



## A Situation Analysis of the Design, Construction Characteristics and Manufacturability of Ottoman Palace Furniture in the Western Influence

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### Article Info

Received: 21/10/2021  
Accepted: 23/11/2021

### Keywords

Design,  
Original,  
Turkish Furniture,  
Construction,

### Abstract

In this study, it is aimed to reveal the opinions in relation to the design, construction characteristics and manufacturability of Ottoman Palace Furniture in the Western Influence belonging to academicians in the relevant departments of the relevant universities who work in Ankara and Istanbul, branch teachers of furniture and interior design who work in vocational and technical Anatolian high schools in these cities, and employees from every stage in companies at furniture sector in these cities. This research in which quantitative and qualitative research methods are conducted together was concluded by "mixed research" method. 726 people who were selected randomly from the relevant working group participated in the survey developed within the scope of quantitative research method, and data of the obtained results was evaluated by SPSS program. 30 people in total, 10 people from each occupational group who are volunteer to participate in the study in the same sample group participated in the quantitative research method, and obtained results were analyzed by content analysis. It was determined according to the study results that the original Turkish furniture is not known in the world markets, it is essential to explore self-values for the furniture design having the identity characteristics of a specific culture, and to examine and evaluate thoroughly the self-culture, and courses related to furniture history are regarded as slightly enough in comparison with the courses related to furniture design in universities and vocational and technical Anatolian high schools, and if furniture which reflects traditional Ottoman/Turkish identity are placed on the market, they will be demanded. It was observed that massive engravements, inlaid, marquetry and turning methods were applied particularly for Ottoman palace furniture in the Western influence, and pearl, shield, ivory, brass decorations, patterns and herbal motives were used. It has been determined that the wooden parts of the furniture are generally tenoned, doweled, and jointed with each other as a construction, and casein, gluten or blood glue are used as glue in adhering the wooden parts to each other, and the upper surfaces of the wooden pieces and furniture are polished with French polish.

## 1. INTRODUCTION

It is a common knowledge that human beings have been living on earth for more than six million years. People spread around the world in the process of time and developed many skills in the new places they went. The origins of humans and the global spread of homosapiens may be interesting to us. They have made progress further as they have evolved and improved their skills. Humanitarian development has accelerated and modern humans have been able to migrate to new areas of the world after the climate change [1,2].

The life of human societies has become more and more sophisticated under the influence of increasingly complex arts and rituals. The start of the processing of wood and metal has led to great changes. It is known that the first humans expressed themselves in an artistic way until 30,000 years ago. Cave

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paintings in France are among the oldest examples of art. It is known that the first large settlements in the center of Turkey were in Gobekli Tepe in 12000 BC and in Catalhoyuk in 9000 BC [3].

In recent centuries, developments in social and democratic values as well as technological developments, are as essential as professional formation information for furniture designers and manufacturers and should be taken into account [4].

The role of furniture art history in the history of art should be considered as the science that explains the stages of furniture through the ages and the major changes it has undergone during these stages. Because there is a meronymy between the art of architecture and furniture. In other words, furniture is an equipment tool, an accessory of architecture, especially interior architecture. Therefore, in the examination of the development of furniture through the ages, architectural styles that directly affect it should be included as much as necessary [5].

Throughout history, people have used furniture in their homes, and they have reflected the spirit, fashion and technology of the time to their places and furniture. Although there is a combination of technical knowledge, experience, observation and intuitive judgments in the furniture design discipline, this systematic design study is not always a guarantee of good design. Furniture designers should have full knowledge of the basic design elements and principles and use these principles in the artistic dimension of their designs [4].

Furniture is an item that is placed subsequently in order to establish the interior order of the buildings and meets various requirements. Furniture is independent and movable pieces as well as there are some identified types. It makes easy the daily practical life by sitting, eating, sleeping, writing, and storing stuffs for the apparent use of furniture [6]. It is observed that many production methods are used in furniture production, from various crafts in the ancient times to the mass production process today [7].

The use of goods went through various stages in the period of about six centuries, from the establishment of the Ottoman Empire in the 13th century to the end of the 19th century, when the influence of westernization prevailed. It is necessary to examine the concept of furniture in Turkish people as a place and an accessory element from tents to houses, houses to palaces, palaces to religious buildings. The new regime and economic relations adopted by the state throughout the 19th century required to a new infrastructure and places in the city centers [8]. Examining the design and construction features of Ottoman Palace furniture under the influence of the West has not found the place and value it deserves in the literature in terms of engineering.

The general purpose of this research is to determine if there is a perception of Traditional Ottoman/Turkish Furniture, a perception of Original Turkish Furniture over the furniture used in the palaces, pavilions and mansions used by the Ottoman state, which started with Topkapı Palace and ended with Dolmabahçe Palace, Beylerbeyi Palace and Yıldız Palace, and to reveal the information and opinions related to the design and aesthetic evaluations, material and construction properties, and the manufacturability of the furniture used in the late Ottoman palaces.

