

Innovating Garment Designs from the Egyptian Heritage by Using Tambour Technique in Dior's Work

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ABSTRACT

Due to the scarcity of studies and research that deal with the tambour tool, which is used in implementing amazing embroidery designs that combine threads, sequins and beads, which decorate dresses in haute couture fashion shows, the research problem came about in the importance of shedding light on this tool so that fashion designers can form an intellectual reserve when studying the works and methods of fashion houses, which enables them to translate, reformulate and employ them artistically in their design proposals. This study aims to create modern designs for women's outerwear in line with the customs of Egyptian society, targeting both local and international markets, and inspired by Dior's Ready to wear Spring/Summer 2021, 2022 and 2023. Decorative units inspired by the Egyptian heritage (Upper Egypt, North Sinai and Siwa), using the tambour needle in its implementation. Accordingly, (10) techniques were prepared, then (31) clothing pieces (vest and jumpsuit). The study utilized the descriptive and applied approach, and the proposed techniques and designs were presented to a group of specialized professors from a questionnaire form for specialists. Each questionnaire contained 13 phrases across three axes, while the proposed designs had 14 phrases across three axes. The findings indicated that the implemented pieces were Number (2), No. (21) and No. (25) obtained the top score in the mean calculation.

1. Introduction

Inspiration in design is considered one of the most important topics that must be given attention to and studied scientifically and artistically for many reasons, including that it is one of the basic drivers of design processes and arts of various types. It is considered a fertile source of inspiration in fashion design, [1-4] and the art of decoration increases the value of clothing pieces and gives them elegance using embroidery [5-11].

Bead embroidery is a form of embroidery. There are three basic methods of bead embroidery, one of which is passing several beads through a needle before passing through the fabric.[7] This technique is known in Europe today as tambour or Lunéville and is commonly used to decorate high-end clothing. In India, it is known as aari.[10] Tambour embroidery is a very old technique and is believed to have originated in India in the 17th century [9]. It eventually reached Europe in the 18th century, where the technique became known as tambour embroidery [3]. In the late 19th century, beads and sequins were added [8]. By the beginning of the 20th century, tambour embroidery

became more of a choice for leading European fashion designers [4]. Today, it is widely used throughout the haute couture houses of Paris [12-14]

The importance of the research lies in Enriching the field of embroidery by learning about a new style (tambour) due to its precise and fast effects compared to traditional embroidery techniques and benefiting from it in clothing and contributing to raising the level of taste in clothing production by presenting innovative models and designs characterized by high artistic taste and contributing to documenting the Egyptian heritage to preserve the Egyptian identity.

The Research plan includes a set of integrated stages: First Stage: Investigation and information gathering stage. In this stage, the available pieces of knowledge and information about the research topic are collected, the most important of which are: Firstly: Introduction to the Study of Tambour Embroidery, designing clothes using the haute couture style, Using the tambour in Dior's works, Decorative units in the governorates of Upper Egypt, North Sinai, and Siwa. Secondly: Applied Framework, finally: Results and Discussion

2. Review of literature:

2.1. Tambour embroidery:

Embroidery is the art of decorating with stitches on fabric or similar materials using a sewing needle and thread [15-17]. The tambour embroidery tool consists of a wooden handle and needle with small hook. The needle comes in different sizes: 70, 100, and 120 [10]. The different sizes of the needles provide variety in the use of threads of different thicknesses [8]. Tambour embroidery is used with light fabrics such as chiffon, tulle, organza, silk, and lace. It is also used with linen and leather. Suitable threads are metal threads, dmc mouline cotton threads, and synthetic threads. Many beads can also be used, including bugle beads, glass beads, and other materials such as sequins and rhinestones. [6, 13].

Many techniques can be done with the tambour needle like Standing Seed Beads Loop, Looped Fringe, Stem Stitch in Seed Beads, Basket weave with Seed Beads, Seed Beads over padding, Standing Bugle Beads, Sequins Leaning on Beads, Vermicelli for Beads and Sequins, Radiating Lines, Novelty Sequins techniques. [6].

