

УДК 658.8

DOI: 10.32342/2074-5362-2019-2-27-5

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BARRIERS OF INTEGRATED MANAGEMENT SYSTEM IMPLEMENTATION ON AN EXAMPLE OF GLASS MANUFACTURING ENTERPRISE

Метою статті є опис бар'єрів та проблем, що виникли під час впровадження інтегрованої системи управління на заводі скляної промисловості. Описано теоретичні основи проблеми, охарактеризовано бар'єри, визначені в ході дослідження. Було проведено опитування серед діловодів та виробничих працівників різних відділів фабрики. Дослідження проводилося на вибірці ста десяти працівників підприємства. До числа респондентів увійшло півсотні людей, які працюють на адміністративних посадах, і шістьдесят людей, які працюють на виробничих посадах.

Найважливішими бар'єрами, виявленими на етапі підготовки до впровадження, були: відсутність усвідомлення переваг впровадження, тривожність щодо змін, короткий час, витрачений на навчання. Найбільші перешкоди, відзначені в процесі впровадження інтегрованої системи управління, такі: труднощі в усуненні існуючих шкідливих звичок (16,6%), занадто велика формалізація системи (12,6%), відсутність зв'язку між відділами (12,6%) та опір працівників (12,6%). Половина виробничих працівників вважає, що навчання проводилося дуже погано. Вся інформація була надана дуже складно. Багато змісту було подано в загальній формі. Найважливішими бар'єрами, виявленими на етапі впровадження, були труднощі подолання старих звичок. Труднощі в роботі із складною системною документацією також розглядалися як бар'єр. Службові працівники вважають систему занадто формалізованою. Понад 82% респондентів відповіли, що після впровадження системи кількість справ зросла. На етапі вдосконалення системи найбільшим бар'єром був опір працівників до змін. Ще одним бар'єром на цьому етапі була відсутність залучення працівників до вдосконалення системи.

За результатами дослідження з'ясовано, що адміністративний персонал приділяє найбільшу увагу проблемам недостатньої обізнаності щодо переваг впровадження системи управління, а також бар'єру опору працівників та труднощам в усуненні старих звичок працівників; виробничий персонал приділяє найбільшу увагу проблемі звикання до старих звичок та бар'єру недостатньої інформації про процес впровадження. Разом з тим і адміністративний, і виробничий персонал звертають увагу на занадто велику формалізацію системи управління.

Ключові слова: система управління, бар'єри, скло, ISO 9001.

Целью данной работы является описание барьеров и проблем, возникших при внедрении интегрированной системы управления на заводе стекольной промышленности. Описаны теоретические основы проблемы, определены барьеры, выявленные в ходе исследования. Был проведен опрос среди канцелярских и производственных рабочих из различных отделов завода. Наиболее важными препятствиями, выявленными на этапе подготовки к внедрению, являются: отсутствие осведомленности о преимуществах реализации, связанная с этим тревожность, короткое время, затрачиваемое на обучение. Половина производственных рабочих считают, что обучение проводилось очень плохо. Вся информация была представлена в очень сложном виде. Много контента было дано слишком обобщенно. Наиболее важными барьерами, выявленными на этапе реализации, были: преодоление трудностей в борьбе со старыми привычками. Трудности в работе со сложной системной документацией также считались препятствием. Работники канцелярии считают систему слишком формализованной. Более 82% респондентов ответили, что после внедрения системы количество дел увеличилось. На этапе совершенствования системы самым большим препятствием было сопротивление работников изменениям. Еще одним препятствием на этом этапе было отсутствие участия работников в улучшении системы.

Ключевые слова: система управления, барьеры, стекло, ISO 9001.

Introduction. Integrated Management System (IMS) according ISO 9001 may be used by top management to put an organization in order. Many organizations hope that implementation will help them to develop and to strengthen their market position. Yet during the process of implementation some barriers may occur and it could be sometimes difficult to overcome them. Employees may find it difficult to put theory into practice, interpretation of ISO requirements also may cause problems.

There are numerous papers concerning this issue. Studies have been conducted in:

- production companies (Gajdzik, 2014) (Ligarski, 2007);
- medical facilities (Gruca-Wójtowicz, 2008);
- food industry (Łuczka-Bakuła, 2012);
- commune offices (Batko, 2008).

