

# TOLEHO

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**Ethical Principles and Publication Policy****Copyright Principles****Authors Guidelines****Abstracting and Indexing****Appreciations to Reviewers**

Dear authors, researchers, readers, and practitioners,

Türkiye suffered a tragic earthquake in February 6th, and more than 50,000 people have passed away in eleven cities. As the country recovers, we condole with the families, friends, and people of the deceased. In the meantime, international community has put memorable efforts for search and rescue operations and Türkiye is grateful for all the support. Accordingly, Journal of Tourism, Leisure and Hospitality (TOLEHO) bitterly edited this issue and extends thanks to the authors who have submitted numerous papers to the Journal. This issue covers significant research in a range from tourist markets to technology in the industry. Hence, we hope that the current issue will contribute to the body of knowledge in relevant disciplines as it includes eligible research in various topics. We finally wish the readers and practitioners to enjoy the issue and make the most of it in their research and practices.

**Cem Işık, Ph.D.**

**Editor-In-Chief**



## ANALYZING THE TOURIST MARKETS WITH A NEW TOOL: TOURIST MARKET TYPOLOGY

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### KEYWORDS

*Tourist market typology*  
*Tourism revenue*  
*Average length of stay*  
*Daily expenditure*

### ABSTRACT

To develop appropriate strategies through classifying the tourist markets is an important issue to increase the tourism revenue. In this study, a tourist market typology was developed. Tourist markets were divided into eight groups in terms of their average daily expenditures, average length of stay, and their contribution to the tourism revenue of destination. Typology of tourist markets was applied using the Turkish tourism data of 2018. It gives concrete recommendations about which strategy to be pursued for each markets in order to maximize the tourism revenue while controlling the cost that associated with the tourism operations.

## 1. INTRODUCTION

A Destinations, on the one hand, continue to invest in tourism due to its socio-economic contributions (Dogru et al, 2019; Kronenberga and Fuchs, 2021), on the other hand, they seek ways to manage their environmental, cultural and man-made resources sustainably (Kim et al., 2019; Roxas et al., 2020; Siakwah et al., 2020). Thus, destinations mainly aim to maximize their revenue, figure out the problems associated with low productivity (Croes & Semrad, 2018), and mitigate the negative impacts of tourism (Koçak et al., 2020). The structure of tourism resource markets can have significant effects on the stability of tourism revenues (Ağazade et al., 2021). The allocation of resources for the right products and markets becomes critical in this sense, especially in times of crisis when uncertainty may affect decision making processes (Işık et al., 2020). In studies measuring the impact of tourism on economies and the quality of life of local people, it is seen that tourists from different countries can be considered as a single homogeneous group. However, consumers are heterogeneous and the preferences of each group differ (Fu, et al., 2020). Tourist markets, which may show variability in terms of contribution to destination's total revenue, even in different seasons, require careful evaluation. Thus, segmentation of tourist markets and targeting the most profitable ones is a prominent issue which requires Destination Management Organizations (DMOs) to review the contributions of tourist markets carefully and give up markets with low contribution and focus more on markets with high potential. To do that, they need right tools while implementing their marketing and management strategies. Suggested tourist market typology can be

a useful tool in this regard.

Tourist typologies (e.g., Uysal & McDons, 1989; Plog, 2001; May, Bastian, Taylor & Whipple, 2001) and segmentations (e.g., Eusébio et al., 2017; Qu et al., 2018; Terzić et al., 2020) are helpful to understand the interactions of tourists with destinations or travel motivations. For instance, expenditure based segmentation takes into account the visitors' expenditure (e.g., Mok & Iverson, 2000; Laesser & Crouch, 2006; Lima et al., 2012) most of which use threshold values to segment tourists based on their expenditure level at a destination (Mortazavi & Lundberg, 2020). Although they are valuable to distinguish the tourists as low and high spenders and catch some characteristics of those tourist groups, e.g. shopping oriented or activities oriented (Lima et al., 2012), they do not give much insight when classifying tourist markets according to their economical value for the destination. Thus, this new tourist market typology differs from the other typologies through classifying the tourist markets with variables like daily expenditure, length of stay and total expenditure share.

Tourist market typology introduced in this paper can help DMOs to evaluate and group their tourist markets splendidly. Increasing daily expenditure and length of stay of the tourists are two main goals of the destination along with the tourist arrivals to maximize the tourism revenue (Ferrer-Rosell et al., 2015). Tourism revenue is closely related to the average expenditures of tourists.

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Increasing the ratio of tourist groups with high daily expenditures and high overnight stays in the total number of tourists might be the ideal solution to maximize the benefit from tourism. Suggested tourist market typology classifies the tourist markets into eight groups using average daily expenditures, average length of stay, and share in total tourism revenue of the destination.

Typology suggested in this paper can be a useful tool for decision makers and researchers who examine the economic contributions of tourist markets. Application of the typology was illustrated using Turkey's quarterly data of 2018. Although econometric models show that tourism provide a positive contribution to Turkey's tourism economy (Gokovali, 2010), high differences in regions of Turkey in terms of tourism activities (Duman and Kozak, 2010) suggests that tourism can generate more revenue. Using quarterly data and assessing the different characteristics of the tourist markets in each quarter enhances the contribution of this paper because seasonal behaviors of tourists from source market countries can be analyzed better by this way that can be used as a guide when deciding of which markets to invest or leave. This typology can be used to help solving the seasonality problems experienced by many destinations.

## 2. RELATED CONCEPTS AND HYPOTHESES

### 2.1. Market Segmentation in Tourism

Segmenting the tourist markets may lead to enhance the competitiveness of the destinations (Ernst & Dolnicar, 2018) which can also be used to overcome the negative impact of seasonality (Tsiotas et al., 2021). Various segmentation strategies were applied in the literature such as it might be based on behavioral patterns of individuals (Dolnicar and Leisch, 2010; Sánchez-Pérez et al., 2021) or characteristics of market countries (Bijmolt, Paas, and Vermunt, 2004). Tkaczynski et al. (2010) identified geographic (location), demographic (e.g., age, gender, income), psychographic (e.g., trip purpose, push and pull motivation factors, activities), and behavioral (e.g., expenditure, number of nights, purchasing behavior) segmentations. Demographic segmentation used widely but it may not be so effective if used alone (Dixon et al 2012), and thus, it should be used with other types of segmentations (Green, 2003). In tourism literature, numerous segmentation criteria were used, e.g., motivations (Lee et al, 2004), image (D'ursa et al., 2015), involvement (Hu and Yu, 2007), activities (McKercher et al., 2002). On the other hand, benefit segmentation has been gaining more interest, which is a method applied to distinguish the differences of tourist types in various alternative tourism types, e.g., rural tourism (Frochot, 2005; Almeida et al, 2014), and wellbeing tourism (Pesonen et al., 2011).

The main idea of segmentation is to evaluate each segment and focus on most promising ones for the destinations that increase the economic benefit (Tkaczynski et al. 2010; Laesser and Crouch, 2006). Expenditure based segmentation aims, thus, to increase the return to the destination through increasing expenditure of tourists and/or length of stay. By this way, destinations can increase their market share by focusing on tourism spending instead of number of travelers (Svensson et al., 2011).

Total or daily expenditure of tourists can be employed according to the goal of the segmentation strategy. For instance, a destination may want to increase tourists' expenses without considering their length of stay, or want the tourists expend more in a shorter time period (Legohérel & Wong, 2006). Lima et al. (2012) investigated expenditure segmentation for a mountain destination. Authors found that daily expenditure per visitor at the destination is an appropriate segmentation basis to maximize the positive economic effects of tourism. Similarly, Dixon et al. (2012) reported that segmentation based on daily expenditures of sport tourists, who attended a PGA tournament, worked well to distinguish the spending patterns, trip characteristics and trip preferences of three expenditure-based segments.

The behavioral patterns of tourists, i.e., daily expenditure and length of stay, show significant differences for different seasons of the year (Bonn et al., 2002; Tkaczynski et al., 2010). Researchers offer tools, e.g. seasonal variation index, to understand the seasonality better but these techniques may not allow to know the most favorable tourist groups for reducing the negative impacts of seasonality when there are complex segmentation (Cisneros-Martínez & Fernández-Morales, 2015). Thus, understanding the differences of contributions of tourist markets for the different season may lead to have better marketing strategies that maximize the economic benefits for tourism businesses and the destinations. To ensure this, segmenting the tourist markets according to the expenditure level and length of stay has been becoming more critical which is the main aim of this paper. On the other hand, tourist typologies might also be used to understand the behavioral characteristics of tourist groups.

### 2.2. Tourist Typologies in Segmentation of Tourist Markets

Profiling and modeling the consumption typologies in tourism has become a complex and challenging task because many factors influence consumption patterns (Simancas Cruz et.al., 2022). Categorizing and segmenting the tourist groups through tourist typologies is a common approach in the tourism literature. Murphy (1985) classifies tourist typologies as interactional and cognitive-normative. While interactional tourist typologies are based on the interaction between tourists and the destination (Cohen, 1972; Uysal & McDonsals, 1989; Eagles 1992; Keng & Cheng 1999), cognitive-normative typologies are based on tourists' travel motivations (Cohen, 1979; Plog, 2001; May et al. 2001). Studies on determining the shopping habits of tourists (Fairhurst, Costello & Holmes, 2007), understanding the motivation of golf tourists (Kim & Ritchie, 2012), ecotourists (Hvenegaard, 2002), and backpackers (Uriely, 2009) are cognitive-normative studies.

Tourist typologies, on the other hand, are criticized by some authors. Criticisms made by Lowyck et al. (1992) include that tourist typologies are tautological (limiting the generalization produced from typology to the data that make up the typology), may have methodological constraints, and the difficulty in categorizing strictly due to the complexity of tourist motivations and activities. Sharpley (1994) states that most typologies are static and cannot model the development of tourist types over time, and therefore typologies have

limited predictive features. However, typologies can still be useful tools especially for DMOs for their marketing strategies.

Using typology logic, tourist markets can be categorized and segmented to identify which markets are promising or neglectable according to their economic contributions to the destination. Such a typology can help to destination governance bodies to better understand their source markets and to implement marketing strategies considering each market's structural characteristics. Hence, the variables to be used for such aim need to be selected carefully.

Tourist typologies can help DMOs to pursue their strategies. DMOs generally implement strategies that aim to increase the tourist arrivals, length of stays of tourists, and daily expenditures of tourists. However, not all strategies can be applied or meaningful for all markets and at all times. Each destination has also its unique market portfolio which leads to better or worse performance compared to their rivalries. For instance, a destination can attract more tourists from one market than its main rival but its net tourism gain, which can be called as total revenue minus total cost of all tourism activities, could be less than its rival destination. The reasons of such situation could stem from the differences in selling prices, cost of production, or tourists' length of stay. Overtourism can create also stress on the natural and cultural assets of the destination which might produce unrecoverable damages (Adie et al., 2020; Silva & Henriques, 2021). Especially mature destinations can feel such pressure intensely in peak season. Thus, destinations need a tourism market typology that categorizes the markets so that they apply marketing strategies effectively for throughout the year, not for only peak season. In the following part, a tourist market typology, based on daily expenditure, length of stay, and total contribution to income of destination, is introduced and application of the typology is illustrated using Turkish tourism statistics.

### 3. DEVELOPING TOURIST MARKET TYPOLOGY

A typology that aims to classify a phenomenon with standard categorical scales should meet the criteria of being mutually exclusive and collectively exhaustive otherwise an observed case may take place in more than one cell, or may not be in any cell (Collier et al., 2008). Unlike the traditional 2x2 matrix typologies, in this study 2x2x2 matrix is used - three variables each with two categories- which

constitutes eight cells. Three variables are: the average daily expenditure, length of stay, and income contribution of markets. Dichotomous categorizes are defined as low and high according to the variable's comparative position in the destination's data set. It is categorized as "Low" when below the mean and as "High" when above the mean. The eight group is illustrated in Figure 1 and defined in Table 1 with suggested strategies.

The first group of tourist markets are called as "Weak" markets. Tourists in this market perform below average for all three indicators. It would be an appropriate strategy to ignore these markets and move to more efficient markets. The second group includes the tourist group named as "Resource Consumer" which are in the "Low" category in terms of average daily expenditure and the share of total tourism income of the destination, and "High" in terms of average length of stay. This group of tourists spend less but stay longer in the destination. Their contribution to total tourism revenue is below the average and therefore it is the group with low added value. It may be appropriate to consider these markets for relatively low seasons.

The third group is named as "Useless Crowd" markets. Although they are above the average in terms of total income, they are the markets with low daily expenditure amounts and average length of stay. Due to the high number of total tourists, their share in total income is high but it may be appropriate to reduce their share in the total tourist portfolio due to the low average expenditure per person and the average number of overnights whose added value is low when considering the efforts and the cost associated with handling the tourism operations.

Tourists in the fourth group is named as "Mass Market". The daily expenditure of these tourists is low but their share in the average stay and total income is high. This group can be regarded as the typical tourists of the peak season. Although it is recommended to keep them due to their high total income share, making new investments in these markets could not be a good strategy for maximizing the net tourism revenue.

Fifth group markets are called as "Potential Markets". Despite their high daily spending habits, they stay less in the destination and have a low share in total income. It would be appropriate to monitor these markets and invest in appropriate ones. The sixth group is "High Potential Niche Markets". The main strategy should be to increase the number of tourists by focusing on these tourist markets, which are above average in terms of daily expenditure and

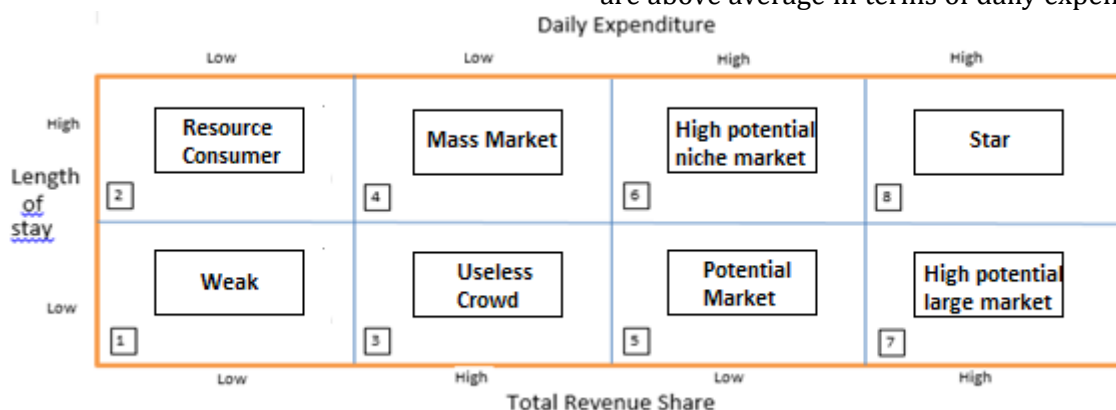


Figure 1. Tourist Market Typology Groups

overnight stays, but have a low total income contribution. The seventh group of tourist markets is called “High Potential Large Market”. Despite the low average overnights, their daily expenditure is high. They also contribute to the total revenue of the destination above average. The tourists in this market can be promoted to “star” market status by implementing strategies to increase their average length of stays. The eighth group of tourists is “Star Market” of the destination. It is above average in terms of all three indicators. Protecting these tourist markets and increasing investments in these markets will maximize the total income of tourism.

**Table 1.** Tourist Market Typology and Strategies

Typology	Daily Expenditure	Average Stay	Total Expenditure	Strategy
1 Weak	Low	Low	Low	Neglect
2 Resource consumer	Low	High	Low	Consider for low season
3 Useless crowd	Low	Low	High	Decrease the ratio in total share
4 Mass market	Low	High	High	Hold but no more investment
5 Potential market	High	Low	Low	Watch, can be invested
6 High potential niche market	High	High	Low	Focus, increase the tourist numbers
7 High potential large market	High	Low	High	Focus, increase the length of stay
8 Star	High	High	High	Protect and improve

## 4. METHODOLOGY

### 4.1. Data Collection and Analysis

In order to illustrate the application of the typology suggested above, quarterly Turkish tourism statistics of 2018 were used. Quarterly data were collected from the web site of Ministry of Culture and Tourism of Turkey ([www.turizm.gov.tr](http://www.turizm.gov.tr)). Nationality based tourism revenue (\$) of each quarter was taken directly from [www.turizm.gov.tr](http://www.turizm.gov.tr). Average length of stay (ALSi) of each tourist markets were calculated by dividing total number of overnights (TOi) to number of tourists (NTi). Daily expenditure (DEi) per tourist was calculated by dividing total expenditure of that tourist market (TEPTi) to average length of stay of the market (ALSi). The mean scores of each variable were calculated for each quarter and then each tourist market was evaluated whether they are below or above the mean scores for the three variables (1). Lastly, tourist markets were placed on the matrix illustrated in Figure 1 according to the market typology developed in Table 1 (Figure 2) (Appendix 1).

- ALSi is called low if  $ALS_i < \bar{ALS}$  and;
- ALSi is called high if  $ALS_i > \bar{ALS}$  (1)
- DEi is called low if  $DE_i < \bar{DE}$  and;
- DEi is called high if  $DE_i > \bar{DE}$
- TEi is called low if  $TE_i < \bar{TE}$  and;
- TEi is called high if  $TE_i > \bar{TE}$ ; Where i = the tourist markets

## 5. FINDINGS

### 5.1. Findings of 1st Quarter

Approximately 15% of 2018 tourism revenue was obtained in January-March. In this quarter, most average daily expenditure was done by Spanish tourists (153 \$). Iran market made the highest contribution to the total tourism revenue. The other most spending countries are Turks living

abroad, African countries, Russia, Germany and the CIS. Although Georgia is the country with the most overnights (23 overnights), it is also the market that spends the least per person per day (5 \$). Azerbaijan (13.2), Germany (9.7), Austria (9.9), and CIS (10.2) are the other countries with the most length of stay.

According to the tourist market typology groups; Bulgaria and Greece are in the 1st group, which is called as “weak market” due to their performance below the average in terms of all three criteria. These markets can be ignored in marketing activities for the first three months of the year. Second group includes Austria, Azerbaijan, CIS countries, Belgium, Georgia, Syria, Ukraine, Sweden and Switzerland. Although the average length of stays of the tourist markets in this group are high, their daily expenditure and their contribution to total tourism revenue are low. The third group consists of markets that have a significant share in total income but have low daily spending and average overnights. In the first quarter, Russian Federation and England are included in this group. The strategy of preserving the current situation can be applied in the 4th group of markets, which can be named as “mass market”, consisting of Turks living abroad and Germany.

The 5th group of countries can be seen as a “Potential Market”. These are countries with high daily spending characteristics but less length of stay and lower total income contributions. Investments can be made in suitable markets by monitoring these markets. American countries, Australia, France, Denmark, Japan, Canada, Spain, Tunisia, Israel and Italy are in this group of markets (Figure 2a). The USA and the Netherlands are among the sixth group of countries classified as niche markets with high potential. These markets can be leveled up to the “star” group of countries with the appropriate strategies to increase tourist numbers. African countries and Iran are “large markets with high potential” which are in the 7th group and can be included in the “star” group by increasing their average length of stay. In this quarter, there is no country in the “star” category.

### 5.2. Findings of 2nd Quarter

Approximately 24% of the total income of 2018 was realized in April-June. Top tourism revenue generating markets in this quarter are; African countries, Russia, Britain, Germany, Iran and Turks abroad. Canada, Spain and Japan tourism markets lead in terms of daily expenditure per tourist. Iran, Azerbaijan, Georgia and Turks abroad are the tourist markets which engaged in the most overnight stays.

There are some differences compared to the previous quarter. Denmark is in the 1st group at this quarter due to the falling of daily spending below average. Ukraine, Bulgaria and Greece are the other countries in the first group and in the position of “weak market”. Resource consuming markets in this quarter are Austria, Azerbaijan, Belgium, Georgia, Netherlands, and Syria.

Germany and Turks abroad continue to be the mass markets and UK, Iran and CIS countries are other mass markets in this group in the second quarter. Farther countries like USA, America countries, Australia, and Japan along with France, Tunisia, Spain, Sweden, Switzerland and Italy are the “potential markets” because of their low contribution to total



revenue and low overnight stays. On the other hand, tourists from these markets spend above average which makes them potential market. Israel is “high potential niche market” and the main strategy is to increase the number of tourists from Israel in second quarter of the year. There is no country in the “high potential large market” category in the second quarter. African countries are the “star” markets of this quarter (Figure 2b).

### 5.3. Findings of 3rd Quarter

A significant part (39%) of the total income of 2018 was generated in the third quarter (July-September). In the period of July-September, daily expenditure per tourist decreases compared to other quarters. Japanese and Spanish tourists spend more than any other tourist groups in this quarter. The average length of stay in this quarter is also high. Georgia, Azerbaijan, Turks abroad, Germany, Switzerland and Austria markets are top markets in terms of number of overnight stay (Figure 2c).

Along with Bulgaria and Greece, Australia and Ukraine, which were in other groups in the previous quarters, took place in the first group (weak market) in this quarter. Denmark, France, Sweden and Switzerland are the “resource consumers”. Russia, England and Iran are “useless crowd” in this quarter which means that decreasing the share of these markets and focusing other promising markets could add more value. Even though their share in income is high due to the high volume of tourists, daily spending and number of stay of these markets is below the average. Germany, the CIS and Turks abroad are the “mass markets”. Most of the countries categorized as “potential market” in the second quarter do not change their positions in this quarter. Israel and African countries moved to the fifth group (potential market), and this group was the group with the highest number of countries together with the second group (resource consumers). In this quarter, there is no country in the “high potential niche market”, “high potential large market” and “star” market.

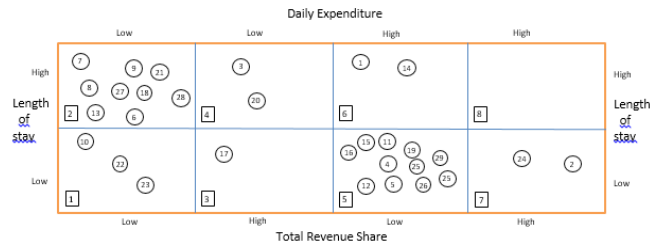
### 5.4. Findings of 4th Quarter

The last quarter of 2018 (October-December) contributes approximately 22% to the total tourism income. Turkey’s total tourism leading markets in terms of their contribution to income are African countries, Germany, England, Russia, Iran and Turks living abroad. Japanese tourists are in the first place in terms of daily expenditure amounts with \$191, followed by Spain (\$167), Italy (\$152), Tunisia (\$139) and African countries (\$136). In terms of average overnight, Azerbaijan, Georgia, Turks abroad, and CIS are the featured countries (Figure 2d).

