

A research on the preferences of material and size in the Turkish kitchen furniture industry

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Abstract: This study intended to investigate the interaction developing rapidly through the impact of globalization experienced in every field on the material and size preferences of the kitchen furniture sector. The results of the survey conducted on the Turkish kitchen furniture manufacturers were evaluated within the framework of the international kitchen trends. As a result it was seen that the most preferred kitchen area was between 8 and 11 m² regarding the distribution of the kitchen areas in Turkey. A tendency of using MDF in the production of the kitchen cabinets was observed with 61.8% in relation with the body material preferred to be used in the kitchen furniture sector. The preferred body sizes of the kitchen cabinet was determined by considering the width and height preferences of both the upper and lower cabinets, the size of 61-90 cm seemed to be the most preferred sizes both for the upper and lower cabinets. According to the height, 72 cm size was found to be the most preferred size. While the most preferred size among the cellar cabinets was determined to be smaller than 60 cm, its height was revealed to be bigger than 200 cm. The most preferred kitchen furniture base was detected to be 12 cm.

Keywords: Turkish kitchen furniture sector, kitchen furniture, kitchen sizes, kitchen cabinet doors, wooden materials

Türkiye mutfak mobilyası sektöründe malzeme ve boyut tercihleri üzerine bir araştırma

Özet: Araştırmada, günümüzde her alanda yaşanan küreselleşmenin etkisiyle hızlı bir şekilde gelişen etkileşimlerin mutfak mobilyası sektöründeki malzeme ve boyut tercihleri üzerindeki etkisi incelenmiştir. Türkiye'deki mutfak mobilyası üreticileri üzerinde yapılmış olan anket çalışması sonuçları dünya mutfak trendleri çerçevesinde değerlendirilmiştir. Sektör işletmelerinin projelerinde en çok tercih ettikleri boyutlar ve ebatlarla ilgili olarak elde edilen bulgulara dayanarak ülkemizde tercih edilen; mutfak alanları, mutfak gövde boyutları, kapak türleri, kiler dolap boyutları ve baza yükseklikleri belirlenmiştir. Türkiye'deki mutfak alanları dağılımı ile ilgili olarak en çok tercih edilen mutfak alanının 8-11 m² arasında olduğu görülmektedir. Üretimde tercih edilen gövde malzemesi yönelimleri ile ilgili olarak, %61.8 oranıyla MDF malzemeye bir eğilimin olduğu ortaya çıkmıştır. Gövde boyutlarındaki tercihler ise, gerek üst dolaplarda, gerekse alt dolaplarda 61-90 cm'lik genişliklerin, yükseklikte ise 72 cm'lik boyutların en çok tercih edildiği belirlenmiştir. Kiler dolap tercihlerinde genişliğin 60 cm'den küçük, yüksekliğin 200 cm'den büyük olduğu, bazalarda ise 12 cm nin en fazla tercih edildiği görülmüştür.

Anahtar Kelimeler: Türkiye mutfak mobilyası sektörü, mutfak mobilyası, mutfak boyutları, mutfak kapakları, ahşap malzemeler

1. INTRODUCTION

This study intended to investigate the effect of the current global trends developing rapidly through the impact of globalization experienced in every field on the material and size preferences of the kitchen furniture sector. As it is known, the provision of sustainability in the sectoral development makes it necessary to follow the global developments and their reflections in the sector (Kurtoglu and Dilik, 2014). On the other hand, it is known that the trends generally manifest themselves primarily on the material and

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size preferences in almost every field. In this context, the impact of the international kitchen trends was investigated on the size and material preferences in the Turkish kitchen furniture manufacturing sector.

As it is known, the substance used in the creation of a product is called material. The materials used in the shaping and construction of all kinds of furniture have to be appropriate to the fulfillment of the intended use and the expected function. Therefore, the combination of various new materials and composite materials come to the forefront with the help of the technological developments beyond the traditionally used materials (Kurtoglu and Dilik, 2015; Dilik, 2015; Kurtoglu, 2000; Bozkurt and Goker, 1990).

