

# Future visions of the functionality of the industrial product and its communicative capacity

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***Abstract**---Future research and studies have taken place in all fields of knowledge and all the scientific and humanitarian disciplines and to the study of the importance of reaching to know the real and effective communication between the industrial and the receiver product language through various means of communication that it contains product design and of functional communication and formal and aesthetic and technical gave way to show diversity in design trends industrial products, according to career and aesthetic performance value addition to the raw material specifications, organization and composition of the design and the ability of communication, where the design innovations in industrial achievements emerged through the introduction of changes in the morphological and functional systems in the building design has been associated with the function of the industrial product and the accompanying technical evolution of the material is a necessity in Browning concept of the design. All of these influences combined together and the lack of field of art in the field of industrial design for such a study, which may set the foundations for future visions for the job of communication research. The study of this will pave the way for designers of industrial achievement has to be implemented according to the pillars that help in creating a future vision for the job communicative expected to occur in the future.*

***Keywords**---Future visions, communicative capacity, industrial product*

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## I. Introduction

Future research and studies have been conducted in all fields of knowledge and for all scientific and human specialties, and for the importance of this study to know the true and influential language of communication between the industrial and recipient product through the numerous means of communication contained in the design output and represented by functional, formal, aesthetic and technical communication, which gave way to showing a multiplicity in design trends For industrial products, according to the value of the functional and aesthetic performance, in addition to the specifications of the material, organization, design formation and its communication ability, where design innovations appeared in the industrial achievements through the development of Variables in the formal and functional systems in the design construction have been associated with the function of the industrial product and the accompanying technical development of the material as necessary in the maturity of the design idea. All these effects combined together and the lack of an art field in the field of industrial design for such a study, which may define the foundations for future visions of the communication function.

## II. methodology frame

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**Study problem:**

The research problem was extracted with the following question:

What are the future visions of the functionality of the industrial product and its communicative capacity?

**The importance of the study:**

The importance of the research is concentrated through knowing the modern methods of design relations in terms of formality as well as through the aesthetic, functional, technical and expressive values to define the language of visual discourse that will enhance the element of attraction for the recipient during the next ten years, as well as the development of science and technological acceleration in the field of industry

**study Objectives:**

To build directions for the future vision of the industrial product's function and communication capacity.

**study limits:**

A study of the future vision of the industrial product and its communicative capacity for future models with (default) design of European cars originating within the time limit exceeding the next 10 years.

**Terms Definitions:**

**Communication:** The procedural definition of communication: is the transmission of information, ideas or directions through symbols, signals and images to the recipient.

**The future:** the procedural definition of the future: It is the ability of the industrial designer to set indicators and forecasts for future industrial designs, including formal design elements according to modern technology, including the technical and technological development that can be achieved later in the form of a functional and aesthetic benefit.

### **III. The concept of the future**

**First: Future visions:**

That human history, with its extension and interactions, always and innately refers us to the tendency to discover the future, because the time that has come to be an urgent obsession has accompanied humanity in its journey through life, and the goal of man to survive and continue in the context of his confrontation with challenges that have continued or started and the human being has been driven by his instinct to prepare for the future in a way Operation. It is known that there is a close connection between future thinking and the scientific view and that future thinking, as mentioned above, has taken, during long periods of history, non-scientific forms, which were represented in astrology and reading fortune by various means, but these forms were all linked to a view of the future as something It is predestined in advance, drawn and planned by supernatural powers, and knowledge of this destined future and its reading is only available to those who in turn possess the powers of its superhero. (Saif Al-Din, pp. 419-420) The future is an unknown land that requires discovery, and it is better to have a mysterious map in our hands, And incomplete, and subject to review and amendment allowance We have nothing in our hands. It must be said that the future is studyable, and not completely closed to human endeavors (Alvin Toffler, p. 487).

And studying the future teaches us to be in harmony with the future, and to adapt to the changes facing the individual and society. It is no secret to anyone that the changes taking place in our world today are accelerating changes, and that inconsistency or inconsistency with these changes leads to a loss of balance in all areas and affects them strongly. In order to avoid the shock of the future, individuals or societies must have a great ability to adapt to finding new ways to know the future. So the future is the expectation or prediction of the accelerated progress in technology and other sciences, of changes and changes and preparations for them to mitigate the so-called "shock" The future "or the " rift "that it leads to in the structure of society as a whole

### **A : The four future studies models:**

1. The intuitive model: it depends on practical experience, but it lacks a large database of data and information derived only from an intuitive vision resulting from subjective experience, which is an attempt to identify the interactions derived from a specific issue.

2. Exploratory model: refers to a possible future through an example that illustrates the relationships and interrelations; these relationships are based on the trilogy of the past, present and future, and the existing harmonious relationship between them.

3. The targeting or normative model: It is a development of the intuitive model, but it benefits from the various scientific techniques used.

4. The feedback model: this model focuses on all the variables in a unified framework that combines the previous two models, in the form of reactions and for this it depends on the interaction, not to forget the past and not to ignore the objective reasons that may interfere to change the course of the future,

### **B :Scenario:**

is a method for embodying and depicting possible future conditions. It is a detailed written description of the future, and through this technical form, the mutual effect of all the expected variables and how they relate to each other is checked. The scenario is often integrated in a specific region of the future, as it is used to form a possible environment in the utmost detail that the imagination can reach to it (Raouf Wasfi, p. 59). Then, going back, whether this event occurred or not, this technology is not generalized, as it is the way to analyze the technical future.