2.2. Dior and Tambour needle:

Dior is one of the most famous French fashion houses during the twentieth century, which was able to leave a clear mark in fashion design and its name became synonymous with elegance and creativity [2]. Dior used the tambour needle in his haute couture collection, using different types of beads and sequins, as well as different materials such as tulle, satin and organza. [12-19].

3. Experimental:

The fashion collection is intended to align with the Spring / Summer 2021, 2022,2023. Designs were adopted of the Women's Trend S/S 21,22,23 according to Dior's ready-to-wear collection. The trends focus on the feeling of

comfortable, optimistic, and power, also focused on striped clothing, smoking art, ruffles, kimono style, fringes, pleats and coats, also used Patterned fabrics like floral designs, paisley motifs, birds, animals, geometric shapes, Paris map designs, also used light weight sheers fabric, nylon, scuba, cotton, jeans and also strong colors were used such as yellow, orange, pink, blue, green and dark blue. As shown in Figure 2

The collection in the research is inspired by Egyptian heritage (Upper Egypt, North Sinai and Siwa). The strong colors were chosen to be the dominated in the collection. Linen fabric, tulle, and Gabardine were used. As shown in Figure 1.



Fig. 1. Egyptian heritage (Upper Egypt, North Sinai and Siwa) and its implement by tambour needle



Fig. 2. Women's Trend S/S 21,22,23 according to Dior's ready to wear collection

3.1. The designs of the fashion collection were divided into three design lines which are as follows:

- **First designs line** were inspired by Dior's ready-to-wear designs and employed the embroidery motif executed with a tambour needle and inspired by the Siwa decorative unit (pin).As shown in Figure 4



Fig. 3. Siwa decorative unit (pin)



Fig. 4. Designs inspired by the Siwa decorative unit (pin).

- **Second designs line** were inspired by Dior's ready-to-wear designs and employed the embroidery motif executed with a tambour needle and inspired by the decorative unit of Upper Egypt (Assiut) (palm tree).As Shown in Figure 6



Fig. 5. Upper Egypt (Assiut) decorative unit (palm tree)



Fig. 6. Designs inspired by the decorative unit of Upper Egypt (Assiut) (palm tree).

- **Third designs line** were inspired by Dior's ready-to-wear designs and employed the embroidery motif executed with a tambour needle and inspired by the decorative unit of Siwa (Palm frond). As Shown in Figure 7

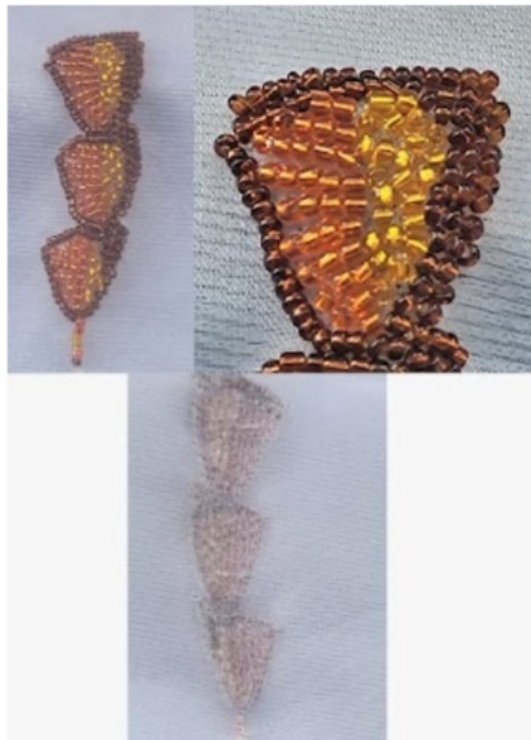


Fig. 7. Siwa decorative unit (Palm frond)



