in educational institutions managers must implement an occupational health and safety system. This should be part of the overall management system and include the following elements:

- development of an occupational health and safety policy
- a management system that allocates responsibilities in the field of occupational health and safety
- a risk assessment of health and safety at the workplace to be reviewed whenever conditions change
- occupational health and safety auditing
- training, information, and instruction on health and safety at work
- emergency procedures -periodical analysis of the system to ensure that it is efficient
- storage of documentation and records to ensure continuity

OHS system in educational organizations should include the following directions:

Medical service - it is one of the most important parts of the system, which consists of doctor and phycologist's work. When we talk about educational institutions, medical service is vitally important for schools, as the school age is regarded as the most important phase of childhood life during which the child enters the society training system and emerges as a contributing member of the community. If the child does not maintain adequate health, the benefits of education will be lost because of absenteeism or lack of attention due to ill health and consequently poor academic performance.

School health services deal with health appraisals, control of communicable diseases, record keeping, and supervision of the health of school children and personnel. This aspect concerns itself with evaluating the health of an individual objectively. Healthcare service allows the school authorities to detect signs and symptoms of common diseases as well as signs of emotional disturbances that could impede the learning activities of children. Psychologists should have a big role in the process of observing employees' psych-climate, evaluating students' and employees' mental health, and giving effective consultations to both students and employees. There are a lot of fields, which must be studied by the educational organization's psychologist, from students' and teachers/lecturers' relationships to the psych-climate between the

employees inside the institution. Another very important object for psychological service is the parents of students in schools. Unfortunately, a lot of parents have wrong attitudes towards children's raising methods and psychologists should be an intermediary link to build a correct relationship between parents and children.

Health services are both preventive and curative services and it helps in providing information to parents and school personnel on the health status of school children. It also provides advisory and counseling services for the school community and parents. It includes pre-entry medical screening, routine health screening/examination, school health records, sickbay, first aid, and referral services. Other services rendered include health observation (which involves the physical inspection of the physiology and behaviors of students/children), health examinations (screening tests and medical diagnosis), and health records (keeping of records of the health histories of students/children) (Olympia 2005).

Security Service - is the second biggest department in OHS for educational institutions. This service should work due to regulations for keeping safety in educational institutions. This service aims to strengthen security and emergency preparedness best practices; reduce safety risks and liabilities; improve students' and employees' perception of safety. Security service should not only guarantee security in all aspects of educational organization but also lead the process of incidents and near misses investigation, set together with other responsible employees effective preventive and corrective actions and conduct training for the employees and students to keep safe and make people understand the importance of it.

Logistics Service, which should be responsible for infrastructure, purchasing, transportation, and other services.

Sanitary – Hygiene Service, which is responsible for keeping the whole infrastructure clean following the regulations and norms of the standard, and being involved in teaching students (in schools) how to keep and role of cleanliness of their own space.

Food Service, which is responsible for providing employees and students with healthy food. Usually, the menu must be confirmed by the doctor and food manager.

These are the services which make the occupational health and safety system work in the educational organization. However, it is important to remember how these services work, the organization should decide and plan appropriately, make a clear policy, strategy and aim and follow the local regulations and norms of the Occupational Health and Safety Standard. Figure 2 shows a clear connection between these services in the Occupational Health and Safety system of educational organizations.

Figure 2. Interrelated services in Occupational Health and Safety system of the educational organization
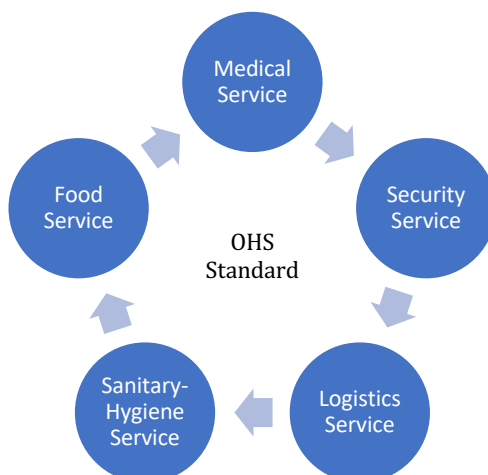
Role of Technologies in Integrated Management System

Technology has revolutionized the field of education. The COVID-19 pandemic is quickly demonstrating why online education should be a vital part of teaching and learning. By integrating technology into existing curricula, as opposed to using it solely as a crisis-management tool, teachers can harness online learning as a powerful educational tool.

Technologies have been used to a major extent in the governance and administration of educational institutions. The role of ICT has become one of the biggest in the effective management of educational institutions.

Educational governance today increasingly needs to be understood as *digital educational governance*. The monitoring and management of educational systems, institutions, and individuals are taking place through digital systems that are normally considered part of the backdrop to conventional policy instruments and techniques of government; technical systems that are brought into being and made operational by certain kinds of actors and organizations, and that are imbued with aims to shape the actions of human actors distributed across education systems and institutions.

In internal administration, the use of technologies has been recognized on a comprehensive scale. Educational administration is the process, by which methods, principles, and procedures are put into practice within the educational institutions. The individuals need to carry out these functions by the goals and objectives. When the individuals are carrying out the governance and administrative functions, they need to ensure that they can achieve academic goals effectively (Oyedemi 2015). Today technologies in managing educational institutions can be used not only as a way of effective communication, but also correct time management, effective planning, and decision making, and objective measurement and monitoring tool.

Nowadays, in the era of timeless, effective, and fast communication is one of the most important in management. People should have free and fast access to necessary information. The communication process between the individuals within the working environment is an easy and less time-consuming process. Individuals can access various forms of technology. In other words, connectivity is promoted among departments through technology and they are required to work in greater collaboration and integration. Through the use of technology and the internet, individuals can acquire information and augment their understanding in terms of concepts and fields. It facilitates organizational learning and adaptation to the changing global environment by the way of partnership, participation, information sharing, and delegation.

To sum up, there is a need for new approaches to enhancing education for sustainable development in universities and schools. Implementation of an integrated management system in educational institutions provides an active, safe, and healthy environment for sustainable development and it also causes an increase in their quality levels. Implementation of IMS not only causes continual improvement but also familiarizes the public with new management systems, which would be a good pattern for using efficient management and policies.

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