It has been observed that there is few research conducted in glass industry. This is the reason why this type of research has been conducted. The purpose of the research was to identify benefits from Integrated management system implementation in the company from this particular sector.

Literature review. The process of implementing IMS is usually divided into three stages:

- preparation for implementation – implementation plan development, pre-development audit;
- implementation – employees training, documentation preparation, process identification;
- management system improvement – audits, process monitoring, corrective actions, (Hamrol, 2017) (Kowalczyk, 2011) (Tabor, 2004).

At every stage different problems may occur ex.:

- psychological barriers;
- lack of management involvement;
- lack of proper training system;
- lack of resources (human resources, finances, infrastructure).

The vast majority of researchers pay attention to the psychological barrier, i.e. the so-called employee resistance. This resistance may cause problems such as:

- inadequate information regarding the entire system implementation process;
- lack of trust in new solutions;
- getting used to the current state of affairs;
- unwillingness to determine responsibility for given duties. (Batko, 2008) (Gruca-Wójtowicz, 2008) (Kowalczyk, 2011) (Ligarski, 2007) (Łuczka-Bakuła, 2012) (Smolarek, 2009) (Zimon, 2011).

When preparing for system implementation, many companies do not have precise information about the processes occurring in the organization, which is a barrier to the implementation of the system at the very beginning of this operation (Gajdzik, 2014) (Gruca-Wójtowicz, 2008). The financial barrier is much more common in small and medium-sized enterprises. Company must have adequate financial resources to hire new specialists or employees. Help of a consulting company and system certification as well as its subsequent maintenance can also be a great cost. (Batko, 2008) (Gruca-Wójtowicz, 2008) (Ligarski, 2007) (Łuczka-Bakuła, 2012) (Zimon, 2011) (Zimon, 2015).

When implementing the system, one may encounter difficulty in developing system documentation. The inexperienced implementation team can:

- prepare too accurate documentation, which may lead to bureaucratization of the system,
- develop documentation that bypasses certain processes – improper procedures or forms,

Another problem may be employees' lack of trust in electronic documentation. Young employees are usually convinced of this type of documentation. The documentation should be consistent and compatible. There must be no situation where the form does not comply with the procedure to which it applies. (Batko, 2008) (Gajdzik, 2014) (Gruca-Wójtowicz, 2008) (Zimon, 2011).

The reason for developing inadequate system documentation is, among others, incorrect recognition of the main and auxiliary processes taking place in the enterprise. The lack of this type of information can not only cause problems during the preparation of documentation, but can also be the reason for the incorrect flow of information. (Gruca-Wójtowicz, 2008) (Ligarski, 2007) (Zimon, 2011).

Some organizations are struggling with the barrier of lack of management involvement. Without the support of top management, it is not possible to implement an efficiently functioning system. The staff should, as the standards state, show commitment at every stage of implementing or improving the system. (Gruca-Wójtowicz, 2008) (Hamrol, 2005) (Kowalczyk, 2011) (Ligarski, 2007) (Łuczka-Bakuła, 2012).

Another obstacle concerns the lack of awareness of the benefits of implementing a management system. This ignorance also results in the aforementioned psychological barrier (Ligarski, 2007).

Many researchers note the communication barrier. The management or implementation team should inform all employees about the stages of work. In order

for this communication to be possible, the company should have appropriate communication channels, which may include:

- telephone contact;
- e-mail;
- computer support platform for the Management System;
- direct contact (for example, manager – employee).

Not only communication between the employee and supervisor is important here, but also inter-departmental communication. (Gruca-Wójtowicz, 2008) (Hamrol, 2005) (Kowalczyk, 2011) (Lambert, 1999) (Smolarek, 2009).

Time pressure can be the main reason that could lead to implementation failure. Inadequate planning of implementation time, tight deadlines can generate stress and tension among employees. This tense situation can turn into a psychological barrier. (Urbaniak, 2006) (Zimon, 2011).

During the improvement phase, the organization must monitor and measure the effectiveness of the processes. Sometimes process owners may have a problem developing a suitable process meter, and this may be due to:

- lack of experience;
- lack of knowledge about the functioning of the system and improvement methods;
- lack of knowledge about the relationship between the components of a given process;
- lack of financial resources. (Gajdzik, 2014) (Gruca-Wójtowicz, 2008) (Hamrol, 2005) (Ligarski, 2007) (Zimon, 2011).