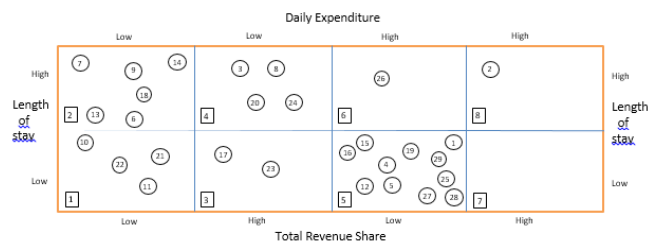
It is seen that many countries maintain their positions compared to the previous quarter. Bulgaria and Ukraine are negligible markets of the last quarter of the year as “weak markets”. The CIS countries, which are regarded as main markets of Turkey, are “resource consumer” markets in this quarter. Other countries of this group are; Austria, Azerbaijan, Belgium, Georgia, Netherlands, Syria and Australia. The average length of stay in these countries between October and December are high, but their daily expenditure amounts and their share in total income are low. Russia, England and Iran are

in the position of “useless crowd” markets. Turks living abroad and Germany continue to be “mass market” in this quarter. Most important changes in this quarter is that Denmark, Sweden, Greece and France have come to the “potential market” group. African countries are in the category of “high potential large markets” in this quarter. In the fourth quarter, no country is included in the “star” category (Figure 2).

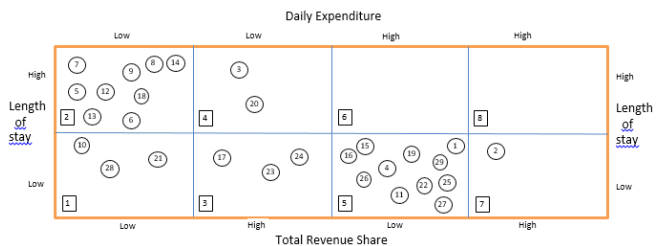
a. 1<sup>st</sup> Quarter



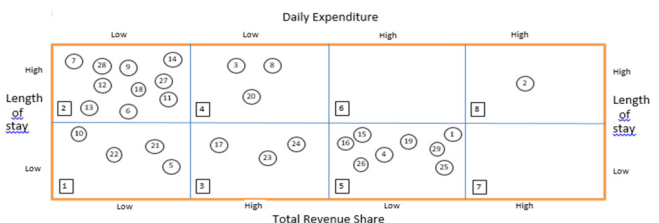
b. 2<sup>nd</sup> Quarter



c. 3<sup>rd</sup> Quarter



d. 4<sup>th</sup> Quarter



Note: Numbers in circles indicate the tourist markets in Appendix 1.

**Figure 2.** Tourist Markets of Turkey – Four Quarters of 2018

### 5.4. General Evaluation

In the first quarter, nearly half of the total income (40.3%) comes from tourists who spend 6-10 nights and have an average daily expenditure of 51-100 \$ (40.9%). This quarter is also the period that the contribution of tourists with high daily spending (over 150 \$) to periodic income is the highest (28.3%) (Table 2).

During April-June, the contribution of tourists who spend 6-10 night is the highest (68.5%) to the periodic

income. In the third quarter (July-September), it is seen that tourist group with mid-level daily spending (51-100 \$), and tourists who stays between 11-15 days on average, made the highest contribution (49.5% and 86.7%, respectively).

The contribution of tourists who spend 16 or more nights in October-December quarter is higher than any other quarters (28.3%). At the same time, this quarter is the one that the contribution of the tourist group with the lowest average daily expenditure (1-50 \$) is the highest (29.1%). These results are parallel to finding of Koc and Altınay (2007). They used monthly data and found that seasonal pattern in per person tourist spending in Turkey considerably different from the seasonal pattern in tourist arrivals and tourism receipts such that some of the months in the off-peak period are higher than average, whereas it is lower than average in most of the months in the peak period, i.e., in April, May, June and July.

Analysis of tourist markets of Turkey in 2018 reveals that market typology of some tourist markets (such as Germany, Bulgaria and Russia) does not change for all quarters whereas some markets (such as Iran, African countries and Denmark) take place in different typology category for different quarters. It, therefore, requires DMOs to pursue marketing strategies which should consider the seasonality patterns of the tourist markets in order to maximize the economic benefit of tourism.

Tourism revenue can be increased by directing the resources to tourist groups with high daily expenditures and length of stay. In this respect, the tourist groups in the first, second and third groups called as “weak”, “resource consumer”, and “useless crowd” respectively stand out as markets with low added value which consume more resources and need to be reduced in the total tourism portfolio.

Table 2. Distribution of total income by average overnight stay and average daily expense

	1 <sup>st</sup> Quarter		2 <sup>nd</sup> Quarter		3 <sup>rd</sup> Quarter		4 <sup>th</sup> Quarter	
	Nu. of Country	Total Income %	Nu. of Country	Total Income %	Nu. of Country	Total Income %	Nu. of Country	Total Income %
<b>Overnight Stay</b>								
<b>Overnight Stay</b>	Nu. of Country	Total Income %	Nu. of Country	Total Income %	Nu. of Country	Total Income %	Nu. of Country	Total Income %
<b>1-5</b>	4	3.4	5	6.3	4	3.6	6	8.5
<b>6-10</b>	18	40.3	18	68.5	10	36.4	13	40.9
<b>11-15</b>	3	35.3	3	22.6	8	49.5	4	22.3
<b>16 and above</b>	<b>4</b>	<b>21</b>	<b>3</b>	<b>2.7</b>	<b>7</b>	<b>10.5</b>	<b>6</b>	<b>28.3</b>
<b>1-50</b>	6	8.5	3	3.3	2	2.6	4	29.1
<b>51-100</b>	13	40.9	13	77.3	18	86.7	16	49.9
<b>101-150</b>	4	22.3	7	12.5	7	9.8	9	18.4
<b>151 and above</b>	6	28.3	6	6.9	2	0.9	3	2.7

Countries in one of these three categories throughout the year are: Austria, Azerbaijan, Belgium, Bulgaria, Georgia, Russia and Syria. Particularly, the fact that Russia is included in the “useless crowd” group, which contributes above the average to the total income due to the low amount of daily expenditure and length of stay throughout the year, is a matter that should be carefully examined. It may be possible to transform this group into a “high potential big market” or “star” market by developing strategies to increase the average length of stay and / or the average daily expenditure.

Germany and Turks abroad are the typical “mass market” for the whole year. CIS countries were included in this group between April and September

and Iran between April and June. On the other hand, Iran is a large market with high potential in the first quarter of the year. It may be wise to increase tourism revenue by focusing more on the Iranian market, especially in this quarter, which is the lowest income generating quarter of the year.

The fifth group of countries are “potential markets”. Countries included in this group in all quarters are: American countries, Japan, Canada, Tunisia, Spain and Italy. The USA, France and Israel are the countries in this group for three quarters of the year. This group of countries spends daily above average, but has shorter holidays and have low share in total income. Switzerland, for the second and fourth quarter, and Greece, for the fourth quarter, are the potential markets. Tourists from countries in this group are high-spending tourists. It may be possible to increase tourism revenue primarily by developing strategies to increase the average length of stay. To do this, the travel motivations of tourists from these countries can be examined in more depth and strategies such as developing different activities in destinations suitable for each market, increasing the number of activities, and developing different product concepts can be created.

The sixth group of countries are high potential niche markets with high daily expenditures and average stays, but their low share in total income indicates the low number of tourists from these countries. Strategies to increase the number of tourists from these country groups may lead a significant increase in total tourism income. USA and Netherlands in the first quarter; Israel in the second quarter are in this group.

The seventh group of countries are “high potential large market” countries with high daily spending, low average length of stays and a high share in total income. Implementing appropriate strategies to ensure that the tourists of this country spend more nights will lead these group of countries to move to the “star” group. Iran is in the first quarter, African countries are in the first and fourth quarters take place in this group.

The eighth group of countries, “star” markets, are the countries that are above the average in terms of daily expenditure amounts, average length of stay, and total income share. Only in the second quarter, African countries are included in this group. It is revealed that few markets exist in the sixth, seventh and eighth groups.

## 6. DISCUSSION

The tourist markets typology suggested in this study provides important managerial and theoretical contributions for practitioners and researchers. While the tourist typologies in the literature mostly aim to understand the motivations of tourists and their expectations in tourism destinations, the typology proposed in this study aims to make an economic evaluation of tourist markets. Tourist market typology produced eight groups by using three variables -daily expenditure, length of stay, and share within the total tourism income of destination- and two categories (low and high). It may be used as a guide to decide which strategic objectives to be followed for which markets, such as ignoring the market, increasing the tourist arrivals or increasing the length of stay.

Application of the typology developed in this paper was carried out using quarterly data of tourist markets of Turkey in 2018 to better understand the seasonal characteristics of tourist markets and to guide the marketing strategies to be followed for different quarters of the year.

Findings show that it is not enough to use only the strategy that aim to increase the number of tourist arrivals in order to increase the tourism revenue. Tourists' spending habits and average length of stay are also important variables (Svensson et al., 2011). Diversification of the tourist markets of Turkey properly may lead to reduce the volatility of tourism revenues (Ağazade et al. 2021). It is possible to spread the tourism activities to the whole year and increase the total tourism revenue by evaluating each quarter of the year within itself and develop strategies unique for each tourist market. Therefore, an important result that stands out in this study is that it is necessary to analyze the different patterns of quarters of the year more carefully and to follow strategies accordingly. It appears that some traditional markets do not actually perform well (e.g. Russian market) and the total market shares of various countries with potential (especially those in Group 5, 6 and 7) need to be increased. This result is also in line with the findings of Buluk and Duran (2018) and Ağazade et al. (2021). Buluk and Duran (2018), using the panel shooting model, expressed that the UAE, Lebanon, Qatar, Kuwait and Sudan are the countries sending tourists below their potential. Ağazade et al. (2021) found that Turkey may be an important destination especially for tourists from East and Southeast Asia, the Middle East, and African markets.

Another unique contribution of this paper is the variables used in segmenting the tourist markets. Although there are various studies in the literature to determine the factors affecting the average length of stay of tourists (Alegre & Pou 2006; Garcia & Raya 2008) or expenditure amounts (Kozak et al., 2008), these variables were not used in these studies to classify the markets of the sending countries. Instead of using the same strategies for each market country, it was concluded that a strategy to increase the number of tourists in some markets, and strategies to increase the number of overnight stays or daily expenditures for some markets may be more appropriate in increasing total tourism revenue. Tourism revenue have been evaluated in this study with the average overnight numbers and daily average expenditure amounts, which are among the basic indicators that make up the revenue. One important advantage of tourism market typology suggested in this paper is its ease of use. Its simplicity makes it easier for the professionals to use the typology which aids to group the markets based on their contribution for each period of the year. Thus, it can assist to develop a dynamic market strategy to be pursued for different period of the year which in turn generate more profitable and efficient tourism industry which is parallel to what Lin, You, Lau, and Demir (2019) recommended that tourism policy makers should avoid to "one size fits all" marketing strategy. As a limitation, this study applied a cross section analysis and it captures only one year's market composition. It was done intentionally because the aim of the paper is to introduce the typology and let the following researchers to test

the typology using multi-year data. In future studies, researchers can use panel data sets and investigate how the tourist markets change in different years, seasons, and for different destinations.

## 7. CONCLUSION

Identification of different tourist segments which have different effects on tourist expenditure (Aguiló et al., 2017) is vital for destinations to increase the economic benefit of tourism. Moreover, it is also necessary to avoid over tourism for the sustainable use of natural, historical and man-made resources that the tourism is mainly dependent on. Especially mature destinations should find ways to reduce low value added markets and increase high ones in their market portfolios. In this way, the economic contribution of tourism can be increased while minimizing the negative impacts of tourism, e.g. increasing productivity through producing more with using less resources. In this context, the market mix must be set correctly. On the other hand, seasonal differences should also be managed in the best way considering both temporal and spatial characteristics of seasonality in tourism demand (Tsiotas et al., 2021). Not every tourist group can provide the same level of economic contribution throughout the year. Destinations have to use their resources more efficiently by determining which markets will create more added value in which periods while performing market segmentation. DMOs need tools which are easy to use and effective while applying marketing strategies accordingly. Tourist market typology suggested in this paper can be easily used by the DMOs either as a general segmentation tool of tourist markets according to nationality like in this study, or using it to segment the sub-groups of tourists, e.g., rural or eco-tourists.

Marketing strategies can be addressed around three main objectives: increasing the number of tourists, increasing the average number of overnights, and increasing the average daily expenditure. Tourist market typology suggested in this paper was applied to the data of Turkey's tourist markets in 2018 and some strategy recommendations were given in Table 3.

**Table 3.** Objective, target market typology and generic strategies

Objective	Target Market Typology	Generic Strategy
Increase the tourist numbers	Potential market High potential niche market	Increase the promotion intensity
Increase the average length of stay	Potential market High potential large market	Diversify the tourism products Invest in loyalty programs
Increase the average daily expenditure	Mass market	Raise the value of tourism products

DMOs may aim to increase the number of tourists for potential markets and high potential niche markets. For this purpose, they can increase the intensity of promotion in such markets determined for each quarter. It is reported in the literature that nationality significantly affects the length of stay (e.g., Gokovali et al., 2007; Thrane and Farstad, 2012). Increasing the average length of stay of potential and high potential large markets can help to increase the total tourism revenue. For these markets, diversifying tourism products and investing in loyalty programs can be suggested. To note that increase in the length of stay may not affect daily expenditure significantly (Laesser and Crouch, 2006; Kim et al., 2008) or may affect it

positively (Roehl and Fesenmaier, 1995) or negatively (García-Sánchez et al., 2013; Perez and Juaneda, 2000). Therefore, DMOs should monitor the impact of such strategy and take the necessary actions. Contribution of mass markets to overall tourism revenue of destination is high due to the high volume of tourist arrivals and the above average length of stay of this group. In order to increase the yield from this tourist market, strategies that aim to increase the average daily expenditure can be applied. By this regard, step wise increase in the value of tourism products can be suggested. As a result, if the tourist market typology is used by DMOs appropriately, i.e. considering the seasonal differences of the tourist markets, it can increase effectiveness of the marketing.

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#### Appendix 1. Tourist Market Typology- Quarters of 2018

Markets	Typology			
	1Q	2Q	3Q	4Q
1 USA	High potential niche market	Potential market	Potential market	Potential market
2 African Countries	High potential large market	Star	Potential market	High potential large market
3 Germany	Mass market	Mass market	Mass market	Mass market
4 American Countries	Potential market	Potential market	Potential market	Potential market
5 Australia	Potential market	Potential market	Weak	Resource consumer
6 Austria	Resource consumer	Resource consumer	Resource consumer	Resource consumer
7 Azerbaijan	Resource consumer	Resource consumer	Resource consumer	Resource consumer
8 CIS Countries	Resource consumer	Mass market	Mass market	Resource consumer
9 Belgium	Resource consumer	Resource consumer	Resource consumer	Resource consumer
10 Bulgaria	Weak	Weak	Weak	Weak
11 Denmark	Potential market	Weak	Resource consumer	Potential market
12 France	Potential market	Potential market	Resource consumer	Potential market
13 Georgia	Resource consumer	Resource consumer	Resource consumer	Resource consumer
14 Holland	High potential niche market	Resource consumer	Resource consumer	Resource consumer
15 Japan	Potential market	Potential market	Potential market	Potential market
16 Canada	Potential market	Potential market	Potential market	Potential market
17 Russia	Useless crowd	Useless crowd	Useless crowd	Useless crowd
18 Syria	Resource consumer	Resource consumer	Resource consumer	Resource consumer
19 Tunisia	Potential market	Potential market	Potential market	Potential market
20 Turks (abroad)	Mass market	Mass market	Mass market	Mass market
21 Ukraine	Resource consumer	Weak	Weak	Weak
22 Greece	Weak	Weak	Weak	Potential market
23 England	Weak	Useless crowd	Useless crowd	Useless crowd
24 Iran	High potential large market	Mass market	Useless crowd	Useless crowd



## FLEXIBLE TO SHIFT OR TRANSFORM: EFFECTS OF COVID-19 ON THE FUTURE ANXIETY OF HOSPITALITY STUDENTS

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### KEYWORDS

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### ABSTRACT

COVID-19 has represented a turning point for hospitality industry with enormous effects leading to a potential transformation. This study aims to identify the effects of this period on the pandemic evaluation and future considerations of hospitality students to suggest actions for decision-makers in hospitality education to motivate students into sustainable careers in the sector. The findings of the quantitative research report that students' evaluations of the pandemic are explained by future anxiety and openness. Students with prior work experience have more negative evaluations of the pandemic. The findings of the qualitative research point out that students evaluate the pandemic period with a realistic and optimistic perspective and enhance their capabilities to adapt to changes, transform or shift to a relevant sector.

## 1. INTRODUCTION

COVID-19 has been a type of pandemic leading to the collapse of the many sectors in the hospitality industry on a global scale, including the shutdown of businesses and leisure activities (Higgins-Desbiolles, 2020) leading to a serious employment problem as well (Gössling et al., 2020). Hospitality is among the industries which were hit the most by the pandemic (WEF, 2020) with a decline in employment exceeding 50 percent (Bartik et al., 2020). However, the industry will need qualified employees as international tourism is expected to recover in up to four years (UNWTO, 2020). Therefore, more attention needs to be given to the views of higher education students as prospective labour force in the hospitality field under the conditions of COVID-19 which will affect their future orientation towards the sector.

Hospitality education is a critical domain given its potential to raise workforce for one of the largest global employers (Robinson et al., 2016). However, a major problem in the hospitality industry is the lack of qualified employees looking to pursue a sustainable career for various reasons. These include wages, working conditions, and the inefficiency of curricula in educational institutions (Robinson et al., 2016; Tsai et al., 2017). COVID-19 has posed a severe challenge for the hospitality industry to attract higher education students as qualified employees as this pandemic is a global case, which increases the levels of anxiety of students in higher education in relation to uncertainty about the future (Baloran, 2020; Cao et al., 2020; Faize & Husain, 2021). This is understandable given the nature of anxiety feeling and its association with negative experiences in the surrounding world, including diseases (Zaleski, 1996).

In this respect, this study has been conducted

to comprehend the feelings and considerations of hospitality education students as prospective employees. The aim of the study is to identify the effects of the pandemic period on perceptions and future career considerations of hospitality students and to suggest actions for decision-makers to take to motivate and encourage young people to pursue careers in the field. The research was conducted with a mixed method of quantitative and qualitative techniques. Study 1 as the quantitative part focused on revealing relationships between evaluations of the pandemic and future anxiety (FA) and on understanding the general psychological state and approach of students towards the pandemic with positive-negative affect and personality traits of students. Study 2 included qualitative research and aimed at obtaining some insight into students' experiences and views to complement and interpret the findings of the Study 1 and to develop solutions for relevant parties. This second stage included two focus group interviews with Turkish and foreign students.

## 2. LITERATURE REVIEW

One major aim of higher education is to prepare young people for employment as professionally trained employees or potential managers (Wang & Tsai, 2014). In this respect, hospitality education institutions dedicate their efforts to cultivating future leaders in various segments of the industry (Kim & Jeong, 2018). This necessity becomes even more apparent and urgent today due to the

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rapid development of the sector (Tsai et al., 2017), presenting challenges to institutions in producing well-trained professionals as well (Robinson et al., 2016). However, COVID-19 pandemic has introduced an unexpected source of consideration to keep young individuals on their career path in hospitality industry despite their anxiety about the future.

### 2.1. Student anxiety during the COVID-19 period

The COVID-19 pandemic represents a critical source of uncertainty (Gössling et al., 2020; Gursoy & Chi, 2020) as an indiscriminate disease and has created a crisis where the situation has become more severe because of the fear of the global spread of the associated risks and consequences, leading to a remarkable economic impact and unemployment problems worldwide (Anderson, 2006; Henderson, 2003; Laws & Prideaux, 2005; UNWTO, 2020). These risks posed by COVID-19 have been among the major sources of anxiety for higher education students about their future after graduation as it represented a major threat and challenge for future employees (Mahmud et al., 2020). The literature includes evidence that examines the perceptions, psychological states, and actions of higher education students in conditions of uncertainty, crisis, and risk, given their critical position being confronted with a period of transition from education to professional life (Tsai et al., 2017).

Career anxiety is one psychological state related to this period of transition as a research topic in the field (Boo & Kim, 2020; Mahmud et al., 2020; Tsai et al., 2017; Wang & Tsai, 2014). This type of anxiety may originate from expected economic recessions in any employment environment (Cao et al., 2020; Tsai et al., 2017). Studies reveal the career anxiety of higher education students during the pandemic and their orientation for career adaptability (Boo et al., 2021) and resilience (Üngüren & Kaçmaz, 2022) to balance the effects of anxiety in their lives. In addition, during uncertain periods like COVID-19, students' orientation towards industry may be unstable. In a study after the 9/11 terrorist attacks, undergraduate students in the USA reported higher levels of negative perceptions in relation to intentions to change their career plans; however, they did not express high levels of negative perceptions or concerns about their expected career situations upon graduation (Williams & Clemenz, 2003).

COVID-19, on the other hand, has triggered researchers to focus on student anxiety in general during the pandemic period, especially under the conditions of lockdown leading to the stoppage of higher education at universities. Those studies report COVID-19-related anxiety in two main dimensions: General living-survival and academic-professional pursuit. Reasons for anxiety with a focus on general living-survival pertain to several causes. Students show high degrees of anxiety about food and financial resources, social contact, the safety of family members, economic effects, and general effects of the pandemic on daily life (Baloran, 2020; Cao et al., 2020). Living in urban areas, living with a family, and the family income stability act as protective factors against anxiety (Cao et al., 2020).

As for the reasons for academic-professional pursuit, university students dealing with uncertainties in their lives which have a negative impact on their academic progress report higher levels of anxiety than employed individuals

(Odriozola-González et al., 2020). Although some students may not display high anxiety levels during the COVID-19 pandemic, those with higher levels may have concerns in relation to their upcoming academic studies, performance, and engagement (Baker, 2021; Cao et al., 2020; Faize & Husain, 2021). Nonetheless, in relation to professional concerns, COVID-19 is a negative factor for prospective employees, leading to higher levels of anxiety about their careers (Mahmud et al., 2020). More specifically, hospitality students of higher education institutions may become more susceptible to online learning conditions and future financial expectations during the pandemic period that leads them to experience higher levels of anxiety (Tavitayanan, et al., 2021).

### 2.2. Future anxiety

COVID-19 pandemic has been a source of uncertainty leading to anxiety based on its impact on individuals' emotional state (Gu et al., 2020). Unsurprisingly, it has been a major source of anxiety, leading to the development of a specific measurement scale to assess its current impact and associated issues (Lee, 2020) as well as studies assessing general traits of anxiety related to the pandemic (Duplaga & Grysztar, 2021). As a form of anxiety in relation to future expectations, future anxiety (FA) is regarded as a strong cognitive orientation towards the future (Zaleski, 1996). This anxiety is effective in analysing the strength of motivations for developing preventive and constructive actions and solutions as a response to actual social and political events (Zaleski et al., 2019). Zaleski defines FA as 'a state of apprehension, uncertainty, fear, worry, and concern of unfavourable changes in a more remote personal future' (Zaleski, 1996: 165).

Recent literature with a focus on individuals' anxiety due to the impact of COVID-19 pandemic offers evidence for FA to be effective. Duplaga and Grysztar (2021) report higher FA caused by the effects of the pandemic, especially for working people when compared to business owners and entrepreneurs. Similarly, FA shows a moderate and positive relation to job insecurity in the hospitality industry (Tellioğlu, 2021). A study analysing the academic experiences of university students using the FA scale (Zaleski et al., 2019) reveals greater FA among undergraduate students and international students, leading to a lower sense of well-being (Dodd et al., 2021). FA is found to be one significant predictor of higher education students' likelihood to express multiple health complaints during COVID-19 (Dadaczynski et al., 2022). Moreover, FA is one psychological factor assessed to comprehend resilience and vigilance under the effects of the COVID-19 pandemic (Angela et al., 2022; Lee-Won et al., 2022).

