

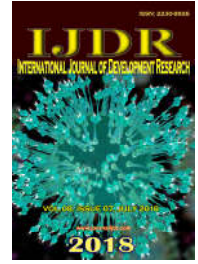


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IMPLEMENTATION PROPOSAL OF PRODUCT TRACEABILITY FOLLOWING ISO 9001:2015'S GUIDANCES IN AN INTERMEDIATE BULK CONTAINER INSPECTION COMPANY

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ABSTRACT

The project under study is part of an unknown economic segment that has been growing fast at the moment: the reconditioning of bulk containers. Determined to seek the ISO 9001: 2015 quality certificate, the company has been undergoing a process of organizational restructuring and reassessment of its working methods. The present study aimed to highlight the contribution of traceability to the internal and external development of the organization, correlated to compliance with statutory and regulatory requirements. Field surveys were conducted to obtain information about the product and its processing. The data were collected through interviews with those involved in the process, and using documents relevant to the activity. In view of the data collected, it was necessary to elaborate a systematic segregation of the packages. And as a form of assistance, it brought the need for a standard operating procedure. It is noteworthy that there was a remarkable engagement on the part of the management and those involved in the process.

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INTRODUCTION

In a society each time more demanding and complex, the information has the role of lead, direct and instruct organizational practices by means of tools of quality management competition and competitiveness of current market comes with doing that companies increasingly back their efforts for the improvement of the quality of their manufacturing processes (Martins, 2010). For if characterize as a company of small businesses active in the activity of container inspection bulk intermediates, was deemed relevant to the implementation of the computerised traceability model mainly by three factors: internal organization development, regulatory requirements and, finally, the relationship between Organization and client.

In General, the aim of this study was to propose the implementation of internal traceability of product for suitability to the ISO 9001:2015 in a company Inspector of intermediate bulk containers. The specific objectives that comprise the General purpose of the study are: Represent the drafting of modeling developed for the tracking of the product through the process mapping, promote awareness How to implement employee and customer traceability requirement established by the NBR ISO 9001:2015, develop a system of receipt and products Conference for discrimination against same according to your structural and conservation conditions, and offer better working conditions during the production stages through training and implementation of standard operating procedure (POP) for the employees involved.

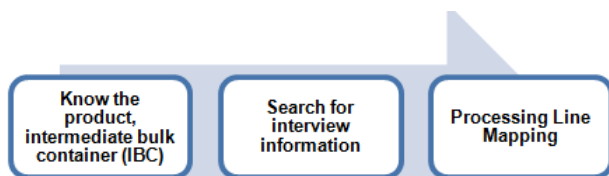
METHODOLOGY

According to Marconi and Lakatos (2007) the theoretical causes the researcher get in direct contact with all what has

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been previously written, said or filmed about particular topics of discussion. From this, the scientific methodology adopted for the development of this study was based on a bibliographical research through books, scientific articles on the subject, and a field research in a company recycling of waste class I at the southern end of Santa Catarina. First, in order to understand the system of traceability, it is necessary to know what processes and activities involved in the reconditioning and decontamination of intermediate bulk containers. So, first of all, if made necessary the complete and utter understanding of functioning of each step of the chain of product processing, the intermediate bulk container (IBC). Richardson (1999) also States that the qualitative research of field exploit in particular the techniques of observation and interviews because of the property with which such instruments deepen in complexity of a problem.

To perform such comprehension and understanding of the issue at hand, the investigative technique adopted was the interview. If treating the semi-structured interview, attention has been given to the formulation of questions that would be for the topic to be investigated (TRIVINOS, 1987; MANZINI, 2003). However, a question which precedes the subject basic questions regarding the definition of semi-structured interview. The same was done individually and in groups, in order to obtain greater range and neutrality of information. In addition, some of the company's internal documents, which describe the process, were collected and analyzed to assist in interviewing and understanding of the information. For José Son (2006) field research brings itself the need for dialogue with the reality which seeks to investigate, that is, a reasoned dialogue on critical analysis and rational. FHi conducted a field trip which had as main objectives: knowledge of the said product, the search for information with the employees involved in the activities and, finally, observe and map the processing line which would be subject the implementation of traceability. Figure 1 below gives the chronological order of the activities developed during the field trip that was laid out.