To be able to conduct internal audits properly, the organization should have the appropriate people who have the appropriate training and experience in auditing. Unfortunately, if management does not provide adequate training, auditors will not have the appropriate competences (Gruca-Wójtowicz, 2008) (Zimon, 2011) Batko in her paper indicates that employees may experience so-called topic fatigue regarding management system implementation. (Batko, 2008) Information overload, too fast pace and pressure may result in employees not being interested in new projects, and improving existing ones.

Material and research methods. The examined company is located in the Podkarpackie Voivodeship. Its main activity is focused on the production of domestic glass. The Integrated Management System of the examined enterprise was built based on the requirements of the PN-EN ISO 9001, PN-EN ISO 14001, and PN-N-18001 standards. The system documentation was placed on a dedicated IT platform.

The research was carried out on a sample of one hundred and ten employees of the surveyed enterprise using surveys for this purpose. The respondents included fifty people working in administrative positions and sixty people working in production positions.

Barriers noted among office employees. According to respondents, the biggest problems noted before starting the system implementation were: lack of awareness about the benefits of implementing the management system (22,7%), fear of change (21,4%), too little time devoted to training (18,8%), problems with the interpretation of norm requirements (12,3%). These results are presented in Fig. 1.

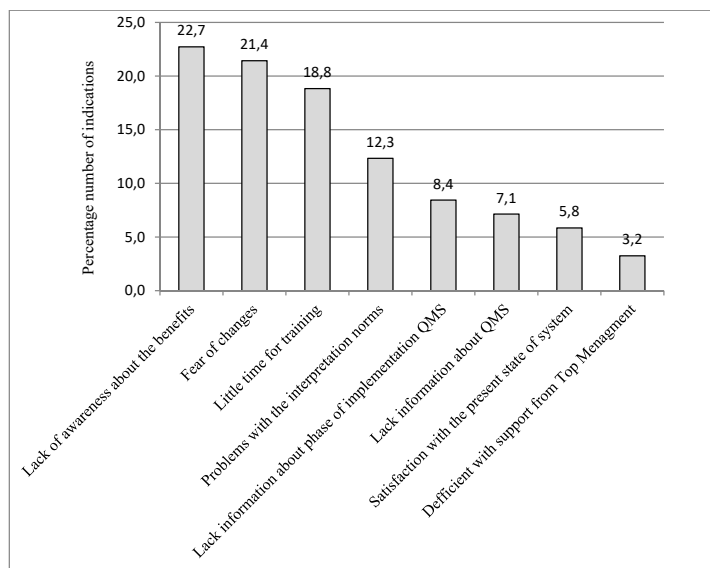


Fig. 1. Barriers to implementing IMS

Source: Own study.

The biggest obstacles noted during the implementation process of the Integrated Management System were: difficulties in eliminating existing bad habits (16,6%), too much formalization of the system (12,6%), lack of communication between departments (12,6%) and resistance of employees (12,6%). Detailed data is presented in Fig. 2.

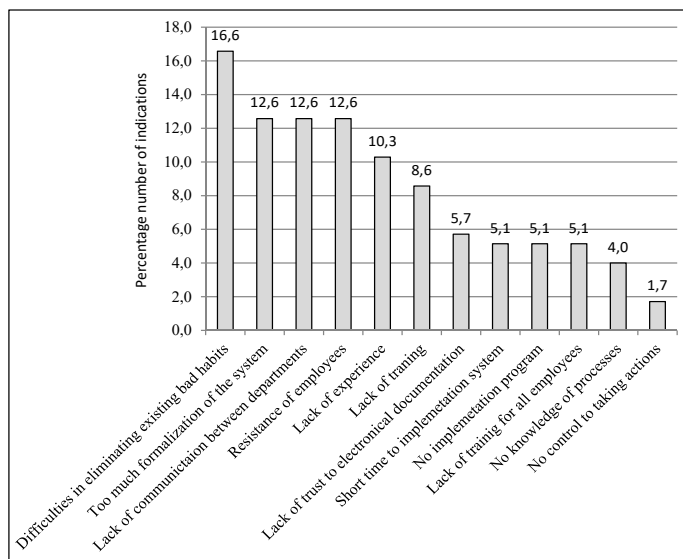


Fig. 2. Barriers during the implementation of IMS

Source: Own study.