The impact of COVID-19 with a substantial decline in the employment rate in the hospitality industry necessitates an approach with a focus on the future. The assumption of the current study is that although university students' anxiety is based on a variety of issues in relation to the near future, the COVID-19 pandemic is a major component involved in developing and experiencing anxiety about their personal future. Given the stated utilization of the FA scale in various studies during COVID-19, FA conceptualization of Zaleski (1996) appears to be a convenient model to comprehend young individuals' anxiety related to COVID-19 during their student-

work transition period.

### 2.3. Other psychological aspects of the pandemic period

A higher level of FA is a significant predictor of mental health for university students with multiple complaints including depression (Dadaczynski et al., 2022). In addition, how people perceive and react to the pandemic and deal with FA is related to their relatively permanent affective structure, which consists of two distinctive dimensions, defined as positive affect (PA) and negative affect (NA) (Watson et al., 1988). High levels of PA are associated with energetic, focused, and active engagement, whereas low levels of PA reflect sadness and lethargy. High levels of NA are characterized by aversive emotional states such as anger, fear, and nervousness, whereas low scores correlate with states of calm and serenity (Sanmartin et al., 2020; Watson & Pennebaker, 1989).

Few studies in the hospitality field have utilized the Positive and Negative Affect Schedule (PANAS) despite its frequent use in consumer behaviour research (Li et al., 2015). One study states that tourism students' PA leads to academic achievement (Uludag, 2016). PA is a factor in students' intentions to stay in the industry (Walsh et al., 2015) and is effective in enabling genuine hospitality with less emotive dissonance (Chu et al., 2012), in addition to having a mediating effect on the relationship between supervisory support and employee behaviour (Tang & Tsaur, 2016).

Another factor involved in how people evaluate stressful events like the pandemic is personality. The Big Five Inventory (BFI) represents the trait structure of people (McCrae & Costa, 2008). The model asserts that five basic factors describe most personality traits: Neuroticism, openness to experience, extraversion, agreeableness, and conscientiousness (Roccas et al., 2002). Personality traits tend to be stable over time and resistant to normative life events that are stressful (Specht et al., 2011). However, a recent study reveals that changes occur in BFI personality traits during the early phases of the COVID-19 pandemic, and it shows that neuroticism scores of participants who are not in quarantine decrease, while openness, agreeableness, and conscientiousness scores decline of those in quarantine (Sutin et al., 2020).

BFI is a popular tool used in the hospitality field (Leung & Law, 2010). The model is found to be effective in many forms of organizational psychology studies conducted in hotel settings. Findings from such studies reveal various relationships between personality, burnout, and engagement (Kim et al., 2007, 2009), perceptions of workload and frustration (Young & Corsun, 2009), and organizational commitment and satisfaction (Silva, 2006). The study of Teng (2008) reveals a specific situation related to personality in terms of career uptake in hotel businesses and reports the positive effects of extrovert characteristics in opting to work in this industry as students. Recent research on hospitality students reports the impact of students' personality traits on technical, learning, and financial anxieties (Tavitiyaman et al., 2021).

The present study aims to identify the effects of the pandemic period on perceptions and future career considerations of hospitality students and to suggest actions for decision-makers to take to motivate and

encourage young people to pursue careers in the field. Based on the literature with a focus on FA and pandemic evaluations in relation to participants' personality traits and affective structures, the following research questions were developed:

(1) What is the relationship between students' socio-demographic characteristics and the levels of FA?

(2) What is the relationship between students' socio-demographic characteristics and pandemic evaluation scores?

(3) Is the pandemic evaluation influenced by positive and negative dimensions of affective structure, personality traits, and FA?

### 3. METHOD

All the unfavourable effects of the COVID-19 pandemic have been evident in Türkiye, given the dramatic decrease in the numbers of international tourists– 51% on a quarterly basis and 68% and 99% for the months of March and April 2020 respectively, compared to the numbers for the same periods in 2019 (Ministry of Culture & Tourism, 2020). As expected, hotel businesses reduced their staff levels to a limited number of permanent workers, ceasing their internship and seasonal employment programs, and sending their employees on unpaid holidays, provided with a very low amount of unemployment wage from the government. Those restrictive actions continued to be utilized even after openings during the summer period to reduce operational costs. Such negative changes in the hospitality sector led current students and prospective professionals in the sector to be more concerned and anxious about their expectations of living conditions as well as their careers in the future.

Considering all the pandemic-related sectoral and educational conditions in the country, the research was carried out at the School of Applied Sciences of a foundation university (will be referred as School in the manuscript) located in İstanbul, Turkey. The School consists of two programs of four-year undergraduate degrees with intensive sectoral links and internship programs: Hotel Management (HM) and Gastronomy-Culinary Arts (GCA), with a total of 399 registered students at the time of the research (63% GCA students and 37% HM students; 92% Turkish and 8% foreign students). To explore the effects of the pandemic period in an extensive scope, the research was conducted with two studies since a combination of different methods is critical to comprehend individual responses (Li et al., 2015). Study 1 included a survey on FA, other psychological aspects, and pandemic evaluations of students whereas Study 2 included two focus group interviews with Turkish and foreign students to capture insight about students' feelings and considerations.

#### 3.1. Study 1: FA and other psychological aspects survey

##### 3.1.1. Participants

The participants were recruited by sending the survey link (an online Google form) via email to all undergraduate students (N:399) at the School. The online form included consent text, demographic information questions, and the other scales mentioned in the measures section (please see below). The data collection for this stage was completed between 20 May and 22 June 2020.

The study was carried out at one higher education institution where a total of 399 students were registered at two undergraduate programs (GCA and HM). Therefore, 196 or more measurements/surveys were required to have a confidence level of 95 percent (significance level .05) with a 5 percent margin of error. Although the online survey link was sent to all the students, 105 students responded by filling out the online form despite three reminder emails. Therefore, the study had a 95 percent confidence level with a 8.05 percent margin of error. Since the margin of error is between 4 – 8 percent at the 95% confidence level is acceptable, the sample size in the study was considered as sufficient and data were taken into the analysis process. Average age of the respondent group was 22.06 (with a standard deviation of 2.5). Other demographic and descriptive statistics of the respondents are presented in Table 1.

**Table 1:** Characteristics of the Respondents

	N	%
Gender		
Female	67	36
Male	38	64
Nationality		
Foreign	11	10
Turkish	94	90
Mother's Education		
Primary school	17	16.Şub
High school	42	40.0
University	46	43.8
Father's Education		
Primary school	12	11.Nis
High school	38	36.2
University	55	52.4
Department		
GCA	69	66
HM	36	34
School Year		
Prep	7	7
Freshman	22	21
Sophomore	22	21
Junior	25	24
Senior	29	28
Current Accommodation		
University dorm	8	7.Haz
Alone	11	10.May
Family	86	81.9
Permanent Residence		
İstanbul	82	78.1
Other cities	18	17.Oca
Abroad	5	4.Ağu
Current Residence		
İstanbul	77	73.3
Other cities	20	19.Oca
Abroad	8	7.Haz
Work/Internship Experience		
Yes	81	77.1
No	24	22.Eyl
Family member working in the hospitality sector		
Yes	35	33.3
No	70	66.7
Webinar/Activities Follow-Up		
Yes	61	58.1
No	44	41.9

As seen in Table 1, most of the students were female (64%) and Turkish students (90%) with prior work experience (77.1%) in the field. Most of the students lived in Istanbul with their families. The tendency of students to follow sectoral webinars and other online activities (58.1%) was also remarkable, leading to a certain level of cognition of the current effects and conditions (Zaleski, 1996).

3.1.2. Measures

The following measures were used to gather quantitative data to comprehend the general psychological state and FA orientation of the participants (See Appendix for survey questions):

- PANAS: This scale consists of 10 negative and 10 positive mood terms and a 5-point Likert-type response scale, with scores ranging between 10 and 50 (Watson et al., 1988).
- BFI: This scale uses short phrases to assess the most prototypical traits associated with each dimension: Openness, conscientiousness, extraversion, agreeableness, and neuroticism (John et al., 1991). The 44 BFI items are rated on a 5-point scale.
- FA: A shortened version of the scale (Zaleski et al., 2019), with five items rated on a 7-point Likert scale, is used in the study.
- Pandemic Evaluation Survey: This section was included to assess the participants' evaluation of the pandemic period with reference to their expectations of sectoral or employment issues. The questions were generated with a descriptive research design and aimed at addressing probable relations with other variables of the study. This survey was not developed as a scale and consisted of items that assess the attitudes of the students in relation to the pandemic and its probable impact on their future careers. The goal was to determine whether general evaluations of the students were positive or negative. Therefore, face and content validity of the survey was carried out via a panel of experts in the field of hospitality. This survey consisted of 10 items rated on 5-point Likert scale. Of these 10 items, those numbered 1, 4, 8 and 10 were reversely coded so that the total score would reflect a positive evaluation of the pandemic.

3.2. Study 2: Future and career considerations

As a supportive technique to comprehend students' views, this study was carried out to capture insight into the future and career considerations of students and to interpret the findings of Study 1.

3.2.1. Participant characteristics

Two focus group interviews (one for Turkish students and the other one in English for foreign students) were conducted for data collection. Each session included six students from the GCA and HM departments. Table 2 summarizes the details about the participants.

**Table 2:** Characteristics of Focus Group Participants

Session	Code	Dept.	School Year	Age	Permanent Residence	Current Residence	Professional Experience	Nationality
1	T1	HM	2	21	Dorm	Family	Yes	Turkish
	T2	HM	3	22	Student House	Family	Yes	Turkish
	T3	GCA	4	24	Apartment	Family	Yes	Turkish
	T4	GCA	1	19	Dorm	Family	No	Turkish
	T5	HM	4	24	Family	Family	Yes	Turkish
	T6	GCA	3	22	Apartment	Family	Yes	Turkish
2	F1	HM	1	19	Dorm	Alone	No	Canadian
	F2	GCA	3	22	Dorm	Family	Yes	Pakistani
	F3	GCA	3	22	Apartment	Family	Yes	Jordanian
	F4	GCA	4	21	Apartment	Family	Yes	Pakistani
	F5	GCA	4	20	Dorm	Family	Yes	Pakistani
	F6	HM	2	21	Apartment	Alone	Yes	Moroccan



### 3.2.2. Focus group interviews

Study 2 included two sessions of focus group interviews with 12 participants in total to obtain insights about the perspectives of students in terms of the effects of COVID-19 and recommended solutions. The topics of the interview questions were determined as follows:

- Description of the feelings and thoughts about the pandemic.
- Expectations about the future of the sector upon graduation (within a year or longer).
- Opinions and expectations about career upon graduation.
- Recommendations for decision-makers.

### 3.2.3. Procedure

Two separate sessions of interviews for Turkish and foreign students were organized on the Zoom platform (the duration of each interview was 90 minutes on average) during the first week of June 2020. Each session included six students from the GCA and HM departments. In order to enhance the ease of response and openness to share, one research assistant at the School with a major in GCA and a minor in HM moderated the interviews. The interviews were recorded as video files and transcribed for separate data analyses by two authors of the study. The qualitative analysis of focus group data involved thematic analysis of the transcripts of focus group interviews and was carried out separately by two authors. The written transcripts were analyzed by evaluating each sentence of the participants and the relevant excerpts were coded using open coding in accordance with Braun and Clarke (2006). The process of open coding resulted in common themes which were agreed upon by two authors of the study.

## 4. RESULTS

The findings of Study 1 and Study 2 will be presented respectively.

### 4.1. Findings of study 1

First, the Cronbach's alpha values of the PANAS, BFI, and FA in the current study were .70, .71, and .82 respectively. To determine whether FA and pandemic evaluation scores were normally distributed in relation to the sample characteristics (gender, department, nationality, family member with experience in the hospitality field, prior work/internship experience in the hospitality field, and sectoral activities follow-up), Shapiro-Wilk's tests ( $p > .05$ ) were carried out. Based on the results, t-tests for independent samples were applied to the pandemic evaluation scores only in relation to sample characteristics. After inspecting the results of Levene's tests ( $p > .05$ ), one-way analysis of variance was used for sample characteristics, for which the homogeneity of variance assumption was not violated (types of accommodation, permanent and current residence, and years at school). Multiple linear regression was performed to assess the ability of PA, NA, BFI, and FA and predict the effects on the pandemic evaluation. Preliminary analyses were performed to ensure that there was no violation of the assumption of normality. To check for the violation of the collinearity assumption, tolerance, and variance inflation factors (VIFs) were evaluated. An alpha level of .05 was used for all statistical tests.

#### 4.1.1. Pandemic evaluation and FA: Socio-demographic variables

T-tests for independent samples and ANOVA were used to assess the first and second research questions of the

study and to determine whether sample characteristics (gender, department, nationality, and sectoral activities follow-up) resulted in significant group differences in pandemic evaluation scores only as the assumption of normality was violated for FA scores. Significant differences in terms of pandemic evaluation were found between groups of participants with and without prior work/internship experience in hospitality sector [ $t(103) = 2.668, p < .01$ ]. Participants with no prior work/internship experience ( $M = 32.42, SD = 5.03$ ) evaluated the pandemic more positively than those with prior experience ( $M = 29.01, SD = 5.61$ ).

For the rest of the socio-demographic variables with more than two groups (types of accommodation, permanent and current residence, and years at school), ANOVA tests were performed to find out if group differences existed in FA and pandemic evaluation. The only significant group difference was found among participants who reported different places of current residence and only in FA levels [ $F(2;104) = 3.235, p < .05$ ]. To specify the groups with significantly different from each other, a post hoc Tukey's B test (Tukey's honestly significant difference test) was carried out. This test showed that participants who reported their current place of residence as other cities of Türkiye ( $M = 23.40, SD = 8.29$ ) expressed significantly higher FA levels than those living in İstanbul ( $M = 22.39, SD = 8.27$ ) and abroad ( $M = 15.13, SD = 6.01$ ). The participants currently living abroad reported significantly lower levels of anxiety than both groups.

#### 4.1.2. Pandemic evaluation: Psychological considerations

The higher scores in the pandemic evaluation survey indicated a tendency to interpret the pandemic as a phenomenon that could have a positive impact on the hospitality sector and career expectations, so further examinations were carried out for clarifying the relationships between pandemic evaluation and psychological characteristics of the participants. To that end, two groups of participants were generated using the median (Median=30) of the pandemic evaluation total scores, with the aim of determining whether those groups were different in terms of PA, NA, FA, and BFI scores. The first group with negative evaluations included participants with lower scores than the median value and the second with positive evaluations involved those with higher scores. Shapiro-Wilk's tests revealed that the assumption of normal score distribution was violated for PA, FA, and BFI of conscientiousness and openness. The differences between constituted groups with high and low pandemic evaluation scores were therefore inspected regarding NA, extraversion, agreeableness, and emotional stability (neuroticism).

A t-test for independent samples was performed and the analysis revealed that the pandemic evaluation groups did not differ significantly in terms of BFI. However, there were significant group differences in NA [ $t(103) = 3.77, p < .001$ ]. The group of participants with less positive evaluations of the pandemic reported significantly lower levels of NA ( $M = 27.91, SD = 6.61$ ) than the group with more positive evaluations ( $M = 22.38, SD = 7.99$ ). These results indicated that the participants did not show a negative mood despite their awareness of the impacts of the pandemic on the sector and career expectations reflected by their fewer positive evaluations. This orientation can be explained by the relatively high level of follow-up of the latest news from the webinar/activities on COVID-19 (58.1%) and the School's sectoral orientation to establish dynamic relations and gain updated sectoral insight.

4.1.3. Predictors of pandemic evaluation: PA, NA, BFI, and FA

Several correlational analyses were performed to examine the relationships between PA, NA, BFI, FA, and pandemic evaluation using the Pearson Product Moment Correlation Test (see Table 3) to answer the third research question. Results of the Pearson correlation indicated that pandemic evaluation showed a significant positive association with PA ( $r(104) = .26, p < .01$ ) and openness ( $r(104) = .19, p < .05$ ). Furthermore, negative and significant relationships were found between pandemic evaluation and NA ( $r(104) = -.34$ ), and pandemic evaluation and FA ( $r(104) = -.42, p < .01$ ).

**Table 3:** Correlations among Pandemic Evaluation, FA, PA, NA, and BFI

	7.	8.	9.	1.	2.	3.	4.	5.	6.
1.PA									
2.NA			-.37**						
3.Extraversion			.20*	-.16					
4.Agreeableness			.17	.05	.12				
5.Conscientiousness			.39**	-.10	.31**	.29**			
6.Neuroticism			-.41**	.47**	.34**	-.25**	-.43**		
7.Openness			.33**	.03	.31**	.13	.26**	-.14	
8.FA			-.40**	.60**	-.01	-.06	-.15	.48**	-.03
9.Pandemic evaluation			.26**	-.34**	-.06	.07	-.02	-.18	.19*

\*\* $p < .01$ , \* $p < .05$

As the highest correlation among the variables is less than .8, VIF scores were all approximately 1 and all tolerance scores were above .2, PA, NA, openness, and FA were included as predicting variables of pandemic evaluation in the regression analysis (see Table 3). A multiple linear regression analysis was subsequently used to develop a model for predicting participants' pandemic evaluation scores from their PA, NA, openness, and FA scores (Table 4).

**Table 4:** Linear Regression Results for Variables Predicting Pandemic Evaluation

Model		B	SE	$\beta$	R <sup>2</sup>
1	Constant		36.04	1.43	0.17
	FA	-0.63	0.06	-0.42**	
2	Constant		29.93	3.24	0.19
	FA	-0.28	0.06	-0.41**	
	Openness	0.16	0.07	0.18*	

\*\* $p < .001$ , \* $p < .05$

The model was significant [ $F(1;104) = 21,73; p < .001$ ] with R<sup>2</sup> of .17 indicating that 17% of the variance in the pandemic evaluation was explained by FA. The next model, including FA and openness, was also significant [ $F(2;104) = 13,40; p < .001$ ] with R<sup>2</sup> of .19 revealing that openness explained an additional 2% of the variance in pandemic evaluation. Therefore, the pandemic evaluation scores were predicted by FA and openness whereas PA and NA scores were not significant predictors of pandemic evaluation.

4.2. Findings of study 2

The qualitative analysis of focus group data involved thematic analysis of the transcripts of focus group interviews and was carried out separately by the first two authors. The written transcripts were analyzed by evaluating each sentence of the participants on Microsoft Excel worksheets and the relevant excerpts were coded using open coding in accordance with the framework recommended by Yin (2011), disassembling, and reassembling the statements of the participants.

This process resulted in common themes, which were agreed upon two of the authors. During the focus group interviews, Turkish and foreign students were asked to answer the questions mentioned above. In general, the findings from the qualitative analysis support and expand those from the quantitative stage and provide insights into how students interpret the current and expected conditions.

4.2.1. Perceptions about the current conditions and pandemic considerations

First, students' perceived conditions include both negative and positive aspects. Negative aspects incorporate dealing with new experiences happening unexpectedly in terms of life setting (moving to the family house, living in a limited space with other family members), learning (distance learning, workload), and concerns (considerations of uncertainty). However, these negative aspects are balanced with positive factors in terms of a life-changing frame of mind leading to participants' accounts indicating self-awareness, self-confidence, and self-actualization. In accordance with the findings of this study, showing the lowest level of FA for students living abroad, foreign students who could return home underlined their relief about being with family in such uncertain times and under lockdown conditions. Despite some psychological problems, participants did not express a direct relationship between certain feelings and emotions triggered by the pandemic, as supported by the lower NA scores of participants despite their negative pandemic evaluations.

As for considerations and feelings during the pandemic, foreign students tend to have more positive and optimistic feelings compared to their Turkish peers. Anxiety-related evaluations on uncertainty are more evident for Turkish students and this situation has been proven by higher FA levels among participants from İstanbul or other cities in Türkiye than among foreigners. Their main consideration is based on economic reasons and being unable to pay for education. Junior and senior students emphasized their concerns more than other students in terms of financing their education.

4.2.2. Sectoral and career considerations

Concerning the perceptions of the hospitality industry upon graduation, major estimates and expectations are explained in two main directions by the participants in focus groups. Demand-side issues focus on the immediate and long-term effects of the pandemic. The general belief is that the industry would have some challenges in the summer of 2020 and the situation would become better within a year. One participant (T5) stated that the industry will experience an 'explosion', because people have been locked down for some time, longing to spend time with loved ones, leading to a quick recovery with better results than before. Two students (T3 and T6) also drew attention to the immediate return to normality from isolated life potentially extending the pandemic, with negative effects on the hospitality industry.

Specifically senior and junior students expressed their concerns about unemployment. On the one hand, uncertainty about the time needed to return to normality is evident; thus, many establishments have had to limit employment and even send their permanent staff on unpaid leave. This situation decreases hopes for employment just after graduation. On the other hand, the hospitality industry has suffered from the pandemic in relation to its core advantages, such as offering international jobs. Nevertheless, in the long run, according to most of the participants, people will start to go out or

go on holiday again to come together with friends and family members.

With this knowledge and general confidence, students seek their own ways to adapt to the situation with some flexibility in their career plans – for example, seeking a job in the field to earn money and plan their career path when everything becomes normal (T5), looking for other sectors where their knowledge and professional experience will be applicable (F3, T3), postponing starting their own business for more years and profiting from other opportunities offered by the extensive scope of the industry (F4). All these findings verify that students' optimistic views are generally effective in relation to their decisions and strategies despite their negative evaluations of the pandemic (part 4.1). Students show a realistic and optimistic manner of interpreting the current conditions to form their career strategies.

The second kind of perspective mentioned by the participants, involved supply-side issues, based on various aspects that are mainly triggered by technological developments leading to flourishing businesses. Students assume that digitization will increase, intensify, and spread in hospitality businesses to limit contact between people (F6). Requirements for digitalization or digital marketing knowledge and relevant skills will therefore be higher. The business scope will change and incorporate increasing numbers of small businesses (T2), employment of fewer but more qualified people (T3), and implementation of hygiene and new rules (F2, T3). Business structures will also introduce new units and positions instead of traditional departments (T5), new systems and concepts (ghost restaurants) (T6), and food delivery instead of face-to-face restaurant services (F2). In addition, sustainability will regain importance, particularly with a greater focus on local production. This orientation will restrain 'crazy consumption' (T4), resulting in a cleaner environment.

Students tend to have positive expectations about their careers, depending on favourable estimates about the hospitality industry. One reason for this optimistic view is based on educational aspects such as School education, which is recognized by the quality of graduates employed (T1, T3) and the scope of hospitality education applicable in other service businesses (T2). Based on feelings of uncertainty resulting from the pandemic period, most participants in both Turkish and foreign groups opt to extend their knowledge and skills in hospitality and other sectors. A variety of options exist for participants to consider, such as managerial training (T1), training and certificate programs in digitalization (T1), online education programs in various fields (T2), academic research into gastronomy from a sustainability perspective (F5, T4), postgraduate studies in other fields to extend knowledge (T6), and advanced level or specialization programs (F3, T3). All the students expressed their intention to pursue career in hospitality in the future. However, they feel that they needed to keep taking action to overcome the difficulties of the pandemic period, especially in terms of earning their lives. In this sense, the participants indicated alternative paths to follow, such as temporary take-over of family businesses (T1, T3), gaining professional experience in hospitality (F2, F4, F6), and looking for jobs in other relevant sectors (T2).