Fig. 8. Designs inspired by the decorative unit of Siwa (Palm frond)

3.2. Applying the chosen designs:

A design was chosen from every fashion line in the collection to be executed, and the following steps were followed in implementation:

- Preparing the pattern of the garment and cutting it (body and lining) and assembling the front body cuts.
- The location of the technique used is determined and drawn first on the pattern in the required proportions, then transferred to the garment with carbon fabric or a thermal pen (on the back of the garment). As Shown in Figure 9.
- The piece is stretched on the hoop and the process of fixing the beads begins using a tambour needle using a transparent nylon thread so that the thread does not appear on the piece from the outside, after choosing the appropriate technique for the shape, colors and types of beads. As Shown in Figure 10
- Then the hoop is removed after finishing the embroidery, then the sewing of the executed piece is completed.



Fig 9. Thermal pen and carbon fabric [13] [14]



Fig 10. Nylon Thread and Tambour Needle

3.2.1. First outfit (Design no.2)

The material is gabardine, small seed beads were used and the stem technique was used. As Shown in Figure 11

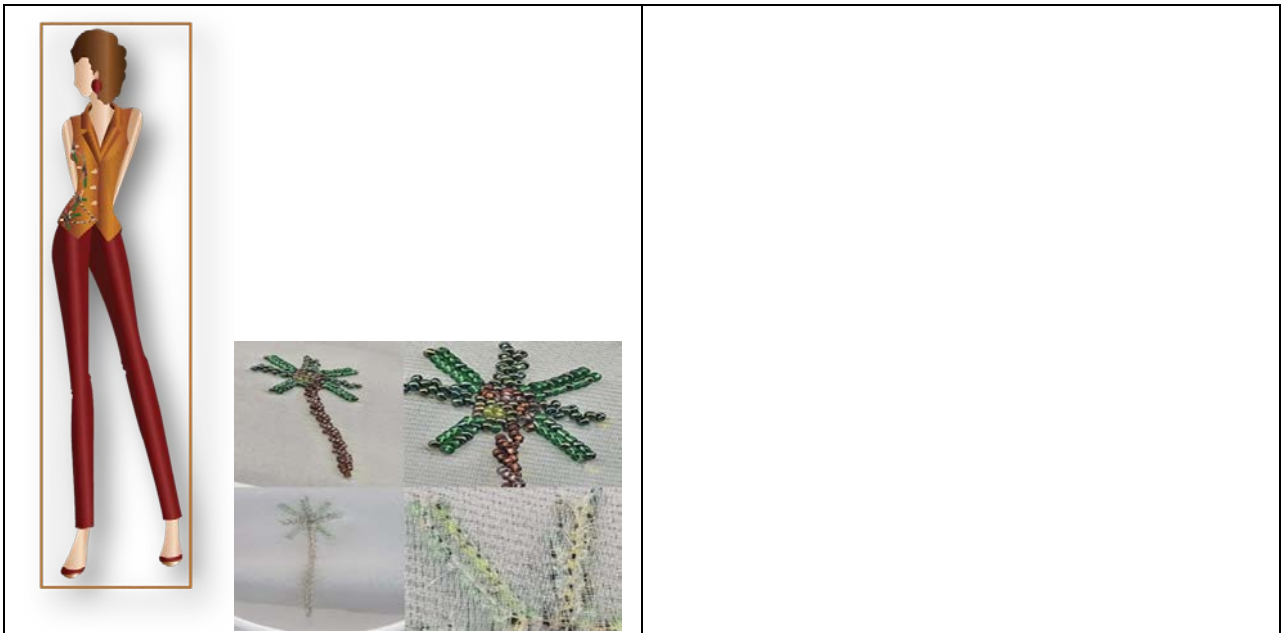




Fig. 11. First outfit

3.2.2. Second outfit (Design no.21):

The material is tulle and linen, and sequins and seed beads of different sizes were used, and the sequin technique was used on beads. As Shown in Figure 12