The materials used in the manufacture of furniture can be classified according to the location, task and feature of the item as well as according to its physical, chemical, mechanical and dimensional structure. However, in general the materials used in the furniture production are considered as wooden materials, plastic materials, metal materials and textile products. Recently, the use of wood-based panel products (particleboard, MDF, plywood etc.) is increasing in all kinds of furniture production except of the massive furniture especially due to economic reasons, their homogenous structure and standard sizes, processing properties and their high work efficiency (Kurtoglu and Dilik 2015; Akbulut and Ayrilmis 2015).

For this purpose the kitchen area (5-8 m², 8-11 m², and bigger than 11 m²), body materials (MDF, particleboard, solid materials, metal materials) and the cabinet door materials (MDF, particleboard, framed glass, solid material) were analyzed by considering the types preferred in the kitchen furniture projects in the last 5 years. In addition, the most preferred sizes related to the size of the cabinet, type of the cabinet doors, size of the cellar cabinet and base were tried to be detected together with the preference rates of the surface treatment application material (acrylic, membrane, lacquer, high gloss, PVC coating, wooden coating) specified by the cabinet door material (Ucar, 2016; TS EN1116, 2006; TS 5433, 1988).

Within this study, the results of the survey conducted on the Turkish kitchen furniture manufacturers were evaluated within the framework of the international kitchen trends. Thus, the size of the kitchen area, the frame size of the kitchen cabinet, the type of the cabinet materials, the size of the cellar cabinet and the height of the base preferred in Turkey were determined on the basis of the findings obtained in regards the size and dimensions preferred the most by the sector businesses in their kitchen furniture projects.

2.MATERIAL AND METHOD

In this study, a method based on a survey and literature review was used. In this context, a frame community was determined which consisted of 165 kitchen furniture manufacturers and had the number and nature to represent the Turkish kitchen furniture manufacturing sector. In the determination of the frame community, the face to face survey application was adopted by guaranteeing the participation and representation of Turkey's seven geographical regions. The detected results were evaluated within the framework of the international kitchen trends. The global orientations and trends taken into account as basis were made according to the 2012 and 2014 trend reports obtained within the framework of the EuroCucina fair. In fact this fair has the nature to determine the trends in the sector and to gather the brands and countries which lead the international kitchen furniture sector (Blum Tr, 2015a; 2015b; Hafele Tr, 2015a; 2015b; Kesseböhmer GmbH, 2015; ZOW, 2016).

During the statistical evaluation of the data, the weighted average method was used in the findings for determining the significance levels, while the arithmetic average based graphical method was used during the evaluation of data belonging to the other findings. Reliability and homogeneity tests were not needed in the evaluation of the planned frame community due to the fact that 100% participation was achieved (Kalipsız, 1988).

3.RESULT AND DISCUSSION

The material and size preferences of the Turkish kitchen furniture sector were evaluated according to the results obtained from the production projects made by the sector's businesses in the last 5 years (2011-2015).

3.1 The Status of the Kitchen Area according to the Kitchen Furniture Manufacturers

In this context, the distribution of the 3 area groups (5-8 m², 8-11 m², and bigger than 11 m²) were asked on residential basis from the businesses related to the distribution of the kitchen area in Turkey and the obtained results were given in Table / Tablo 1. According to this, the most preferred kitchen area was 8-11m² with 45% which was followed by 3rd group (more than 11 m²) with 29% and by 5-8 m² with 26%. It can be said that the rapidly growing public housing projects have been effective on the diversity and results of the kitchen furniture sector.