#### 4.2.3. Recommendations

In accordance with those orientations, foreign participants' recommendations mainly concern actions to take to improve their learning environment including better organization of distance learning with practical

sessions in safety settings (F1, F3) and development of new practices in a hybrid (distance and face-to-face) education system. Some foreign students offered suggestions related to self-development, such as gaining new skills according to individual needs (F1) and self-care, self-control, and awareness of others' safety (F4, F5) given the possible lack of institutional regulations. Turkish participants' views focus on the awareness of hygiene, safety necessities and applications (T3), and the needs of visitors as experiencers with a desire for safe holidays (T1, T5, T6). In addition, sharing international information and experience (T4), open-air facilities (T5), healthcare in terms of nutrition and immunity (T6), and the need for extended practices and methods for the delivery of scarce sources of foods (F5) were all suggestions. These aspects may guide the content required in the curriculum for hospitality education to prepare prospective employees for the sector's new normal.

## 5. DISCUSSION

This study aims to identify the effects of the pandemic period on perceptions and future career considerations of hospitality students and to suggest actions for decision-makers to take to motivate and encourage young people to pursue careers in the field. As a result of two studies, findings reveal that students' pandemic evaluations were predicted by their levels of FA. The results of the current study in terms of FA are consistent with the findings that the COVID-19 pandemic has led to uncertainty and anxiety (Duplaga & Grysztar, 2021; Gu et al., 2020). In addition to FA, the second predictor of pandemic evaluations was openness. This finding is also remarkable given the effect of openness on attempts at new experiences, discoveries, and risk-taking behaviours based on consciousness and motivation to seek out the unusual (McCrae & Costa, 1997). This orientation is also evident in the other findings of the study in terms of lower levels of NA and positive expectations about the new normal stated in the interviews.

Despite their lower levels of positive evaluations of the pandemic, students display lower levels of NA and thus express a realistic view of the current conditions of the pandemic and an optimistic perspective on the future. As explained in the interviews, this tendency may be related to the positive expectations of students about the recovery or adaptation of the hospitality industry after the COVID-19 outbreak. This orientation was most probably created by follow-up from webinars or other pandemic-related activities such as information sources (Faize & Husain, 2021; Zaleski, 1996) and supports the view of Zaleski (1996) in relation to the cognitive orientation towards the future. Those activities may also be beneficial for students as opportunities to meet their concern- and curiosity-related psychological resources during the pandemic (Boo et al., 2021).

In addition, the group of participants with less positive evaluations of the pandemic reported significantly lower levels of NA than the group with more positive evaluations. These results indicate that, although the participants in the more positive evaluations group tended to experience the world in a more negative way, this led to an evaluation of the pandemic as a positive phenomenon and perhaps an opportunity for the hospitality sector. Positive evaluations of the pandemic despite higher levels of NA can be explained by self-concept clarity (Alessandri et al., 2020) based on the findings of the qualitative analysis in the current study. Students express their awareness and intention to study hospitality and their satisfaction with the university support and program content in relation to sectoral aspects.

The current research also confirms the findings of previous studies (Baker, 2021; Baloran, 2020; Cao et al., 2020; Faize & Husain, 2021; Mahmud et al., 2020; Odriozola-González et al., 2020; Tavitiyaman et al., 2021) in relation to issues creating anxiety such as concerns about family, social life, health, financial sources, academic life, and learning pursuits. The findings also point to foreign students' lower levels of FA, which may be explained by the effect of being with family and protecting against the anxiety caused by the pandemic (Cao et al., 2020). In relation to lower levels of negative pandemic evaluations with no prior work experience, as per the early stage of education, the findings of the qualitative analysis revealed relatively high levels of anxiety among junior and senior students. This tendency is understandable given that these students are at their transition stage from educational to professional roles, experiencing anxiety about the expected economic recession (Tsai et al., 2017) given the expected unemployment problems in such global crises (Anderson, 2006; Henderson, 2003; Laws & Prideaux, 2005, UNWTO, 2020).

In general, students appear prudent within the current conditions and immediate negative effects of the pandemic and do not show a high negative tendency to change the sector, which confirms the findings of Williams and Clemenz (2003). They are generally optimistic about returning to normality in the industry in a few years, and possible changes, which may require new skills, will occur. In this respect, students also show some degree of hope despite the current challenges (Zhong et al., 2021). Most of the participants showed awareness of these challenges, demonstrating understanding and flexibility to adapt and find solutions. Students cool, prudent, and problem-solving approaches can be explained by various factors such as their intention to follow up webinars and sectoral events (part 4.1).

Students focus on adapting to changes by shifting to relevant fields or acquiring new skills based on optimistic views of the industry underlines their choice of productive and support-seeking strategies (Boo & Kim, 2020). This orientation also confirms the findings of a prior study in terms of young individuals who are realistic about the lack of a current work environment but seek some solutions such as networking and relocating (Parola & Felaco, 2020). Students' intention to adapt to changes by various means of career adaptability or resilience as an individual resource against challenges reduces anxiety and worries about their abilities, career, and employment environment (Boo et al., 2021; Üngüren & Kaçmaz, 2022).

University support is a key factor in balancing the negative and positive aspects of the pandemic situation. Easy and rapid adaptation of universities to distance learning, accessibility of instructors always for questions or help, and an understanding manner on the part of universities and universities' successful management of the conditions were all important. Thus, open communication supported by university administration and engagement between relevant parties has proved critical in overcoming uncertain conditions (Anderson, 2006; Huang et al., 2008; Williams & Baláž, 2015; Zhong et al., 2021). Moreover, findings also reveal that the engagement of the School to distance education and online learning with current technologies and the strong involvement of the informatics team in order to support faculty members in improving their online instructional practices is effective for student motivation during pandemic (Teodorescu et al., 2021). In addition, according to the findings of the qualitative analysis, the sector- and vocation-oriented nature of the School helps students observe the current conditions and pursue more realistic

career awareness and adaptation (Tsai et al., 2017).

Participant statements about the recommended solutions reveal a new challenge for hospitality education programs. Educators need to revise their curricula and academic content to incorporate the new normal as another development factor (Tsai et al., 2017). There is a challenge for educators to raise well-trained professionals in the face of recent transformative changes (Robinson et al., 2016; Sigala, 2021). In addition to transferable soft skills and capabilities, sustainability- and technology-oriented subjects to foster innovation competencies of hospitality students will become inevitable to include in the new curricula to recover tourism in a better future (Phi & Clausen, 2020; Sigala, 2021).

## 6. CONCLUSIONS AND IMPLICATIONS

This study with a focus on students' perspectives and experiences during COVID-19 offer insightful findings for official and professional bodies to undertake effective plans for encouraging young individuals to a sustainable career in the hospitality industry. Notwithstanding some theoretical contribution is also worth mentioning.

### 6.1. Theoretical implications

The current study, which has been conducted as interdisciplinary research of hospitality and psychology fields, introduces the FA scale (Zaleski, 1996; Zaleski et al., 2019) in the hospitality literature to assess the higher education students' FA given their education-work transition. In this respect, the current research introduces the utilization of the FA scale to assess future-oriented anxiety triggered by the example of COVID-19 effects and contributes to the existing literature on the future career anxiety of hospitality students (Tsai et al., 2017).

In addition, research into these issues will help understand various aspects and dimensions, leading to introducing new subjects, concepts, approaches, and perspectives in hospitality education curricula at a period of transformation. More specialized courses to develop the creative and innovative mentality of students to open new job opportunities may be inevitable (Kim & Jeong, 2021). In this regard, interdisciplinary research, especially in association with the field of psychology, as in the case of the current study, promises to offer insightful findings, enhancing the implementation of such projects and programs in a wider and more constructive scope.

The findings of the study in terms of lower NA despite lower levels of positive pandemic evaluations reveal the critical role of sectoral involvement in hospitality education so that students will be self-aware and self-confident with their knowledge and skills, courageous in their pursuit of a realistic career, and enabled to try new things because of the vision and experiences they gain from sectoral interactions. In this respect, future research into hospitality education in association with various psychological aspects including self-concept clarity (Alessandri et al., 2020) holds the potential to help scholars and practitioners with a comprehensive understanding of student assessments about the effects of the pandemic. Young professionals will therefore overcome the difficulties posed by the uncertain conditions of crises such as COVID-19, leading to their pursuit of sustainable careers in the sector.

### 6.2. Practical implications

COVID-19 represents a turning point for the hospitality industry with enormous negative effects on businesses and individuals. This temporary stop has the potential to transform many usual applications into better practices, embracing a wide range of stakeholders, factors, and

aspects (Gössling et al., 2020; Higgins-Desbiolles, 2020). Students as prospective professionals are also among those shaping the sector and businesses soon. However, the pandemic has caused a serious bloodletting in qualified associates and enthusiastic young individuals to pursue a sustainable career in the sector.

WEF (2020) reminds the critical position of hospitality as an industry of displaced workers potentially for future and starter sector for young individuals. Therefore, global crises such as COVID-19 may deepen the problems of finding and retaining qualified employees. The study findings underline this critical situation by revealing the intention of participating students in other sectors. With respect for UNWTO (2020) expectations for a recovery in a few years, the hospitality industry will need higher numbers of qualified employees. Thus, more focus on how prospective employees perceive the effects of the pandemic is crucial to make the necessary efforts to pursue a career path in the hospitality sector. Those efforts can be more effective with the collaboration of government, industry, and academia based on the various roles of each part. University and government can share the responsibilities for research, consultancy, funding and sourcing, planning, and legislation (Yang & Ren, 2021).

On the other hand, as a population in a state of transition from education to professional life (Tsai et al., 2017), higher education students, especially junior and senior students, may face unemployment problems or anxieties because of global crises such as COVID-19 (UNWTO, 2020), which are major threats for prospective employees who plan to work in the short run (Mahmud et al., 2020). The mental health of university students therefore needs to be carefully monitored to enable timely psychological actions and preventative measures in such critical times (Odriozola-González et al., 2020).

In respect for those concerns, the study findings reveal the importance of caring for higher education students as they are oriented to shift to another sector in the case of a crisis such as COVID-19. Particularly findings from the qualitative study disclose the concerns of senior students about unemployment and necessity to earn living in the short run. Given sectoral orientation and interest in the current happenings, students try to keep prudent and prefer flexibility in their career plans. However, both government and educational bodies need to develop more effective plans to support student development opportunities also by extracurricular activities, reduce health and safety concerns among young individuals, and keep their engagement to the sector through industry-academia projects.

From another point of view, the findings highlight the integration of sectoral partners and recall the interference of the industry, considering students as critical parts of their businesses as per their position as prospective employees and leaders. One target of the current study is to link this critical focus and dimension related to students and education to sustainable support for the hospitality industry as a global employer (Robinson et al., 2016). Sectoral partners need to develop awareness of current perceptions and feelings of students about their futures and career expectations given the effects of COVID-19 to help them maintain a realistic and optimistic view and pursue sustainable careers in the field.

### 6.3. Study limitations

The study has several limitations, which may inspire further research, particularly in the field of hospitality education. First, the study was conducted in only one research field. A similar study with a comparable design including various state or foundation universities,

different departments in the hospitality field or a variety of countries with relevant programs may produce a more comprehensive understanding of the anxiety of hospitality students during COVID-19. Intercultural studies including various countries may generate results reflecting diverse aspects of this global happening. In addition, the potential contribution of interdisciplinary approaches, including a variety of issues in relation to hospitality education, to future research will offer extensive knowledge to academic and sectoral efforts and works.

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## Appendix. Survey Instruments

Models	Scale type	Items and dimensions
PANAS	1: Very slightly or not at all, 5: Extremely. Please mark the number you feel is the most suitable for you.	20 items (please see Watson et al., 1988). Interested, distressed, excited, upset, strong etc.
Five-Factor	1: Strongly disagree, 2: Disagree, 3: Neither agree nor disagree, 4: Agree, 5: Strongly agree.	44 items (please see (John et al., 1991) Talkative, a reliable worker, depressed/blue, easily distracted etc.
Future anxiety	1: Decidedly false, 2: False, 3: Somewhat false, 4: Hard to say, 5: Somewhat true, 6: True, 7: Decidedly true.	1. I am afraid that the problems that trouble me now will continue for a long time. 2. I am terrified by the thought that I might sometimes face life's crises or difficulties. 3. I am afraid that in the future my life will change for the worse. 4. I am afraid that changes in the economic and political situation will threaten my future. 5. I am disturbed by the thought that in the future I won't be able to realize my goals.
Pandemic evaluation	1: Strongly disagree, 2: Disagree, 3: Neither agree nor disagree, 4: Agree, 5: Strongly agree.	1. The pandemic will have a negative effect on my career in the hospitality industry. 2. The pandemic will lead to new approaches and applications. 3. The hospitality industry will return to normal in a very short time after the pandemic. 4. Demand in the hospitality industry will decrease because of the pandemic. 5. The pandemic will have no serious and long-term effects on the hospitality industry. 6. I will need to acquire new skills to build a career in the hospitality industry after the pandemic. 7. New business models will develop because of the pandemic. 8. Employment opportunities will be limited after the pandemic. 9. New employment opportunities will appear after the pandemic. 10. It will take a long time to overcome the negative effects after the pandemic.



## PREDICTING THE FUTURE of THE FOODSERVICE INDUSTRY: A ROBOT-BASED ECONOMY PERSPECTIVE

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### KEYWORDS

Foodservice industry  
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Future of the foodservice industry

### ABSTRACT

This paper ascertains the perceptions of Turkish foodservice industry experts (i.e., executive chefs, business owners, and academicians) to predict the future of the foodservice industry in the robot-based economy. A content analysis was performed by drawing on the qualitative data that occurred through 18 semi-structured interviews. The findings illustrate the present and anticipated status of the usage of robots and AI and the possible impact of robotization and AI on employment in the foodservice industry based on its' experts' perspective. For instance, future robots and AI would take place in the production phase of the food and beverage industry; however, this would not eliminate human employment. Moreover, robotization would be more common in fast food establishments, leading to a change in people's nutrition habits; thus, more people are likely to return to a more traditional and straightforward way of life. Several theoretical and managerial implications are discussed according to findings that showcase a future trajectory for the foodservice industry in the robot-based economy era.

## 1. INTRODUCTION

In a robot-based economy, the growing reliance on robots and artificial intelligence (AI) has disrupted labor market structures and introduced both benefits and threats for the future of the foodservice industry (Ivanov, 2017). As one of the labor-intensive industries, the foodservice industry has witnessed the introduction of robots in both production and service delivery (Berezina et al., 2019). This industry is acknowledged as highly dynamic and prone to innovations in culinary technics, tools, and equipment. In this regard, several studies (e.g., Buhalis et al., 2019; Ivanov, 2017; Webster & Ivanov, 2020a; 2020b) suggested that digital transformation and its robot-based implications would cause some job shifting in labor-intensive industries such as the tourism and hospitality industry.

Despite increasing research endeavors addressing the robotization landscape in the foodservice industry (e.g., Cha, 2020; Fusté-Forné, 2021; Park et al., 2017; Zhu & Chang, 2020), there is limited understanding of how the economic ecosystem will look like in the industry over the next five decades and whether or not the robot-based economy will influence major operational models within the food industry including production and service delivery. Moreover, a considerable body of knowledge predicts a disruptive impact of robots on the future of some professions in the service industry (Ivanov & Webster, 2017a; Tuomi et al., 2019). Yet, the perceptions of individuals engaged in the foodservice industry about robots and AI and their potential impacts on their professional future have been largely overlooked. With these thoughts in mind, this study aimed to assess the future of the foodservice

industry through the lens of a robot-based economy. It also delved into the potential structural changes in professions within the industry. The study drew on qualitative data collected from food industry experts and academicians whose research areas are relevant to food or/and gastronomy. The study provides a significant theoretical contribution by assessing the future of the foodservice industry in the era of robots and AI.

Consequently, our research helps to improve current knowledge of how the foodservice industry will evolve in a robot-based economy concern. Based on these predictions of experts and academicians, the recent study contributes the food industry with the more sophisticated implications of robotization and AI. By comprehending the outcomes of this current study, responsible authorities can navigate the future of the foodservice industry more effectively. Lastly, it will provide an expert perspective on robotization and IA literature by delving into their predictions for the future of the food and beverage industry. Previous research demonstrates how robotization and IA are seen in the food and beverage industries, with the customer viewpoint being the primary source of prejudice (Belanche et al., 2020a,b). Therefore, the study from an expert perspective can help scholars better understand robotization and IA's effects on the food and beverage industry. The study also discusses several practical implications

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for both employees and foodservice providers.

## 2. LITERATURE REVIEW

### 2.1 The robot-based economy and the service industry

Robots and Artificial Intelligence (AI) are subject to reshape the tourism and hospitality industry (Li et al., 2019). Recent studies (e.g., Gursoy et al., 2019; Ivanov et al., 2017; Tung & Law, 2017; Tuomi et al., 2019; Park, 2020) provide a comprehensive review of the current state of robots and AI in travel, tourism, and hospitality industry. From a demand-side perspective, several research endeavors attempt to understand, for example, the adoption of robots by hospitality companies (Kuo et al., 2017) and people's evaluations and attitudes toward robots (Ivanov et al., 2018; Ivanov & Webster, 2019a; 2019b; Tussyadiah & Park, 2018). From a supply-side perspective, however, several studies focus on conceptualizing how the tourism and hospitality industry could adapt to the usage of robots and AI in service-delivering processes and explain the current and potential usage of robots and AI in the future (Collins et al., 2017; Ivanov et al., 2020; Ivanov, Webster, & Berezina, 2017).

Currently, the usage of robots and AI in the tourism and hospitality industry is argued to be restricted to uncritical tasks as the current state of the robots, and AI does not allow for complex service tasks. Therefore, robots and AI are still viewed as 'extensions' of human employees rather than their substitutes (Ivanov & Webster, 2017; Ivanov et al., 2021). Current usage includes, for example, self-service check-in and check-out / information, porter, concierge, and delivery robots at hotels (Yu, 2019); chatbots, robot chefs, bartenders, baristas at restaurants (Berezina et al., 2019; Tuomi et al., 2019), information office and displays, audio guides in travel agencies and tourist information centers; museums (Virto & López, 2019); cleaning and bag drop robots at airports (Ivanov, Webster, & Berezina, 2017), and other transport types (Shiomi et al., 2011). Yet, research shows that not all service processes can be automated and that some factors, including customer experience and competitiveness, may determine the decision to robotize and automatize the service delivery process.

In the specific context of the foodservice industry, the usage of robots and AI is argued to be promising (Cha, 2020). According to a report by Oracle (2020), robots and AI would have a significantly greater impact on the foodservice industry by 2025. Seyitoglu and Ivanov (2020a) suggested that a robotic restaurant experience can have several advantages, including attraction for kids and enhanced memorable experiences. Robots and AI can also augment the quality of service and create value for customers since they offer novel, interactive, and attractive service delivery in engaging and congruent with customers by transforming the service delivery process entertaining (Kuo et al., 2017; Wang et al., 2017). Robots can also operate highly repetitive tasks rather than human workers without complaints and without forgetting to fulfill constantly in the best way (Berezina et al., 2019; Ivanov & Webster, 2017a; Larivière et al., 2017; Wirtz et al., 2018). However, robots and AI may have some major pitfalls on the opposing side. The two significant issues are the extra costs for new financial resources

(e.g., recruiting experts to actuate and maintain the robots) and the lack of inventiveness and encounters in the interactions (Ivanov, 2019; Li et al., 2019). Despite these advantages and disadvantages, our knowledge about the current and potential use of robots and AI remains obviously limited.

### 2.2 Robots and AI in the foodservice industry

During the last several years, an increasing academic interest has evolved around the transformative power of robots and service automation within the tourism and hospitality industry. According to the MIT Technology Review (2018) report, it is estimated that 2 billion jobs will be eliminated by 2030 with RAISA applications. It is stated in much research that RAISA applications have made and will make great changes in industries where manpower is predominant. Therefore, RAISA applications that also operate in foodservices where manpower is intense will show remarkable differences in this industry (Flavián & Casalo, 2021).

Specifically, several studies examine the consumer perceptions of which activities robots can deliver instead of human employees in the foodservice industry. For instance, a study by Ivanov and Webster (2019a) demonstrated that restaurant customers signified the best convenient areas of robotization applications in a restaurant context - i.e., tidying up the table, menu presentation, order-taking, and cooking. Numerous studies also have examined the effects of robotics and AI in a different context. Published studies (e.g., Kim, Christodoulidou, & Choo, 2013; Collins et al., 2017) mentioned that food orders might be taken via kiosks and tablets in the restaurant industry or the service of the various sushi bowls can be serviced with conveyor belt. Several studies also elaborated on the effects of self-service technology (SST) and kitchen display systems (KDS) on changing encounters of the services (Kokkinou & Cranage, 2013; Rosenbaum & Wong, 2015), the usage of robots as service employees to collect the different objects on tables, take/bringing orders and table settlement, and so forth (Claveau & Force, 2019).

In addition, the current COVID-19 pandemic seems to have stimulated innovation whereby an increasing number of enterprises now rely on robots and AI as indispensable solutions to cope with the current challenges (Zeng et al., 2020). This matter also holds for the foodservice industry (Blit, 2020). For instance, during the current COVID-19 pandemic, several service providers have widely started to use robots for delivering food and other items without putting their employees' health in danger while maintaining sanitation (e.g., UV disinfection of facilities) and physical distancing (Seyitoglu & Ivanov, 2020b), and limiting potential virus contamination by transferring goods from warehouses to trucks (Demaitre, 2020). This situation has promoted the notion of being "untouched by human hand" which is closely associated with food safety. However, it is still unclear how the current pandemic influences business models in the foodservice industry and how the later played roles in promoting robots and AI.

### 2.3 The disruptive impact of robots and AI

The tourism and hospitality industry is largely inclined to the technological transformation that can influence the labor market and employment



structure (Alrawadieh et al., 2020). Despite numerous financial and non-financial benefits that can be attributed to robots and AI, there might be some threats to the future of some jobs within the industry. In this vein, some studies have addressed the bright future of employees in the tourism and hospitality industry and the potential impacts of robots and AI on the labor market, including employee satisfaction (Tian & Pu, 2008), turnover intention (Li et al., 2019) and, resistance to adoption (Ashcroft et al., 2019). Overall, there is general agreement on the significant impacts of robots and AI on the labor market, such as eliminating some jobs, creating new ones, and changing the face of some (Frank et al., 2017). However, the robot-economy may encourage the need for new and innovative educational approaches, which will lead to the transformation of the requirements of humans in the workforce (Ivanov, 2019; Webster & Ivanov, 2020). According to Ivanov et al. (2019), advances in robotics and AI may impact university education and on-the-job training, as well as human employees may be required to work alongside robots and thus should be fully prepared for such a transition. In the case of the food industry, according to a report by Oracle (2020), robots will be widely used for cleaning tasks in restaurants by 2025. Although cooking robots are argued to be able to cook many dishes to cater to customers (Yan et al., 2007), there may still be some issues hindering more enormous reliance on robots in the restaurant kitchen.

