

Enhance competitiveness textile products in the garments industry

Abstract

This research is important because it is concerned with the collection of Product Data (PD), which is the first step in Product Lifecycle Management (PLM) through Product Data Management (PDM).

The study of the reality of one of the Syrian ready-made clothing companies was carried out by conducting a complete economic study of the company's products, forming a complete database, and as a second stage. An open source software program was developed, that includes all the financial, technical and economic data of the company and the investment of this program by companies under study.

The company was compared with a second company in a product to conduct a competitive analysis by comparing their profitability. A risk was found for company A and its economic position was undermined by economic analysis using the originator program.

Finally, many of the results of this research and the most important findings of the originator program were mentioned.

Keywords: competitive advantage, product data, product life management, product data management

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Introduction

Liberalization of global trade restrictions and the opening up of markets to foreign products have made competitiveness inevitable for production and service centers. Competitiveness is the major challenge facing modern institutions

The most important characteristic of economic activity at the present time is its occurrence under the obsession of competition at the global level, especially with the disappearance of tariff barriers and the emergence of global quality requirements, resulting in the emergence of new competitors with a high degree of skill and strength. This represents a potential challenge.

For the countries of the world, particularly developing countries Thus, the subject of competitive advantage has become an important subject that has been of great interest to researchers for a long time

Research objectives and importance

This research is important because it is concerned with the collection of Product Data, which is the first step in product lifecycle management through product data management.

Design and implementation of a local open source program applicable in the Syrian textile companies based on the concept of life management and product data through the construction of a front end (front end) derived from the company and can be developed, the interface that appears to users in these companies within their powers and enjoy this interface features of the most important Friendly user & easy user contains data, equations, and complex-code that are not clear to users and have been created on the Access program.¹

The problem of study

- Not to improve competitiveness based on a reference model of product data in Syrian Companies

- Lack of local reference software based on the product Lifecycle Management (PLM) concept
- Global PLM programs store data in a cloud and this makes it vulnerable to hacking
- Such programs can't be obtained because of the economic blockade on the one hand, and the excessive cost that prevented companies from adopting this type of program.

The adoption of large companies on the policy of floating the market products reduces the-competitiveness of small companies relying on these products, making them more threatened by the absence of data storage and update.

The adoption of local companies in the traditional way of calculating costs and paper in the-extraction of data relating to any product and the loss of some data cause loss of time to obtain the required information, which reduces the flexibility of the company to take decisions that support the market competitiveness.²

Method of research

The research was based on the study of a ready-made clothing company and the collection of all data related to it to form a complete database that contains all the technical, design and financial information, and then the establishment of an integrated computer program covering all the previous information is scalable.

Definition of competitiveness and its importance

Is the ability of any organization to take advantage of its internal and external strengths in order to achieve the highest value to customers by exploiting the resources and resources available to it, which ensures that they remain competitive and thus achieve competitive advantage based on various factors including efficiency, quality, innovation, response For customers.

Its importance lies in maximizing the benefits of the economic returns of companies. It is well known that at present companies are competing rather than countries, so companies with high competitive capabilities are able to raise the standard of living of their countries.³ The quality of life of a country is strongly correlated with the success of its companies and its ability to penetrate international markets through export or foreign direct investment. In recent decades, world trade and foreign direct investment (FDI) have been growing faster than world output.

Competitive advantage concentrates

- i. Satisfaction of all stakeholders in the entire chain. Identify current and future needs of the client and then meet them better than competitors.
- ii. Speed in capturing the opportunity to achieve new competitive advantages.
- iii. Use a series of tactics and methods to create a temporary competitive advantage which changes the rules of the game competition.
- iv. Announce the desired strategic actions that will allow disabling competitors' reactions.
- v. Organizing sequential and coordinated steps for strategic development, allowing for greater new marketing opportunities.
- vi. Ability to surprise and dazzle others by creating a new competitive advantage

Product life cycle management

The traditional product life cycle that the product goes through from development to retirement is represented in Figure 1:

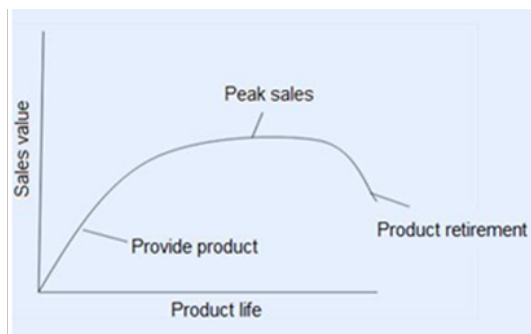


Figure 1 Product life cycle.