As for the future scenario: it is one of the products of modern science based mainly on the study of feasibility, and this means controlling the plan, the possibility of continuity, fulfillment of its financial obligations, providing technical leadership and overcoming external obstacles that may stop the scenario in one of its stages. The scenario mainly depends on a large system of programmed and stored data that is constantly updated according to changes in all fields.

The scenario can be defined with the following: A major branch of future science is its function, describing the various events and analyzing their results, and it is a description of a future situation and ways of managing it and clarifying the characteristics of the paths that lead to it, rather than being potential expectations for an actual future. It consists of a series of assumptions for future events.

Characteristics of the scenario: writing it requires creativity and a deep intellectual imagination. It is based on an accurate scientific method to obtain the facts. It is also based on major factual events. The number of scenarios can be from two to four to be formulated with great confidentiality in data used by professionals in various related fields

### **Second - the design vision:**

System: It is an art and science, and it is the development of carefully studied general plans and design, technological and environmental conditions, i.e. it is a form of design power in order to achieve the goals of the required product. Rather, it consists of an idea, technology, material ... etc, that is, of scientific and technical principles that control its creation and composition and that have expressive energies and specific connotations.

The acceleration of science and technology in the next century will inevitably have vast effects on the wealth of nations and their standard of living. In the past three centuries, wealth has usually accumulated among nations that possessed rich natural resources, or that have accumulated huge amounts of capital, and follows the rise of the great powers in Europe in the ninth century Ten and the United States in the twentieth century is this classic and familiar principle. And he writes, "Webster Thoreau," the former dean of the Sloan School of Management at the Maschisti Institute of Technology: in the twenty-first century the mental ability, imagination, innovation, and regulation of modern

technologies are the elements Basic Atejah. " In fact, many countries that possess abundant natural resources will find their wealth declining sharply because the materials in the future market will be cheap and trade will be global and the markets will be linked electronically.

In the twenty-first century, many countries that lack natural resources will thrive because they have prioritized technology that can give it a competitive advantage in the global market. The revolution asserts that "knowledge and skills today stand alone as a single source of comparative advantage. (Michio Kaku. P. 25) As a result, some nations have developed regulations for major technologies that are used as engines of wealth and prosperity in the next century. A model list was created in 1990 by the Ministry of Industry and International Trade In Japan, this list contains: (thin electronics, biotechnology, modern materials science industries, telecommunications, the visual aircraft industry, robots and self-managed machines, and computers (software and hardware)) Without any exception, each one has The mentioned technologies that will lead the twenty-first century have deep roots in quantum and computer revolutions. The important point here is that these three scientific revolutions are not only the key to scientific progress in the twenty-first century, but are also the dynamic drivers of wealth and prosperity (countries may ascend or fall as a result For its ability to control these three revolutions. "(Michio Kaku, p. 26)

Scientists predict an unprecedented explosion in scientific activity between now and 2020 and in two main technologies, namely computer power and the DNA sequence, we will see entire industries ascending and falling based on scientific developments. By 2020, microprocessors will probably be cheap drafts paper and distributed in millions in the surrounding environment allowing us to put smart systems everywhere and this will benefit everything around us including the nature of trade and the wealth of nations and the way we communicate, work, play and live. This will provide us with homes, cars, televisions, clothes, jewelry and smart money. We will talk to our devices as they will respond to us, and scientists also expect that the internet will connect the entire universe with wires and will evolve into a cover consisting of millions of creative networks (a smart planet "and the Internet" (the magical woman) that appears in fairy tales that can speak with human wisdom.) (Michio Kaku, p. 30)

### **Third - innovation, creativity and future need.**

The creative value in design is an essential means for sustaining communication between a person and his basic needs that confirm his existence and maintain its permanence on the one hand, and to maintain the link between life in its past, present and future through a series of developments that it undertakes and transmits from one stage to another stage. As for the communication value resulting from the creative process It is an opportunity provided by the designer to belong to the new idea achieved by its human measurements and subject to the same conditions of human experience, and therefore it expresses its superior ability to secure contact with its performance, function and utility. The contemporary form that the pleasures of his age often excites his ability to communicate between societies and peoples.

Industrial art is a universal language capable of communicating with everyone, and it is itself that instrument that meets the needs of societies in different regions, and cloth and fashion and its different styles are a factor that unites the tastes of its diversity (Iyad Al-Husseini, Part 2, p. 49). Thus, the industrial product was a global means that carries creative contents that secure communication, influence and persuasion in many segments of societies of different cultures and natures. Innovations are among the creative contents that secure communication, influence and persuasion in the recipient and in many segments of societies of different cultures and natures and that the design process is unable to Creating a design work that is characterized by creation, creativity, innovation, impact and persuasion, if it is not based on basic foundations. These foundations are the means that reconstruct the design process according to the data of theories of creation, creativity, and constraints experienced by a Designer in the course of the completion of the design, and the aesthetic function that

arise between the recipient and the design on a great deal of importance in raising pleasure and beneficial interest has these cornerstones enough to re-value the spiritual design on the basis of creativity and innovation (Ayad Husseini c 3, p. 120).

Since innovation is a human process because it is the brainchild of creative minds, this is a response to the incentive of need, which represents the first force of the first drivers of change to achieve human imperatives. It is one of the requirements of this era to affect and be affected by man and directs him to where he wants and does not want to form new systems (bodies, forms) Material and intellectual elements continue from their environments and are based on the ability of man to reveal what is behind, that is, time is coming (future vision) and it is not always in design but in its multiple systems (functional, technical, technological, parts, supplements).