Ivanov and Webster (2017a) noted that employees should be trained to comply with advanced technology to overcome these issues. Currently, in the restaurant industry, food orders can be taken via kiosks, and the tablets can be serviced with a conveyor belt (Collins et al., 2017; Kim, Christodoulidou, & Choo, 2013). Numerous studies also illustrate robots can perform as service employees to collect different objects from tables (Claveau & Force, 2019), taking orders and bringing them from the kitchen (Kamruzzaman & Tareq, 2017), automated menu-recommender (Tan et al., 2012) and catering service robot (Chen et al., 2010). Further, Tuomi et al. (2019) examined how robotics transforms the roles of restaurant service employees. Although a current study by Seyitoğlu et al. (2021) provides a clue about the perceived mixed service delivery system regarding human-robot collaboration, it unlucky offers limited knowledge since the power of the IA technology was neglected in robotization. Therefore, this current investigation attempts to understand how robots and AI may jointly influence future jobs within the foodservice industry.

### 3. METHODOLOGY

Given the relative recency and the paucity of theoretical considerations on robots and AI in the tourism and hospitality industry in general and the foodservice industry in particular, the current investigation adopted an exploratory qualitative research approach. To predict the forthcoming of the foodservice industry in the context of a robot-based economy, semi-structured interviews were conducted with industry experts (e.g., executive chefs and business owners) as well as academicians.

A purposive sampling approach was adopted. The purposive sample approach was used in order to reach prospective participants since robotics and artificial intelligence (IA) technologies are arguably

now in their infancy, and most stakeholders are likely unaware of their potential and implications (Vu et al., 2022). Through an online search from one of the prominent social media source (e.g., LinkedIn), a total of 30 food industry experts and academicians were invited to participate in the study by messaging them on the related media source. As a result, 18 informants agreed to participate (nine food industry experts and nine academicians). Although around 25 interviews were planned, the authors agreed that with 18 interviews, data-saturated and thus further interviews would yield little additional insights (Saunders et al., 2018).

The interviews were conducted over a period of three weeks between July and August 2020. Given the ongoing pandemic and the resulting social distancing rules, all the interviews were conducted remotely, either by phone or via online meeting programs. The interviews were audiotaped with consent and verbatim transcribed, as well as lasted an average of 25 minutes. The interview procedure and questions were established using recent studies on robotics and artificial intelligence in the tourism and hospitality field (Berezina et al., 2019; Ivanov et al., 2021; Park et al., 2017; Seyitoglu, & Ivanov, 2020a; Tuomi et al., 2019; Virto & López, 2019; Webster & Ivanov, 2020a; 2020b). Two academics reviewed the questions in the tourism and hospitality fields before the start of interviews; just a few word changes were made. Five respondents were also recruited for a pilot test to evaluate the questions' clarity; confirmed their usability of the questions. Informants were initially asked about their perceptions of robots and AI usage and whether this would be common in the food industry. Then they were asked whether they support greater reliance on robots and AI in core business activities (e.g., cooking, service delivery). Informants were also asked about the possible impacts of robots and AI on the current employment structure in the field and whether more dependency on robots and AI would disrupt existing jobs in the food industry. Other questions were also asked to understand informants' perceptions toward changing consumer behavior; the possible impacts of the current COVID-19 pandemic on the process adoption of robots and AI, and the future of the food industry in the coming decades (For more, please see Appendix).

The six-stage content analysis guidelines recommended by Braun and Clarke (2006) were followed. The authors read the transcripts independently, discussed, and compared their findings before reaching a consensus on a final framework. All interviews were conducted and transcribed in Turkish based on Esfehiani and Walters's (2018) recommendation of examining transcriptions in the source language. This approach is argued to be highly reliable (Esfehiani & Walters, 2018) and proved to be effective in other recent research using cross-language thematic analysis (Alrawadieh et al., 2020). Despite its inherent limitation, the decision to include both academicians and industry experts was encouraged by the need to gain deep insights from different perspectives. To ensure validity, many original quotes from our interviewees were also shared (Elo & Kyngas, 2007). The descriptive profile of the participants is presented in Table 1.

(Please insert Table 1 here)

#### 4. FINDINGS AND DISCUSSION

##### 4.1 The Usage of Robots and AI in The Foodservice Industry

One of the study's primary purposes was to anticipate the future of robotics and artificial intelligence in the foodservice industry. A considerable portion of the informants agrees that robots and AI would be common in the foodservice industry. Informants supported their predictions based on the benefits that robots and AI provide. For instance, P6 noted:

"Robots will not require either annual leave or overtime. Staff payments have always been the major source of expenditure for businesses. The less you cut down on the staff [payments], the better your business is. Robots are easier to manage, with no mobbing [and so on]. So I think it will be more common in many aspects".

Despite the general support for introducing robots and AI into the industry, there are also some "however's." Specifically, the cultural factor, generational differences, the indispensable need for a human touch, and the type of food (fast-food vs. fine dining) were frequently mentioned as central issues moderating the extent to which robots and AI are used in the industry. P14 suggested, "they [robots and AI] will definitely be introduced into the industry, yet this may be limited as there will always be needed for human support." P5 noted that

"They [robots and AI] will not be common in the Middle East. However, I believe they will be widely employed in developed countries [...]. In this part of the world, I so do not think they will be successful".

Some informants predicted that robots and AI would be more common in the fast-food sector, given the highly standardized production and service delivery process. Likewise, Ivanov (2020) noted that the operating procedures, processes, and tasks might be based on the types of restaurants (e.g., fine-dining restaurants vs. low-cost restaurants). This matter is understandable since the fine-dining concept depends mainly on service quality, such as employees' communication skills (Kim et al., 2012). P8 pointed out that:

"[Robots and AI] will be an incredible opportunity for fast-food restaurants. This is different when it comes to fine dining restaurants. [...]. I would not go for a fine dining restaurant [that highly depends on robots and AI]. When I choose a fine dining restaurant, I look for something elite. Interaction with the waiter, his/her service matter".

However, some informants seem to adopt a conservative attitude toward robots and AI. These typically refer to the nature of the service industry whereby the human factor is crucial in the customer experience. P4 suggested:

"I don't think they [robots and AI] will become widespread in our country [Turkey]; our people are sentimental; they look for someone to talk to and chat with [...]. They may be used in other fields, but not in the food and beverage industry".

Regardless of their support or opposition to robots and AI, informants agree on the notion that customer behavior will change as robots and AI will dominate the food and beverage landscape. For instance, P6 suggested that "people would prefer food cooked by robots as they will perceive higher safety." However, P4 noted that the robot-based service model would

make customers "feel lonely." Similarly, P1 suggests that robots "will harm the atmosphere and thus reduce the added value." Overall, whereas customer behavior will probably undergo significant change, its outcomes, either positive or negative, seem to be unpredictable.

When asked whether the current COVID-19 pandemic enhances (or would enhance) greater adoption of robots and AI, the majority of the informants stated that if the pandemic persists, the adoption process will accelerate. P3 suggested, "If the pandemic continues [...] they [robots and AI] may be attractive [...] in the sense that people may perceive more safety in places where machines rather than people deliver food". However, the cultural factor seems to be relevant here as well. P2 stated, "[the impact of Covid-19] may vary from one society to another [...]. Perhaps a European or a Chinese tourist will be more conservative. For them, robotized restaurants may make them feel safe regarding hygiene and sanitation. One may assume that pandemics such as the current COVID-19 may encourage the adaptation of robots in the coming few decades, not only in the foodservice industry but in several other industries. Acknowledging the role of the foodservice industry in competitiveness among destinations might be led to cultivating more tolerant policies to adapt to the robots in several destinations over the globe within the next five decades.

##### 4.2 The Impact of Robots And AI On Employment

One of the study's main goals was to understand how robots and AI can impact the employment structure within the food industry. A study by Fusté-Forné (2021) demonstrated that consumers already perceive dehumanization in the foodservice industry due to the advent presence of robots in the gastronomic experience. Moreover, several studies (e.g., David et al., 2017; Ivanov, 2020; Ivanov & Webster, 2019c) point out both the enhancement (i.e., increasing productivity) and substitution (i.e., eliminating human) effects of automation on jobs in the tourism and hospitality industry. Therefore, informants were asked as to whether the increasing adoption of robots and AI would threaten the existing jobs in the food industry. The content analysis results demonstrate that most informants perceive a disruptive effect of robots and AI on the employment structure within the industry. Specifically, informants expect robots and AI to reduce dependency on human employees, resulting in a higher unemployment rate in the foodservice sector. P13 put it this way "of course," it will [threaten existing jobs] in a terrible way! You may find 20 employees in a tiny restaurant now, so if robots are introduced, unemployment will significantly increase".

The potential change in the labor market due to the introduction of robots and AI is not restricted to substitution and inherently unemployment. In fact, some informants noted that new jobs could emerge, and others may be subject to structural change due to internalizing robots and AI in some production stages. For instance, P6: "some jobs will definitely vanish, but some others may emerge [...]. Even businesses that rely on service automation will need directive chefs [...] those will have to work alongside robots".

Similarly, the disruptive impact of robots and AI seem to be greater for some jobs than others. For



instance, P10 suggested that:

“A change [in the current job structure] can happen but only in the service delivery, not in the kitchen. I do not think robots will have the same skills as kitchen chefs. However, they [robots] can affect the jobs of service personnel; these jobs may decrease over time”.

#### 4.3 What Next?

Although it may be hard to predict the future of the foodservice industry within the near future, an attempt was made to understand informants' predictions based on a robot-based economy perspective. The content analysis of the data provides mixed findings. Specifically, two conflicting and contradictive themes emerge from the data. A significant portion of the informants believes that the foodservice industry will probably undergo an important standardization with more dependence on robots and AI. According to P4:

“There will be a huge standardization. [...] this will be enhanced by the growing concerns about food safety. While this might not hold for Turkey since our society is largely traditional, the Far East and Europe are very open to technology, they are open to change, so they are more prone to robotization”.

In the next coming decades, restaurants will probably have fewer human employees and more robots. The growing adoption of human-like robots will smoothen the customers' resistance to robots. However, there will be a human-robot collaboration whereby human chefs will add creativity, and robots will enhance productivity in the production process.

Some informants, however, claim that the foodservice industry is unique in the sense that it addresses people's basic need for food. Thus it is unlikely to undergo significant changes despite the growing adoption of robots and AI in several other economic activities. Some informants even went beyond predicting that people's nutrition habits may change with more people willing to return to a more traditional and straightforward way of life. P11 proposed:

“We can already witness a trend of backward turn. I personally think that the kitchen will return to its traditional past instead of becoming robotics. I mean [...] people have started to touch the soil; they have started to descend to the field and to consume the products in their regions. [...]. Especially during the current pandemic, we, the chefs, have been wondering about ‘what if some products are no longer imported from abroad or if their prices increase? Thus, we must return to our fields and use whatever our people produce”.

## 5. CONCLUSION

### 5.1 Theoretical Implications

The present study is grounded on qualitative data obtained from in-depth interviews with food industry experts and academicians whose research areas are relevant to food or/and gastronomy. Overall, while informants acknowledge the benefits of robots and AI, they are divided on whether they will be widely employed in the foodservice industry. Specifically, there seems to be no conclusive idea of where and when robots and AI should be relied on in the industry since several factors, including culture and type of food, play a central role in this issue. Prior research endeavor has been broadly

biased on how customers view robotization and IA in the food and beverage industries (Belanche et al., 2020a,b). Thus, there has been scant knowledge concerning expert perspectives on the future of the food and beverage industry in the robot-based economy concern. Theoretically, to the best of the authors' knowledge, this current research is the first to attempt to evaluate the perspective of robot-based economy concerns in the food industry from the expert and academicians' perspectives.

Furthermore, for the current standing, a review of empirical studies indicates that the perception of a robot-based economy harms people's decision to work in food and beverage (e.g., David et al., 2017; Ivanov, 2020; Ivanov & Webster, 2019c). Nevertheless, our findings revealed that there would be a human-robot collaboration whereby human employees will add creativity, and robot and IA applications will enhance productivity in the production process. Previous research also shows that the one-size-fits-all notion does not apply to robots and AI (Ivanov & Webster, 2017a). Yet, evidence exists on the role of the current COVID-19 pandemic in enhancing the greater adoption process of robots and AI in the foodservice industry. This matter aligns with some recent findings (Blit, 2020; Seyitoglu & Ivanov, 2020b; Zeng et al., 2020). In the next five decades, however, robots and AI may be present in every aspect of life, and the food industry is no exception. The opposition from both the demand (customers) and supply (foodservice businesses) sides will likely be inexistent.

The findings reveal a wide agreement on the potential disruptive impact of robots and AI on the labor market within the foodservice industry. This disruptive impact can be in the form of increased unemployment, emerging new jobs, and structural change in some current jobs. Overall, our findings support similar works emphasizing the role of robots and AI in changing the labor landscape in tourism and hospitality in general (Ivanov & Webster, 2017a) and the foodservice industry in particular (Tuomi et al., 2019). This role will probably be much more salient in the future, with more reliance on robots in several production and delivery stages.

### 5.2 Practical Implications

The current study suggests some implications for foodservice businesses. First, the study shows that we may witness a more fabulous presence of robots and AI in the foodservice industry. To achieve a competitive advantage, foodservice businesses (the fast-food segment in particular) should proactively adapt to the current advancements. This, however, requires that service providers gain a good understanding of their customers' cultural preferences and generational differences. For instance, as evidenced by the data, robots and AI may appeal to young customers rather than seniors. Second, the current pandemic seems to provide an opportunity in the adoption process of robots and AI. Therefore, service providers should invest in modern customers' concerns about food safety and hygiene issues.

Finally, some jobs within the foodservice industry may be at risk. Therefore, employees should plan their occupational trajectories considering potential structural changes in the labor market in the robot-based economy. However, our findings indicate that there will be a human-robot partnership in

which human cooks will offer ingenuity, and robots will increase productivity in the production line. Therefore, future workers have to be ready for this shift. This possible shift can be ensured through the adaptation of university education and on-the-job training for the industries' future, as Ivanov et al. (2019) suggested. In this light, using an experimental teaching style in universities can open up new possibilities in a range of robot-based economic contexts.

### 5.3 Limitations and Suggestions For Future Studies

The present study also provides initial insights into how the food industry would seem in a robot-based economy in the coming decades and how this could influence specific jobs within the industry. The findings cannot be generalized without further research using different methods. It also goes without saying that the results are context-specific. Further research may need to validate the findings using quantitative or innovative methods with larger samples in different cultural contexts. Lastly, current research also supports prior research endeavors suggesting that a robot-based economy would change the nature of the food industry's employee structure (e.g., David et al., 2017; Ivanov, 2020; Ivanov & Webster, 2019c). However, the future perspective of gastronomy students for the robot-based industry is among the topics that this perspective has not addressed (Belanche et al., 2021). Future studies may produce more academic results if they include the view of undergraduate students.

Lastly, given the uncertainty in the global economic outlook (Işık et al., 2019) and such ongoing pandemics (e.g., COVID-19: Cifci et al., 2022), a robot-based economy can be a panacea for calibrating demand in the foodservice industry. Therefore, it is better also for future studies to focus more on demand-related topics in forecasting futuristic economic concerns.

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## THE NATURE OF WORKING IN THE HOSPITALITY INDUSTRY: EVIDENCE FROM 3S TOURISM IN TÜRKİYE

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### KEYWORDS

*Employment pattern*  
*Working conditions*  
*Labor process*  
*Power relation*  
*Hospitality industry*

### ABSTRACT

The main purpose of the study is to reveal the nature of working in the field of hospitality by examining employment forms and working conditions. For this purpose, the phenomenology approach was used and interviews were conducted with 32 hotel employees. According to the findings, it has been seen that temporary and precarious forms of employment are common in tourism. It is seen that the employees are kept under strict control for efficiency and productivity and the managerial hegemony is at a significant level. In addition, it has been determined that due to standardization and simplification in hotel businesses with an all-inclusive system, employees are deprived of their qualifications and become unqualified.

## 1. INTRODUCTION

The tourism sector makes significant contributions to employment. Before the Covid-19 pandemic, 333 million people were employed in the tourism sector worldwide. This figure decreased to 271 million in 2020. However, starting in 2021, tourism employment started to increase again (WWTC, 2021). The rapid growth of the tourism sector in Türkiye also creates employment for many people (Aykaç, 2010). However, it is observed that there are fluctuations in employment throughout the year. Because seasonality affects employment significantly (Baum, 1993) and most employees are employed seasonally (Jolliffe and Farnsworth, 2003; Lundmark, 2006; Erköse, 2020; Yıldırım, 2021). From this point of view, it can be stated that one of the most important characteristics of tourism employment is temporary - precarious employment (see Çelik and Erkuş-Öztürk, 2016; Yıldırım, 2021; Çıvak and Besler, 2022). Because the dismissal or suspension of tourism employees at the end of the season shows that they are included in the precariat class, as stated by Standing (2017).

In Türkiye's tourism, it is seen that hotel businesses have plans and policies to provide cheap labor instead of qualified labor (Aykaç, 2010; Erköse, 2020). For this reason, especially in seasonal destinations, hotel businesses are looking for short-term, cheap, and unskilled labor (Çıvak, 2021). This situation is an advantage for unskilled, semi-skilled, and migrant employees with low educational capital (Tosun et al. 2021). Although it is stated that income inequality will be reduced with the spread of tourism (Uzar and Eyuboglu, 2019), it causes a decrease in wages in the labor market. In addition,

the high unemployment rate creates competition in the labor market and employees accept lower wages (Çıvak, 2021). Another important issue in tourism employment is nepotism. Studies show that getting a job through acquaintances and being favored in the workplace is an important problem and the merit system has partially disappeared (Abubakar et al. 2017; Elbaz et al. 2018; Elsayed and Daif, 2019).

Besides the employment problems in the hospitality industry, working conditions are seen to have negative aspects in many respects. There are low and unfair wages, break violations, long working hours, and heavy workloads. Apart from these, managers abuse their positions, have bad faith, and discriminate (Baum, 1999; Poulston, 2009; ILO, 2012; Çıvak and Besler, 2022). It is seen that low wages cause high staff turnover (Brien, 2004). It is seen that women are employed in jobs requiring lower qualifications and earn less than men (Carvallo et al. 2014; Cave and Kilic, 2010). In addition, it is revealed in studies that hotel employees are exposed to domination by managers, customers, and colleagues (Çıvak, 2021, Çıvak and Besler, 2022).

The main purpose of the study is to reveal the nature of working in the field of hospitality by examining employment forms and working conditions. It is aimed to reveal this neglected subject in the literature within the framework of

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a critical paradigm by firstly examining the forms of employment and its effects, and secondly, the physical working conditions, the labor process, and the power relations in the field. The nature of working in the hotel industry is revealed holistically, especially focusing on working experiences under capitalist conditions. Thus, it is thought that this study will be an important source of information for the improvement of employment problems and negative working conditions in the tourism sector in general in the field of hotel management.

## 2. LITERATURE REVIEW

### 2.1. Employment Patterns

The tourism sector directly employs a large number of people due to labor-intensive production (Pizam, 1982). It is known that many qualified and unskilled people are employed in the sector, foreigners, and trainees. While the labor-intensive structure of the tourism sector increases the employment rate, some factors negatively affect employment. One of the most important factors affecting the employment aspect of tourism is seasonality. Especially 3S (sun, sea, and sand) tourism and winter tourism take place depending on the climate. This causes supply or demand fluctuations (Cooper et al. 2005; Baum and Hagen, 1999). The short duration of the sector also affects employment significantly (Baum, 1993) and commonly causes seasonal employment, underemployment, and unemployment (Jolliffe and Farnsworth, 2003).

While the number of employed in the coastal area of Türkiye increases in the summer period, it decreases in the winter period. Employees are either dismissed or suspended at the end of the season (Çıvak, 2021). The main reason for this is to adapt to demand fluctuations and reduce labor costs. However, seasonal or flexible employment traps the employees, revealing precarious and uncertain forms of employment (Standing, 2017). It is seen that tourism employees (Çelik and Erkuş-Öztürk, 2016; Robinson, et al. 2019; Yıldırım, 2021) who are dragged into precarious and flexible employment are included in the precariat (Çıvak, 2021; Çıvak and Besler, 2022). Insecurity is a newly emerging sociological concept with neo-liberal policies (Standing, 2017; Robinson et al. 2019). Tourism employees who are unemployed or suspended due to seasonal work inherent in the tourism industry have to struggle with uncertainty in their lives. Besides economic concerns (Çıvak, 2021), it is exposed to social pressures such as unemployment stigma (Lee et al. 2015).

It is seen that it is a common practice to get a job through acquaintances in the sector, and therefore there is nepotism. Especially in the food and beverage department of hotel businesses in Türkiye, it is seen that there is a need to act together with the leader (Çıvak, 2021). It is stated that those with strong social capital are favored in the workplace, therefore hotel employees think that there is discrimination in the sector (Balcı İzgi and Olcay, 2008, p. 57). It is stated that the physical characteristics of individuals are important in terms of favoritism (Abubakar et al. 2019). Nepotism has negative effects on job satisfaction, job stress, job performance (Elsayed and Daif, 2019), cynicism, and intention to leave (Abubakar et al. 2017).

In the sector, female labor force participation

is low, the education level is insufficient, the labor turnover rate is high and there are seniority problems (Chalkiti and Sigala, 2010; Poulston, 2008; Silva, 2006). In return for working under these conditions, it is seen that the wages are quite low. Because women employed in tourism are employed in semi-skilled, unskilled, and temporary jobs (Baum, 2013), therefore it is seen that wages are low (Timmo, 1993, p. 37). In this respect, it is seen that there is gender discrimination in the field of hotel management and that female employees are exposed to discrimination. According to UNWTO's "Global Report on Women in Tourism - Second edition", 54% of women are employed in the sector; they earn 14.7% less. The positive situation in women's employment turns into a disadvantage in terms of earnings. An important reason for this may be the employment of women in non-skilled jobs such as cleaning. According to the report, women employees experienced the fastest and greatest economic shock due to the COVID-19 pandemic. In addition, the employment of women in managerial positions is lower than that of men. The rate of female senior executives in the tourism sector is 36.8% worldwide. All of these show that women are discriminated as the distribution of jobs, wages, and career development (UNWTO, 2019).

### 2.2. Working Conditions

There are important problems in the tourism sector such as low wages, long-term labor-intensive work, non-payment of overtime wages, seasonal or flexible employment, informality, inadequate accommodation conditions, and high staff turnover (Baum, 1999; ILO, 2010). The problem of low wages in the tourism sector is seen as a problem not only in Türkiye but throughout the world. For example, it is stated that wages are low in New Zealand and therefore there is high staff turnover (Brien, 2004). The hourly fee differs according to the destination, the year-round operation of the hotels, and the departments. Mun and Woo (2021) state that the front office department's hourly fee differs between \$14.55 and \$11.96 according to the full-capacity and limited-service hotels. The hourly fee differs between \$ 13.81 and \$11.32 in the housekeeping department. When the minimum wage is calculated, the hourly wage in Türkiye is 1.3 dollars (see ÇSGB, 2020; TCMB, 2020). This shows that there is an average of 10 times the difference in wages between America and Türkiye.

One of the important problems in the tourism sector is long working hours. According to Kaya and Atçı (2015), the weekly working hours in the tourism sector in Türkiye are mostly between 46-60 hours (54.3%), and 23.1% of the employees work between 61-80 hours. 7.5% of them work 81 hours or more. According to ILO (2012), the average working time in hotels and restaurants in Türkiye is 59.4 hours. According to another study, it is 63.5 hours (Messenger et al. 2007).