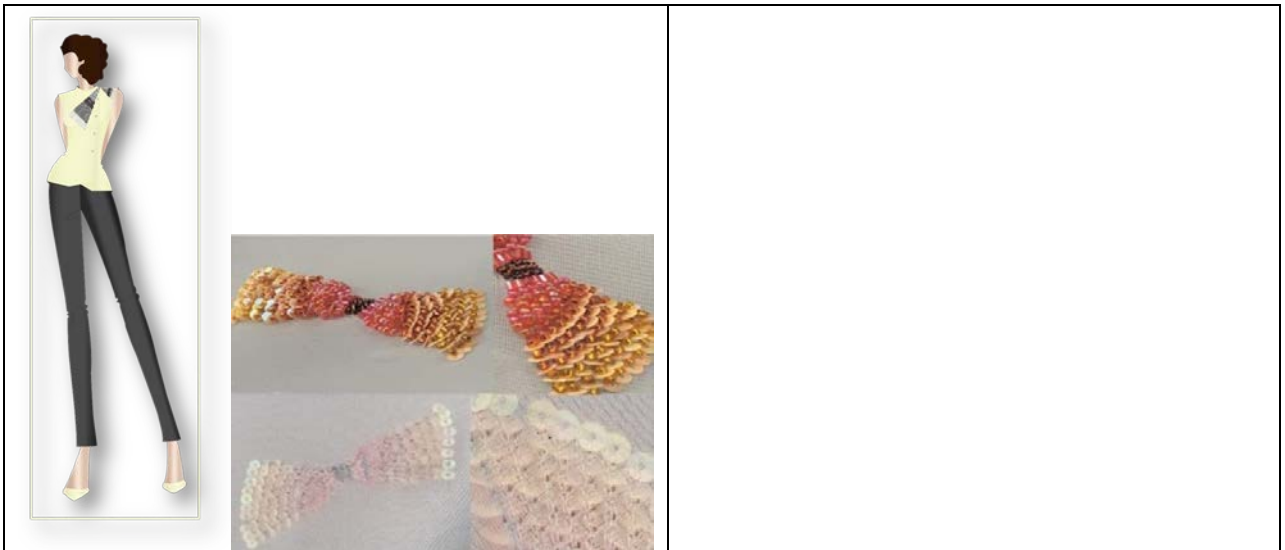




Fig. 12. Second outfit

3.2.3. Third outfit (Design no.25):

The material is linen and small seed beads were used and the closed vermicelli technique was used for the beads. As Shown in Figure 13