The course begins with product development, design development, product and manufacturing engineering, marketing and service and after a certain period the product reaches retirement.

When PLM is conducted, the product life cycle is improved from customer suggestion to improvement, sales and service department responses, research and development management, and then to the perception of the improved product and the cost at which the product can be sold on the market, its overall design and specifications.⁴

The next phase is in the Design section, which redesigned the improved product and analyzes the detailed design and improvement at this stage.

Thus forming a spiral product development group where the product undergoes a series of improvements, continuous improvements, additions and so forth. Thus the core of the product

life cycle is changed due to PLM from the traditional shape to the shape of the vortex.

We get something called a product development cycle rather than a product lifecycle (i.e, the product develops itself through marketing and customer-enhanced services) as shown in Figure 2.

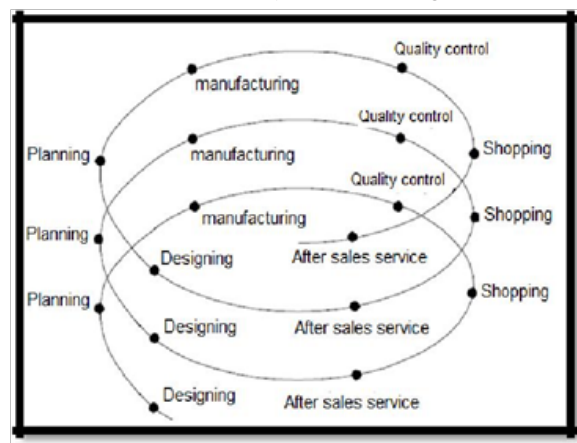


Figure 2 Product life cycle.

This improvement in the product is the basis for improving its competitive advantage and ensuring its stability in the market.

The practical section

The practical part has been divided into:

Part I: Company overview and data collection by:

- A. Interviews with those who work
- B. Taking information from production records
- C. Field work within production halls

After the data collection was documented by the heads of departments in the company, and then scheduled in preparation for the management of these data.⁵⁻⁷

Part II: A front end was built to manage the life of the company's products.

Part III: Program investment and testing by two companies A & B.

Part I: Company overview

The data collected for the company A is an industrial project for the production of cotton fabrics from local cotton yarns and synthetic, synthetic and woolen fabrics, preparation, dyeing, printing and finishing with the production of various internal and external garments for women, men and boys and marketing them internally and externally.

Where it produces about 9 varieties distributed as in Figure 3. The jeans category was chosen initially due to its importance in the discharge market and the expansion of the target segment.

Where the amount of production of the company during the work rose one 150 pieces, equivalent to 45000 pieces per year. After tracking the successive production of the pants, we found that the total production time is about 3 minutes per piece, as the production process is continuous without interruption

When visiting the company under study, we found that there is no chart showing Flowchart machines within this company where the

researcher designed a scheme to put machines that produce the jeans category through Visio as shown in Figure 4:

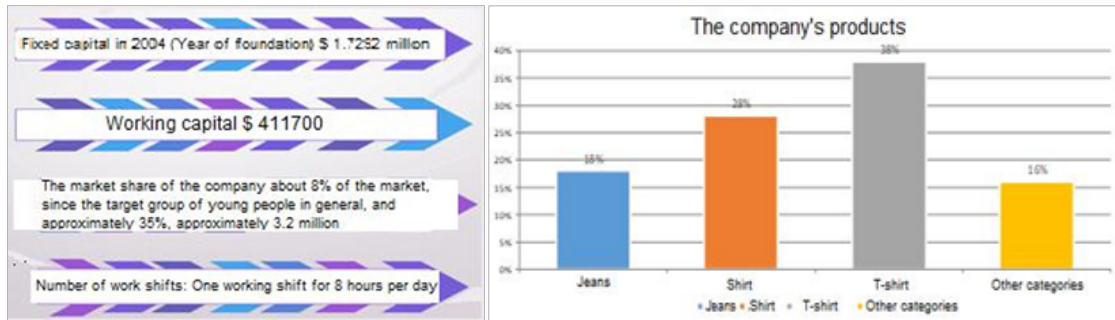


Figure 3 The company's products.