## **2. METHOD**

### **2.1. Research Model**

This research, which examines the design, construction features and manufacturability of Ottoman palace furniture under the influence of the West, and aims to describe in line with the opinions of relevant academicians, teachers and company representatives is in the "mixed research" model in which quantitative and qualitative research methods are carried out together.

### **2.2. Working Groups**

Faculty members and academicians who worked in the academic year of 2018-2019 in the departments of Woodworks Industrial Engineering, Architecture, Interior Architecture, Art History and Industrial

Product Design of Hacettepe, Gazi and Middle East Technical Universities in Ankara and Marmara, Mimar Sinan Fine Arts and Yildiz Technical Universities in Istanbul, and branch teachers of Furniture and Interior Design who worked in the vocational and technical Anatolian high schools in Ankara and Istanbul in the academic year of 2018-2019, and furniture representatives working in furniture sector companies in Ankara and Istanbul as of 2016 were included in the survey developed within the scope of the quantitative research method. In this regard, 726 people, 511 men and 215 women, participated in the study. 381 of the participants are company representatives, 206 are academicians, and 139 are teachers (Table 1).

A total of 30 people, 10 from each occupational group consisting of Academicians, Teachers and Sector representatives, who volunteered to participate in the study in the same working groups and were determined to carry out more closely related works and transactions, participated in the qualitative research method (Table 2).

**Table 1. Demographic Characteristics of the Participants**

	<i>n (%)</i>
<b>Gender</b>	
<i>Female</i>	215 (29.6)
<i>Male</i>	511 (70.4)
<b>Occupation</b>	
<i>Academician</i>	206 (28.4)
<i>Company Representative</i>	381 (52.5)
<i>Teacher</i>	139 (19.1)
<b>Education Level</b>	
<i>High School or Lower</i>	75(10.3)
<i>College</i>	108 (14.9)
<i>University</i>	294 (40.5)
<i>Postgraduate Degree</i>	249 (34.3)
<b>Professional Seniority</b>	
<i>1-10 years</i>	270 (37.2)
<i>11-20 years</i>	257 (35.4)
<i>21 years and above</i>	199 (27.4)
<b>Province of Duty</b>	
<i>Ankara</i>	405 (55.8)
<i>Istanbul</i>	321 (44.2)
<b>Accommodation Unit of Duty</b>	
<i>City Center</i>	661 (91.0)
<i>District Center</i>	65 (9.0)

**Table 2. Demographic findings of the participants**

<b>Code</b>	<b>Occupation</b>	<b>Current City</b>	<b>Gender</b>
<i>F1</i>	<i>Company Representative</i>	<i>Ankara</i>	<i>Male</i>
<i>F2</i>	<i>Company Representative</i>	<i>Ankara</i>	<i>Male</i>
<i>F3</i>	<i>Company Representative</i>	<i>Ankara</i>	<i>Female</i>
<i>F4</i>	<i>Company Representative</i>	<i>Ankara</i>	<i>Male</i>
<i>F5</i>	<i>Company Representative</i>	<i>Ankara</i>	<i>Male</i>
<i>F6</i>	<i>Company Representative</i>	<i>Istanbul</i>	<i>Male</i>
<i>F7</i>	<i>Company Representative</i>	<i>Istanbul</i>	<i>Male</i>
<i>F8</i>	<i>Company Representative</i>	<i>Istanbul</i>	<i>Male</i>
<i>F9</i>	<i>Company Representative</i>	<i>Istanbul</i>	<i>Male</i>
<i>F10</i>	<i>Company Representative</i>	<i>Istanbul</i>	<i>Male</i>
<i>O1</i>	<i>Teacher</i>	<i>Ankara</i>	<i>Male</i>

O2	Teacher	Ankara	Male
O3	Teacher	Ankara	Male
O4	Teacher	Ankara	Male
O5	Teacher	Ankara	Male
O6	Teacher	Istanbul	Male
O7	Teacher	Istanbul	Male
O8	Teacher	Istanbul	Male
O9	Teacher	Istanbul	Male
O10	Teacher	Istanbul	Male
A1	Academician	Ankara	Male
A2	Academician	Ankara	Male
A3	Academician	Ankara	Male
A4	Academician	Ankara	Male
A5	Academician	Ankara	Female
A6	Academician	Istanbul	Male
A7	Academician	Istanbul	Female
A8	Academician	Istanbul	Male
A9	Academician	Istanbul	Male
A10	Academician	Istanbul	Female

Company representatives were coded as C, teachers as T, and academicians as A according to their occupation. In each occupational group, the first 5 participants live in Ankara, and the second 5 participants live in Istanbul.