Table 1. The distribution of the kitchen area in Turkey according to the kitchen furniture production (Ucar, 2016).
Tablo 1. Mutfak mobilyası üretimine göre Türkiye deki mutfak alanlarının dağılımı (Ucar, 2016)

Produced kitchen areas (m ²)	The distribution of the kitchen areas according to the preferences	
	Number of companies	Area preferences percentages (%)
5-8	42	26
8-11	75	45
Bigger than 11	48	29
Total	165	100

3.2 The Preferred Body and Cabinet Door Materials in the Kitchen Furniture

In this study the body materials of the kitchen furniture were determined as shown in Table / Tablo 2. According to this result, it was stated the mostly MDF was used (61.8%) in the kitchen furniture projects by the manufacturer companies, MDF was followed by particleboard with 39.4%, then by metal materials with 5.4% and solid materials with 4.2%. In the same context, if we look at the distribution of the responses given to the preference changes related to these materials it was determined that MDF had the lowest ratio with 15.2%, particleboard with 40.6%, solid material with 53% and metal material with 60.6% did not have preference changes. According to these results, the use of MDF as body material was preferred due to the easier and smoother procession compared to the other materials but its higher price according to the particle board emerged as one of the factors which were effective in the competition between MDF and the particleboard.

Table 2. Preferences for the types of body materials in the kitchen furniture projects (Ucar, 2016).
Tablo 2. Mutfak mobilyası projelerinde gövde malzemesi türlerine olan yönelim tercihleri (Ucar, 2016).

Types of body materials	Preference Changes in Use							
	Fix (No Change Preferences)		Changing at a low level		Changing at a medium level		Changing at a high level	
	Number of Companies		Number of Companies		Number of Companies		Number of Companies	
	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)
MDF	25	15.2	21	12.7	17	10.3	102	61.8
Particleboard	67	40.6	18	10.9	15	9.1	65	39.4
Metal material	100	60.6	39	23.6	17	10.3	9	5.4
Solid material	89	53.9	57	34.5	12	7.3	7	4.2

The results of the preferred cabinet door materials were shown in Table / Tablo 3. According to this, it was determined that the preferences of the cabinet door materials were changing at a high level and the materials were rated in the following way MDF (73.3%), framed glass (12.7%), solid material (8.4%) and particleboard (7.8%). In the same context when evaluating the data of the question about the lack of preference changes or fixed forms regarding these materials the followings were obtained; particleboard (61.2%), solid material (49.1%), framed glass (34.5%) and MDF (17%). From here, it emerged that MDF was the most preferred cabinet door material and the particleboard was less affected by the preference changes.

According to this situation, the cabinet body and door material for the kitchen furniture was not parallel to the international trends. When considering the production of the large enterprises, the preference of particleboard was clearly observed to be parallel to the world trends (Blum Tr, 2015a; 2015b; Hafele Tr, 2015a; 2015b; Kesseböhmer GmbH, 2016).

Table 3. Preferences for the types of cabinet door materials in the kitchen furniture projects (Ucar, 2016).

Tablo 3. Mutfak mobilyası projelerinde kapak malzemesi türlerine olan yönelim tercihleri (Ucar, 2016).

Type of cabinet door materials	Preference Changes in Use							
	Fix (No Change Preferences)		Changing at a low level		Changing at a medium level		Changing at a high level	
	Number of Companies		Number of Companies		Number of Companies		Number of Companies	
	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)
MDF	28	17.0	8	4.8	8	4.8	121	73.3
Particleboard	101	61.2	37	22.4	14	8.5	13	7.8
Framed glass	57	34.5	45	27.3	42	25.5	21	12.7
Solid Material	81	49.1	46	27.9	24	14.5	14	8.4

The preference rates of the surface treatment applications on the cabinet door materials were also determined in this research. The results related to the cabinet door preferences were the followings; acrylic (35%), membrane (26%), lacquer (20%), high gloss (10%), PVC coating (5%) and wooden veneer (4%). However, these results were determined according to the data of the companies preferring MDF in their production, the companies preferring the other materials (particleboard, framed glass, solid materials) were not included within these result because they did not provide clear proportion on this issue. While these materials are effective in the kitchen trends due to their color and coating alternatives, it can be said that these materials are preferred by the Turkish kitchen furniture sector within the framework of the trends in different proportions though (Blum Tr, 2015a; 2015b; Hafele Tr, 2015a; 2015b; Kesseböhmer GmbH, 2016).