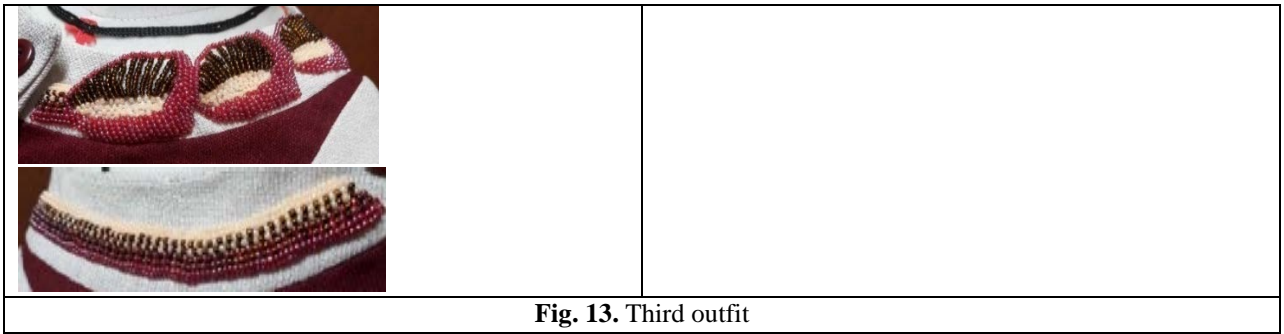


Fig. 13. Third outfit

4. Statistics and Analysis:

The study presented a questionnaire form for the techniques of tambour embroidery and a questionnaire for the proposed designs to a group of arbitrators in the field of ready-made clothes. The number of arbitrators whose opinions were surveyed was (23) faculty members. The arbitrators evaluated the techniques of tambour embroidery and the proposed designs by determining the suitability of the items in the arbitration form. The study downloaded the data onto the computer and analyzed it using (SPSS) programs to measure the stability of the questionnaires by means of the Cronbach's alpha coefficient and the split-half method and to calculate the validity of the tool and to calculate frequencies, percentages, arithmetic means, and standard deviation degrees and to know the relationships, correlations, and differences between the study variables and to analyze the variance to know the significant differences and the level of significance using A one-way analysis of variance (ANOVA).

Table 1. Stability of the questionnaires (Tambour Techniques and Proposed Designs)

Questionnaire	Tambour Techniques	Proposed Designs
Cronbach's alpha	0.996	0.99
Half-split	0.999	0.999

Table 2. Correlations. (Tambour Techniques and Proposed Designs)

Tambour Techniques				Proposed Designs			
	Question items	Correlation coefficient	Function level		Question items	Correlation coefficient	Function level
Innovation axis				Innovation axis			
1	Achieves design elements	0.996**	<0.001	1	Achieves the design principles	0.997**	<0.001
2	Achieves the design principles	0.997**	<0.001	2	Achieves the design elements	0.998**	<0.001
3	achieves the relationship of part to part.	0.978**	<0.001	3	Achieves the relationship of part to part.	0.999**	<0.001
4	achieves the relationship of the part to the	0.995**	<0.001	4	achieves the relationship of the part to the whole.	0.996**	<0.001

	whole.						
5	Achieves originality, flexibility and novelty in design	0.980**	<0.001	5	Provides new innovative solutions	0.999**	<0.001
Tambour tool axis				Dior axis			
1	Technique-to-material compatibility	0.995**	<0.001	1	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion cuts?	0.998**	<0.001
2	Stitch setting accuracy	0.993**	<0.001	2	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion fabrics?	0.999**	<0.001
3	Beads and sequins fit the stitch.	0.990**	<0.001	3	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion decorations?	0.997**	<0.001
4	Suitability of needles used for threading	0.989**	<0.001	4	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion silhouettes?	0.999**	<0.001
Egyptian Heritage Axis (Upper Egypt, Siwa and North Sinai)				5	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion structure?	0.996**	<0.001
1	Reflects Egyptian heritage	0.994**	<0.001	The axis of the relationship between the part (technology) and the whole (clothing)			
2	Achieves the principles of heritage	0.994**	<0.001	1	The relationship of the part to the whole in terms of color.	0.996**	<0.001
3	Achieves the elements of heritage	0.998**	<0.001	2	The relationship of the part to the whole in terms of texture.	0.997**	<0.001
4	Reflects the heritage formulation of fashion	0.990**	<0.001	3	The relationship of the part to the whole in terms of details.	0.999**	<0.001
				4	The relationship of the part to the whole in terms of External appearance.	0.996**	<0.001

Table 3. Percentages, arithmetic means, and standard deviation degrees. (Tambour Techniques)