### 2.3. Data Collection Tools

Quantitative data collection tools developed by the researcher were used to collect data for the quantitative dimension of the study. In order to determine the views of the academicians working in the relevant departments of the relevant universities in Ankara and Istanbul, the branch teachers of furniture and interior design, and the representatives of furniture companies, the "Situation Analysis of the Design, Construction Characteristics and Manufacturability of Ottoman Palace Furniture in the Western Influence" form was developed. Approval dated 08.05.2018 was obtained from Gazi University Ethics Committee for the application of data collection tools. At the stage of data collection in the research, the researcher went personally to the relevant Universities in Ankara and Istanbul, the relevant Vocational and Technical Anatolian High Schools, and especially the furniture industry sites in these provinces, such as Siteler, İvedik OIZ, Akyurt district and Hasanoglan neighborhood in Ankara, and the furniture industry zones in Istanbul where the large-scale companies such as Modoko and Masko are located, in order to collect data.

In order to collect data for the qualitative dimension of the research, an interview form was developed by the researcher in order to determine the views of the academicians, branch teachers of furniture and interior design, furniture company representatives, on "Design, Construction Characteristics and Manufacturability of Ottoman Palace Furniture in the Western Influence". This part of the research was carried out with a total of 30 people, 5 people from each city, 10 faculty members and academicians in total who live in Ankara and Istanbul, and work in the relevant departments of universities of Ankara and Istanbul and volunteer to participate in the study; 5 people from each city, 10 Branch Teachers of Furniture and Interior Design who work in Vocational and Technical Anatolian High Schools and volunteer to participate in the study; 5 people from each city, 10 Furniture Representatives who work in companies which are considered as industry leading companies operating in Ankara and Istanbul and volunteer to participate in the study.

## 2.4. Development of Data Collection Tool

The literature related to the subject-matter was examined first for the data collection tool, however, no scale or survey similar to the scale planned to be prepared in the field has been found. At this point, in order to develop an original scale to collect quantitative data, concepts and literature related to the subject-matter were first reviewed in detail. In the subject of furniture design, the concept of design, its principles, the concept of original design, culture, and the values of the society were researched. Course contents for academicians at universities, course contents for teachers in Vocational and Technical Anatolian High Schools, MEGEP (*directorate general for vocational and technical education*) course contents, company standard equipment for company representatives, the size of companies according to the number of people working according to Labor and Employment Laws, today's furniture design programs, computerized machine production technologies were researched.

In addition, a focus group discussion was held on 03.03.2018 by the researcher with four of the faculty members working in the Department of Woodworking Industrial Engineering at Gazi University, Faculty of Technology, in order to create a pool of questions for the scale to be asked to the Academicians. In order to create a pool of questions to be asked to the teachers, a focus group discussion was held on 05.01.2018 by the researcher with eight branch teachers of furniture and interior design working in Ankara public Vocational and technical Anatolian High Schools, and a focus group discussion was held with the researcher on 10.02.2018 with ten company representatives in Ankara Siteler furniture industry zone in order to create a pool of questions to be asked to company representatives.

It was preferred to collect the data to be collected in the qualitative dimension of the research with semi-structured interview forms in order to provide in-depth information about the subject. Throughout the development process of the interview form, the data obtained from the preliminary interviews held with 2 Academicians on 01.02.2018 and 10.02.2018, with 4 teachers on 12.02.2018 and 13.02.2018, and with four company representatives on 03.02.2018 and 04.02.2018 were used.

A draft scale consisting of two parts was prepared in consequence of the studies (relevant laws and literature review and focus group discussion). It was presented to the opinion of experts in the fields of Woodworking Industrial Engineering and statistics in order to ensure the scope and face validity of the draft scale. The preliminary application of the scale developed as a result of expert opinions, was performed by applying it to furniture companies in Inegol district of Bursa province, Branch Teachers of Furniture and Interior Design in Kayseri city center, and faculty members and academicians of Adana Cukurova University and Ege University.

## 2.5. Analysis of Data

The data obtained from the quantitative research were analyzed with the SPSS 21.0 (Statistical Package for Social Sciences) Package Program. Mean, standard deviation and percentage distributions are presented as descriptive statistics. It was analyzed with the Kolmogorov-Smirnov test if the data had a normal distribution or not. In consequence of the analysis, it was observed that the data were not in compliance with the normal distribution. Mann Whitney U test was used in comparisons for variables consisting of two parameters, and Kruskal Wallis H test was used for comparisons of data consisting of more than two parameters. The obtained results were evaluated at 95% ( $p < 0.05$ ) significance level.

The verbal data obtained from the qualitative research were coded according to the themes and categories in the MAXQDA 2020 program. Findings in relation to the opinions of the participants on Ottoman Palace furniture were revealed by performing analysis on the coded data. The findings were evaluated in tables and then the findings were made easily understandable with visual organizers.