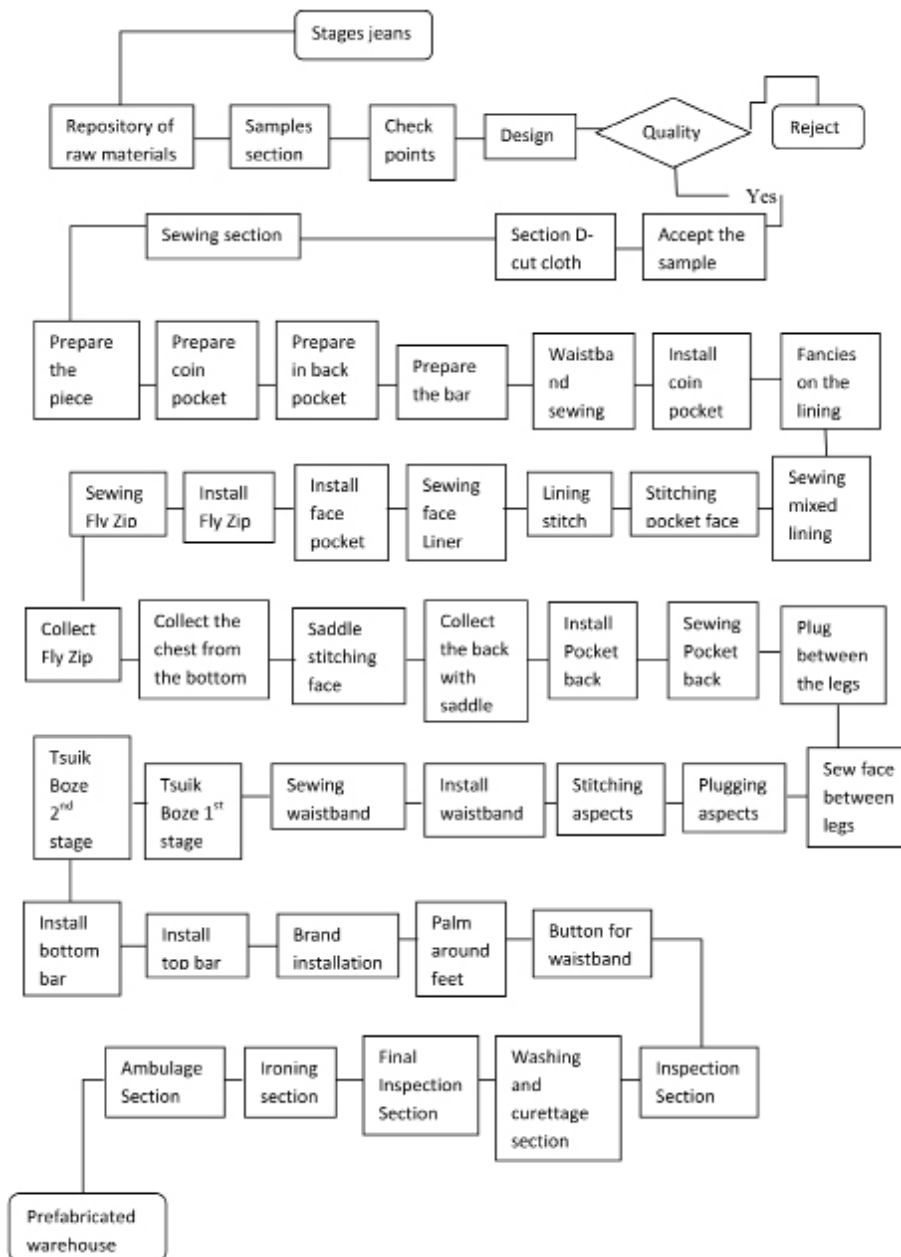


Figure 4 The outline of the stages of the formation of jeans.

