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## Improving the quality of drawing management process in Iso department of Australian general engineering Vietnam (age Vietnam)

by *Nguyen Thi Hoai Thuong, Nguyen Vuong Bang Tam* (Thu Dau Mot University)

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Corresponding author: [tamnvb@tdmu.edu.vn](mailto:tamnvb@tdmu.edu.vn)

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### **ABSTRACT**

*In the context of economic integration, along with the development of industrial parks, enterprises are always innovating with modern and advanced technology to improve the quality of their products and thus increase their competitiveness in international economic integration. This study assesses the progress of completion, the inadequacies after applying the drawing management process in Iso room age Vietnam and the management storage regulations of the enterprise, thereby making flawed comments and proposing solutions in the management process after being put into practice at the company. Use interdisciplinary research methods of archiving, drawing records, and survey results to speak to the importance of managing and storing drawings in the mechanical engineering industry showing the level of completion and outstanding shortcomings of the process. The survey results provide the basis for the shortcomings that need to be improved in the process and thorough remedies to improve the quality of the technical drawing management process.*

**Keywords:** *finishing, Iso room, management, process, technical drawing*

### **1. Introduction**

According to a report by the Binh Duong Department of Planning and Investment in 2019, Binh Duong attracted foreign investment ranked 3rd in the country with total foreign direct investment (FDI) registered for new levels of adjustment and capital contribution to buy shares across the province reached 3.415 billion USD, up 55% over

the same period in 2018, exceeding 143.98% compared to the target in 2019. In particular, FDI inflows mainly focus on investment in production in industrial parks.

Currently, in Binh Duong province, there are 28 industrial parks and 10 industrial clusters in operation. To provide labor for production, a large number of workers from all over the country have come to work in Binh Duong. The economy maintains a high growth rate, averaging 9.3% per year. The IIP industrial production index increased by 9.64% per year. The investment environment for business continues to improve, in particular, attracting foreign investment (FDI) of over 11 billion USD.

As we can see, industrial parks are growing. Each and every company has different management processes and related documents related to all aspects of the customer, supplier, etc. So today, the storage of data makes it easier to fulfill every single one of these orders saving time quickly in urgent matters when it is needed to be used in the previous order. Agencies, organizations, and archives also have important roles. Depending on each agency, an organization with its own functions and tasks, there is a common feature in the process of operation, and the documents, records, and drawings are retained for lookup and use as necessary. Because it's the original, the base confirms what happened. It will directly affect the quality and efficiency of each agency and organization's daily work. The importance of archiving documents is not only for the promulgation of the product but also for quality control. One of the factors that determine it is the management process, which ensures profits for the company, product quality, and production progress.

However, to ensure that the enterprise has a good control process, the company has the Iso/QC component responsible for all control, releasing the quality control process from input and output. Included in the process of filing a dossier, especially the technical drawings of various orders, is the key to deciding whether the product meets the customer. The current reality shows that the management of the Australian general joint-stock company has limited limitations and is in the process of completing the process of drawing up drawings. The application of the process to conduct surveys so as to be able to see the defects in the process and to find the root cause affects the storage process. To introduce solutions and research on the situation of the drawing process in the iso room with a connection to each other from related parts such as technology and production that affect the drawing process. awareness of the importance of drawing the drawing process, conducting a realistic survey of the process of drawing drawings in the iso suite and relevant components affecting the company's drawing process, finding backlogs in the process after release and applying them in production, thereby offering proposed solutions to help the company improve the value of the product.

In the study limit, I will do a survey on the completion of technical drawings in the iso suite. On the basis of continuing research and construction measures appropriate and effective with the status quo of drawing management in the company's iso suite.