It is seen that breaks are not given regularly in the peak season, weekly leaves are adjusted according to the density, and permissions are not given due to working on official and religious holidays (Çıvak, 2021). According to the research conducted by Balcı İzgi and Olcay (2008, p. 57), 42% of hotel employees stated that they could partially use their weekly and annual leaves, while 9% stated that they did not. 16% of female employees stated that they could not use maternity and breastfeeding leave, and 27.7% stated that they used it partially. It is known that in



some hotel businesses, the insurance is not made in the first process, called the trial period, input-output is made on the insurance so that the employee's right to severance pay does not arise, and the insurance premium is not paid regularly (Çıvık, 2021). In addition, it is stated that employees have difficulties in fulfilling the conditions for benefiting from invalidity, old age, and insurance, as social security premiums are paid less due to seasonal employment (Çavuş and Kurar, 2015: 149).

In addition to these, it is seen that heavy workload, prolonged standing, exposure to high levels of heat and sound, working with chemicals, etc. In addition, employees are exposed to domination, harassment, and discrimination by customers, employers, managers, and colleagues. Because of these, there are work-life imbalances, stress, and health problems. (Çıvık, 2021).

When it comes to the labor process in the hotel industry, an evaluation can be made through the labor process theory. Labor process theory is very important in determining the conditions of labor relations, commodification, deepening exploitation, and domination in the hospitality industry. Labor process theory deals with capitalist production relations, class contradictions of labor and capital, and their consequences (Rowlinson & Hassard, 2001). Accordingly, in the historical process, the labor process has been under the control of the capitalist, the work has been devalued, and the employee has been unqualified by separating the mental and manual labor. The division of work down to the smallest details means that employees cannot fully grasp the object produced. Since the production process is already planned by the management, it is almost impossible to imagine it in the mind of the employee. In addition, the division of work into details devalued the work (Braverman, 1998). There is a similar structure in tourism enterprises. It is seen that especially in all-inclusive hotels, the service is simplified, and the ties of the employees with the customers are partially cut off. It is stated that the simplification of the service devalues the work, and employees are detached from their qualifications (Çıvık & Besler, 2022, Erköse, 2020).

Edwards explains how control mechanisms over the labor process are used. In the workplace, managers/bosses develop practices on how to organize work, the pace of work, and how employees work and control. However, these practices are tools of exploitation established to provide maximum benefit. It can be stated that control is one of these tools. Edwards classified these forms of control as simple, technical, and bureaucratic control (1979, 17-21). Burawoy (1979), on the other hand, stated that employers not only think about control practices but also think about how to motivate them to work more and create motivational practices. It is stated that the employees in the hotel industry are watched one-on-one by the chefs, followed by cameras and audio recordings, and it is seen that the consent of the employees is gained through practices such as career promise and competition discourse (Efthymiou, 2010; Erköse, 2020, Çıvık, 2021; Çıvık & Besler, 2022).

### 3. METHOD

The forms of employment and working conditions in the hotel industry are mostly handled with a positivist paradigm. Instead of more positivist

studies, this study has been handled with a critical point of view. The research is ontologically and epistemologically based on the critical paradigm (Burrell and Morgan, 1979). A qualitative approach was adopted in the research. Qualitative researchers describe individuals and events in their natural settings in detail and position the interview as a key factor in research design (Weiss, 1994). The interview technique was used to learn and explain the situation and facts discussed in this study in detail.

#### 3.1. Participants

The participants of the research consist of people working in four and five-star hotels in Antalya. Snowball sampling (Merriam, 2009) was used in the selection of the participants. People who played a key role in the research referred the researcher to other people. However, the maximum diversity sampling (Merriam, 2009) was preferred considering the department, position, and sector experience criteria of the participants. Attention was paid to the presence of at least one person from each department and determined job positions.

**Table 1.** Participants' Details

Pseudonym	Gender	Profession	Time Working in the Industry	Wage	Working in the same hotel in 2022
Esra	K	Housekeeper	8 years	Min. wage	X
Elif	K	Housekeeper	11 years	Min. wage	
Arif	E	Procurement clerk	14 years	Min. wage	
Erdogan	E	Cook (Butcher)	30 years	6000	
Erdem	E	Storehouse supervisor	4 years	Min. wage	
Serhat	E	Waiter	17 years	Min. wage	
Fatoş	K	Housekeeper	14 years	Min. wage	
Mehmet	E	Restaurant supervisor	13 years	4000	
Tekin	E	Cook	21 years	2700	
İpek	K	Tea house supervisor	2 years	2470	
Aydan	K	Security Guard	2 years	Min. wage	
Ahmet	E	Receptionist	14 years	2650	
Orhan	E	Headwaiter	16 years	3000	
İrfan	E	Headwaiter	10 years	3100	X
Recep	E	Sous Chef	2 years	2500	
Halit	E	Waiter	6 years	2500	
Semih	E	Waiter	5 years	2500	
Nurcan	K	Receptionist	3 years	2900	
Çağrı	E	Front office asst. manager	13 years	5000	
Aykut	E	Bellboy	7 years	Min. wage + tip	
Olga	K	Receptionist	12 years	3000	X
Eren	E	Receptionist	13 years	3000	X
Aysel	K	Switchboard operator	6 years	Min. wage	
Dilek	K	Switchboard operator (Trainee)	4 years	800	X (different department)
Fahriye	K	Masseuse	12 years	Min. wage + Premium	
Özge	K	Masseuse	12 years	Min. Wage + Premium	
Can	E	Receptionist	6 years	2400	
Berk	E	Receptionist	15 years	2500	
Büşra	K	Chef's assistant (Trainee)	1 year	800	New interviewee
Anıl	E	Bellboy (Trainee)	1 year	800	New interviewee
Daniil	E	Receptionist	5 years	3000	New interviewee
Indra	K	Masseuse	6 years	Min. wage + Premium	New interviewee

Participants work in different positions in different departments of hotel businesses. Six of the participants were locals; other participants migrated from different cities in Türkiye and different countries.

#### 3.2. Data Collection

The face-to-face interview technique was used as the data collection technique in this study. A semi-structured interview was designed to get in-depth answers and not to get away from the subject. The questions are about the employment patterns in the sector; the working conditions, the impact of these conditions on the lives of the employees, and

how the employees adapt to the conditions. The questionnaire was sent to four experts in the field for 'expert opinion'. Necessary corrections were made after expert opinions (Appendix 1).

Fieldwork was carried out in four stages. In the first stage, a pilot study was conducted in Antalya between 1-20 June 2020, and 9 participants were interviewed in this context. It is stated that pilot studies are useful in both quantitative and qualitative research (Tashakkori and Teddlie 2003). The main benefit of the pilot study is that it allows the researchers to make corrections to the main study (Kim, 2011: 191). If the interviewees do not understand the questions posed to them, the collected data may be biased (Sekaran, 2003), and the pilot study makes it possible to correct ambiguous and unclear statements or questions. Thus, the pilot study adds value and reliability to the whole study (Van Wijk and Harrison, 2013). It also allows the researcher to gain field experience on the subject. As a result of the pilot study, it was seen that the questions were understandable. After the obtained data were analyzed, it was thought that the field study should be continued.

In the second stage, fieldwork continued in Antalya's Kemer, Alanya and Kundu regions between 10-13 August 2020, and interviews were held with 19 more hotel employees. In the third stage, the first 28 participants were interviewed between 6-20 April 2022, and 3 additional questions were asked. The reason for this is to learn about the changes in their lives, whether there is a change in their ideas about tourism and hotel management, whether they work in the same hotel or not, and the reason for leaving the job. In the fourth stage, 4 more participants were interviewed between 23-25 May 2022. Two of the participants are interns and two of them are foreign nationals. Additional interviews were conducted to examine the employment of interns and foreigners in more detail. Discussions were concluded at the point where new codes were not deemed necessary to effectively summarize the data. A total of 32 hotel employees participated in the research. All participants stated that they voluntarily participated in the research by signing the "Participant Information and Consent Form" and gave permission to be audio recorded.

### 3.3. Data Analysis

As a result of the interviews, the audio recordings were converted into text without changing the order of participant expressions. In this research, the interview texts were analyzed through the NVivo 12 program. Programs such as NVivo have been used frequently in qualitative research in recent years (Bazeley and Jackson, 2013). Because such programs have advantages in terms of revealing codes and themes more regularly and reliably and presenting more concrete outputs to the researcher in analysis. The texts loaded into the NVivo program were read line by line and open coding was done. Codes with similar and common meanings are combined. As new interviews were conducted, the number and content of the existing categories were monitored and the dataset was organized in such a way that it did not fall within the scope of the topic. Previous interviews and codes were re-examined and their suitability for the final version was tested. The codes are grouped under two previously determined main themes (employment forms and

working conditions). At the same time, four experts analyzed the data. Obtained data were compared. As a result of the analyzes made, it was decided that the data obtained from 32 participants reached data saturation (Fusch and Ness, 2015). At this point, the researcher ended the data collection process due to the lack of new data and the repetition of the data.

## 4. RESULTS AND DISCUSSION

### 4.1. Forms of Employment

It is seen that seasonal employment is common in Antalya, one of the most important tourism cities in Türkiye, due to the seasonality of tourism, and employees are suspended after the season. However, the state is trying to increase employment through the Turkish Employment Agency (İŞKUR) to support the private sector and increase employment. It is seen that foreign nationals are widely employed in the tourism sector, and high school, associate degree, and undergraduate students studying in the field of tourism and hotel management are employed as interns, especially in the summer period. It is seen that one of the important features of the hotel management field is employment through acquaintances and team employment.

#### 4.1.1. Seasonal employment

Seasonality, which is one of the important characteristics of the tourism sector, affects all working and economic relations in the sector. The length of the season varies according to the destination and the type of tourism, and seasonal work can cause underemployment and unemployment. Season length covers 6-8 months in Antalya. While employment peaks during the peak season, some hotels completely cease operations and lay off employees during the low season. Some hotels leave a limited number of staff to their winter staff. İrfan states that employees come to this job knowing that it is seasonal. Although some employees want to stay at the end of the season, it is very difficult to be included in the winter staff of the hotels.

"There are 80-85 employees in the summer season. They reduce this number after the season. Many of my friends already know that this job is seasonal. That's why they leave when the season is over. But some are married, and they work in tourism in the hope that they will stay in the winter. That's why I wish I hadn't entered tourism. Tourism is very bad." (İrfan)

Employees cannot receive unemployment compensation when they cannot meet the conditions for benefiting from unemployment benefits. Hotel employees, who already have low incomes, continue to make a living by spreading the money they earn in the season over 12 months. Especially during the coronavirus pandemic period, with the hotels being closed, hotel employees have become unable to meet their basic needs. Eren expresses it as follows; "The man fills his stomach for 12 months with what he took for 8 months. You know, there is a person who completes the season with a flannel, out of necessity. He washes it every day because he can't afford to spend his money". In addition, employees whose employment contracts are terminated or suspended at the end of the tourism season that starts in April and ends in October-November in Antalya and its districts work in temporary, daily jobs to maintain their livelihood. While the local

people of the region are engaged in agriculture, if they have the means; While male immigrants work in jobs such as construction, because job opportunities in tourism regions are limited and heavily dependent on tourism; women are returning to housework. Even hotel employees who have high school or higher education levels and speak different languages are looking for construction jobs after the season. Participants' statements reveal how seasonal employment shapes the living conditions of employees;

"The local people are economically strong. The economic level of the locals is good compared to the others. Everyone is engaged in agriculture in some way. Everyone has a second job here" (Ahmet)

"The receptionist speaks 3-4 languages. The man works perfectly. He is fine and gentlemanly. The season is ending, like November-December. This guy is looking for construction work." (Can)

#### 4.1.2. Suspend system

"Suspend" in the hospitality industry is a system in which employees cannot benefit from unemployment insurance due to the continuation of their employment contracts. Suspended employees do not receive any wages and insurance premiums are not paid. Some hotel businesses terminate or suspend employees without informing them. Expressing that he heard about this system for the first time, Ahmet stated that the concept of suspension is specific to tourism; "We suspended you. It was here that I learned the word for the first time. There is such a concept here in tourism... But we cannot suspend the hotel. I say what is this? The hotel will close. In the meantime, we will wait". Elif, on the other hand, states that their insurance premiums are not paid when they are suspended. Since the insurance premiums of tourism employees who cannot get another job with insurance are lower than those who work all year, it also affects the retirement period. Mehmet, who works as a restaurant manager in a five-star hotel, states that they hire suspended employees based on the priority of arriving on time. Mehmet's statements show that the hotel employees are in a precarious and helpless situation. This situation is similar to the story of Doru mare, which was deducted from the account mentioned in the novel *Yılık Atı* (Rosinante) by Abbas Sayar (2015).

Seasonal tourism employees who were laid off in September-October 2019 were unemployed in 2020 due to the Kovid19 pandemic. Due to the travel restriction, both tourism businesses and tourism employees suffered a loss of income (Williams, 2021). It can be stated that seasonal tourism employees suffer from financial difficulties. In addition, it is seen that tourism employees who are dragged into precarious and flexible employment are included in the precariat (Çıvık, 2021).

#### 4.1.3. Turkish Employment Agency (İŞKUR) employment

İŞKUR provides salary and bonus support to businesses to ensure that employees are employed for 12 months. According to Orhan's statements, although the employees do not find a job through İŞKUR, hotel operators direct them to register with İŞKUR. Thus, hotel businesses get rid of some of their employee salaries and insurance premiums by taking advantage of employment incentives.

Although employment incentives reduce seasonal employment, it can be stated that business owners benefit most from them. So, it reduces labor costs, which is the biggest cost factor in hotel businesses.

"We came in 2019. We found this job ourselves. We came, and they want registration from İŞKUR. The state did not find me this job. But the official records seem to have found the state. The employer directs me there. Go to İŞKUR and register because they will receive state support from there. When it enters the records, İŞKUR finds it. That's one of the tricks of falling unemployment numbers today." (Orhan)

#### 4.1.4. Foreign personnel employment

It is possible to say that the employment of foreign personnel is common in the hotel industry. According to the 2019 data from the Ministry of Labor and Social Security, 23,109 foreigners were given temporary work permits in the accommodation sector. Hotel businesses prefer people who know the languages of those countries from which countries they receive more tourists. Especially considering that there is a high concentration of Russian tourists in Antalya, it is seen that Russian-speaking domestic and foreign personnel are primarily employed. It is seen that foreigners are widely employed in SPA and Thalasso. Fahriye explains this situation as follows; A newly arrived female friend. There are 13-14 people due to pandemics this year. Usually, foreign. It's also a matter of supply and demand, she. Businesses also have foreigners because the visitors demand foreigners". Mehmet expresses the reason for this situation with the following words; "Foreign personnel is preferred because they cost less and know the language". Although this situation is an advantage for businesses, considering the unemployment figures in Türkiye, employment opportunities for the citizens of the country decrease, and competition in the labor market occurs; Which results in lower wages.

#### 4.1.5. Intern employment

The aim of tourism education in undergraduate, associate, and secondary education institutions is to meet the needs and expectations of the sector by training qualified personnel. For this, in addition to theoretical education, it has been made obligatory to do internships in the sector for the specified periods to increase the knowledge and skills of the students. However, it is possible to say that the negative working conditions in tourism reduce the desire of tourism students, who are at the beginning of their professional careers, to work in the sector. Eren states that the intern employment is intense and the interns are loaded with more work than they can handle. This is supported by the statements of Dilek, who had previously worked in the kitchen and service department. In addition, the researcher had an internship in the tourism sector for 11 months and experienced similar conditions. That is, when compared to the studies in the literature, the experiences of the participants and the internship experiences of the researcher in the hotel sector are similar. The statements of the participants are as follows;

"Currently, we are trying to work with interns instead of permanent staff... But we are assigning the work that a normal staff should do to the intern." (Eren)

"They torture the trainees in the kitchen. Peeling

potatoes, and onions. The chefs are constantly shouting in the restaurant. For example, it is difficult to transport the servant cart for women. They send me because I am a trainee.” (Dilek)

It is possible to say that trainee employment provides a cost advantage for hotel businesses. According to Vocational Education Law No. 6899 (1986), interns are paid not less than one-third of the minimum wage. Based on this law, businesses generally do not prefer to pay higher wages to intern students. Additionally, the age of high school interns starts from 15. According to Labor Law No. 4857, it is forbidden to employ children and young employees under the age of 18 in shifts between 20.00 and 06.00, which corresponds to the night period. The researcher’s working experiences and field findings in the hotel industry show that those under the age of 18 are employed in evening and night shifts in hotel businesses.

#### 4.1.6. Getting a job through acquaintance - Nepotism

One of the ways to get a job in the hotel industry is to have social capital from the hotel business. As Bourdieu (2005) states, having a network of mutual acquaintance and recognition means getting the support of the capital owned by the collectivity. The acquaintance in the hotel industry is sometimes a relative, sometimes a chef or manager with whom you have worked before, and sometimes the business owners themselves. The higher the status, the more it means both job guarantee and favor within the business. In addition, it has become an important rule for entering the field, as it has become a common practice in the hotel industry to get a job through acquaintances. Halit’s statements reveal this situation;

“I had an older brother; he was working in tourism. I also finished high school and I had no profession. He said that come with me and work in tourism.” (Halit)

#### 4.1.7. Team employment

One of the common practices in the hospitality industry is working as a team. In hotel businesses, especially in the kitchen department, there is a case of starting or leaving the job as a team. If the leader of the team quits his job and starts working in another business, he takes his team with him. It establishes its order by ensuring that the employees in the place it goes leave their jobs. Orhan, who is a restaurant chef, stated that he has been working with the same department manager in different businesses for years, his colleagues are the same people, and he cannot do it with another team because each team has its hegemonic order. This situation shows how high the managerial power is and that the managers keep the employees under pressure. As a matter of fact, in the research of Çıvık and Besler (2022) on the criticism of managerial control mechanisms in hotels, it is seen how control mechanisms turn into domination.

“I started with my current F&B manager and continued with him. Until this time, I applied to a hotel and did not expect a job, or because I could not be alone against the order; I continued with these people... Otherwise, you are alone, and that hegemony emerges. You will either quit or continue to be in slavery.” (Orhan)

## 4.2. Working Conditions

One of the biggest problems for employees in the hotel industry is unfavorable working conditions. As a result of the analysis, the categories of physical conditions, lack of legal rights, labor process, the characteristics of the field, and the theme of working conditions from these categories were reached.

### 4.2.1. Physical conditions

Physical conditions for employees in hotel businesses; refer to resting areas, lodging conditions, shower facilities, and environments such as the cafeteria. According to Kusluvan and Kusluvan (2000, p. 261), the physical conditions of personnel lodgings, dining halls, and bathrooms are in poor condition. Similarly, in this study, it was found that the accommodation and hygiene conditions were insufficient. It is possible to say that the negative physical conditions of 2000 and before are still valid today and there are no attempts or efforts to improve the conditions. However, it has been found that the areas where employees can rest during break periods are small, far from work areas and monitored areas. Camera systems, which Edwards (1979) described as technical control and intimidating employees not to exhibit undesirable behaviors, show that every moment of the labor process is kept under surveillance. Camera systems in hotels almost resemble Bentham’s panopticon (Foucault, 2012) and thanks to camera systems, employees are kept under the surveillance of the government at all times. Tekin expresses this situation with the following words;

“One day, they put a camera in our resting area... why the resting area is being watched. Are we not working? Are we skipping work for 1 hour and 2 hours? I wondered if they were trying to detect that.” (Tekin)

Although lodging in destinations such as Antalya with sea-sand-sun tourism is an advantage for some employees, this advantage is eroded due to limited opportunities and insufficient hygiene conditions. Pictures 1 and 2 show images of a hotel’s lodging in Alanya. It has been observed that the facilities are quite inadequate in terms of comfort and hygiene, and the building is at a neglected level. The walls swelled from moisture and had mold. The floors, tables, and chairs are in a very dirty condition. In addition, it should be stated that the lodging facilities of the hotel enterprises were established to cover the disadvantages of seasonal work. Because people coming from different regions of Türkiye for seasonal work will not be able to rent a house for this short period, hotel businesses have to provide accommodation conditions. In addition, the accommodation facility turns into a tool that intensifies power over them, like keeping the employees in a camp. Hotel employees, who spend their working and non-working time on the property of the business, are kept under supervision. In their study on disciplinary power and hosting employees, Kıykaç and Aslan (2019) stated that hotel businesses both provide a workforce and aim to create obedient and helpful employees by hosting employees. The statements of the participants regarding the personnel lodgings are as follows;

“The lodgings where the personnel stay, I know such things that if you tie a dog, it won’t stop.” (Erdem)

“Three people sleep in one bed in the lodgings... There are many cases of scabies... It is like a barn.” (Tekin)



Picture 1 and Picture 2: Resting Room in a Lodging

#### 4.2.2. Lack of legal rights

According to the statements of the participants, wages in the hotel industry are generally at or slightly above the minimum wage. This causes the employees to suffer from livelihood problems. In addition, it can be said that the living problems of tourism employees are more in tourism centers where life is more expensive than in other cities. Esra expresses her financial difficulties with these words; “How shall I say? After paying 750 liras for rent with a minimum wage, it was our electricity, our water, and our children’s school. Employees who live in an expensive city and earn a minimum wage of 2300 TL, try to earn their living by going to add jobs after their shifts at the hotel. Hotel employees, who are physically and mentally tired, increase their fatigue with additional work; This reflects negatively on their work, family, and social life. İrfan’s statements reveal the effects of low wages;

“The salary does not satisfy anyone. Is the minimum wage of 2300 liras sufficient? House rents in Alanya are currently 1500 TL, in some places 2000 TL. Even if people work in tourism, they do additional work. Many cooks also work as waitresses at weddings. They work for 8-9 hours, and then they go to extra jobs.” (İrfan)

It was observed that weekly leaves were canceled due to the intensity. It is stated that in order not to give severance pay to the employees, input-output transactions are made in the insurance, as well as uninsured employees are employed. This situation causes unregistered employment. However, it has

been observed that some hotels do not give their employees severance pay and put various pressures on the employees not to do so. Considering all these conditions, it is seen that hotel employees cannot benefit from their legal rights adequately and labor exploitation in the hotel sector is at a high level.

#### 4.2.3. Labor process

Hotel businesses prefer to work with a minimum number of employees to reduce employee costs; thus, it has been seen that the employees are burdened with jobs and responsibilities beyond their capacities and that the employees work at the highest performance in a way that forces their physical and mental capacities to complete the work. It has been observed that the legal working time is mostly exceeded in the high season, and some employees work double shifts, working up to 16 hours a day. It has been observed that the employees in the service department, where there is an entracte working system, spend almost most of the day in the hotel. In addition, employees are given additional duties and drudgery outside of their responsibilities, and employees accept these duties as obligatory in order not to be pressured by the managers. It is observed that employees experience health problems due to both physical and mental fatigue. In addition to diseases such as varicose veins and heel spurs caused by standing for a long time, lumbar hernia problems due to heavy lifting are frequently experienced. It has been observed that some employees have psychological problems due to stressful work, and some have heart problems. In addition, due to physical and mental fatigue, most of the employees are unhappy in their business life; It has been observed that this hurts family and social life. It is noteworthy that social life is very limited because of long hours and low wages.