Innovation: It is a coherent and diverse future visions, and it is an important factor of change because its primary goal is development (Hoda Mahmoud, p. 17) to meet future human needs to achieve the communication value resulting from the creative process, it is an opportunity provided by the designer to belong to the new idea achieved by its human measurements and subject to the same conditions of human experience, As in some future ideas to achieve the necessary requirements for humanity through the completion of the design of a flying car in a motorized driver and that this innovation, whether in the idea of exoticism or technology or the materials used in this design and other sciences For the other employee in this design able to achieve and enhance the communication ability of the design output, which achieves the excitement and influence in the recipient, and therefore it expresses its superior ability to secure communication with its performance, function and usefulness and the contemporary form that leads to the enjoyment of its era often raises its ability to communicate between societies and peoples, so industrial art is a language Cosmopolitan is able to communicate with everyone and it is itself that God that meets the needs of societies in different regions. The technical formation in the design carries a high communication value especially if it coincides with the creative idea in the design, as the shape often carries its expressive symbols in the design and announces its styles and methods through those blocks and spaces that it processes in a way that attracts consideration and calls for comfort, admiration and luxury sometimes (Iyad Al-Husseini 2, P. 87).

Innovation is also a form of communication, exchange and change, as it resembles art, because it is based on imagination as well and is not predictable, so any design, whatever it is innovation, because innovation is a series of cumulative quantities of (technologies, technologies, raw materials, etc.), which is a multiple thought Lines and faces (Hoda Mahmoud, p. 18). To meet the continuous need in humans, and because of the future visions of these human needs, theories and approaches have emerged, meaning that the existing method in design and creativity falls within the limits of scientific logic in addition to the creative creative tendency in the designer's thought.

This process enables the discussion of existing facts with all their clarity and sheds more light on its problems, thus transforming its creative assumptions into new facts that replace the old facts that have proven inadequate in its performance towards the new human data, so in order to create these major creative treatments in converting the assumptions into facts the designer must Creating a state of balance between its energies represented by its creative experiences, and the capabilities and energies of external conditions with some compatibility and harmony, meaning that there are objective data in the human environment that must be precisely perceived in order to address them and obtain practical and beneficial results (Iyad Al-Husseini Part 1). , P. 51). The material, form, and expression in industrial products are of equal importance, because the expressive content is not what it is aesthetic except due to the physical elements and the formal organization of the subject, which are the tools that lead to the aesthetic composition of the product, and that the aesthetic theory of all visual arts sees that the form does not advertise Himself or he advances the productive things as much as he carries the internal expression of the various contents to reach the recipient, and here the mark elements play a large part of verification (Jerome Stolnitz, p. 353). The relationship between industrial products and what is expressed

embodies the relationship between symbols, signs and the mark and what it symbolizes in terms of meaning and meaning to reach in its aesthetic degree an impression that affects the recipient or the consumer. .

The result can appear in many and varied forms, according to the function of this or that activity, and according to its nature, degree, level in originality, value, and benefit for society. As is evident in the following forms, which show the latest sophisticated and smart materials in addition to the latest international techniques in designing and shaping values Aesthetic and functional. In fact, industrial products fall into two categories: -

**Realistic, tangible product relatively separate from its creator (designer):** as in designs of industrial products that have relative freedom to start thinking about, which includes the property of flexibility to transform or change the idea or subject according to emerging conditions and the context of new information and allow it to form new assumptions and show issues That was invisible and invisible and should be rethought and directed in a flexible, liberal direction, because flexible and renewed thinking, even if relatively, contributes greatly to solving problems that require novelty, originality and value (Alexander and Rushka, p. 20).

**A product that is directly related to its creator:** This product can be like a tangible, physical product even if the designer of this product is away from the stages of implementing the technical framework for it, and this product clearly expresses the personality of the creator, because the creative design in this category is more subjective, and because the opportunities for freedom of departure and flexibility in Adopting broader, new information and ideas that are more positive than the first category, which leads to achieving new, original and valuable production, the basis of which is originally from cognitive and motivational processes within the creative designer (Ali Abdul Moaty, p. 237), and there are some hypothetical global innovations expected to emerge during the next ten years.

#### **Fourth - A futuristic vision for the new formal systems:**

It is very natural for the designer to adopt the best formal relationships when implementing his ideas and this formal relationship in dealing with the elements and the way they are organized and the emerging relationships between them that reveal a form that has a relationship with a specific function. And Cezanne says: that engineering problem is the value of abstract beauty in nature, and the designer reduces the problem that simulates nature to the maximum extent and transforms many of the problem after its renewal into symbolic values of significance, which is what it reaches in engineering problem, and the value of beauty of shape in industrial design adds value Utilitarian when you facilitate the use of that industrial product, and processes the shape in a manner consistent with the job (Iyad Al-Husseini, Part 2, p. 47).