3.3 The Preferred Sizes of the Kitchen Cabinets

This research aimed to identify the kitchen body sizes, cabinet door sizes, the size of the cabinet cellar and the height of the base in relation of the dimensions and sizes which were preferred the most in the kitchen furniture projects. Within this context the preference rates for the body sizes of the kitchen cabinets including the sizes of the upper and lower cabinet were determined as shown in Table / Tablo 4. According to this, the preferred width both for the lower and upper cabinet was determined as 61-90 cm, while the height again both for the upper and lower cabinet were revealed as 72 cm.

Table 4. The distribution rates of the preferred body sizes in the kitchen cabinets (Ucar, 2016).

Tablo 4. Mutfak mobilyalarında tercih edilen mutfak gövde ebatlarının dağılım oranları (Ucar, 2016).

Sizes of the Upper Cabinet					
Width	< 45 cm	45-60 cm	61-90 cm	91-120 cm	Total
Distribution rates (%)	10	29	53	9	100
Height	50-71 cm	72 cm	73-80 cm	81-90 cm	Total
Distribution rates (%)	5	53	28	13	100
Sizes of the lower Cabinet					
Width	< 45 cm	45-60 cm	61-90 cm	91-120 cm	Total
Distribution rates (%)	4	37	51	8	100
Height	<72 cm	72 cm	73-80 cm	>80 cm	Total
Distribution rates (%)	3	55	29	13	100

The research determined also the size and type of the cabinet doors which were used in the Turkish kitchen furniture sector. For this purpose the obtained results were determined as shown in Table / Tablo 5 and Figure / Şekil 1. Accordingly, the type of the used kitchen cabinet doors was the followings respectively; using standard cabinet doors (97%), using high cabinet doors (10.3%), using cabinet doors with 45 degree angle (6%), using thick cabinet doors (2.4%) and using thin cabinet doors (1.8%).

Table 5. The trends and usage of the cabinet doors in the kitchen furniture projects (Ucar, 2016).
Tablo 5. Mutfak mobilyası projelerindeki kapak türlerine olan yönelim ve kullanım durumu (Ucar, 2016).

Type of Cabinet doors	Fixed		Little		Medium		More	
	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)	Item	Ratio (%)
Thick Cabinet doors	110	66.6	30	18.2	21	12.7	4	2.4
Standard cabinet doors	3	1.8	0	0.0	2	1.2	160	97.0
Thin cabinet doors	135	81.8	23	13.9	4	2.4	3	1.8
Cabinet door with 45 angle	87	52.7	38	23.0	30	18.2	10	6.0
High cabinet doors	88	49.3	36	21.8	24	14.5	17	10.3