Similar to the jeans category, the rest of the other items were studied and all production and technical data were prepared in preparation for preparing a comprehensive database for the company as a whole.

Part 2: Data analysis and management to access product life cycle management and investment by companies

First: front end formation

It is the interface that appears to users and enjoys the interface features such as Friendly User & Easy Use. This friendly interface, which represents the company’s complete database, was created by Access.

Some information and advantages about the program that was created are described in Figure 5.

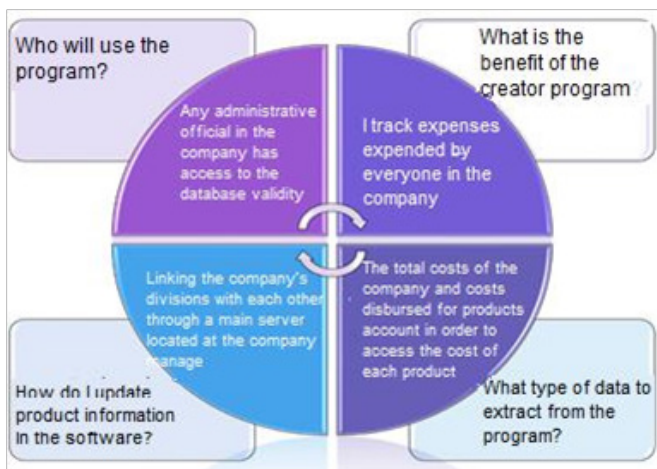


Figure 5 information and advantages about the program.

The required information is accessed by clicking on the icon only to drop other lists shown in Figure 6.

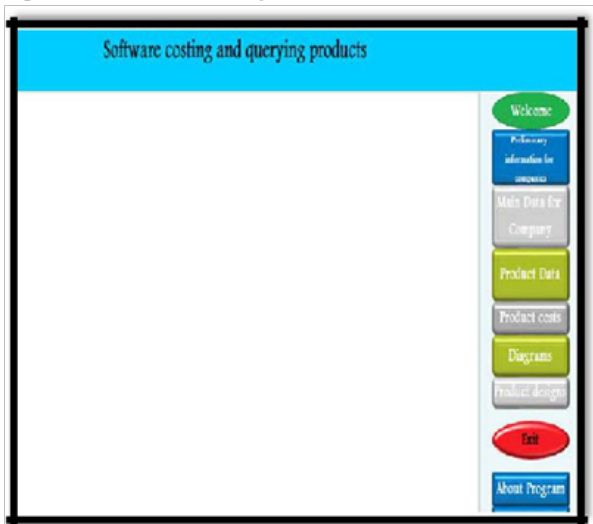


Figure 6 The main interface of the program.

Second: Invest the program by entering the company information A and some company information B to apply the PLM

The company’s initial information this list contains the general information of A & B and -many options that facilitate dealing with

the main interface of the program as in Figure 7.

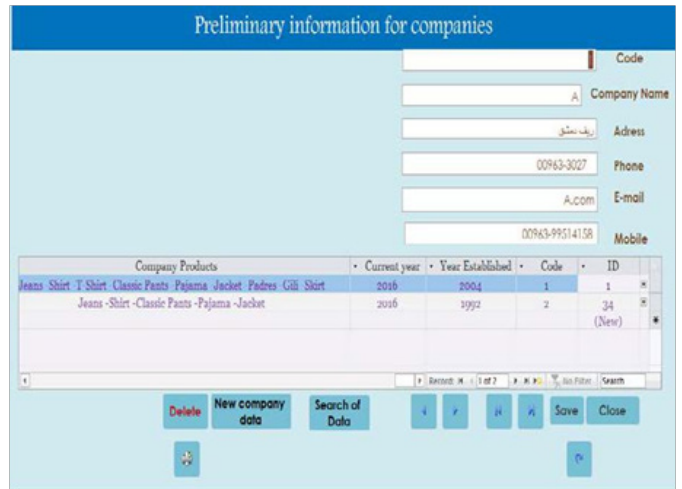


Figure 7 Preliminary information about the company.

The main data of the company

A list shown in the following figure shows the items produced in the company and the quantities of production and costs related to the production processes are shown in Figure 8.



Figure 8 Key data of the company.