	Question items	do not agree at all	Don't agree	acceptable	Some what agree	Strongly agree	Arithmetic mean	Standard deviation
Innovation axis								
1	Achieves design elements	2.3%	7.7%	0	45.4%	44.6%	4.2	0.39
2	Achieves the design principles	2.3%	11.5%	0	39.2%	46.9%	4.1	0.43
3	achieves the relationship of part to part.	2.3%	4.6%	0	43.8%	49.2%	4.3	0.38
4	achieves the relationship of the part to the whole.	2.3%	6.2%	0	40.8%	50.8%	4.3	0.4
5	Achieves originality, flexibility and novelty in design	2.3%	10%	0	43.1%	44.6%	4.1	0.4
Tambour tool axis								
1	Technique-to-material compatibility	2.3%	6.2%	0	46.2%	45.4%	4.2	0.35
2	Stitch setting accuracy	1.5%	6.2%	0	41.5%	50.8%	4.3	0.37
3	Beads and sequins fit the stitch.	0%	4.6%	0	48.5%	46.9%	4.3	0.24
4	Suitability of needles used for threading	0%	5.4%	0	43.8%	50.8%	4.4	0.29
Egyptian Heritage Axis (Upper Egypt, Siwa and North Sinai)								
1	Reflects Egyptian heritage	0.8%	8.5%	0	46.9%	43.8%	4.2	0.36
2	Achieves the principles of heritage	0.8%	9.2%	0	45.4%	44.6%	4.2	0.37
3	Achieves the elements of heritage	0.8%	6.9%	0	53.1%	39.2%	4.2	0.38
4	Reflects the heritage formulation of fashion	1.5%	6.2%	0	55.4%	36.9%	4.2	0.41
Overall average							4.2	0.32

Table 4. Percentages, arithmetic means, and standard deviation degrees. (Proposed Designs)

	Question items	do not agree at all	Don't agree	acceptable	Some what agree	Strongly agree	Arithmetic mean	Standard deviation
Innovation axis								
1	Achieves the design principles	2.3%	9.7%	0	43.9%	44.2%	4.1	0.3
2	Achieves the design elements	2.9%	7.7%	0	44.5%	44.8%	4.2	0.35
3	Achieves the	3.2%	11.9%	0	44.2%	40.6%	4	0.35

	relationship of part to part.							
4	achieves the relationship of the part to the whole.	2.6%	10.3%	0	50.6%	36.5%	4	0.37
5	Provides new innovative solutions	2.9%	12.3%	0	46.8%	38.1%	4	0.35
Dior axis								
1	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion cuts?	2.3%	7.4%	0	57.7%	32.6%	4.1	0.33
2	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion fabrics?	1.6%	8.4%	0	56.5%	33.5%	4.1	0.36
3	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion decorations?	2.3%	7.7%	0	54.8%	35.2%	4.1	0.36
4	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion silhouettes?	2.6%	6.5%	0	58.1%	32.9%	4.1	0.36
5	How much does the proposed design match Dior's Spring/Summer 2021, 2022 and 2023 fashion structure?	2.3%	7.4%	0	58.4%	31.9%	4.1	0.35
The axis of the relationship between the part (technology) and the whole (clothing)								
	The relationship of the part to the whole in terms of color.	2.9%	9.7%	0	49.7%	37.7%	4	0.39
	The relationship of the part to the whole in terms of texture.	1.9%	9.7%	0	51%	37.4%	4.1	0.31

The relationship of the part to the whole in terms of details.	1.9%	8.1%	0	54.8%	35.2%	4.1	0.35
The relationship of the part to the whole in terms of External appearance.	2.6%	5.8%	0	54.2%	37.4%	4.2	0.34
Overall average						4.1	0.34

Table 5. Ranking of proposed tambour techniques by arithmetic mean

Suggested Samples	1	2	3	4	5	6	7	8	9	10
Arithmetic mean	60.1	55.6	53	51.8	58.7	57.6	50.4	59.9	49	58.4
Standard deviation	6.7	7.7	9.7	12	6.9	8.6	11.8	7.5	16.4	8.2
Arrangement	1	6	7	8	3	5	9	2	10	4