“You are like a runner. Every day will be high-level performance, your performance will not decrease. Your job is to clean up the mess. There is no difference from the garbageman. You can’t get out of bed the next day.” (Orhan)

Hierarchical levels work in an integrated manner to ensure that the work is carried out in the determined standards and flow, and aims to increase efficiency and productivity by keeping the employees under surveillance (Çıvık and Besler, 2022). Each department has its special business processes. All process takes place within the determined standards and the works are standardized and routine. This process is carefully monitored with cameras, audio listening devices, one-on-one surveillance, or the manager’s agents. The statements are as follows;

“Our bellboys are our news birds. They know every place, whether inside or outside the hotel.” (Çağrı)

The work process in the service department has been standardized with the transition to the all-inclusive system. The service job has turned into simple tasks such as placing the food on the buffet, removing the empty tables, and cleaning. While in a la carte restaurants, customers order the food they want from the waiter, the relationship between the waiter and the customer is partially broken in the open buffet system. With the simplification of the work, the employees have been unskilled. Thus, there is no need for qualified service personnel in the field. This has led to the further devaluation and cheapness of labor power. In particular, the transformation of the service department was



realized in a very short time with the all-inclusive system. It can be stated that Braverman's (1998) criticism of the Taylorist system is also valid for hotel businesses. Because it is seen that the jobs in hotel businesses are standardized and simplified, and employees are unqualified.

Every moment of the labor process is kept under surveillance. Hotel employees are kept under control with simple, technical, and ideological control tools (Efthymiou, 2010; Erköse, 2020, Çıvık, 2021); and these tools turn into a mechanism of exploitation and domination (Çıvık and Besler, 2022). Because these practices aim to discipline employees by putting pressure on them. Simple control includes directives (Edwards, 1979). Simple supervision is provided by supervisors and middle-level managers to convey the instructions they receive from above to the employees and by one-on-one supervision. Çağrı, the assistant front office manager, stated that he observed the employees one-on-one, that he used the bellboys as a surveillance tool, and that they learned everything that was going on in the hotel. In the interviews with the bellboys in the same establishment, the bellboys stated that they told all the events in the hotel to the front office manager and his assistant. This is spying on other employees. Employees who know that this is the case, pay attention to their behavior and words next to bellboys. The researcher observed that Aysel and Dilek were uncomfortable with the bellboys entering the office during the interview. The participants, who took a break from their speech, continued their conversation after they left. In addition, it was observed that this situation caused a schism among the employees in the same department. The statements of the participant on the subject are as follows;

"I observe for sure. Guests are coming, I'm listening to the conversations at that moment. For example, the receptionist said inappropriate things to the guest. I warn them." (Çağrı)

Another simple control practice is to constantly point out the mistakes. A different department manager, who realizes the mistake, warns the employee and discloses the situation by telling both the department managers and the general manager. Thus, the employee receives warnings from different department managers, their department heads, and the general manager. Thus, it is possible to say that employees are trapped by simple control mechanisms. Berk explains this situation; "For example, the worst part of tourism is when you make a mistake, everyone warns you" (Dilek). In addition, some of the participants stated that the managers do not appreciate the employees, on the contrary, they reduce their motivation by making demotivating statements. It is seen that the chiefs warn and scold the employees at department meetings. Elif's statements also reveal the asymmetrical power relations of the ruling class within the field.

"There is a meeting in the morning. They do not say good things. You are bad every day. There are five chiefs, and one of them becomes a great chief. They all say negative things." (Elif)

Technical control is used to increase the work tempo and to prevent employees from exhibiting undesirable behaviors (Edwards, 1979). It is seen that the employees are monitored with cameras and listening devices. Employees who know that

they are being watched increase their performance in front of the cameras and pay attention to their behavior. Employees play their assigned roles and develop self-control mechanisms, just like a theatre actor in front of an audience. Scott (1992) describes this behavior as public behavior. Accordingly, hotel employees behave according to the expectations of business owners and managers due to prudence and fear. Ahmet expresses this situation with these words;

"There is a camera system. Likewise, there is a powerful sound recording. I don't know the legal procedure for this. They listen to us." (Ahmet)

Bureaucratic control includes business rules, performance criteria, and reward-punishment practices embedded in the social structure of the business or the social relations there (Edwards, 1979). It is seen that managers warn employees of their smallest mistakes, keep minutes, and criticize them with sarcastic remarks. In addition, one of the most important performance criteria is customer satisfaction. Hotel businesses apply a customer satisfaction survey during the check-in and check-out processes. In addition, the comments and ratings on the internet are taken into account by business owners and managers. It is seen that the employees are pressured in customer complaints and that all kinds of domination of the customers are endured in order not to receive any complaints. It seems that the reviews and ratings on sites like Holiday Check are very important and even the unacceptable requests of customers who threaten to give bad reviews or give low ratings are met. Aysel stated that a customer complained to her, that although she was right, she did not speak up and despite this, she wrote a defence. This situation is an example of bureaucratic control in the field of hotel management. Berk's statements on the subject are as follows;

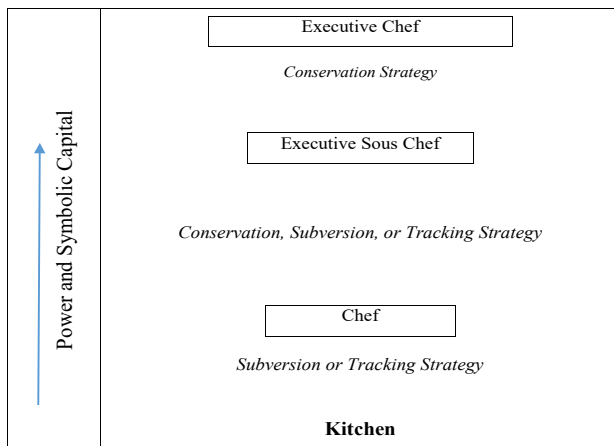
"There is verbal violence. One day I will never forget, I was a trainee, I wanted a coke. They kept a record for one coke. I was very upset. Customers are so cruel. For example, guests want a room with a sea or pool view. They say that they have made a reservation with a pool view, but there is no sale... They say they will complain. The biggest trump card of the Germans is Holiday Check. They say that will give red and give 1 point." (Berk)

#### 4.2.4. Power relations in the field

Many people from different cultures are employed in hotel businesses. The type of capital determines the actor's power in the field. If it is explained through Bourdieu's (1987) field theory, power relations between actors structure the field. For example, intellectual capital gives the receptionists additional symbolic capital and ensures them strong in the field. Another example is that cooks are effective actors in the field thanks to their professional knowledge and experience. In addition, those in dominant positions teach the lower-level employees as much as the job requires and deliberately hide the details (tricks) of the job to maintain their positions. As Bourdieu (1987) stated, while those at the top of the field implement conservation strategies; those at the bottom apply protection, monitoring, or subversion strategies according to their position. This situation is more common in the kitchen department. Therefore, it is seen that hotel employees working under capitalist conditions become individualized, and their collective unity is broken.



“They teach the necessary things in the kitchen. Know enough. They don’t want to give more... If you rise, it is problem for them.” (Dilek)



**Figure-1:** Struggling Relationships in the Kitchen Department

The managers cooperate and cover up each other’s mistakes. One of the participants expresses this situation as follows; “They put the strings in the hands of the managers... They are all been friends with each other for 15-20 years, so they cover up all their mistakes almost instantly. That’s why the newcomer doesn’t stop. He says they are already gangs” (Serhat). This situation clearly shows the power relations in the field and the established hegemonic order. Subordinates cannot stay in the field if they cannot establish close relations with the management or if they resist the order. In addition, according to the findings, hiring, distribution of jobs and wages and promotion systems do not operate fairly in hotel businesses. This also confirms the findings described in recruiting by an acquaintance and team recruitment. Trained employees believe that they are uncomfortable with this situation and that it is unnecessary to receive tourism training. Eren’s statements on the subject are as follows;

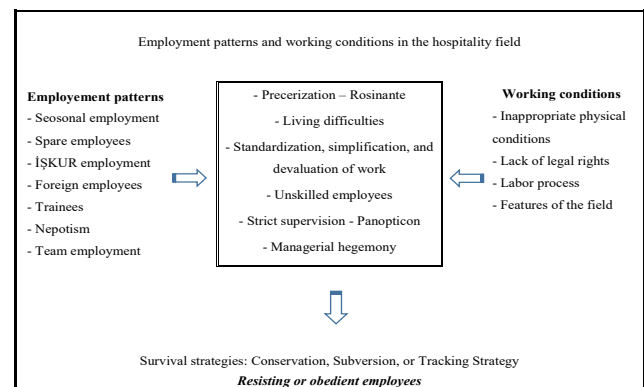
“The people who have nothing to do with tourism become department managers. They work for a few years and are made department heads. They do not know the language and the work... They cannot become a night manager with 3 years of work experience.” (Eren)

## 5. CONCLUSION

This study focuses on the forms of employment and the neglected points of working conditions in the literature. Seasonal and precarious employment and adverse working conditions are discussed through the experiences of the employees, and the nature of the work in the hotel business is described (Fig. 2). The study has four main findings.

First of all, when the employment patterns in the sector are examined, the temporary and precarious employment of hotel employees indicates a precariat class, exactly as Standing (2017) expresses. It has been determined that hotel employees suffer from financial difficulties due to temporary and insecure employment, and their retirement period is delayed. This situation has become more evident in pandemic conditions. Secondly, one of the biggest problems for those working in the hotel industry is unfavorable working conditions. In addition to long

working hours, wages, and leave problems, it has been determined that the physical environments are poor in terms of hygiene. Third, it has been seen that managers aim to increase efficiency and productivity by keeping employees under surveillance. Thus, the works are carried out in the determined standards and flow. All works to be done in this process are carried out within the framework of the determined standards and routine. It has been observed that the labor process in hotels with the all-inclusive system operates in a standard and routine manner, almost like a factory system, and the employees are detached from their qualifications with the simplification of the work. Thus, it has been determined that the need for qualified employees has decreased and the wages have been kept at the minimum level. Fourth, it was seen that the labor process was brought under control by simple, technical, and ideological mechanisms. Similar studies in the tourism literature (Çıvık and Besler, 2022; Erköse, 2020; Efthymiou, 2010) indicate this. Camera systems, which Edwards (1979) described as technical control and intimidating employees not to exhibit undesirable behaviors, show that every moment of the labor process is kept under surveillance. The monitoring and the audio systems operate like Bentham’s panopticon disciplining hotel employees (Foucault 2012).



**Figure-2:** The nature of working in the hospitality industry

As a result, it is seen that employees follow strategies to get the job, maintain and rise in their position. It has been observed that employees try to advance in their careers by increasing their capital. In addition to intellectual capital, it has been determined that social capital is very important in the field. Having a network means getting support from collectivity (Bourdieu, 2005). For this reason, it has been determined that employees try to establish close relationships with supervisors, managers, or business owners. Because it creates a more comfortable working environment in the workplace when the employees establish friendly relations with the chiefs and managers; Otherwise, it has been determined that they have a perception that if they come into conflict with the rulers, they will face mechanisms of exploitation and domination. For this reason, it has been determined that employees tend to follow obedience strategies in the field. However, it has been determined that when the working conditions become unbearable or the possibility of resistance due to an oppressive regime increases.

### 5.1. Academic Implication

It is thought that it will be an important step for the disclosure of exploitation and domination, and the awareness and liberation of tourism employees by considering the studies on tourism with a more critical perspective. This study reveals how problematic the employment patterns and working conditions in Türkiye's tourism are and how they negatively affect the lives of the employees. This study, unlike previous studies, holistically emphasizes that there is managerial hegemony with strict control practices. There are precarization, standardization, simplification, and devaluation in the field. The study has a provocative nature to investigate similar problems. In particular, it will provide a priori information for future research in terms of revealing normalized inequalities.

### 5.2. Managerial Implication

It is seen that the strict control applied in the hotels creates a tense atmosphere (Çıvık and Besler, 2022) and has negative effects on the work and social lives of the employees. From this point of view, it is seen that a democratic working environment should be created where the work and responsibilities are distributed in a balanced way and ideas are expressed clearly, instead of strict control of the managers. In particular, managers should be aware of the necessity of developing representative democracy in organizations (Yıldırım, 2021). Apart from this, the transition to business/service processes with less standardization instead of the all-inclusive system in the hotel industry will prevent employees from losing their talents and increase their skills.

### 5.3. Limitations of the Study and Future Research

The main limitation of this study is that the field research is limited only to the hotels in Antalya in Türkiye. Another important limitation is that the field research is conducted 2-3 months after the Covid 19 pandemic. It does not have the characteristics of working in pandemic conditions. Despite these limitations, this study critically considers the nature of work in the hospitality field and offers a provocative approach to discussing the problems of tourism employees. In addition, the study offers several recommendations for future research. First, there is a need for critical studies in the tourism literature. In particular, handling labor issues in the tourism sector within the framework of a critical paradigm will make a significant contribution to the literature. At this point, the forms of employment and working conditions in different areas of tourism can be examined and the effects on the work and social life of the employees can be discussed. Working experiences of migrant employees in tourism and individuals who are in minority status in terms of ethnicity, religion, sect, and sexual orientation in the tourism sector can be discussed.

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## WHAT MIGHT THEY ASK? TOURISTS' QUESTIONS DIRECTED TO TOUR GUIDES DUE TO THEIR INFORMATION-GIVER ROLE

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### KEYWORDS

*Tour Guiding*  
*Tour Guides' Roles*  
*Information-giver Role*  
*Knowledge*  
*Tourists' Questions*

### ABSTRACT

Interpretation is essential in tour guiding services and it is formed by tour guides' information. In this context, the body of the tour guiding literature has examined tour guides' information-giver role in various aspects. However, tourists' questions, as a component of tour guides' information-giver role are under-studied. Hence, this empirical research aims to identify tourists' questions directed to tour guides in Türkiye. It also examines tour guides' perceptions regarding tourists' characteristics and their questions. Additionally, tour guides' strategies to handle challenging questions were clarified. 13 tour guides were interviewed to conduct the qualitative research and the findings reveal that tourists' questions are related to Geography, Islam religion, History in Anatolia, Sociocultural settings, and Socioeconomic infrastructure in Türkiye. Therefore, this study contributes to the current body of knowledge as it offers a framework for tourists' questions, tour guides' relevant perceptions, and strategies. Finally, it provides recommendations for practitioners and policy-makers

## 1. INTRODUCTION

Tour guides interpret destinations on tours (Ap & Wong, 2001), and their information forms what they interpret (Cohen, 1985). Guided tours attract tourists due to tour guides' information on destinations (Overend, 2012). Information integrates tourists into the tour environment (Schmidt, 1979), thus leading tour guides to a crucial position beyond "translator" (Gelbman & Maoz, 2012). Likewise, tour guides are distinguished from the rest of staff in their information-giver role on tours. This role is their prime function, and tour guides show their expertise through it (Holloway, 1981). On the other hand, tour guides' information-giver role engages them in dialogues with tour participants, and they answer tourists' questions (Schlegel & Pfoser, 2021). Questions help tourists link the interpreted content to their experiences (Reisinger & Steiner, 2006); thus, the audience goes beyond passive listening (Best, 2012). Hence, tourists direct questions to their tour guides about various characteristics of a destination. These questions cover a wide spectrum of subjects (Al-Okaily, 2022; de Guzman, Magnayon, Manuel, Moratillo & Lim, 2019). Eventually, answering tourists' questions is an essential aspect of tour guiding services (Weiler & Walker, 2014).

Tour guides' interpretation has been subject to tour guiding studies. The effect of interpretation on tourist experience (Reisinger & Steiner, 2006; Io & Hallo, 2011, 2012), cultural identity and destination image (Cheng, Kuo, Chang & Chen, 2019), and tourist satisfaction (Jamaliah, Mgonja, Alazaizah & Powell, 2021) are clarified in the tour guiding literature. Likewise, how tour guides' interpretation helps tourists comprehend cultural heritage (Weng, Liang

& Bao, 2020) and explore their relationships with destinations (Wearing & Archer, 2002; Ababneh, 2018) are examined. Additionally, tour guides' interpretation is examined within the realm of conservation, sustainability (Hu & Wall, 2012), and destination loyalty (Kuo, Chang, Cheng & Lin, 2015). Also, tour guiding studies note that tour guides' interpretation mediates between tourists and destinations (Weiler & Yu, 2007; Williams, 2013). Regarding tour guides, Wong (2013) notes that tour guides adjust their interpretation to the countries of tourists.

In tour guiding literature, Holloway's (1981) seminal study emphasizes tour guides' information-giver role. In this context, information is identified as a component of tour guiding services which transforms into interpretation (Cohen, 1985). Tour guides' information is noted as a dimension of tour guides' performance which effects tourist satisfaction (Zhang & Chow, 2004; Sezgin & Düz, 2018). Furthermore, Dahles (2002) explains how tour guides' information functions, and some scholars (Ap & Wong 2001; Al-Okaily, 2022) define the features of information. Trustworthiness and information accuracy are emphasized to be crucial in tour guiding services (Chen, Hwang & Lee, 2006). On the other hand, tour guiding studies non-exhaustively discuss tourists' questions on tours. Tour guides' answerable attitude towards tourists' questions

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is declared to be crucial for tour guiding services (Caber & Albayrak, 2016; Kalyoncu & Yuksek, 2017). Furthermore, tour guides' perceptions of questions (Holloway, 1981; Schlegel & Pfoser, 2021) and their hassles with challenging questions are identified in the literature (Zhu & Xu, 2021; Larsen & Meged, 2013). However, the context of tourists' questions is under-studied despite their prominent involvement with tour guides' information-giver role, thus tourist satisfaction.

To fulfill the gap in the literature, this study simply questions "What do they want to know?" and the research questions are as follows: (1) What are the questions tourists direct to tour guides on tours? (2) Do the questions depend on tourists' countries? (3) How do tour guides handle tourists' challenging questions? Nonetheless, service-related or practical questions such as "What time do we arrive at the hotel?" or "Where is the restroom?" are not subject to this study. Likewise, this study does not cover any personal questions directed to tour guides. In other words, this study handles the questions in the context of interpretations. On the other hand, this study acknowledges that destinations are determinative in tourists' questions, thus narrowing down the sample to tour guides in Türkiye. Eventually, this study contributes to the body of knowledge by revealing and classifying the questions directed to tour guides. Also, it explicates question-oriented interaction between tour guides and tourists. Additionally, the results can be referable for interpretation and information-related research in tour guiding studies. Finally, the results showcase implications for practitioners as they offer tour guides a comprehension of what tourists would like to know on tours. In this regard, tour guides can review their interpretations and knowledge of information according to the results of this study. Thus, they can enhance the context of their information and foresee tourists' expectations which will improve tour guiding service quality on tours. Likewise, based on this study's results, tour guiding departments in the universities can revise their curricula and The Ministry of Culture and Tourism can review the context of training courses. So that tour guides would be trained to be answerable tourists' questions in Türkiye.

## 2. LITERATURE REVIEW

### 2.1. Tour Guides' Information-giver Role

Tourists visit destinations to learn about a new culture. Therefore, learning practices on tours affect their experience quality in destinations (Altunel & Erkut, 2015). In this regard, tour guides' interpretations function to educate tourists (Chen, Hwang & Lee, 2006) and evoke their emotions for an extensive experience (Io & Hallo, 2012). Thus, interpretations provide tourists with an active and questioning mindset, thus helping them enhance their perceptions of the environment around them (Moscardo, 1996). For instance, in a historical setting, tour guides 'bring the past to life' through their interpretations (Williams, 2013) derived from accurate historical information (Io & Hallo, 2012). Hence, tour guides' interpretation helps tourists perceive cultural heritage values (Weng, Liang & Bao, 2020) and enhances their comprehension of destinations (Gelbman & Maoz, 2012). However, it is a reciprocal benefit since tour guides' interpretation

significantly influences destination loyalty (Kuo, Chang, Cheng & Lin, 2015).

Tour guides interpretations cover a wide range of destination characteristics, such as local people, events, and objects (Tsaour & Teng, 2017). Besides the displayed environment, tour guides interpret the 'backstage' in their manners. Since tourists can barely interact with the locals, tour guides set examples of how locals eat, dress, or laugh (Touloupa, 2010). Thus, interpretation includes guides' daily life experiences (Tsaour & Teng, 2017) due to their ambassador role of their countries (Holloway, 1981). Likewise, tour guides relate their interpretations to tourists' lives, thus enhancing tourists' experience (Alazaizeh, Jamaliah, Mgonja & Ababneh, 2019) since interpretation turns tourists' visit into experience in destinations (Ap & Wong, 2001; Chang, Kung, & Luh, 2012). On the other hand, instead of standardized and generic content (Altunel & Erkut, 2015), interpretations should be flexible regarding various characteristics (Chen, Hwang & Lee, 2006) such as tourists' age, gender, and educational background (Kuo, Chang, Cheng & Lin, 2015).

Tour guides highlight and interpret destinations through their information, and it is an essential component of a professional service. Information determines to what extent tourists would learn about the culture (Hu & Wall, 2012) and comprehend the local sights in a destination (Dahles, 2002). Consequently, tourists are satisfied with the presence of a tour guide disseminating information to them (Arslanturk & Altunoz, 2012). In this context, tour guides cover information about history, geography (Cohen, Ifergan & Cohen, 2002), geology (Carmody, 2013), architecture (Mustafa, 2019), archaeology, religion, flora, and fauna (Chowdhary & Prakash, 2009). In addition, tour guides present specific information about the local culture (Al-Okaily, 2022), customs (Mossberg, 1995), and lifestyles of the host community (Huang, Hsu & Chan, 2009). Besides destination-based information, tour guides convey information about the host country's regime, polity (Hallin & Dobers, 2012), economic development, and position in the world (Weiler & Yu, 2007).

Disseminating accurate information to tourists is essential to professionalism in tour guiding (Holloway, 1981). Also, information should be necessary, up-to-date (Ap & Wong, 2001), clear, and understandable for tour participants (Al-Okaily, 2022). Clear and simple explanations in interpretation help reduce the gap between the knowledge of tour guides and tourists (Reisinger & Steiner, 2006). Additionally, tour guides should disseminate their information in an interesting way (Holloway, 1981). On the other hand, tour participants pay attention to the trustworthiness of the information given in a guided tour (Chen, Hwang & Lee, 2006). When the conveyed information falls short of tourists' expectations, tour guides fail in their roles regarding cultural mediation (Weiler & Yu, 2007). Likewise, insufficient or incorrect information results in tourist dissatisfaction (Weiler, 2016) and trouble tour staff as well (Tsaour & Lin, 2014). Eventually, referencing during interpretation enhances the authority of tour guides and strengthens their image of having done research in various sources. Photographs, archived newspapers, letters, and official documents can be presented in a folder or computer to legitimate the information in



interpretation (Schlegel & Pfoser, 2021).