Data of the company’s products

This list contains several icons, each showing the data of one of the company’s products. This list includes all the information related to the product as shown in Figure 9.

After dropping all the costs and items related to each product, each of the icons shown below gives the cost of the product, knowing that this cost is variable because the program is continuously feeding all the information from all the sections simultaneously, as in Figure 10.

Charts of the company’s products

This window contains all product data for the company in the form of diagrams where the monitoring process is easy to track the higher costs as shown in Figure 11.

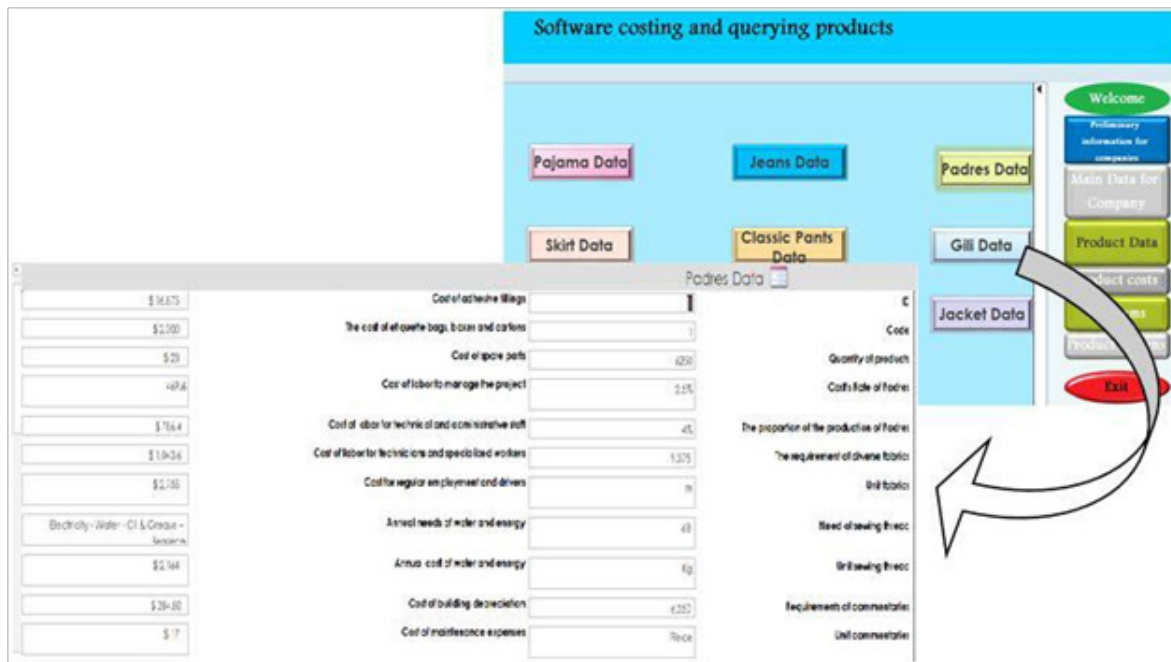


Figure 9 Product data.



Figure 10 Product costs.



Figure 11 Company product charts.

When you click on the jeans denim check box we have the following icon shown in Figure 12 & Figure 13.

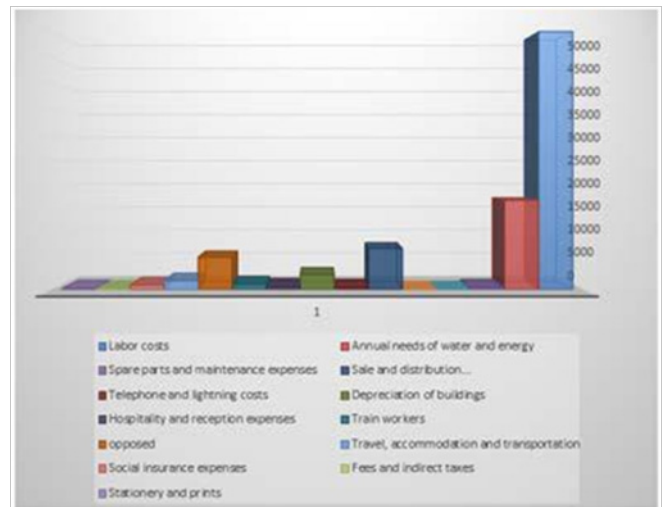


Figure 12 Jeans pants scheme.