### 3. RESULTS (FINDINGS)

#### 3.1. Analysis of Quantitative Data and Findings: Academics' Views on Furniture Design

In the study, only the faculty members were asked 4 questions about furniture design. When the average scores obtained from the answers to the questions were examined, it was observed that the highest average score was obtained from the article "There are courses that will provide sufficient knowledge and skills about furniture design in the relevant departments of universities" (Table 3). This indicates that the opinions of the academicians about the related article are more positive than the others.

**Table 3.** The average scores obtained from the answers given by the academicians to the questions about furniture design

	Mean±ss	S.S.
There are courses in the relevant departments of universities that will provide sufficient information about the history and culture of furniture.	2.83±.96	0,96
There are courses in the relevant departments of universities that will provide sufficient knowledge and skills about furniture design.	3.28±.90	0,90
There is a perception of Traditional Ottoman/Turkish furniture in Turkish society.	2.27±.72	0,72
There is a perception of original Turkish furniture in world furniture markets.	1.41±.54	0,54

When the answers given to each question according to the gender of the academicians were compared, it was observed that female academicians had a significantly higher perception of "traditional Ottoman/Turkish furniture perception in Turkish society" than male academicians (Table 4).

**Table 4** Comparison of academicians' views on furniture design according to gender with Mann Whitney U test

		Mean±ss	Avg.Rank	p
Are there courses in the relevant departments of universities that will provide sufficient information about the history and culture of furniture?	Female	2.88±.99	104.16	0,59
	Male	2.78±.93	100.02	
Are there courses in the relevant departments of universities that will provide sufficient knowledge and skills about furniture design?	Female	3.28±.92	102.39	0,92
	Male	3.27±.87	101.64	
Is there a perception of traditional Ottoman/Turkish furniture in Turkish society?	Female	2.37±.71	110.05	0,04
	Male	2.17±.71	94.64	
The issue if there is an original Turkish furniture perception in world furniture markets	Female	1.41±.53	102.10	0,97
	Male	1.42±.55	101.91	

When the opinions of the academicians about furniture design are examined according to their professional seniority, it was observed that the opinions of those who have been academicians for 11-20 years regarding the question "There are courses that will provide sufficient information about the history and culture of furniture in the relevant departments of universities" are found to be significantly positive than those who have been academicians for 1-10 and 21 years or more. As a result of the analysis, it was determined that there was a significant difference according to professional seniority in terms of the answers given to the question "There are courses that will provide sufficient knowledge and skills about furniture design in the relevant departments of universities" ( $p < 0.05$ ) (Table 5).

**Table 5** Comparison of academicians' views on furniture design according to their professional seniority with the Kruskal Wallis H test

		Mean±ss	p
There are courses in the relevant departments of universities that will provide sufficient information about the history and culture	1-10 years <sup>a</sup>	2.70±.94	0,026
	11-20 years <sup>a</sup>	3.13±1.03	

<i>of furniture.</i>	<i>21 years and above<sup>b</sup></i>	<i>2.83±.89</i>	
<i>There are courses in the relevant departments of universities that will provide sufficient knowledge and skills about furniture design.</i>	<i>1-10 years<sup>a</sup></i>	<i>3.14±.92</i>	<i>0,034</i>
	<i>11-20 years<sup>a</sup></i>	<i>3.56±.84</i>	
	<i>21 years and above<sup>b</sup></i>	<i>3.32±.83</i>	
<i>There is a perception of Traditional Ottoman/Turkish furniture in Turkish society.</i>	<i>1-10 years</i>	<i>2.26±.69</i>	<i>0,353</i>
	<i>11-20 years</i>	<i>2.38±.65</i>	
	<i>21 years and above</i>	<i>2.17±.81</i>	
<i>There is a perception of original Turkish furniture in world furniture markets.</i>	<i>1-10 years</i>	<i>1.34±.53</i>	<i>0,038</i>
	<i>11-20 years</i>	<i>1.58±.58</i>	
	<i>21 years and above</i>	<i>1.43±.50</i>	

Note: There is a significant difference between the same letters.

The opinions of the academicians working in Istanbul on the questions "There are courses that will provide sufficient information about the history and culture of furniture in the relevant departments of universities" ( $p < 0.001$ ) and "There is a perception of Traditional Ottoman/Turkish furniture in Turkish society" ( $p < 0.05$ ) was found to be significantly more positive than the academicians working in Ankara (Table 6).