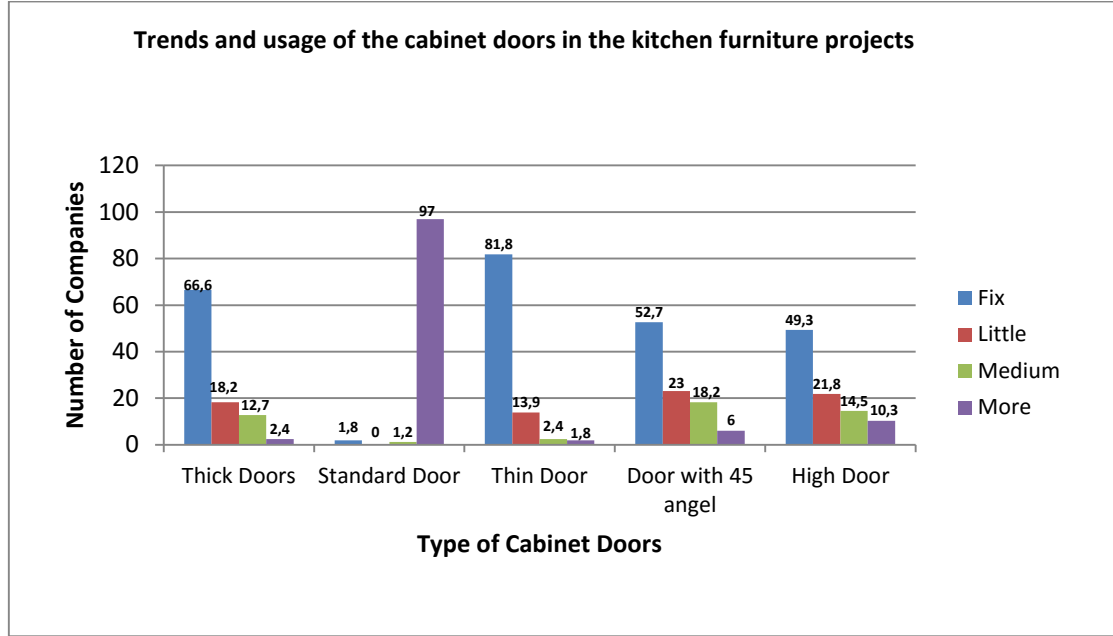


Figure 1. The trends and usage of the cabinet doors in the kitchen furniture projects.
Şekil 1. Mutfak mobilyası projelerindeki kapak türlerine olan yönelim ve kullanım durumu.

The results regarding the preferred size of the cellar cabinet among the kitchen cabinets were determined as given in Table / Tablo 6 while the results related to the base height of the kitchen cabinets were detected as shown in Table / Tablo 7.

Table 6. The preference ratios of the cellar sizes used in the kitchen cabinets (Ucar, 2016).
Tablo 6. Mutfak mobilyasında kullanılan kiler dolap ebatlarına ait tercih oranları (Ucar, 2016).

Cellar Cabinet Sizes				
Width	< 60 cm	61-90 cm	91-120 cm	Total
Percentage distribution (%)	85	13	2	100
Height	150 cm	151-200 cm	>200 cm	Total
Percentage distribution (%)	13	43	44	100

Accordingly, the most preferred width for the cabinet was less than 60 cm (85%) while the most preferred height was observed to be 200 cm (44%). When it comes to the height of the base, the most preferred base height was 12 cm (56%). However, it can be said that there are preference changes in the height of the cabinet base due to the development that allows adjustment in the base height.

Table 7. The preference ratios of the base heights used in the kitchen cabinets (Uçar, 2016).
Tablo 7. Mutfak mobilyasında kullanılan baza yüksekliklerine ait tercih oranları (Uçar, 2016).

Base Heights	Number of the Companies	
	Item	Ratio (%)
10 cm	41	25
12 cm	92	56
15 cm	32	19

4.CONCLUSION

In this research which determined the material and size preferences in the Turkish kitchen furniture sector, it was revealed that the global trends and reflections were effective in different ratios on the preferences especially due to the impact of the large enterprises.

The followings are the results obtained within this context;

- As a result of the developments for the kitchen-space relation and as a result of the reflections of the Turkish kitchen furniture sector, the most preferred kitchen area was between 8-11 m² by 45%.
- In relation with the body material trends preferred in the kitchen furniture production, there was a tendency for the MDF material with a rate of 61.8%, which was followed by the particleboard which kept its importance with a preference rate of 40%.
- The followings were the preferences in relation with the cabinet door types used for the kitchen cabinets; standard cabinet doors were used the most (97%), it was followed by the use of high cabinet doors and cabinet doors with 45 degree angle. Additionally, besides the fact that MDF was mostly preferred as cabinet door material in the kitchen furniture production, the preference rates of the surface treatment applications which were used on these materials and had wide range of use throughout the world were the followings; acrylic (35%), membrane (26%), lacquer (20%), high gloss (10%), PVC coating (5%) and wood veneer (4%).
- The most preferred body size both for the upper and lower cabinet were specified as 61-90cm. It was also observed that a height of 72cm was the most preferred size. The most preferred width for the size of the cellar cabinet was determined to be smaller than 60cm (85%) while the height occurred to be bigger than 200cm (44%). While the height preferences of the base which has important impact both on the functional features as well as on the assembly processes of the kitchen cabinet was seen to be 12cm (56%).

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