Source: Authors (2018)

Figure 1. Structure of planned activities for the field trip held

On-the-spot visits contributed way too much in terms of the product itself, its features, your utility, your target consumer and even find out which he needs supplies to that particular consumer. One of the most varied types of consumers, most seek for the product's chemical industry. The company works only with recovered and refurbished products, namely, the company promotes the recycling of the product for later reuse. Even so, when it comes to the question of values, the IBC refurbished presents itself as a great alternative for your high price viability. The intermediate bulk container, or IBC as is usually known, is the flagship of the company. The product is composed of several components that together form the IBC itself. The plastic part where the product is packaged is usually called bubble.

The metallic grid involves the bubble and protects against mechanical hazards. The IBC is still composed of the pallet, transport mechanism and movement. Basically these are the elements that make up the IBC. To better represent this set of components, Figure 2 presents the image of the product fresh to the company.



Source: Authors (2018)

Figure 2. Intermediate Bulk Container

So, the visit scheduled field was structured in the following: the first step would be to product knowledge, the second stage would have as its objective the observation process and those involved in the same. Thus, were defined by the directors of the company the dates for observation and data collection. If it came to pass, after the field trip and information collection, gross still the same were previously recorded, manually. The data collected in this first stage of data collection were the basis of justification for the second step: preparation of roadmaps of interviews.

The selection of employees who have undergone interview was conducted by following some basic guidelines drawn up previously. Such guidelines took into account the function exercised by the employee in question and the degree of experience he had in relation to the activities performed. In this way, to such activity was formed a group of 5 employees. With the Administration, if it was discussed on the timetable for conducting the interviews. Were defined in the Group of respondents, the dates and times. A semi-structured interview, the roadmap for implementation of questions has been drafted, seeking to be understandable and accessible to all. In the day, the interviews were conducted and information obtained were recorded on a sheet, and subsequently transferred to an excel spreadsheet.

RESULTS AND DISCUSSION

The effort to create and establish an involvement of people in the commitment of the development and operation of organizations has always been present. The vital point is that, regardless of present greater complexity, human resources are those that generate solutions and propose more efficient ways to perform a particular activity. Thus, the recognition that complexity determined that the treatment of the involvement of the people had no tactics, and operational dimensions

(PALADINI et al., 2012). Whereas such engagement, which considered the possibility of conducting lectures and meetings with those involved in the critical activities. The meetings were held two weeks after the implementation of the interviews, and was attended by all employees who perform or have some portion of influence under the critical activities of traceability. Responsible for driving the talk was the technical manager of the company. During your speech, the same tried to introduce new terms and concepts to employees, explaining the importance of the implementation of the tool. On the part of officials, there were some questions and inquiries, all duly remedied by the speaker.

In short, the purpose of the presentation was to present the real reason for the implementation of the tool and why it is important to meet the regulatory requirements established by current legislation. The selection of the supplier of the seals took place through an extensive search by companies in the region. Next to these companies, were budgeted some values according to the size and material of the seal. Finally, the choice of seal was based only on the issue of costs. Thus, the first shipment of seals was requested by the supplier, has agreed to provide in a timely manner to the beginning of the implementation of traceability. The seals are plastic and carry the company name along with the bar code and the identification number. To detail best, Figure 3 presents the seal and all its particularities.



