

## **The interactive relationship between those interested in design in the field of product display and visualization Designer - Implementer - Seller - Consumer**

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### **Research Summary:**

The interactive relationship between those who are interested in design in the field of showing the industrial product (designer - executor - seller - consumer). We are talking here about the methods of showing documents of the industrial product in its different stages to those who are interested in the product. Cases of interest are the stages of the process that the product focuses on. The methods used to show the industrial product to those who are interested must keep pace with the modern technological age and use the latest methods of product display (using virtual reality techniques) to reach the stage of persuasion for those who are interested. The phenomenon of persuasion is one of the most important philosophical phenomena that affect the manner of presenting a topic, problem, or product to a person, and the viewer is always interested in reaching the optimal style of presentation to reach positive persuasion, and when we talk about methods of presenting products, which is one of the most important activities for the product which is related to strengthening the level of user satisfaction with the product, and the variety of its methods and forms, from indicative panels and horizontal and vertical documents, to the huge group of advanced technological display methods, including what is called virtual reality. It is one of the most important methods of presentation, as it is a term applied to computer simulations of environments that can be physically simulated in some places in the real world, and that in conceptual worlds.

The design activity in the third millennium crystallized in the light of the phenomenon of globalization and was based on information technology in the fields of operating software and performance arts and design display in achieving consolidation through addition of knowledge in the areas of industrial product display.

The interactive relationship between those who are interested in design in the field of displaying the industrial product shows the extent of the needs for using modern technologies in showing the required requirements through the environment that define the relationships between the parties to the product design process. The different uses of virtual reality provide the required form of showing the product design process with the required features of convincing and dazzling, ease of modification, redesign and others.

**Search keywords:**

Product display and visualization, Designer, Implementer, Seller, Consumer

**Research importance:**

- 1- Highlighting the importance of the interactive relationship between those interested in design in the field of showing the industrial product.
- 2- Clarify that the industrial product is the focus of the process whose sides are (designer, implementer, seller, consumer).
- 3- Clarify the modern technologies in the process of showing the design of the industrial product.

**Research problem:**

The research problem is summarized in that the methods used to show the industrial product to those interested must keep pace with the modern technological age and use the latest methods of displaying the product, such as (using virtual reality techniques) to reach the stage of persuasion for those interested.

**Research hypothesis:**

The use of modern methods of displaying the product enhances the power of persuasion and adds a lot of dazzle to the design idea.

**Research aims: -**

- 1- Clarify the interactive relationship between those interested in product design.
- 2- Clarify the sides of the design process, which is centered by the producer, and its sides (the designer, the implementer, the seller, the consumer).
- 3- Keeping pace with technological development by using the latest technology in product display.

**Research Methodology:**

Deductive approach.

Search Plan

The research is divided into two main axes

The first axis: - Those in charge of design (designer - implementer - seller - consumer).

The second axis: Methods of showing the product.

**Introduction:**

The methods used to display the industrial product to those who are interested must keep pace with the modern technological age and use the latest methods of displaying the product, such as (using virtual reality techniques) to reach the stage of persuasion among those who are interested. The interactive relationship between those who are interested in design in the field of displaying the industrial product shows the extent of the needs for using modern technologies in showing the required requirements through the environment that define the relationships between the parties to the product design process.

**First: those who are interested in design (designer - implementer - seller - consumer).**

The group that is interested in the edges of the design process and whose main center is the producer, and each side of this process has its own interests, which share with the rest of the sides a set of common interests between the side and the other. Here is an illustration of each side of the design process.

**Design:** The design process produces functional, aesthetic and artistic creations when talent meets design, has external motives and needs, and has a clear and understandable theme. The design aims to solve problems or provide information with a clear and specific message, whether in the case of information supply or in the case of a functional product, and the design process begins with research, planning and preparation - then design - where a design is created for a specific client or for a specific topic or for a specific purpose or specific scenes in the designer's mind. The decisions a designer make are what determine the shape, size, color, texture, method of construction, and the content that the object to be designed will have.

**Designer:** A term used for people who work professionally in one of the different areas of design, and usually defines the area of specialization they are dealing with (such as a fashion designer, idea designer or web designer. Design often requires a designer to look at the aesthetic and functional aspects of, and many more. Another aspect of an object or process is, and it usually requires a great deal of research, thinking, modeling, interactive adaptation, and redesign.

**The executor:** the entity that works on the manufacture of the product. Here, it depends on a group of interdependent and cooperative in the production process, namely: (manufacturing engineers, production engineers, process production engineers).

The work of a manufacturing engineer mainly relates to being fully acquainted with the product being designed, and in deciding, in light of the general economic aspect and available manufacturing capabilities, what to manufacture and what to buy from the component parts of the product and its sub-groups.

As for the production engineer, he usually works under the supervision of the manufacturing engineer, and he is responsible for manufacturing a product from the factory's products, unlike the manufacturing engineer who is responsible for all his products. The production engineer has to overcome elementary manufacturing problems with a product.

A production process engineer usually works under the supervision of a production engineer. He analyzes the product drawings he receives from the designer, and prepares lists or itinerary programs that illustrate step-by-step the processes necessary to convert raw materials into components, and assemble them into finished products.

**Consumer:**

A person who buys products and services for his personal use or the final use of his family. Such as buying food, clothes, or household electrical appliances, or turning to sports or entertainment services or therapy. This is where the purchase is done for the ultimate use of the products; the other form of consumers is the organizations' buyer. They are the establishments

that buy products from goods and services for the purpose of use or sale, and they include a large group of commercial, industrial, agricultural, governmental and non-profit establishments, and these establishments need those goods and services that enable them to perform their functions.