Table 6. Ranking of proposed design by arithmetic mean

Suggested Designs	1	2	3	4	5	6	7	8	9	10	
Arithmetic mean	61.9	64.2	57.3	54.4	59.5	57.2	58	54	56.3	51.4	
Standard deviation	6.87	8.8	8.78	12.2	11.3	12.6	16.9	12.3	14.7	6.9	
Arrangement	5	1	16	26	12	18	14	28	21	7	
Suggested Designs	11	12	13	14	15	16	17	18	19	20	
Arithmetic mean	60.7	54.3	57.2	51.7	59.1	57.4	57.2	48.3	57.1	59.5	
Standard deviation	7.6	14.1	12	6.99	10.7	17.3	13.7	19	8.3	7	
Arrangement	10	27	17	6	13	15	19	30	20	11	
Suggested Designs	21	22	23	24	25	26	27	28	29	30	31
Arithmetic mean	63.4	55.5	62.7	53.7	63.2	54.6	55.5	61	45.5	56	60.9
Standard deviation	7	17.3	7.3	15.8	7.9	12.5	12	10.3	18.9	15.2	7.8
Arrangement	2	24	4	29	3	25	23	8	31	22	9

Table 7. Variance (Tambour Techniques and Proposed Designs)

Total	Between groups		Within groups		Total	
	Tambour Technique	Designs	Tambour Technique	Designs	Tambour Technique	Designs
Sum of Squares	11.541	27.141	70.817	214.291	82.358	231.432
Mean Squares	1.282	0.905	0.590	0.768		
Degrees of Freedom	9	30	120	279	129	309
Value (f)	2.173	1.178				
Significance	0.028	0.246				

5. Research Results:

The research concluded with a set of results:

1- From Table (1), it is clear that the value of the Cronbach's alpha coefficient is equal to 0.996 in the technique's questionnaire and 0.99 in the design's questionnaire, which is a high value that indicates the stability of the answers of those included in the study.

2- From Table (2), it is clear that the correlation coefficients between the scores of the statements (13) ranged between 0.978** and 0.990**, and all of them are significant at the level of <0.001, which indicates their validity in measuring what they were designed for. (In the techniques questionnaire), and the correlation coefficients between the scores of the statements (13) ranged between 0.996** and 0.999**, and all of them are significant at the level of <0.001, which indicates their validity in measuring what they were designed for. (In the design questionnaire)

3- From Table (3) and Table (4), it is clear that the technology evaluation questionnaire, which included 13 paragraphs, showed that the arithmetic averages of the paragraphs ranged between (4.4,4.1) degrees and a standard deviation of (0.43, 0.24) and an overall average of the paragraphs amounted to (4.2) and a general standard deviation of (0.32), which includes a high degree of achievement. It is also clear that the design evaluation questionnaire, which included 14 paragraphs, showed that the arithmetic averages of the paragraphs ranged between (4.2, 4) degrees and a standard deviation of (0.39, 0.3) and an overall average of the paragraphs amounted to (4.1) and a general standard deviation of (0.34), which includes a high degree of achievement.

4- From Table (5) and Table (6), it is clear that sample No. (1) came in first place, sample No. (8) came in second place, sample No. (5) came in third place, while design No. (2) came in first place, design No. (21) came in second place, and design No. (25) came in third place.

5- From Table (7), through the one-way variance analysis table, we conclude that there are statistically significant differences between the average scores of the proposed tambour techniques in the questionnaire as a whole. From the one-way variance analysis table, we conclude that there are no differences between the average scores of the proposed design techniques in the questionnaire as a whole.

%84%D9%8A%D8%AF%D9%88%D9%8A%D8%A9-%D9%88 %D9%83% D9% 88 % D8%B1%D8%B3-%D9%85%D8%AC%D8%A7%D9% 86%D9 %8A-% D9 % 84 %D8 %AA%D8%B9%D9%84%D9%85%D9%87/details. (Saturday-August 24,2024,5 PM)

[18] <https://www.tribune.ca/a-e/dior-exhibit-highlights-the-simple-extravagance-of-post-war-haute-couture-04072021/>. (Saturday-August 24,2024,5 PM)

[19] <https://www.rebeccagomesferenczi.com/dior-savoir-faire>.(Saturday-August 24,2024,5 PM)