The question here is: Does the form follow the function? Today the situation may be reversed. This brings us back to the traditional idea about design, i.e. styling, cars and consumer electronics, and computers, and the design can be understood to convey not only functionality and ease of use, but also passion and meaning (Wagner Cynthia, p. 528). The importance of sketching as an important feature within the skill of the designer, and a few schemes of this type may provide samples that tell us about the type of "spiritual" of the product, much more than what a well-crafted description implies, emotions, messages and meanings are implied, and cannot be fully described in words. Formulas and numbers. As mentioned previously, planning provides a means of communicating, communicating and receiving messages about what is implied. This is of primary importance. Here is another destination for the user who is unable to know the destination of what is actually requested or preferred. Market studies, questionnaires, and questions are often dealt with about the destinations that we talk about, because they deal with words while emotions and meanings go further, and otherwise, focus groups in a different way may provide some evidence in this regard, although distinguishing accurate references to implicit sensations requires Given insightful and compassionate hearing to capture signs of mysterious and transient psychology, one can say that the schemes provide the level of purity between the tacit and the expressed in the word. (Wagner Cynthia, p. 529).

The design language included in giving the overall exterior appearance, through dialogue between form and function, may provide an impetus for innovative features at a more preferred level. And if some emotions and meanings are expressed, be sure when it comes to doing work. But this is a two-way street: that some product functions may be designed in a different way, and to be organized in a way that is adapted to make them adapt to the general design language and message the product carries (Wagner Cynthia, p. 530). In order to achieve the best results in design, the designer searches for the sources of innovation in technology, market requirements, scientific inventions and various ways of thinking. To gain new insights through the pursuit of innovation, and by applying new types of perspective. Sometimes the design task is to exceed that original task and to produce and design for the purpose of renewal.

The formation of formal systems came as a result of many social factors, so its formation has acquired a pre-determining imperative of formation, in other words that the shape in its general composition has been determined and determined in advance by its formation that crystallized and took its final status immediately before the formation, otherwise it did not initiate the production process at all (Mayada, P. 51). The system is considered in the art of design to the context of the context through which the design is perceived and its meaning is understood as a language indicating form, and it is in that matter that all visual arts that adopt the eye and perception as a means in the interpretation of artistic work in order to understand and interpret it, and to the extent the system relates to the subject of form as a means Primary to dismantle its content at times and then reinstall these parts according to that system again.

Visual thinking in creating a future vision for formal systems is thinking directed through the problem in terms of its nature, its components and its relationships and its ability to change and develop, as he says: Arnheim relies on visual thinking and using the problem. , And it has a certain arrangement, and a relative state of its stability states). The word shape has its history, and vision has its history. The system is the set of elements, foundations, structural, formal, and technical relationships related to the basic idea that work according to a specific mechanism to achieve the goal of design (Iyad Al-Husseini c 3, p. 97). On the basis of that it turns out that the concept of the system is not limited to the phenotypic relationships of the form, but extends to all structural and technical relationships in design, the formal aspect has the greatest impact in this field, and for the main reason is that design is generally a visual art that deals with the physical facts that people perceive through sight To achieve a visual connection between the design and the recipient product through new formal systems that achieve the future vision of industrial products through arriving and discovering the latest methods and future methods that fulfill the desires and needs of society.

#### **The second topic: (Concept of communication and function).**

**Meaning of communication:** Communication is the primary focus of human experience, as it means the exchange of both ideas as well as the information we find that includes images and forms such as words (or phrases), pictures, drawings, and different symbols, and that communication is a way to get closer to more information (Zaki Muhammad, p. 31) , As it is evident in the conversational visual communication that enhances the direct impact between the recipient or user and the industrial product, and the communication process involves emotional and mental interaction through exchanging the effects between the parties involved in it. On the basis of that, the researcher believes that the language of communication in industrial products is a visual and intellectual communication language that is related to shapes, symbols and images and related to the aesthetic, functional and intellectual values of the industrial product that achieves the attraction element of the recipient or the consumer.

**The concept of visual communication in industrial design:** that the art of design is one of the deliberative visual arts that acquires its real value through the good receiving process, which begins to arouse the values of beauty of appearance and belongs to the high level of quality of the essence function, and this means that the design achieves a course of design in the mind of the recipient and there is no doubt that The rhythm of the communication process and its

speed varies between the types of designs with its multiple classes, and the utility and circulation value increases the more the value of the communication increases (Iyad Al-Husseini c 1, p. 30). That is, the purpose of the communication process is to communicate an idea, experience, concept, feeling, perception, design, or skill from one person to another, as it leads to a process of participation in these experiences or ideas, which causes one of the two parties to communicate affecting the other and this leads to a positive change Or perhaps negative in the behavior of the other. That is, this process leads to provoking a qualitative response for the recipient, the rest of the effect on him psychologically, mentally, behaviorally and tastefully, as this process aims to create an atmosphere of familiarity and agreement between the contact source (the designer) and the recipient through the message (the subject of the design). (Al-Abed, p. 18) .

The philosophy of the art of design revolves around the scientific method of thinking, the artistic approach to expression and the cognitive skill of the means of theoretical (perceptual and intellectual) theory. Whose essentials are how to communicate the information or idea designed to its acceptor or its user with complete clarity without disturbance or obstruction in understanding in terms of form, content, quantity and quality (Muhammad Reza, p. 14). Optical communication is considered as a means of conveying ideas and information in industrial products to the recipient through the communication elements in the design. They are the elements that the design message adopts in the process of its transmission from the designer to the recipient, and it is thus like any other visual message that has its basic components with the privacy of the functionality that this message performs.