## **2. Scientific research and research establishments**

Applying quality control systems is a strategic decision of an organization that can improve the performance of the enterprise and provide a solid platform for making processes to manage the work, control, and grasp problems. And in Tran (2002): "Management is the conscious influence of the governing body, controlling and guiding the processes of social management, behavior, and actions of human beings to achieve a purpose consistent with objective rules." According to Tran, Dang and Dang (1995), "Management is a process of working between managers and supervisors to be able to create the best quality for the customers, to be able to create the best quality for the customers, and to be able to create the best quality for their customers," said Paul Hersey and Kenblanc in human resources. The archival work in enterprises is not a new research issue, but the storage of technical drawings is a new problem, as a new problem for technical drawing is the basis for creating quality products, especially in the recognition of the major contributions that enterprises make to the development of the Vietnamese economy. Thus, it is possible to notice that management is understood from many different angles, but it is generally intended for the command and controlling process. Each enterprise needs to have the process of managing and storing the ISO 9001: the technical drawings to ensure and assess the ISO 9001 quality management standards.

There was also a lot of research on the process of management over various aspects and issues, such as the author Dang (2015), who studies the project for the completion of the project management process at the general corporation 319-the southern branch; According to Nguyen (2020), studies the organization of management of archival work at the Ho Chi Minh City electricity corporation; According to Tran (2015), studies the organization management organization in the Vietnam Railway Corporation...

In order to study this topic, the author of information collected and handled data in various ways is crazy that we will use the query method and use the 5-star method. Research methods are methods of collecting information. Connaway and Powell (2003) think there are many ways to get information. The most common research methods are searching for documents, conducting workshops, personal interviews, telephone surveys, postal investigations, and conducting mail-related surveys and email networks. There are difficult problems after using the query method to be able to identify outstanding issues in the process and the application of the process to the practice. According to Ly (2018), "5 Whys" is a simple technique for solving problems, helping users quickly find root causes. Popularized in the 1970s by the Toyota production system, the "5 Whys" is to look at any problem and ask: "Why?" or "what causes this problem?". That's why the five-star method. Since then, using the 5-why method to find the cause directly and the root cause of the root action has overcome the consequences and prevented the recurrence.

The method of processing information, the method of encoding, and the extent of

assessment are defined as follows: (1) does not perform; (2) performs passively; (3) implementation; and (4) is completed and effective. The number of samples for the topic is 20 employees, conducting a general survey of 100% of employees working in the drawing management process. In which 35% of people are surveyed as middle management and high levels, we have a reasonable survey, which is more effective in managing the management process because they have more experience controlling the process. After conducting the survey, we obtained the results and the issue of addressing the "5 Why" approach to the issue as a preventive problem.

### 3. Results and discussions

#### 3.1. How to assess the issues affecting the application of the drawing management process at AGE Vietnam

After collecting the survey results, we aggregated the results of the questionnaire as shown as follows:

TABLE 1. The degree of necessity in the application of technical drawing management processes

Levels	Very necessary	Necessary	Normal	No need	Other
Frequency (n)	11	7	2	0	0
Rate%	55	35	10	0	0

Looking at the graph after the survey of the degree needed, we see that the "very needed" level drawing is important to 55% of the 55%. Since we see that the management of the drawing cannot be lacking in the quality control process at the company

TABLE 2. Assessment of effects on the process

No	Criteria	Rating level			
		1	2	3	4
1	The necessary activities have been standardized into the (identifying the person who releases the drawing, the user of the drawing, the standards of implementation and the interaction between the engineer and the user of the drawing)	0%	20%	55%	25%
2	How are processes promulgated and how	0%	30%	70%	0%
3	How to control the implementation of the process	0%	40%	35%	25%
4	Synchronization in operation, operation between office and production	5%	55%	20%	20%
5	How to analyze, assess, and improve changes in drawing changes	15%	20%	45%	20%
6	Guiding methods of operation of the process	5%	25%	40%	30%
7	Training, awareness raising and the level of staff in the application of the process	5%	50%	20%	25%
8	The meaning of cbnv in applying the process	10%	15%	50%	25%

9	Full - time specialized sections and responsibilities for responsibilities in accordance with the process	0%	30%	40%	30%
10	Personnel in charge of updating and managing documents in each department	0%	15%	55%	30%
11	The consistency in the electronic drawing system and paper drawing	5%	30%	40%	25%
12	How to edit, how	0%	15%	45%	40%
13	Awareness of members in the drafting	0%	20%	40%	40%
14	Full quality control processes	0%	10%	40%	50%
15	Presentation forms	0%	20%	60%	20%
16	The awareness of staff in the application of the process	5%	30%	55%	10%
17	Evaluation of the mode of distribution and revocation of the drawing to the production workshop	0%	35%	50%	15%
18	Inspection of product quality assessment after applying process	0%	30%	70%	0%