The next question concerned the problems noted at the stage of improvement of the already implemented management system. The biggest problem turned out to be employee resistance regarding changes (19,1%). The next place is occupied by the lack of employee involvement in system improvement (17,8%), and no idea how to use tools for process improvement. Detailed data is presented in Fig. 3.

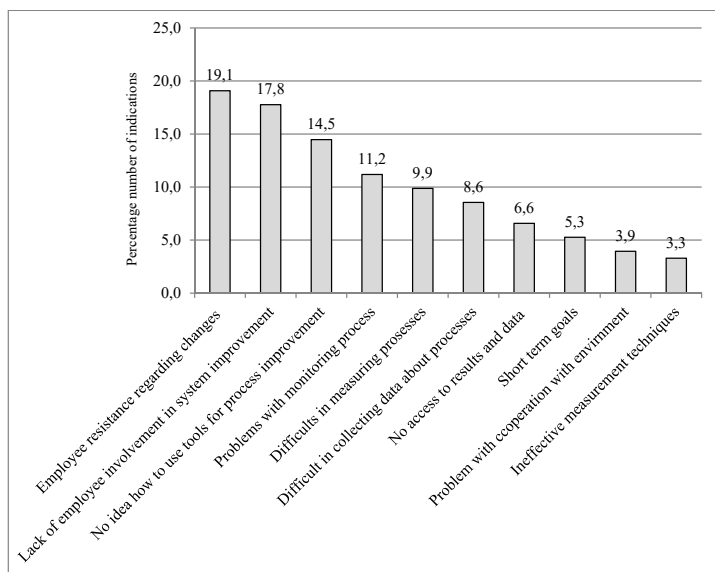


Fig. 3. Barriers noted after the implementation of IMS

Source: Own study.

Barriers noted among production employees. The first question concerned the effectiveness of the initial training regarding the Integrated Management System. Such training takes place during the recruitment of a new employee. Half of the respondents (50%) stated that the training regarding the Management System was not effective. However, 45% state that the training was effective. Only 5% of respondents did not participate in this training. Another question concerned the reason for the lack of training effectiveness. The largest percentage of respondents (40,8%) said that the form of training was poorly planned. The training is a short conversation that follows after the trainee has read the paper information. Another 35,2% of respondents say that the problem lies in the transmission of information in a complicated manner. The smallest percentage of people (23,9%) indicated too general information as the reason. The data is presented in Fig. 4.

The next question concerned the barriers that arose during the entire implementation process of the Integrated Management System. The most difficulties (17,9%) were recorded in overcoming old, incorrect habits. This is a common problem which is also pointed out by the administrative staff. The next two difficulties obtained both 17,4% of respondents' responses. The first concerns insufficient information regarding the implementation of the Integrated Management System, and the next concerns the lack of experience in using documentation. Another 10,9% of respondents claim that the implementation team has developed too extensive system documentation. Detailed data is presented in Fig. 5.

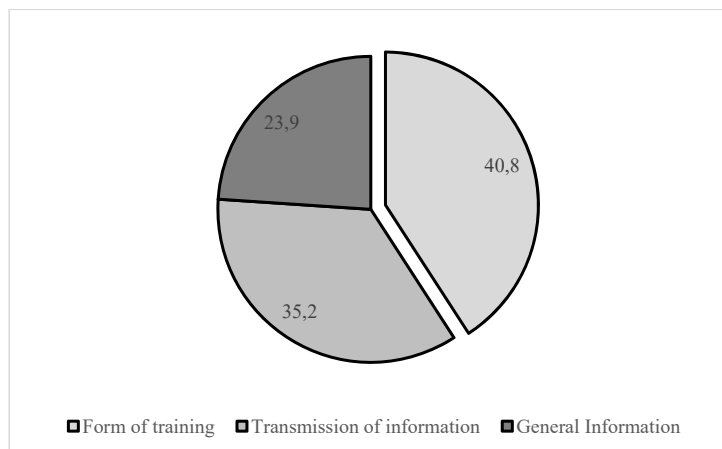


Fig. 4. Components of the IMS employee training process that need to be improved

Source: Own study.