#### **The sender or coding:**

It is the process that the sender performs and includes placing the idea in the form of a message, and the message consists of formulating words, pictures, and symbols in the form that can be broadcast. (Alaa Hashim, p. 19). It represents it in the art of design, designer, and also participates in the production process of design in the case of its extensive production in different fields of industry. The design process is the designer who requires to be aware with great care of the significance of his visual message as an idea that can be accepted by others on the social and cultural levels, and to what extent He can achieve the basic elements that affect the production and deepening of the suggestive meanings of his message, and the designer does not produce his design ideas according to whims that have no calculations but rather with his creative ideas, but he addresses an aesthetic problem and a job with a specific content or concept that requires needs To solve humanity.

#### **The Message:**

Means the information or directions that the caller wishes to transfer to others, and the message "the basis of the communication process" takes multiple forms, words, pictures, shapes, symbols, etc. (Majd Hashem, p. 32). The following specifications- :

- ✓ To be suitable for the purpose intended in its idea, shape, content and function.
- ✓ Be clear, easy to understand, and ambiguous, making it easy to accept.
- ✓ To be technically appropriate for the nature of the job that they perform (Iyad Al-Husseini, Part 1, p. 221).

#### **The future:**

It is the goal of the communication process, and by that we mean the party that receives the message (the recipient) who tries to understand the content of the content expressed in the communication message (Majd Hashem, p. 32). Advertising directed to a specific category must be understood in order for it to affect them, and the following characteristics are required in the good future:

To be good at listening, because it is the primary means of the correct understanding process, and that it is prepared to accept the message from a psychological and practical point of view. The circumstances surrounding it are appropriate to



receive the message, and the prevailing climate is suitable for the reception process. As well as being able to interact with the message it receives.

According to the interpretation work that takes place in the same recipient as a result of the response that is made between it and the design, it can be classified into three stages:

- ✓ The gustatory reception phase: which relates to the attraction towards the language of form and its visual effects, whether it relies on the instinctiveness of the idea or its radiance of the elements that make up the shape.
- ✓ Retrospective interpretation: in which the recipient decodes the form language in the design work according to its aesthetic and utilitarian vision.
- ✓ The stage of understanding and conviction: in which the final image of the design becomes fully visible, through which the recipient is convinced of the usefulness of the visual message that he received at the level of form, function and value.

#### **The most likely action:**

The reaction generated by the recipient as a result of receiving the message and its influence on it. The designer sender can measure the extent of this influence in the echo of the design that he accomplished. The recipient performs the design as a specific industrial tool or product. (Iyad Al-Husseini, Part 1, p. 222)

#### **Realization and communicative concept in industrial design.**

Meaning of cognition: Cognition is a word derived from Latin, which means access to knowledge, which is the process of knowledge and understanding and the production of knowledge, and the important thing here is the way people understand in giving meanings to the surroundings around them and how they know it (Saba Al-Badrai, p. 5). For this reason, cognition is the means by which a person communicates with his surrounding environment, as it is a mental process by which a person acquires knowledge of the outside world through sensory stimuli (Ismail Shawky, p. 53). Also, visual perception is a successive developing process, as its results of a situation are transformed into introductions that help improve perception and the breadth of its field (Ismail Shawky, p. 55). Perception in general depends on the sensory aspect, which is summarized by the presence of two important foundations:

- a) **Subject:** It shall be separate, varied and subject to time and place situations.
- b) **Self:** That living, sensitive human being, whose senses represent an important aspect of his physical being, so that he can direct it to the first pillar, which is the subject, so he can see it, touch it, or taste it.

The meanings and symbols that are included in mental structures are the value produced in terms of communication, then the interaction in mental vision with all its manifestations comes in the laws of collective mental flow, (Alaa Hashem, p. 190) from the faculties and obligations of mental or mechanical work in the pattern of social production and the standard that formulates Relationship systems and mental components.

#### **Theoretical framework indicators.**

The theoretical framework resulted in a set of indicators that are consistent with the objectives of this study, as part of it will be adopted in the analysis process, represented by the following- :

1. The Future is a study that aims to anticipate events and progress and prepare for them through tomorrow's prospects. And the emergence of future studies comes to confront the changes that include technology and science and its effects on all aspects of life.

2. The future is a science that aims to anticipate upcoming events, prepare for them and try to influence them, as well as develop better ways to think about the matters of tomorrow's world, and examine and study alternative methods and means to deal with a wide range of expected future conditions.

3. Innovation is a variety of coherent visions of the future, and it is an important factor for change, because its primary goal is development to meet future human needs to achieve the communication value resulting from the creative process.

4. The language of artistic form in design carries a high communication value, especially if it coincides with the creative idea in design, as the shape often carries its expressive symbols in design and announces its styles and methods through those blocks and spaces that it processes in a way that attracts attention and calls for comfort, admiration and luxury sometimes..

5. Innovation is a series of cumulative quantities of (technologies, technologies, etc.), and it is a multi-line and multi-faceted thought to meet the continuous need of humans.

6. That the relationship between industrial products and what is expressed embodies the relationship between symbols, signs, and the mark and what they symbolize in terms of meaning and meaning to reach in the aesthetic degree an impression that has an impact on the recipient or the consumer.

7. Visual thinking in creating a future vision for formal systems is thinking directed through forms in terms of their nature, components, relationships and their ability to change and develop.

8. That the system is the set of structural, formal, and technical elements, foundations, and relationships related to the basic idea that operate according to a specific mechanism to achieve the design goal.

9. Communication is the primary focus of human experience. It means exchanging all of the ideas and information that we find that include pictures and shapes such as words (or phrases), pictures, drawings, and different symbols, and that communication is a way to get closer to more information.