**3.2. The following situation after applying the management process at the iso suite**

Complete	Backlog
<ul style="list-style-type: none"> <li>- Visualize the file by designing a form to be pasted into the file to store the drawing code. -</li> <li>- Sorting out ora drawings and clear drawings.</li> <li>- The directory is divided into sections for engineers and QC update plans and documents related to the ISO system.-</li> </ul>	<ul style="list-style-type: none"> <li>- The drawing on the system is often lost</li> <li>- No electronic documentation management</li> <li>- It's common to issue a document that affects the storage</li> </ul>
<ul style="list-style-type: none"> <li>- The process of receiving and withdrawing explicit drawings</li> <li>- Use carpentry markings to visualize drawings -</li> <li>- The handover of a copy of two production and iso/QC production rooms</li> </ul>	<ul style="list-style-type: none"> <li>- Not enough technical resources to assess the drawing</li> </ul>

**3.3. Control after the process of drawing the drawing process at the company**

- After applying the process of drawing to the drawing process, there is no more misuse of the drawing to produce.
- Process control is very good in the framework, no individual management.
- To issue original drawings and between two technical rooms with QC simultaneously, together with each other.
- The guidance on the use of drawings and seals for the promulgation of the operation method is also implemented.

**3.4. Human resource training**

- Lack of human resources to control the quality of the iso system in which importance is still the issue of drawing management.
- To train human resources in the Iso/QC room to regularly examine the drawing system for each area under production.
- However, since the current source of human resources is missing, it is not yet possible

to update the entire drawings due to the interaction between the lost and lost departments.

– Formalized paraphrase. In addition, the current iso room has only two people when the technical department has issued a new technical drawing of the paper without a direct drawing of the studio.

### 3.5. Publishing archival technical drawing system

- The Iso/QC room performs the original drawings.
- To examine the supervision of implementation according to the process in the factory and train laborers to comply with the procedures promulgated.
- Release the management process in the form of a presentation, detailed training, and detailed details.
- The workers don't know the importance of storing and preserving the drawing, so they often leave the drawing around, not tidy.

### 3. 6. The following situation after applying the process of storage in relevant parts

Complete	Backlog
The drawing is put into a file, sorted by tray, which is easy to find, not much time.	The location contains the drawing of the drawings that have not yet dropped into the file.
The technical drawing used the Original seal and Doc copy to ensure the iso 9001 processes: 2015	It is not clear that the drawing of the automobile, the single drawing is difficult in search of drawing.
The old and new drawings are classified by the date/month/year to find out that the old or new version.	There is no vantage point to see the drawing, which is easily lost, torn from workers or drawing out drawings in the use process.
	The drawing cabinet is still temporary, not clear cupboard.

### 3.7. Shortcomings

- There's no drawing location in each production group.

TABLE 3. Use the 5 Why method to find the cause

<b>Root causes:</b>	
Why 1	Why don't you have a drawing location in each production group? ➔ Because there are no tools to hang, put the drawing.
Why 2	Why don't we have the tools to hang, put the drawing? ➔ Because there are no special tools to hang, put drawings in each area.
Why 3	Why not use specialized tools to hang, put drawings in each area? ➔ Because each area has to be designed to provide support for a separate drawing.
Why 4	Why don't you design support tools for specific drawings for each area? ➔ Because it needs support from engineering and production time.
Why 5	Why does the design room not deploy tools? ➔ Because it needs to be reviewed from the board.
☞ <b>Remedial measures:</b> Request for review from the board of directors, thereby implementing the plan for the production of the suspended drawing.	