### **The need for the product: -**

From the above, we can easily and clearly realize that the product is the axis around which all activities related to the design process revolve, it is the meeting point between the designer, the user and his consumer as well as the person who is responsible for it and the one responsible for a sale, as each of these has its own motives that invite him to the center of his activity in this way known as the product Valhaj. The design of the product can stem from the user or the field of manufacture, as well as from the designer.

### **1- The need of the recipient or / the consumer stems from: -**

- (1) The user's belief that the job or service he is requesting can only be achieved by producing an improved product or creating a new product.
- (2) The fulfillment of self-desires.
- (3) Desire for a better result in the sense of desiring a better product at the same price or products at a lower price.
- (4) The rise in the standard of living.
- (5) The rise in labor costs leads to the demand for automatic products.
- (6) Desire to compete in society.
- (7) The development in public taste leads to requests for more beautiful products.
- (8) Fashion because the product is seen in the light of the environment in which it is located.
- (9) Desire to own.
- (10) Continued development in these requirements leads to the disappearance of the actual value of the old product, and of course there are many of those requirements and motives of the user / or the consumer, whether emotional or mental. Market studies and research have paid attention to this as we have previously explained in detail in the relationship of the product to the consumer.

### **2- The seller needs: -**

But if we look at the sales requirements, we find that they meet the following needs: -

- (1) The company needs sales expansion.
- (2) The company wants to be always the leader or ahead in the competition.
- (3) As a result of marketing policy the firm may wish to define its activity in a particular direction.
- (4) To increase the gain.
- (5) To increase prestige or prestige
- (6) For political reasons.
- (7) For strategic reasons.

**3- Port need: -**

And this while the production requirements create the need for the following reasons: -

- (1) Economic pressure
- (2) The emergence of modern methods of production.
- (3) The quality and quantity of manpower.
- (4) Quality and quantity of projects.
- (5) Increasing gain.
- (6) Reducing the degree of difficulty in production, whether real or imagined.

**4- Designer need: -**

As for the need for a new product, it results from the designer for the following reasons: \*

- (1) As a means of improving his personal level as a designer.
- (2) For the purpose of obtaining a material reward.
- (3) Because during the implementation of any design, the designer sees other ways to improve, which can be incorporated into other designs.

**The second axis: - Methods of showing the product.**

Virtual Reality: Virtual reality technology changes the traditional way in which the product is designed, because it contributes to the development of the visualization of the product, the demonstration and presentation of the idea, the vision of the product, its analysis and modification quickly and more easily, testing, verification and decision-making instead of the traditional methods used in presenting two-dimensional designs, then he created a prototype.

**Virtual Reality Technologies**

There are four basic technologies required for virtual reality, and they are:

**1- Display:**

Which immerses the user in this reality (the stereoscopic display on the eyes of the observer and is carried on the head).

**2- The Graph System:**

Which generates 20 to 30 images per second and changes the continuous Image (Software that generates OSD).

**3- Tracking system:**

It continuously monitors the position and direction of the user's head and arm movement (the camera that monitors the user's movement).

**4- Database Processing Software System:**

That builds the virtual world and continues its details (processing programs), and there are assistive technologies for virtual reality, such as:

A\_ Sound effects of all kinds.

B\_ Assistive devices such as gloves to track the movements of the fingers (the user's fingers).

**Marketing and e-commerce**

The aim of marketing and advertising campaigns is to attract customers' attention and achieve the highest possible percentage of customer conviction about the product or service being

promoted, but traditional marketing and advertising methods are limited in effectiveness in the task of persuasion, unlike marketing and advertising solutions that use virtual reality (VR) technology that provides the ability, browse the products and try them before purchasing them to reach the percentage of satisfaction required by customers to complete the purchase. Figure (11)



**Figure 11): Marketing and E-Commerce**

E-commerce activities achieved a tremendous rate of development and growth in increasing the volume of sales and the customer base and reducing the rate of return of products and customer problems through the use of virtual reality technology applications that allow customers to browse and experience the product interactively before purchasing it without the need to leave the house and waste time and effort in moving between branches to find the most suitable product suitable for personal and business needs such as an application.

Real estate marketing is also one of the areas that have benefited from these applications, as it provided the ability for marketers and customers to reach better results and decisions by viewing and browsing many residential or commercial units and choosing the most appropriate unit without having to move and leave the house even before building these housing units by browsing a virtual reality. For the site and the housing unit now and in the future. Figure (12)



**Figure (12) Virtual Reality and Real Estate Marketing**

### **3- Findings and Recommendations:**

The researcher reached a set of important results that clarify the goal of the research:

3-1- Clarify that the industrial product is the focus of the process whose sides (designer, implementer, seller, consumer).

3-2- The interactive relationship between those who are interested in design in the field of displaying the industrial product shows the extent of the needs for using modern techniques to demonstrate the required requirements through the environment that define the relationships between the parties to the product design process.

3-3- The evolution of hypothetical thought, with it the methods, tools of use and the general form of the hypothetical method develop.

3-4- Maintaining the integrity of the dealers on the design, and preserving the lives of everyone. In the demonstration stages of the design process, the experimental stage.

3-5- Generalizing the use of virtual reality techniques in all methods of displaying design documents to reach the stages of persuasion and dazzling required in the product display process.

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