**Table 6.** Comparison of academics' views on furniture design with the Mann Whitney U test according to their duties

		Mean	p
<i>There are courses in the relevant departments of universities that will provide sufficient information about the history and culture of furniture.</i>	<i>Ankara</i>	<i>2.41±.89</i>	<i>0,000</i>
	<i>Istanbul</i>	<i>3.07±.92</i>	
<i>There are courses in the relevant departments of universities that will provide sufficient knowledge and skills about furniture design.</i>	<i>Ankara</i>	<i>3.20±.79</i>	<i>0,689</i>
	<i>Istanbul</i>	<i>3.32±.95</i>	
<i>There is a perception of Traditional Ottoman/Turkish furniture in Turkish society.</i>	<i>Ankara</i>	<i>2.09±.74</i>	<i>0,006</i>
	<i>Istanbul</i>	<i>2.36±.68</i>	
<i>There is a perception of original Turkish furniture in world furniture markets.</i>	<i>Ankara</i>	<i>1.45±.55</i>	<i>0,511</i>
	<i>Istanbul</i>	<i>1.40±.53</i>	

### Teachers' Views on Furniture Design

Only teachers in the study were asked 4 questions about furniture design. According to the average scores obtained from the answers given to the questions, the article that the teachers have the most positive opinion about is "There are courses that will provide sufficient knowledge and skills about furniture design in the fields of Furniture and Interior Design in Vocational and Technical Anatolian High Schools" (Table 7).

**Table 7.** The average scores obtained from the answers given by the academicians to the questions about furniture design

	Mean±ss
<i>There are courses in the Furniture and Interior Design Fields of Vocational and Technical Anatolian High Schools that will provide sufficient information about the history and culture of furniture.</i>	<i>2,20±1.01</i>
<i>There are courses in the Furniture and Interior Design fields of Vocational and Technical Anatolian High Schools that will provide sufficient knowledge and skills about furniture design.</i>	<i>2,91±.92</i>
<i>There is a perception of Traditional Ottoman/Turkish furniture in Turkish society.</i>	<i>2,70.90±</i>
<i>There is a perception of original Turkish furniture in world furniture markets.</i>	<i>2,04±.98</i>

It was not determined any significant difference in consequence of the statistical analysis performed to determine if the teachers' views on furniture design vary according to their gender ( $p > 0.05$ ) (Table 8).

**Table 8.** Comparison of academicians' views on furniture design according to gender with Mann Whitney U test

		Mean	Avg.Rank	p
There are courses in the Furniture and Interior Design Fields of Vocational and Technical Anatolian High Schools that will provide sufficient information about the history and culture of furniture.	Female	2.44±.61	83.50	.094
	Male	2.17±1.04	67.40	
There are courses in the Furniture and Interior Design fields of Vocational and Technical Anatolian High Schools that will provide sufficient knowledge and skills about furniture design.	Female	2.67±.84	60.47	.279
	Male	2.94±.92	70.85	
Is there a perception of traditional Ottoman/Turkish furniture in Turkish society?	Female	2.83±1.09	74.56	.541
	Male	2.68±.86	68.74	
The issue if there is an original Turkish furniture perception in world furniture markets	Female	2.11±1.07	71.11	.847
	Male	2.03±.97	69.26	

It was observed that the opinions of those who have been teaching for 1-10 years on the question "There is a perception of authentic Turkish furniture in the world furniture markets" are significantly higher than those who have been teaching for 11-20 years ( $p < 0.05$ ) (Table 9).

**Table 9.** Comparison of teachers' views on furniture design according to professional seniority with Kruskal Wallis H test

		Mean	p
There are courses in the Furniture and Interior Design Fields of Vocational and Technical Anatolian High Schools that will provide sufficient information about the history and culture of furniture.	1-10 years	2.32±.47	0,435
	11-20 years	2.05±.95	
	21 years and above	2.25±1.11	
There are courses in the Furniture and Interior Design fields of Vocational and Technical Anatolian High Schools that will provide sufficient knowledge and skills about furniture design.	1-10 years	2.84±.68	0,526
	11-20 years	2.76±.82	
	21 years and above	2.99±1.00	
Is there a perception of traditional Ottoman/Turkish furniture in Turkish society?	1-10 years	2.74±.99	0,979
	11-20 years	2.68±.93	
	21 years and above	2.70±.87	
The issue if there is an original Turkish furniture perception in world furniture markets	1-10 years <sup>a</sup>	2.74±.93	0,002
	11-20 years <sup>a</sup>	1.76±.82	
	21 years and above <sup>b</sup>	2.01±.99	

Note: There is a significant difference between the same letters.

When the opinions of the teachers about furniture design were examined according to the province where they work, it was observed that the province where they work did not cause a significant difference on the views on furniture design ( $p > 0.05$ ) (Table 10).