TABLE 4. Backlog fix solution

<b>Backlog</b>	<b>Remedial measures</b>
The drawer is not set up, not clear enough.	Request for review from the board of directors, thereby implementing the plan for the production of the suspended drawing.
The drawing on the system is often lost.	Decentralize each account and set the server at the company.
Production management has no good interaction for leaders to update the drawing.	Provide regulations on priorities.
It's common to issue a document that affects the storage.	Issue the code for establishing the document code.
- The iso / Qc room lacks human resources in order to be able to review drawings from techniques, so after recruiting new people. To propose the process of managing electronic storage in the iso suite - Unable to preserve the published drawing under the factory.	Electronic Original Carpentry On Drawings and Storage.

**3.8. Some solutions, remedial measures**

As mentioned above, at the agencies, the enterprise, the work-completion organization, and the management of the process of drawing up the drawings, which are particularly specific to the presence of the information, Therefore, it is necessary to improve processes and improve the management process and provide some solutions to improve outstanding issues.

*First, solution 2s (Screening-Sorting)*

Two-screen screening and pre-sorting are required since 2- 2 to complete the remaining 5s will not solve the problem thoroughly. Two-the second implementation of the hard-working file and soft file is urgent screening, sorting, and removing unnecessary things for practical application. After that, organize the arrangement of objects by visual criteria: easy to find, easy to get, and return. It must be organized in a position of convenience for use.

*Second, the base proposal*

• *The filing cabinet*

With the increasing number of drawings and the need for more customers to meet the company's demand, the company needs to buy more than 4 cabinets, including 2 cabinets in iso and 2 sectors for production areas.

• *Account allocation and server systems*

To meet the requirements, the company must add a system "Server" system with a capacity of 500TB.

The server is located in the air-conditioned room location that is constantly powered and not disconnected. At this time, the drawing will no longer be stored but lost.

Once the server has been set up, it is advisable to centralize each individual who is only allowed to enter the folders they work in.

*Third, priority provisions.*

Priority order in the company:

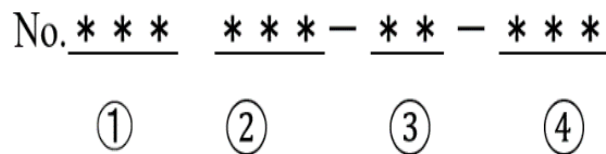
Number 1: supporting drawings to include: technical drawings, jig

Number 2: production

Number 3: manufacturing supplies for the company

*Fourth, the document issuance method*

On the method of setting standards for setting document codes based on the structure and production industry of the company itself, to make regulations. When the company proposes to submit to the international Iso standard, they proceed to sign the application and grant the approval degree according to iso standards. Later, rely on the regulations that the company put in place to review the document code.



**Figure 1.** Digital document representation

Location of distinguished label attachment (file, place of storage) specified by that department,

However, we need to include the necessary items that are responsible for the responsibility, the storage, the differentiation of the document, the name of the document, the time of commencement of the document, storage term)

❖ Original management

- The release department and the receiver must preserve the original and damage the original.
- To make a clear distinction between the old and the latest.
- About the method of recognizing the canceled document or the old version of the publishing department displaying the [OBSOLETED] mark and preservation.
- + The department details the editing of documents to the editing resume. Distinguish easily by coloring the edited content blue in electronic file documents.
- The issue department performs document management with the relevant companies.

*Fifth, recruiting and training human resources*

With the workload, increasing orders require the company to meet qualified human resources, training the workload of document drawing preservation.



It is necessary to recruit a technical position to be able to browse the drawing-room for the iso room after the office of the department is issued, for review of the drawing and receipt of information.

To avoid the condition of a one - dimensional situation that can't be distinguished from the right drawing of the technical room.

*Sixth, the process of managing the electronic storage process*

After the proposed recruitment should be established, the process of mapping the electronic mapping process is required to implement the process.

*Seventh, set up a storage schedule*

Currently, Iso/QC will store 3 carpentry seals, to stamp on the drawing to know whether the drawing is new or old. Instead of using a carpentry stamp on a hard file drawing, the photo will cause blurring:

- I use electronic wood to close on the soft file, when printed out will no longer be blurred.
- Store electronic carpentry drawings instead of scanned drawings with hard files stored in the category "Circulating drawings" so that when the production loses drawings, Iso/QC room using this will save more time for both parties.