Source: Authors (2018)

Figure 3. Seal for identification of IBC

If ponder the possibility of acquisition of metallic seals (metal fillets). The same are characterized by your high level of strength and durability. Taking into consideration the conditions which these instruments of identification would be exposed, the metallic seals if presented as a great alternative. However, as the basis of your high purchase cost, the same became infeasible, at least momentarily. A new design was developed with regard to the classification of IBC's. Before, the products were subjected to an inspection which was made in a generic way, i.e. There was no proper identification and definition of the General characteristics of the components. How many manufacturing processes, were considered all of them. The inspection is the pre-sorting. It is necessary to conduct a thorough examination of the General conditions which the packaging feature. The following are guidelines and recommendations on the classification of components. Bubble conditions are classified into:

- White: The white bubble is characterized by being a very treatable. The same does not show stains, marks and/or very coarse signals.

- Resin White: It's a bubble that was previously resin packed with resin. The same must be properly identified and broken down the other to avoid problems with contamination of products to customers.
- 3rd line: Are stained and bubbles with rough marks. Is the lowest category in terms of structural quality of the bubble. Cannot be used for classified products. Are not subject to the approval process.
- Ink: Are bubbles coming from the paint industry. Are easily identified by coloring feature.
- Black: Are black bubbles. Are not very common.
- Yellow Characterised by having yellowish appearance due to previously bottled product.
- Milky: The composition of this bubble is different from the other, causing them to not be transparent. The product, when bottled, not is visible, as is the case of other bubbles.
- Yellow Resin: It's the same situation of white Resin bubble, however, in these cases, the bubble in contact with the resin is yellowish.
- Spotted: Are bubbles with marks and stains not removed through to coarse cleaning and decontamination.



Source: Authors (2018)

Figure 4. Place the seals on both components

From there, the process of packaging entry becomes more elaborate, with focus in the further registration of information on the packaging which expedites in other stages of the process. In addition, the developer is another look at the blister and therefore grid fail to consider with something generic and are replaced by a more critical look, sorting the same into categories. The deployment process consisted of introducing a

new way of working in the internal environment of the company. It was prepared in conjunction with the administrative sector and approved by the Board. Through interviews with those involved and following the adaptations made in some processes, the POP was developed. The purpose of the document is to represent the step by step of processing tasks, showing how they should be executed. The procedure will be the activities carried out since the receipt of packages to the system with the information. Thus, if you set a default to be used. The company suffers from high turnover, on these occasions, the POP becomes very useful because it facilitates the learning of tasks and work routine. Prior to the classification of the components, it is important that the seal is set appropriately, and in the predetermined location. Figure 4 presents the locations specified attachment.

Conclusion

In short, we can say that both the planning as the execution of the proposal occurred so fluid, with the support of the company. The directors were too interested and enthusiastic about the study's goals, even as it is something that would influence directly on obtaining the quality certificate. The collection of information and preparation of the flow of processing was fairly simple. In short, the objective of this study was to offer greater monitoring and control so much of such products as the production line itself. However, to this end, it was necessary to the engagement and commitment of all involved. The key issue was that of transmission of goals to employees. Inform them about the process of change and usages that the company would be subject to suit the NBR ISO 9001:2015. There was a great resistance on the part of officials that they didn't fully understand the extent of traceability tool. To resolve this question, were applied meetings, meetings and lectures slides to better guide them and prepare them. The administrative sector of the company was extremely receptive, since the beginning. For his part, has been offered every support necessary to carry out the study. In addition, relevant documents were provided to the manufacturing activities of the company. A matter that should be emphasized, was the choice of seal material. A fair amount of seals were broken during the processing of IBC's, specifically the cleanup step water waterjet. There was no prior planning very detailed about it. From that point on it was raised the possibility to employ metal seals that supposedly would be tougher. There are many aspects to be improved yet. Traceability of containers is still at an early stage, but a lot can be taken as learning for the next improvements. An example of this is the question of classification of seals, which is made manually by the lecturer that fills the input control. The fact of performing such manual activity brings a lot of openness to the error. It was then, consideration the possibility to place a bed of digital barcode. However, the methods will remain the same indefinitely. Anyway, in General, the results were satisfactory. In a short time, there was a greater commitment and dedication of the staff. Was developed and disseminated the systematic segregation of packages, and POP was applied about traceability.

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