**Table 10.** Comparison of academics' views on furniture design with the Mann Whitney U test according to the province where they work

		Mean±ss	Avg.Rank	p
There are courses in the Furniture and Interior Design Fields of Vocational and Technical Anatolian High Schools that will provide sufficient information about the history and culture of furniture.	Ankara	2.21±.95	70.37	0.811
	Istanbul	2.19±1.05	68.81	
There are courses in the Furniture and Interior Design fields of Vocational and Technical Anatolian High Schools that will provide sufficient knowledge and skills about furniture design.	Ankara	3.03±.85	75.27	0.112
	Istanbul	2.81±.96	64.93	
Is there a perception of traditional Ottoman/Turkish furniture in	Ankara	2.70±.93	68.85	0.857



Turkish society?	Istanbul	2.70±.87	70.01	
The issue if there is an original Turkish furniture perception in world furniture markets	Ankara	2.18±.92	75.96	0.076
	Istanbul	1.94±1.01	64.38	

### Opinions of Company Representatives on Furniture Design

Company representatives were asked 3 questions about furniture design. When the opinions of the company representatives about furniture design are examined, it was observed that their opinions on the statement "today, manufacturers produce furniture suitable for the ergonomic characteristics of people" are more positive than the others (Table 11).

**Table 11.** The average scores obtained from the answers given by the academicians to the questions about furniture design

	Mean±ss
Furniture that reflects the Traditional Ottoman / Turkish identity, and appeals to large consumer groups suitable for industrial production and marketing, will be demanded if they are placed on the market.	3.71±1.12
Today, manufacturers produce furniture suitable for the ergonomic characteristics of people.	4.14±.96
Traditional Ottoman/Turkish furniture can be produced with today's technology.	3.79±1.11

In consequence of the statistical analysis, it was observed that the male company representatives had a significantly more positive opinion on the question of "traditional Ottoman/Turkish furniture can be produced with today's technology" ( $p < 0.05$ ) (Table 12).

**Table 12.** Comparison of company representatives' views on furniture design by gender with Mann Whitney U test

		Mean±ss	Avg.Rank	p
Furniture that reflects the Traditional Ottoman / Turkish identity, and appeals to large consumer groups suitable for industrial production and marketing, will be demanded if they are placed on the market.	Female	3.59±1.11	177.83	0.196
	Male	3.75±1.12	193.70	
Today, manufacturers produce furniture suitable for the ergonomic characteristics of people.	Female	4.11±.90	183.55	0.496
	Male	4.15±.97	191.64	
Traditional Ottoman/Turkish furniture can be produced with today's technology.	Female	3.54±1.11	165.97	0.009
	Male	3.87±1.09	197.96	

In consequence of the analysis of the data obtained from the study, the opinions of the company representatives, who have been working for 21 years or more, on the question "If furniture that reflects the Traditional Ottoman/Turkish identity, appealing to large consumer mass groups suitable for industrial production and marketing, is put on the market, it will be demanded" is significantly more positive than the other groups. ( $p < 0.05$ ) (Table 13).

**Table 13.** Comparison of company representatives' views on furniture design according to professional seniority with Kruskal Wallis H test

		Mean±ss	p
Furniture that reflects the Traditional Ottoman / Turkish identity, and appeals to large consumer groups suitable for industrial production and marketing, will be demanded if they are placed on the market.	1-10 years <sup>a</sup>	3.45±1.16	0.002
	11-20 years <sup>b</sup>	3.80±1.08	
	21 years and above <sup>a</sup>	4.00±1.01	
Today, manufacturers produce furniture suitable for the ergonomic characteristics of people.	1-10 years	4.12±.94	0.605
	11-20 years	4.13±.93	
	Above 21 years	4.20±1.05	
Traditional Ottoman/Turkish furniture can be produced with today's	1-10 years	3.80±1.03	0.216

technology.	11-20 years	3.71±1.15	
	Above 21 years	3.96±1.13	

Note: There is a significant difference between the same letters.

It was observed that the opinions of the company representatives working in Istanbul on all questions about furniture design were significantly more positive than those working in Ankara (Table 14).

**Table 14.** Comparison of company representatives' views on furniture design with Mann Whitney U test according to the province where they work

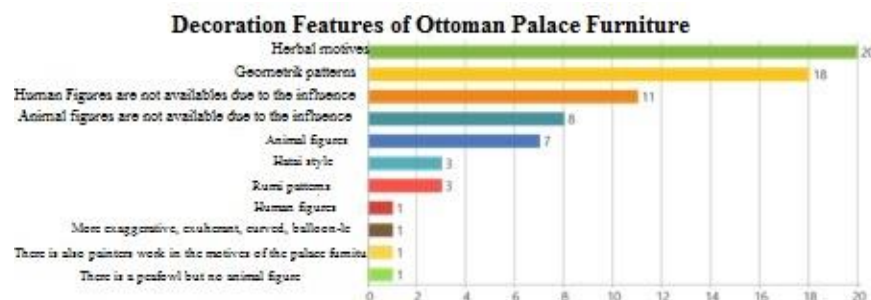
		Mean±ss	Avg.Rank	p
Furniture that reflects the Traditional Ottoman / Turkish identity, and appeals to large consumer groups suitable for industrial production and marketing, will be demanded if they are placed on the market.	Ankara	3.63±1.08	181.15	0.013
	Istanbul	3.90±1.18	210.31	
Today, manufacturers produce furniture suitable for the ergonomic characteristics of people.	Ankara	4.08±.97	183.15	0.048
	Istanbul	4.29±.89	205.72	
Traditional Ottoman/Turkish furniture can be produced with today's technology.	Ankara	3.67±1.05	177.13	0.000
	Istanbul	4.04±1.20	219.55	