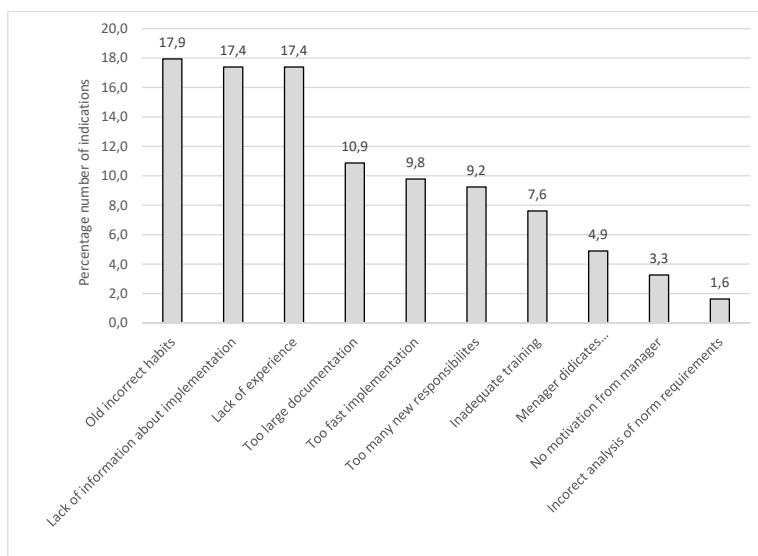


Fig. 5. Barriers during IMS implementation

Source: Own study.

The next question concerned new obligations that were assigned to employees after the implementation of the Integrated Management System. The vast majority of respondents, constituting 82% of the surveyed group, stated that after the implementation of the Management System at their work positions, the number of duties increased. In contrast, 18% of the surveyed group said that there were no additional responsibilities at their workplace. In turn, when asked about the type of

new obligations, the largest percentage of respondents, representing 22,8% of respondents, pointed to the need for more thorough checking of the product in terms of customer requirements. Another obligation seen as burdensome is the need to report any system irregularities to the supervisor. This fact is signaled by 12,3% of respondents. Two groups of 10,5% each pay attention to two very important facts. The first of them concerns the fact that each stage of the production process should be documented using production cards. Another obligation mentioned here concerns the customer's requirements, namely the packaging of goods – **paying special attention to labels, collective and unit packaging, to the protection of goods** (bubble wrap, trusses, spacers). Detailed data is presented in Fig. 6.

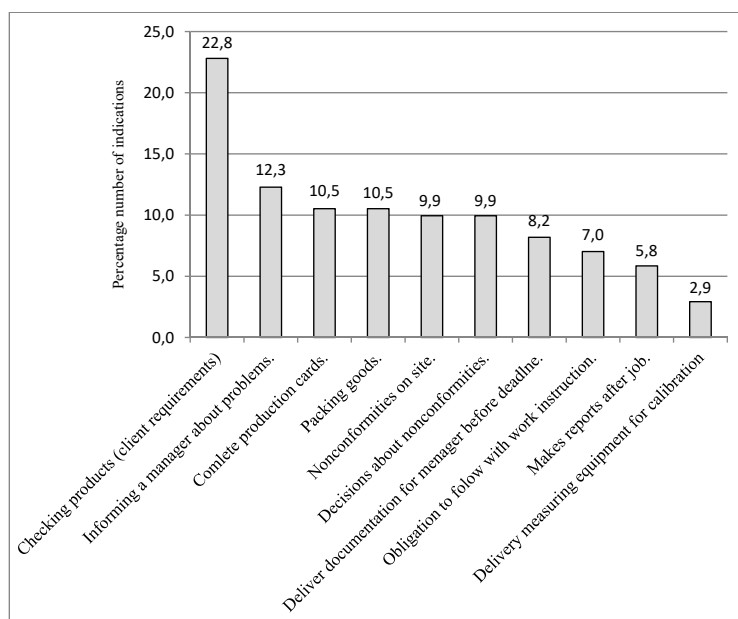


Fig. 6. New obligations after the implementation of IMS in a production workplace
Source: Own study.

Conclusions. The aim of the study was to examine issues related to the barriers noted during the implementation process of the Integrated Management System in a company from the glass industry. On the basis of the conducted research it was noticed that:

- The Administrative Personnel pays the most attention to problems regarding the lack of awareness about the benefits of implementing a management system, as well as the barrier of employee resistance and difficulties in eliminating old employee habits.
- Production staff pay the most attention to the problem of getting used to old habits and to the barrier of insufficient information about the implementation process.
- Both the administrative and production staff pay attention to too much formalization of the management system.

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