Designs of the company's products

When you click on the jeans design icon, the following icon appears in Figure 14.

Economic analysis

The value of the US dollar was adopted when this study was conducted because of its stability compared to the Syrian Pound.

When considering the costs of the jeans product for both companies A and B, it was found that the cost of the jeans product for company A is \$11.84, while the cost of the jeans product for B is \$11.4, i.e, the cost of manufacturing jeans for both companies.^{8,9}

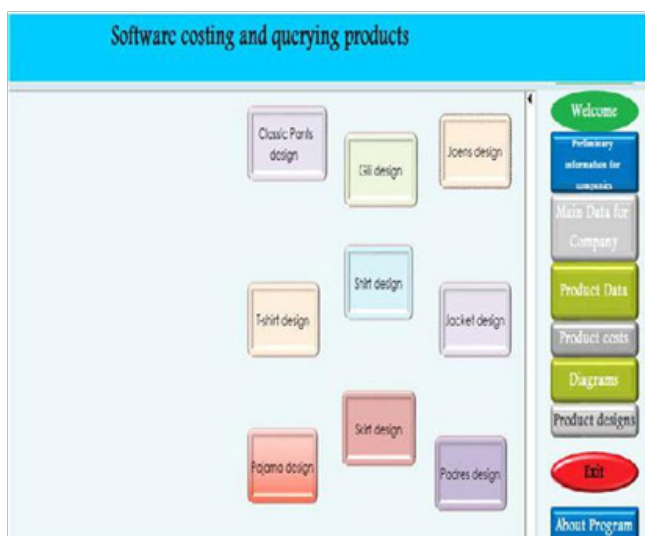


Figure 13 Designs of the company's product.



Figure 14 Design of jeans.

$$X=11.84-11.40=0.44 \$$$

Thus Company B outperforms A Company by 44 cents Reflecting this figure on the productivity of both companies, we find that the cost of producing a jeans product for company A on the basis of the company's production of 45,000 jeans.

$$X1=11.84 * 45000=532800 \$$$

If B produced only 45,000 pounds, the cost of producing this product would be

$$X2=11.40 * 45000=513000 \$$$

We find that cost differentials for the cost of jeans between the two companies

$$Y=X2-X1$$

$$Y=532800-513000=19800 \$$$

Which is equivalent to the Syrian pound: 9900000 Where we note that Company A is in danger because of the high cost of production for Company B assuming that the annual productivity is fixed for both companies. If Company B adopted a policy of raising productivity and reducing the sale price, the price difference would undermine the position of the company under study A in the market and could lead to its exit from competition.

Research results

By analyzing the competitiveness of the two companies, by comparing the profitability -shows that there is a risk to the company under study, which undermines their economic status.

The program combines all product data whether financial processed by traditional or design accounting software processed by software design and technical information for each product and kept in the form of paperwork in the company and records in a computer and can be continuously developed and modified.

Control the cash flows of each individual product and the movement of warehouses-The program is a digital compass to locate the company based on the concepts of PDM and -PLM applied through this program

- Consolidate information between all divisions and managers in the company by connecting - them to an internal network server
- Shorten the time required to send orders to the rest of the departments and wait for the -reply
- The program helps identify products that will come out of the market by monitoring their - cost
- Ability to update and develop information externally by connecting it directly to the-Internet.

This study examines one of the indicators of competitive advantage, profitability and processing in a special way. We suggest that other competitive indicators such as quality and market share be addressed through questionnaires on the SPSS program and linked directly with the program designed to monitor the views of customers and the stability of the market share in the market permanently And continuous.

If this program is applied to the public sector and adopted by the responsible authorities and fed to all companies will be a measure to determine the market share of each company and control of all companies permanently as the issuance of any order requesting information requires:

- About 15 days on demand in public sector companies
- About 2-3 days in private companies

Through the program, the request for any information requires about 30 minutes to complete the processing of the request, and this information documented by workers in both the public and private sectors.

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Conflicts of interest

Author declares there is no conflict of interest in publishing the article.

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