### 3.2. Qualitative Interview Findings

#### Findings in relation to the Decorative Features of Ottoman Palace Furniture

-First Research Question: *What are your views on the Decorative (Hatai, Herbal, Rumi Geometric, etc.) features of the furniture of the aforementioned period?*

The answers given by the participants to the related question were recorded electronically and the data obtained was analyzed by content analysis. The answers given by the participants were assigned to categories and subcategories. It is observed that mostly herbal motives are used in the decorations of Ottoman Palace Furniture. 20 participants stated in their answers that plant motives were used in the decorations of Ottoman Palace Furniture. Flowers and leaves were used mostly as floral motives, beside this, rose, tulip and acanthus motives were used. The most used motives along with the herbal motive are geometric patterns (Figure 1).



**Figure 1.** Decoration Features of Ottoman Palace Furniture

Teachers stated opinions at the most about the decorative features of Ottoman palace furniture. Teacher-participants stated that herbal and geometric motives were used mostly in furniture, and only 2 participants among the teachers stated that animal figures were used. Teacher-participants also mentioned about Hatai and Rumi styles. The company representatives focused on the use of herbal and geometric motives. Academic participants also stated that animal figures and even human figures were used along with herbal and geometric motives (Table 15).

**Table 15.** Distribution of Decoration Features of Ottoman Palace Furniture according to the occupations of the participants

	Company Representatives	Teachers	Academics	Total
Herbal motives	7	9	4	20
Geometric patterns	6	9	3	18
Human figures are not available due to the influence of religion.	3	6	2	11
Animal figures are not available due to the influence of religion.	0	7	1	8
Animal figures	2	2	3	7
Hatai style	0	1	2	3
Rumi patterns	0	2	1	3
Human figures	0	0	1	1
More exaggerated, exuberant, curved, balloon-like	0	0	1	1
There is also painter's work in the motives of the palace furniture.	1	0	0	1
There is a peafowl but no animal figure	1	0	0	1
TOTAL	20	36	18	74
N = Documents	10	10	10	30

### Findings on the Manufacturing and Production Techniques of Ottoman Palace Furniture

-Second Research Question: *What are your opinions on the Manufacturing and Production Techniques of Ottoman Palace Furniture (with Table, Frame construction, assemblies, etc.)?*

The answers given by the participants to the related question were recorded and analyzed by content analysis, and categories and sub-categories were formed. Regarding the manufacturing techniques of Ottoman Palace Furniture, 12 of the participants stated that a mortise construction was used. While 8 participants stated that frame construction was used, 7 participants stated that dowel joint was used and 6 participants stated that kundekari assembly was used. Besides, one of participants stated that table, notching joint, coating, latch blades, marquetry, toothed joint, particleboard, fiberboard, miter joint, dovetail joint and duct transition were also used. The categories and subcategories created are given in Table 16.

**Table 16.** Manufacturing and Production Techniques of Ottoman Palace Furniture

Category	Subcategory	f
Manufacturing Techniques (18)	Mortise joint construction	12
	Frame construction	8
	Dowel joint	7
	Kundekari joint	6
	Table joint	3
	Hand-workmanship	2
	Notching joint	1
	Coating	1
	Latch blades	1
	Marquetry	1
	Toothed joints	1
	Particle boards	1
	Fibreboards	1
	Miter joint	1
	Dovetail join	1
	Duct transition	1

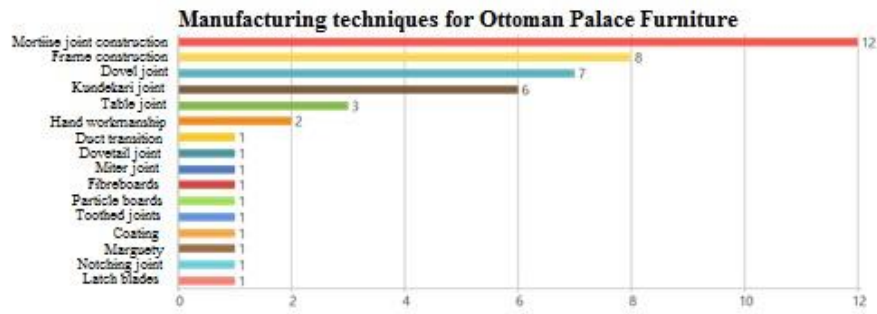


Figure 2. Manufacturing techniques for Ottoman Palace Furniture

While the participants from all occupational groups stated that mortise construction was used in the manufacturing and production techniques for Ottoman Palace Furniture, teacher participants stated that frame construction was used more, company representatives and academic participants stated that dowel joint was used. Besides, company representatives and teacher participants also stated that kundekari joints were used (Table 17).