10. Perception is the means by which a person communicates with his surrounding environment. It is a mental process by which a person's knowledge of the outside world is achieved through sensory stimuli.

#### **IV. Research methodology**

The researcher adopted the descriptive approach in analyzing the sample, to describe and analyze the content of the sample as the appropriate method to reach reliable scientific results through the analysis of the sample in order to reach appropriate solutions to the research problem.

##### **study community:**

The research community includes future models with (default) design of European cars originating within the time limit exceeding 10 years.

##### **The study sample:**

The intentional sample was chosen according to the apparent formal characteristics that meet the aim of the research, and (3) different models were chosen in which the differences emerged according to the shape, material, and function, which represented the research community.

##### **Study tool:**

❖ Adopting the axes identification form for specifying the sample as a research tool in order to identify the characteristics and specifications of the research sample and then building the analysis form.

❖ The researcher relied on the continuous sessions on the Internet as a tool to collect information and future (virtual) pictures that helped the research in the process of describing and analyzing samples.

#### **Sincerity of the tool:**

For the purpose of ascertaining the appropriateness of the form for determining the axes of analysis and its validity, it was presented to a number of expert arbitrators who are experienced in the field of industrial and engineering design, and after expressing their views regarding the validity of the paragraphs and diagnosing what needs to be modified, they were agreed on the validity of the tool and the validity Paragraphs of the form.

Axes analysis form

- 1) The foundations of the general composition of the organization and the future vision.
- 2) Communication awareness of the design outcome.
- 3) Job performance and future need.

3 – 1 : Technical. , 3 – 1 – 1 : Career. , 3 – 1 – 2 : Aesthetic. , 3 – 2 : contact. , 3 – 2 – 1 : Aesthetic

3 – 2 – 2 : Expressive. , 3 – 1 : Career.

## **V. Sample analysis**

Model No. (1) sample type (car .. jet for 2020).

General Description

Type of vehicle: Supersonic.

Designer

name: Serbian designer Marko Lukovic

Year of production: expected 2020 - 2030.

Speed: The speed of the jet plane is close to that of the jet.

Battery type: Li-ion batteries

Number of wheels: three wheels.

Carload: The car contains only two seats, that is, it carries two people only.

Engine type: It features two electric rear drives for both rear wheels.



#### **Functional performance and future need:**

The efficiency of performance in this model results from the efficiency of the parts of the job performance and to meet future requirements and needs, by devising the designer to the role of each part of the job performance and employing it in a way that allows the technological capabilities to be established with each other in a distinct technical manner. This is due to the addition of parts that are effective in performing the final job, by having two electric motors behind each of the two rear wheels, in order to reach a high speed similar to the design of the jet aircraft. And then the designer used three wheels and this was a vision to move to the future and not to rely on four wheels as expected in the current designs and thus achieve a high level of functionality. Which represented the scientific application of the idea of job intensification at the performance level. The use of the designer also had a diversity in job performance, its role in achieving functional intensification due to the employment of less-consumption lithium-ion batteries and the small size of this battery is easy to

recharge easily just as in charging the mobile phone battery, which allowed the user to comfort, luxury and ease of use, which also increased in Promote the idea of career intensification in this model is the idea of the automatic leader, in order to achieve comfort, safety and well-being for the user and these are considered future visions that achieve human needs and requirements. Some parts of the car were reduced, either in the number of tires or the number of seats, as well as in the total size and weight of the vehicle.

The main role that technological development played in this model is to employ two electric motors behind each of the two rear wheels, and this was due to the technological and technical capabilities and applications that the technological development has enabled. And that is by employing the performance of the two engines in an integrated manner with the performance of the car to reach a high speed, which in turn represented a functional intensification in itself through the possibility that technological development enabled in employing the movement of the electric motors to reach the final performance of the car.

#### **The communicative potential of the output design:**

The communicative potential of the output design in the formal values of the exterior system of the car, we see it clearly in the effort presented by the designer to provide a model with a formative distinction, through the smoothness adopted in the design of the formal body of the car, and in the designer's transcendence of the considerations of the dependency of the job, which enabled him From adding proportional aesthetic values and future user aspirations to well-being. As for the perceptual perception that the user derives through the language of visual discourse with the model, it is limited to morphology. And through the smoothness and flexibility that was designed according to it, as the use of cold and neutral colors, and the glass that covers most of the body of the three-wheeled car to express the expressive values

that this car carries because of its complaints and its smooth lines that symbolize its high speed, which is similar in its design to the jet planes in order to enhance In the communicative potential of the design output at the phenotypic level, as this employment represented by scientific and technical simulations of the user requirements in aesthetic preference and taste. This increased the user's acceptance of the product.

Appearance has its role in promoting and adding a communication dimension at the sensory and interactive level, which is a key factor for user acceptance of the product. This is due to the flow that the designer adopted in the design of the model, and the use of appropriate colors, which in turn added aesthetic factors that may also be represented as one of the factors of user interaction with the model at the level of communication discourse.

Model No. (2) sample type (the future Mercedes car)

#### General Description

Car type:

Mercedes future car.

Manufacturer: Mercedes Corporation in Los Angeles

Year of production: expected 2020.

Carload: Only four people

Sample description: The car is 4040 mm long, 2500 mm wide, 1200 mm high and weighs only 394 kg, and it is a coupe that can accommodate four people

The car is of a very light material called BioFiber



Material type: an organic material that Mercedes says is much lighter than metal and plastic and stronger than steel.

Number of wheels: four wheels.