*Eighth, set up a storage schedule*

- Set up the archive settings on the maintenance time limit.
- Grouped category classification.
- Department allocation needs to be stored over time.

**TABLE 5.** The time limit for the preservation of original drawings and drawing drawings in iso rooms.

<b>NO</b>	<b>DOCUMENT NAME</b>	<b>STORAGE TIME</b>
1	Recovery drawing ORA	From the date of recovery in three years
2	Single recovery drawing	From the date of recovery in three years
3	Outsourcing drawing	From the date of recovery in three years
4	Original drawing Offroad Animal	From the date of recovery in three years
5	Original drawing AGE Australia	From the date of recovery in three years
6	Original drawing Aline Group	From the date of recovery in three years
7	Original drawing Enviroline	From the date of recovery in three years
8	Original drawing of hospital bed	From the date of recovery in three years
9	Original drawing HSP Group	From the date of recovery in three years
10	Original drawing Manhole	From the date of recovery in three years
11	Original drawing Turbo Vina	From the date of recovery in three years
12	Bicycle Root Drawing Weehoo	From the date of recovery in three years

#### **4. Conclusion and Future research**

In fact, in the management of the types of drawings, records are very important. The lack of control of the profile types will cause loss or confusion, and the lack of drawing is inevitable. The drawing management system must be controlled and the process always available when there is a demand for use. Every drawing must ensure security and remain intact. At the Australian General Division, Ltd., with the initial state of the company, the company has not yet set up the process of drawing up a drawing process for many serious jobs when the old drawing of the customer's old drawing is produced for the reason that no drawing process has yet to be updated.

The fact that the survey and the purpose of the company show that the management of drawing at the iso general division in the CP of the Australian General Corporation has advantages and disadvantages. Most of the majority will focus on the lack of professional resources in the iso suite, which are closely linked to each other, thus creating a complete process. And from the results of the research, making recommendations to improve the drawing process, the company needs to recruit more technical resources as well as train its former employees in technical manufacturing and manufacturing techniques. Investing more in material facilities containing drawings, investment in the future will receive more new orders and drawings. At the same time, to raise the value of the image to the quality of the product, people at the company need to be trained and guide the preservation of the drawing and the rational reasoning system in accordance with the preservation practices of the enterprise.

##### ***Future research***

- To unify and synchronize the methods of editing, issuing, and archiving documents and dossiers in the company.
- To develop awareness and enhance responsibility for maintaining the quality of the company's quality.
- Create resources to develop production systems.
- Save time when you need a production drawing.

##### **References**

- Dang The Vinh (2015). *Proposal for completion of project management processes at the general corporation 316 - Southern branch*. The University of Irrigation
- Dan Tri (2020). *Strong capital inflows into Binh Duong real estate*. Mining from <  
<https://dantri.com.vn/bat-dong-san/dong-von-chay-manh-vao-bat-dong-san-binh-duong-20200302095550240.htm>>, [Date access 07/03/2022]
- Iso 9001 (2015), *Quality Management System - Requirements*, Vietnam Productivity Institute
- Ly Ba Toan (2018). *6 sigma - The basic contents and instructions for application*. Hong Duc publisher

- Long Đò (2020). *The situation of attracting foreign investment in 2019 Binh Duong province.* Mining from <<http://sokhdt.binhduong.gov.vn/tin-tuc/tinh-hinh-thu-hut-dau-tu-nuoc-ngoai-nam-2019-tinh-binh-duong-1225.html>>, [Date access 07/03/2022]
- Nguyen Huy Hoang (2020). *Professor of scientific research methodology*, Marketing University
- Nguyen Thi Thu Hang (2020). *Organization of management of archival work at the Ho Chi Minh city electricity corporation.* Ha Noi Internal University
- Tran Thi Hanh, Dang Thanh Hung, Dang Manh Pho (1995). *Management human resources*, national political publisher, Ha Noi.
- Tran Thi Van Anh (2015). *The organization of management of archival work at the Vietnam railway company.* The university of social sciences and humanities.
- Tran Quoc Thanh (2002). *General management science - Education graduate curriculum.* Hanoi National University of Education.