Table 17. Distribution of Manufacturing and Production Techniques for Ottoman Palace Furniture by Occupation of Participants

Subcategory	Company Representatives	Teachers	Academics	Total
Mortise joint construction	4	4	4	12
Frame construction	2	5	1	8
Dowel joint	3	1	3	7
Kundekari joint	3	3	0	6
Table joint	0	2	1	3
Hand-workmanship	1	1	0	2
Duct transition	0	0	1	1
Dovetail joint	0	0	1	1
Miter joint	0	0	1	1
Fibreboards	0	0	1	1
Particle boards	0	0	1	1
Toothed joints	0	1	0	1
Coating	0	1	0	1
Marquetry	0	1	0	1
Notching joint	0	1	0	1
Latch blades	1	0	0	1
TOTAL	14	20	14	48
N = Documents	10	10	10	30

#### 4. CONCLUSION AND RECOMMENDATIONS

Within the scope of this study, results and recommendations obtained from this study performed for the purpose of revealing the opinions of the academicians in the relevant departments of the relevant universities working in Ankara and Istanbul, branch teachers of the furniture and interior design working in the vocational and technical Anatolian High Schools in these provinces, and the employees at all levels in the furniture sector companies in these provinces, on the design, construction features and manufacturability of Ottoman Palace furniture in the Western influence, are explained in a systematic order below.

It was determined according to the study results that the original Turkish furniture is not known in the world markets, it is essential to explore self-values for the furniture design having the identity characteristics of a specific culture, and to examine and evaluate thoroughly the self-culture, and courses related to furniture history are regarded as slightly enough in comparison with the courses related to furniture design in universities and vocational and technical Anatolian high schools, the perception of traditional Ottoman/Turkish furniture in Turkish society is higher than the perception of Original Turkish

furniture in furniture markets in the world, and if furniture which reflects traditional Ottoman/Turkish identity are placed on the market, they will be demanded, that today manufacturers produce furniture suitable for the ergonomic characteristics of people, and that traditional Ottoman/Turkish furniture can be produced with today's technology. It was observed that massive engravements and inlaid were applied particularly for Ottoman palace furniture in the Western influence, and pearl, shield, ivory and brass decorations were used. . It has been observed that the style of the 19th century, patterns, herbal motives were used, and trees such as ebony, rosewood, rose, cedar, mahogany, walnut, beech were used. It was determined that furniture is generally manufactured with carving, inlaid, marquetry and turning techniques, wooden parts are made of mortared, doweled, foreign chevrons, the doors are joined by mortise-frame-to-door jointing, tabs or plywood are placed inside the door frames, the doors are usually leaf brass hinged, some on the other hand, the doors are manufactured as sliding doors, the wooden joints are usually made as miter-nose, the reverse cord is applied on the crown parts of the furniture, the inner edge joints of the drawers are usually made with lamps, threaded joints, casein, gluten or blood glue is used as glue for adhering the wooden parts to each other, and the upper surfaces of the wooden works and the furniture were polished with french polish. As a result, original designs can be developed by preparing designs that reflect our culture about Traditional Ottoman/Turkish furniture, opening design schools, and establishing R&D centers.

On the other hand, it has been found no study on the design, construction properties and manufacturability of the furniture of the period. It is of great importance to evaluate the Ottoman Palace furniture designs in the influence of the West according to the opinions of today's academicians, furniture company representatives and teachers. Taking into account the results obtained from the study, the following recommendations were made;

1. It is essential to conduct research on Turkish furniture and its motives in order to create original Turkish furniture.
2. It is required to be conducted by the relevant institutions of the state researches and projects on Turkish furniture and Turkish motives in our culture.
3. Design courses should be given in the relevant departments of universities in order to create traditional Ottoman/Turkish furniture.
4. It is necessary to provide training to people in the Turkish furniture sector in order to create traditional Turkish furniture.
5. It is necessary to open design schools in order to prepare designs that reflect our culture about traditional Ottoman/Turkish furniture. In this regard, R&D centers should be established and original designs should be developed.
6. Mosque furniture, doors, windows and other furniture produced with the kundekari joint technique, which is a part of our culture, should be introduced to the world.
7. The Ottoman archive should be investigated very well with the e-archive search provided by the National Palaces Administration of the Republic of Turkey.
8. In this regard, market and theoretical educators should be brought together occasionally, in which master trainers and competent craftsmen on furniture and wooden art works can take skill courses in the relevant departments of universities and Vocational and Technical Anatolian High Schools occasionally.

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