#### **Functional performance and future need:**

The strategy of intensification of employment in this model in terms of performance efficiency was good at the level of achieving the performance purpose, due to the design of a car with future materials with high efficiency and longer life in addition to diversity in job performance during use. The efficiency of performance in this model resulting from the efficiency of the parts of the job performance and to meet future requirements and needs, by devising the designer to the role of each part of the job performance and employing it in a manner that allows the technological capabilities to be established with each other in a distinct technical manner. And then the designer used an organic fuel they call him with waste from this fuel is oxygen and this was a vision to move to the future and not to depend on gasoline as is the case with current cars and thus achieve a high level of functionality. Which represented the scientific application of the idea of job intensification at the performance level.

Since the material from which this model was designed is a very light organic material called BioFiber that it is much lighter than minerals and plastics and stronger than steel, it further strengthened the idea of functional intensification. As for the formal reduction, we did not notice any type of formal reduction, whether the reduction was in the external system i.e. Al-Zahri or in the internal system.

As for the main role that the technological development in this model played in employing an organic material in the design of the car, this material is very light, it is called BioFiber, it is lighter than metal and plastic and is stronger than steel, and this was due to the technological and technological capabilities and applications allowed by it. The technical development in relying on this model on organic fuels they call with the residues of this fuel is the oxygen, which in turn represented a technical development in itself through the possibility that technological development enabled in the employment of this material in the manufacture, design and performance of this model with high specifications compatible with the stable visions Him to reach the final performance of the car.

#### **The connectivity of the outcome design:**

The realization of the idea of the connectivity of the output design in the external system of this model was derived from the flow and flexibility adopted by the designer, which in turn achieved an important factor in achieving the formal, aesthetic and expressive values to achieve future visions at the phenotype level. Hence the variance of perceptual values received as a result of the designer using color values attributed to the neutral colors (white and black), which achieved attracting the user's attention, due to the distinctive employment of them, which added values of apparent diversity that were proportional and the idea of enhancing and establishing the communicative potential of the model on The level of formal, aesthetic and expressive values of the external system, due to innovation and creativity, to arrive at modern methods of forming new formal systems that are compatible with future visions of design systems. And the other side that represented an important factor in the communicative potential of the model, is the communication function by which the designer achieves an element of user attraction where the designer used a very light material that it is lighter than metal and plastic and stronger than steel called (biofiber) and this use was a vision to move to the future in addition To the car glass that covers the top of the car in an unconventional style, contrary to what is usual in the current traditional designs, which represented a dynamic dimension and then aesthetically, as a result of the design potential in creativity and innovation in the new formal systems, which contributed to Achieving user

comfort requirements, in addition to the requirements of performance utilitarianism and aesthetic taste. And affirming that the values of artistic creativity, user considerations and aesthetic requirements and communication function are the first factor in the design of industrial products. Appearance has its role in promoting and adding a communication dimension at the sensory and interactive level, which is a key factor for user acceptance of the product. And that is due to the flow that the designer adopted in the design of the model, and the use of appropriate colors, which in turn added aesthetic factors that might also represent being one of the factors of user interaction with the model at the visual discourse and perception of the model.

Model No. (3) sample type (capable vehicle 2020)



#### General Description

Vehicle type: Future car capable car.

Designer name: Zhi Min Lin

Year of production: expected 2020

Carload: A private car for one person.

Description of the car: In terms of the design of the vehicle, it is based on four arms at the end of each wheel, adapted to the ground, and can adapt to the nature of the environment that the car is running on.

Number of wheels: four wheels.

#### **Functional performance and future need:**

This model represents, in terms of job performance, the diversity required to achieve a strategy of career intensification. And that is by owning many of the ingredients of the achieved performance. This is done by designing the model function in an organizational manner, allowing for each part of the job performance to have a distinct role in the performance of the final job, due to the diversity adopted in the design of its structure in which the process of intensification is established, through the high capabilities that the car performs. As the designer reduced the dependence of one part on the other in performing the job, which allowed the product to be functional and achieve the objectives of the idea of enriching the design.

The use of tires adapted to different conditions and lands in the base of the model had its distinctive role in achieving efficient performance, scientific representation and functional intensification, because of its distinctive role in conducting processes of differing system of tire twins according to the nature of the land and followed in achieving this addition of the four arms that enable the car to walk On paved roads and even on walls, mountains or forests and ice, which in turn is another step to enhance the functional intensification of the model, and also we note the functional reduction in the model through the size and weight of the car in addition to the reduction in the car parts, whether these parts Aesthetic,

complementary, or functional, as evident in the traditional models currently in circulation for the purpose of establishing functional shorthand.

As for the main role that the technological development played in this model is in employing four arms at the end of each wheel adapted to the ground and can twins with the nature of the environment or the nature of the road the car is running and this technology represented a distinctive technology dimension through pluralism in job performance through a difference The system of tire twins according to the nature of the road, meaning that the frame takes different forms as shown in the figures shown according to the type and nature of the earth and these depend on the advanced technical method and on smart and advanced materials and through finding the latest methods in the processes of linking between different materials and according to the vision and Future needs to enhance the functionality and to attract the user's perspective.

#### **The connectivity of the outcome design:**

The communicative potential of the output design of this model is the distinctive design of the exterior body of the car, and the designer's departure from everything that is traditional and familiar, through the structural design in which it relied on containing the functional and performance parts of the car through this configuration It generated a sense of imbalance compared to what it was in previous designs, which the recipient may derive at first sight. However, when giving the model another look, we see that the designer generated a sense of balance through symmetrical and asymmetric repetition in the composition of the overall shape of the car, which the designer wanted by introducing some new formal systems that fit in with the future vision of the model to enhance the ability or communicative potential in the formative, aesthetic, and expressive value The model, the user, or the recipient has the thing that generated a dynamic and then aesthetic dimension that contributed to the achievement of formal, aesthetic and expressive values in the design outcome.

Another thing that enhances the communication potential of the design product or model is the enhancement of the communication function of the model for the purpose of attracting the recipient's view through the future vision of the model in achieving future needs through the multiple functions that the capable car can perform, which achieves an element of attraction for the recipient through future functions that The car performs in achieving the appearance and performance values in the external system or the external structural structure.

The other factor that established the communication function in the external system is the treatment that the designer undertook to reduce the sense of familiar traditional designs and to change their appearance in some form according to the model and technological development, except that the attraction component achieved in this model due to the performance function of the model that has established a role value of the job The communication between the model and the recipient or user, which increases the possibility of the consumer going to the product.

#### **The results of the analysis.**

The researcher reached, through the analytical procedures of the sample of the research sample, the following results:

1) That the use of diversity in the performance of the job to achieve job intensification at the level of the internal system was achieved in the models (1,2,3), despite the difference in job performance in the different models because each model has its own specificity and functional performance.

2) The morphological reduction strategy at the phenotypic level was well realized in the models (1,3). Through reduction, whether in the internal system or in the external system, the reduction was in the number of tires as in the sample (1) or in the number of seats as well as in the complementary and appearance parts as in the two models (3,1) while the model number (2) appeared with a modest reduction strategy Very on the phenotype.

3) The technical development achieved its distinguished role at the phenotypic level in the models (3,2,1), which had aesthetic capabilities and high technical employments that fit the future visions of all models.

4) That the use of future materials on the level of job performance and future visions and on the appearance level was achieved and at a high level in all models.

5) That the use of materials at the level of perception and communication ability of the user to interact with the models at the phenotypic level was achieved in all models.

6) The components of the morphological value at the phenotypic level were well achieved in the models (3,2,1). Through the introduction of some new systems, which is compatible with the future vision to enhance the communication ability in the formal value between the user and the model.

7) The use of future materials in a technical manner had an effective role in achieving aesthetic values at the phenotype level, which was achieved by a high level of verification and in all models (3,2,1).

8) The aesthetic value has achieved a high percentage of verification at the level of visual discourse and communication ability in all models (3,2,1) for the effective role of the technical method to show the aesthetic value through the modern technical method in the use of raw materials or in systems and design relationships with a future vision that meets human needs And check the attraction of the user.

9) The communication function achieved a high percentage on the level of communication potential and the level of visual discourse between the recipient and the user, and in all sample models (3,2,1) at the level of perceptual and emotional awareness through the aesthetic values used or functional that would excite the user during the interactive process Between the user and the recipient.

10) The expressive value achieved a high percentage of the verification due to the verification of both the formal and aesthetic value in all models (3,2,1) at the level of communication potential between the recipient and the user.

## VI. Conclusions

The diversity technology in job performance represented the primary role in raising the value of the product function and its communication performance at the level of visions and future needs, to achieve user satisfaction with the product that represents his job performance and the achieved diversity in order to achieve his desires and future needs in comfort and well-being.

1) The process of achieving a functional intensification strategy at the level of formal and phenotypic values is represented by the distinctive deduction of the user's desires in aesthetic values and gustatory preferences, to achieve values of formal and functional beauty commensurate with his desires and future aspirations, which are among the important and fundamental factors in raising the communication capacity of the product for the purpose of attracting attention receiver.

2) The considerations of aesthetic, formal and expressive values had their actual applications in the design of models, due to technological and technical development in the performance act and performance efficiency, to override the design all the traditional frameworks in design, and its dependence on future visions to achieve user interaction with the product.

3) The employment of the functional components of the functional performance strategy of the models and their communicative ability were due to the distinct organization of the parts of the job performance in the internal system, and for the designer to develop outstanding performance considerations to achieve the final job in a way that is compatible with future visions.



4) The practical application of technological development and the technical style in the design of model functions emerged, due to the future vision of the design systems for the performance process in the sample models, and for the design's reliance on unconventional performance capabilities and to include new technological employments that would represent performance diversity and high communication capacity between the user and the product.

5) Using the advantages of technology development to activate an increasing range of aesthetic, formal and expressive values of the external system, by employing technological developments to develop technical and productive technical methods and future visions, to ensure that the maximum requirements of taste, proportionality and future needs of the user are presented in the well-being. To enhance the product's communication functionality.

## VII. Recommendations

In light of the results of the research, the study came out with a number of recommendations:

1) Finding new materials to be used in the production of internal functional performance parts that are compatible, lightweight, small in size and with a high communication capacity that fits into future visions.

2) Developing sophisticated technical treatments through which the future visions of human needs can be realized, allowing the product to be used more easily within the user's knowledge and deliberative capabilities to enhance the product's communication function.

### The proposals.

This study is an appropriate beginning for more comprehensive studies in the field of design, and based on the above, the researcher suggests the following- :

1) Carrying out a specialized and accurate study on smart materials, their suitability with future needs and their effectiveness to achieve the product's communication capacity.

2) Carrying out specialized studies on organic fuel and its efficiency in future designs.

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