## 2.2. Tourists' Questions on Guided Tours

Tourists ask questions to learn about the culture and religion of the host community (Al-Okaily, 2022; Travesi, 2017). Likewise, animals, flowers (Hurombo, Kwanisai & Mutanga 2022), paintings, sculptures, rituals, cultural heritage (de Guzman, Magnayon, Manuel, Moratillo & Lim, 2019), and food (Şeyitoğlu, 2021) can be subject to tourists' questions. Questions about the visited site or attractions indicate tourists' interest in the tour (Çınar & Toksöz, 2020). Therefore, the presence of questions is an indicator of a successful excursion from the tour guides' perspective (Holloway, 1981). Hence, tour guides prefer that their customers ask questions rather than sit silently (Schlegel & Pfoser, 2021). Therefore, tour guides can use tourists' questions as a doorway to new content of narratives (Salazar, 2006). Once tourists raise a question, tour guides steer their interpretation to a new course and convey further information (Gelbman & Maoz, 2012). Eventually, tourists' questions give tour guides clues about what to interpret on tours.

Tourists expect their guides to fully answer their questions (Liu, Li, & Sheng, 2021). Also, quick answers are expected. Thus, tour guides' responsiveness is essential in tours (Chen, Hwang & Lee, 2006). A tour guide answering questions will awaken positive emotions, thus leading to repurchasing tourism services (Kuo, Chang, Cheng & Lin, 2015). On the other hand, unanswered questions result in complaints (Avcı & Doğan, 2018). Tour guides' answers are expected to be sufficient within the realm of tour quality (Kara & Demir, 2021). Unsatisfying answers put tour guides on the spot and lead them to embarrassment (Zhu & Xu, 2021). Furthermore, tour guides find themselves in an awkward position when there are knowledgeable participants in particular (Holloway, 1981). In these cases, a tourist might take the stage and answer the question, thus stealing the tour guide's thunder (Larsen & Meged, 2013). Besides, tour operators expect their guides to answer tourists' questions. In their perception, tour guides' vague answers damage the reputation of tour operators (Çakmak & Kurnaz, 2020). Eventually, delivering inaccurate information, such as distorted history, harms the image of the destination country (Jo, Lee, Kim & Lee, 2020).

Tourists from different nations have various levels of interest in history (Wong, 2013). Tour guides perceive tourists' nationalities as determinative of their interest in the tour, thus their tendency to ask questions (Gelbman & Collins-Kreiner, 2018). In tour guides' perception, tourists' questions might reflect their stereotypes and prejudices (Touloupa, 2010). In such cases, tour guides avoid potential conflicts by interpreting general phrases and by concealing their personal views. Likewise, they handle delicate questions by sparing time for the tourist who asked the question and sharing their subjective views in person. On the other hand, some questions are hard to answer, especially when there is a lack of reliable information to present (Schlegel & Pfoser, 2021).

## 3. METHODOLOGY

### 3.1. Data Collection

This research conducts an exploratory inquiry

into international tourists' questions in Türkiye. Therefore, it adopts a qualitative approach to provide comprehension of the subject. Face-to-face interviews were conducted for data collection since interviews help researchers clarify the research issues (Arksey & Knight, 1999). Interview questions were formulated in a semi-structured form based on the literature. Such as what can be subject to tourists questions due to tour guides' information-giver role (Holloway, 1981), how tourists questions lead tour guides to interpret details (Gelbman & Maoz, 2012; Salazar, 2006), and how tour guides relate tourists' questions to their characteristics (Wong, 2013; Touloupa, 2010). Later, the questions were sent to an academic in the tour guiding department (with a tour guiding license and experience) and an experienced tour guide to ensure clarity (Patton, 1987). Hence, the questions were revised. In this regard, the question "Is there a specific subject that tourists ask you to explain?" was added to the form. Likewise, the question "What do tourists do when they are un/satisfied of your answer?" was changed to "How do tourists react when they are un/satisfied of your answer?" for clarity. Then, a pilot interview was conducted to test the questions' sufficiency (van Teijlingen & Hundley, 2001). Tour guides who guide international tourists in Türkiye compose the sample. Hence, the snowball sampling method was used, thus personal networks and the recommendations of the interviewed tour guides were determinative in reaching the sample. Furthermore, the maximum variation sampling was adopted to ensure the participation of tour guides working with different nationalities. In the meantime, a sample variation was ensured regarding tour guides' age, experience, and foreign language. The interviews were conducted in Nevşehir (a province in Cappadocia destination) and Eskişehir province due to the accessibility to the interviewed tour guides since personal networks and the recommendations determined the sample. However, the participants guide international tourists across the country throughout the year, so their residential addresses are non-decisive.

The participants were briefed about the study before interviews and assured confidentiality of their personal information. The participants allowed audio-record so the tapes could be analyzed later. 13 tour guides were interviewed between 06.09.2016-17.09.2016 and 17.04.2023-03.05.2023. In qualitative research, there is no consensus on the sample size, and purposeful selection makes even one case the sample of a research (Patton, 2002). In this regard, data saturation is the reference for sample size (Mak, Wong & Chang, 2010; Tsaur & Lin, 2014, 2019), and it is sufficient when data provides no new information or themes (Guest, Bunce & Johnson, 2006). Likewise, in qualitative tour guiding research, studies conducting interviews (Ap & Wong, 2001; Mak, Wong & Chang, 2011; Jo, Lee, Kim & Lee, 2020) achieved data saturation within the range of 10-15. In this study, data saturation was achieved after interviewing 12 tour guides, and no new information emerged from the last participant. Finally, due to ethical considerations, tour guides' personal information was kept confidential and, they were coded TG1, TG2, TG3...

### 3.2. Participant Characteristics

The participants' average age is 44 (the youngest 33 and the eldest: 66). The average tour guiding

experience is 20 years. The interviewed tour guides speak English, German, Japanese, Spanish, Portuguese, Russian, and Dutch as their foreign language(s) for tour guiding service. Due to their foreign languages, they guide a wide range of tourists from different geographical origins. All the participants work as freelance tour guides and are paid daily wages on tours. Table 1 demonstrates the characteristics of the interviewees.

the participants before each interview to provide a comfortable environment for interaction. A pilot test was conducted to ensure trustworthiness. Academics with tour guiding licenses and experience were included as external data auditors since it is a strategy to enhance trustworthiness in qualitative studies (Mhyre, 2010). Thus, the data were revised and clarified to ensure peer review (Merriam, 2009). Finally, the results were shown to two other experienced tour guides to ensure that they were

**Table 1.** Participant Characteristics

Tour Guide	Gender	Age	Language(s)	Experience (Year)	Occupation Type
TG1	Male	37	German	15	Freelance
TG2	Male	49	English, German	30	Freelance
TG3	Male	38	English, Japanese	18	Freelance
TG4	Male	33	English, Spanish, Portuguese	11	Freelance
TG5	Male	33	English	6	Freelance
TG6	Male	50	English	27	Freelance
TG7	Male	38	English	13	Freelance
TG8	Male	45	English, Russian	11	Freelance
TG9	Male	51	English	32	Freelance
TG10	Male	66	English	41	Freelance
TG11	Male	50	Dutch	24	Freelance
TG12	Male	40	English, Spanish	15	Freelance
TG13	Female	47	German	17	Freelance

### 3.3. Data Analysis

The audio records were analyzed employing NVivo12 software since it enables researchers to conduct their data and provides a focus on the meaning of it (Bazeley & Jackson, 2013). Adopting a qualitative descriptive approach, this study initially conducted content analysis since it is an efficient method for data analysis (Cavanagh, 1997) when a concise and inclusive description is aimed (Tsaour & Lin, 2014). In this regard, content analysis is a commonly applied method in tour guiding studies (Hu & Wall, 2013; Mackenzie & Kerr, 2013; Mak et al., 2011). Hence, the data were coded through listening twice, and later thematic analysis (Braun & Clarke, 2012) -as recommended (Kassarjian, 1977; Tsaour & Lin, 2014)- was executed to classify the questions directed to tour guides (Hsieh & Shannon, 2005). Later, two academics in the tour guiding department (with tour guiding licenses and experience) reviewed the codes, categories, and themes; thus external auditor was provided to prevent potential bias (O'Connell, Cook, Gerkovich & Potocky, 1990). Hence, the findings were finally revised and identified.

### 3.4. Trustworthiness

Trustworthiness indicates validity and reliability in qualitative research (Graneheim & Lundman, 2004). This study adopts Lincoln and Guba's (1985) strategy as it is commonly employed by tour guiding studies (Ap & Wong, 2001; Jo, Lee, Kim & Lee, 2020; de Guzman, Magnayon, Manuel, Moratillo & Lim, 2019; Mackenzie & Kerr, 2013) to assure trustworthiness. Therefore, the interviewer had a random talk with

meaningful and consistent with their experiences (Shenton, 2004).

## 4. FINDINGS AND DISCUSSIONS

### 4.1. Tourists' Questions Directed to Tour Guides

Adopting a descriptive qualitative research, the data was organized and described to determine the quotations in the interviews. Later, tourists' questions were identified and categorized due to thematic units. The frequency of the codes was used as a base to ensure consistency and avoid any potential bias caused by tour guides' self-report. Thus, only the codes repeated by at least two tour guides were taken into consideration. Later, the codes were transformed into categories. At this stage, predetermined categories can be used or new categories can emerge (Dawson, 2016). Therefore, the existing body of knowledge in tour guiding studies (Al-Okaily, 2022; de Guzman, Magnayon, Manuel, Moratillo & Lim, 2019; Travesi, 2017; Hurombo, Kwanisai & Mutanga 2022; Seyitoğlu, 2021) was utilized determining the categories. The results reveal five subjects to tourists' questions: Geography, Islam religion, History in Anatolia, Sociocultural settings, and Socioeconomic infrastructure. Table 2 demonstrates the subjects to tourists' questions and their frequency repeated by different tour guides.

**Table 2:** Thematic Units of Tourists' Questions Directed to Tour Guides)

<b>Thematic Units of Tourists' Questions Directed to Tour Guides</b>					
<b>Themes</b>	<b>Geography</b>	<b>Islam Religion</b>	<b>History in Anatolia</b>	<b>Sociocultural Settings</b>	<b>Socioeconomic Infrastructure</b>
<b>Categories and Codes</b>	<b>Agricultural Products</b>	<b>Religious Practises</b>	<b>Ancient Settlements</b>	<b>Culinary Culture</b>	<b>Education</b>
	Products nationwide (4)	Funerals (4)	Construction of pillars (2)	Eating and drinking habits (4)	School fees (4)
	Products in Mediterranean Region (2)	Circumcision (3)	Transportation of pillars (2)	Turkish Cuisine (3)	Education system (3)
	<b>Flora and Fauna</b>	Separate areas in mosques for women and men (2)	Life in caves (2)	Ingredients of Turkish cuisine (2)	<b>Employment</b>
	Tree species (4)	<b>The Azan (Call to Prayer)</b>	Heating in caves (2)	<b>Weddings</b>	Occupations in the country (2)
	Plant species (3)	The function of the Azan (4)	Deformation in cave frescoes (2)	Wedding customs (6)	Minimum wage (2)
	Flower species (3)	The meaning of the Azan (2)	<b>The Minorities</b>	Wedding convoys (2)	Retirement system (2)
	Bird species (2)	Frequency of the Azan recitation in a day (2)	Turkish-Armenian Controversy (5)	<b>Family and Women</b>	
			Exchange of Turkish and Greek populations (2)	Dating (4)	
				Polygyny (4)	
			Women's role in the society (4)		
			Women's rural dressing (2)		
			Turkish family structure (2)		

#### 4.1.1. Geography

According to the results, tourists ask questions about the geographical characteristics of the destination visited, and it is coherent with the literature noting tour guides' interpretation cover geography (Cohen, Ifergan & Cohen, 2002; Chowdhary & Prakash, 2009). Tourists' questions about agricultural products are related to the regions and the country. The interviewed tour guides stated that tourists' questions about agriculture raise upon their observations during tours. On the other hand, tourists are curious about the flora and fauna of Türkiye as they travel throughout the country. Tourists' interest in flora and fauna has been

observed for centuries in Anatolia (Kaya & Yetgin, 2021). Thus, they raise questions and ask their tour guides to disseminate knowledge about the trees, plants, flowers, and birds around them. The examples of tour guides' expressions are as follows:

They see a verdant field and ask, "What is it?". You do not know if it is barley or wheat that the farmer sowed in Konya. You just look at the field and yet, you are too far away. They ask this a lot (TG7)

The questions I do not know the answers to are generally the names of flowers. "What is this flower? What is that flower?". Most tour guides dislike these questions. Because it requires expertise. Of course, everyone knows hyacinth, tulip, or rose, but you are walking, and tourists ask about a flower that you

have seen for the first time in your life: "What is this flower?" (TG3)

#### 4.1.2. Islam Religion

Tourists seek information about the host community's religion and direct questions to their guides (Al-Okaily, 2022; Travesi, 2017). In Türkiye, tourists' questions are related to the religious practices of Islam and the Azan (call to prayer). TG6 noted that "Asians ask about the funeral: 'Do you bury or cremate the dead?'" Likewise, circumcision, as TG5 declares, is a matter of tourists' curiosity on tours: "Circumcision, for example, is asked about too often. They already hear it from the Muslims back home. They ask what it is, when it is done and whether it is healthy". In addition, hijab and praying practices in mosques are the subjects that tourists ask for information about on tours.

Especially when entering The Blue Mosque, they ask about the covering practices of Muslims. "Why can men or women not wear this or that? Why not? Why is it a sin? Why do women wear a headscarf while men do not?" (TG12)

According to the results, tourists hear the Azan during their stay in Türkiye. They ask their guides about the function and the meaning of the Azan and ask for information about its daily recitation frequency.

They ask too many questions about Islam. One of the most frequent questions is about the Azan: "Why is it recited five times? What does the Azan say?". It is a typical question, and tourists from every country ask about it, at least its meaning. They certainly hear it. It is recited next to their hotel (TG9)

#### 4.1.3. History in Anatolia

History is essential to tour guides' interpretations because inaccurate information damages destinations' image (Jo, Lee, Kim & Lee, 2020). In this context, tour guides' interpretations play a crucial role in ancient cities (Kavak, 2020). The results indicate that tourists visiting Türkiye are curious about the country's history. Hence, they ask their guides for information about the structures in the ancient settlements. In addition to buildings, historical events are subject to the tourists' questions. In this context, the interviewed tour guides note that tourists' questions about the ancient settlements reflect their sense of wonder regarding the technical possibilities of the ancient world.

They ask such questions: "How the pillars was constructed at that time?". Well, we are talking about the ancient times, before Christ. "How were they built? How were they lifted? How were they brought here?", "The technic was limited back then. How could they form and decorate the marble? How could the pillars resist the earthquakes?". Such reasonable questions raise from the groups. (TG1).

Since Cappadocia is one of the most visited destinations in Türkiye (yigm.ktb.gov.tr, 2022; data.tuik.gov.tr, 2022), the cave structures in the region arouse curiosity on tours. Tourists ask questions to learn whether people still live in the caves today, as noted by TG6 "The question 'Is there anyone still living in the caves?' are asked too often". Likewise, the heating conditions of the cave structures are another subject to tourists' questions, as stated by TG4 "They ask how the caves were heated". Finally, the deformation on the frescoes from the Eastern Roman Empire Period is observed by tourists and

followed by questions, as TG9 exemplifies "They specifically ask about the deformation in the figures' eyes. The eyes scratched out, and tourists ask if it is related to Islam and whether it is an act against Christianity".

#### 4.1.4. Sociocultural Settings

Tour guides' information is decisive in tourists' experience of understanding a culture (Hu & Wall, 2012). Hence, it covers information about the local culture (Al-Okaily, 2022), and lifestyles (Huang, Hsu & Chan, 2009). In this regard, Türkiye's sociocultural settings are subject to tourists' questions. Tourists ask questions about the local food and cuisine practices of Türkiye as TG1 declares: "They are so curious about our cuisine. They ask how the food is made and what the ingredients are. They ask in the restaurant or after lunch. Sometimes in tours, we visit kitchens as well". As a part of the culture, 'wedding customs' were repeated by six interviewed tour guides, thus showing tourists ask questions about Turkish weddings, as TG3 points out: "They ask if the weddings are held in mosques. Because as we interpret marriage, we mention religious marriage ceremony. However, we do not go to a mosque, and the imam comes home. Tourists think people go to a mosque to get married". Additionally, tourists ask questions about families, women's roles, and dress in Turkish society, as exemplified by TG2: "About women, they ask about the economic welfare level of women, their rights, and their role in the society. They ask, "Where do women stand in your social life?".

#### 4.1.5. Socioeconomic Infrastructure

According to the results, tourists want to learn about education and employment in Türkiye. In this context, tourists ask whether education is mandatory and free of charge. TG9 notes: "They ask questions about education. Compulsory education, 'How many years do the kids have to go to school? Is it co-education or not?'. They are curious about compulsory education". TG1 notes the questions about the minimum wage: "Minimum wage is asked too often. They ask 'What is the minimum wage?'". Eventually, these questions are coherent with the literature pointing out that tourists ask questions about the housing prices and salaries of the host community (Zhu & Xu, 2021). By answering these questions, tour guides convey information about the host country's economic development (Weiler & Yu, 2007).

#### 4.2. Tourists' Characteristics and Their Questions

Wong (2013) and Gelbman and Collins-Kreiner (2018) notes nationality as a determinative in tourists' interest in history and tendency to ask questions. In this study, the results showcase that tour guides do not have a consensus in their perceptions of tourists' geographic origin as a determinative in questions. To exemplify, TG9 states, "The French ask political questions. The Europeans ask political questions. They know the up-to-date news". On the other hand, tourists' questions are perceived to depend upon their socioeconomic status and occupation as TG10 states, "It is tourists' background that makes them ask questions. For example, a farmer ask about farming, a historian ask about history, a businessman asks about the industry". Therefore, the findings showcase that besides nationality Wong

(2013), tourists' other characteristics play a role in tour guides' interpretation preferences. Eventually, TG8 tells an anecdote during the interviews and explains how tourists' characteristics can steer their interpretation to a new course.

We were on tour in Ephesus, İzmir. The man (tourist) does not listen to a word as I say "Celsus", "Brothel", and "Atrium". Then I asked, "What is your job?". He is a truck driver. Then I started to talk about truck brands and had his attention. I started to talk about the truck drivers in Türkiye. There are many truck drivers in Hatay (a southern Turkish province). I interpreted how they got unemployed during the Gulf War, leading them to depression. The truck drivers were home for a long time, so there was a baby boom! He started to laugh because he could think about himself (TG8).

#### 4.3. Tour Guides' Strategies to Handle Challenging Questions

According to the results, tour guides follow some strategies to handle the challenging questions on tours. Firstly, the interviewed tour guides reveal that some questions can be tough to answer due to the lack of knowledge. In this regard, TG7 explains how he preannounces that tourists should not expect him to answer every question:

I found the solution to that. "I am not Google. It is impossible to know about every tree. There are more than a thousand tree species in Türkiye. If a tree is important in history, we already introduce it, but I cannot recognize all the trees" (TG7).

Tour guides were noticed to follow another strategy to deal with the tough questions: answering them later. TG12 states, "If I do not know the answer, I slide over, or if I would have more time with the group, I say, 'I will learn in this evening and explain it tomorrow'".

Schlegel and Pfoser (2021) note that tourists' questions can be delicate. Even further, Becker (2018) states that some questions can be provocative and might reflect tourists' prejudices (Touloupa, 2010). The results reveal that some questions can be delicate regarding international disputes. TG10 explains how he responds to these types of questions on tours:

I do not answer some questions on purpose. For example, Turkish-Armenian Controversy. I interpret superficially on the subject. If I notice the tourist digging it up and has a political motivation, I would say, "I am a tour guide. My formation concerns tourism, foreign language, history, art, and mythology. It is a political subject, and I have already explained what I know as a Turkish citizen. If you want to learn more about it, you can read books" (TG10).

## 5. CONCLUSION AND IMPLICATIONS

Tour guides' information-giver role have been extensively examined in the literature. However, tourists' questions, as an essential component of tour guide-tourist interaction, have been under-studied. Therefore, this study showcases tourists' questions directed to tour guides in Türkiye. Additionally, it offers an insight into tour guides' perceptions of the relationship between tourists' characteristics and their questions. Finally, it examines tour guides' strategies for handling challenging questions. This study contributes to the body of knowledge as it identifies the content of tourists' questions which were overlooked in the tour guiding literature.

Hence, this study differs from the previous research as it explicates and categorizes tourists' questions. On the other hand, this study reveals that tour guides perceive tourists' socioeconomic status and occupations as a determinant in their questions besides their geographic origins. Eventually, this study notifies that tour guides adopt some strategies to handle the challenging questions on tours.

### 5.1. Theoretical Implications

In Türkiye, tourists ask questions about Geography, Islam religion, History in Anatolia, Sociocultural settings, and Socioeconomic infrastructure. Anatolia is a vast environment with numerous civilizations in its history. Therefore, tourists' questions cover a wide range of subjects which requires tour guides to be knowledgeable. On the other hand, the results indicate that tourists ask questions upon their observations on tours. Likewise, tourists' experiences, such as hearing the Azan five times a day during their stay in Türkiye, emerge as questions. Observation and experience-based questions can be spontaneous and challenging for the tour guides if they do not have the answers. Additionally, some questions related to social practices may not be subject to training curricula in universities and courses. Wedding convoys or couples' dating are two examples of these questions, and they can be learnt through observation and experience. The results reveal that observation and experience are two information sources for tour guides as coherent with the findings of Lugosi and Bray (2008) and Tsaour and Teng (2017). Therefore, a single moment in tour guides' lives might come up as a question or transform into an answer later. Eventually, tour guides receive questions about the school fees, education system, minimum wage, and retirement system in Türkiye. These questions require up-to-date answers, and tour guides can be answerable only if they check the latest information from time to time.

The results indicate that tourists' socioeconomic status and occupation are decisive in their questions. In this context, tourists' geographic origins Wong (2013) or characteristics, such as age, gender, and education (Kuo, Chang, Cheng & Lin, 2015), are not the merely references to their questions. Therefore, it is essential for tour guides to understand their customers from different perspectives. Thus, they can foresee tourists' expectations and interpret necessary information to attract their interest. In this context, this study showcases that the idea of tourist-standardization does not work in all circumstances. On the other hand, tour guides need to handle some questions with care since they may suffer from the lack of knowledge or delicate situations. The results showcase that tour guides honestly preannounce that they may not be able to answer all the questions due to lack of knowledge and search for the answers to inform their customers later. However, some questions regarding international or political disputes are beyond tour guides' expertise and can be challenging for them. Besides, some tourists might have strict political views (Quinn & Ryan, 2016) or prejudices (Touloupa, 2010). Therefore, all the diversity in tours requires selective and sensitive interpretation. Hence, tour guides do not provide extensive answers in case of delicate questions and interpret in general phrases, which is coherent with the findings of Schlegel & Pfoser (2021). At last,



tour guiding involves emotional labor (Alrawadieh & Dincer, 2021), and tour guides struggle to answer delicate questions.

## 5.2. Managerial Implications

Today, the presence of tourists is crucial for destinations since a variety of factors such as the pandemic (Doğru, McGinley, Sharma, Isik & Hanks, 2023) and uncertainty in economies (Işık, Sirakaya-Turk & Ongan, 2020) affect the tourism demand. Therefore, tourism stakeholders should appreciate tourist demand more than ever and ensure service quality to sustain tourism revenue. In tour guiding services, understanding tourists' needs and foreseeing their expectations can be a key to ensure service quality. So, this study showcases how tourists' questions play an essential role in tour guiding services. Tour guides' competencies and efficiency to answer tourists' questions is a must-do for tourist satisfaction. Consequently, policy-makers for tour guiding services should take actions to amend tour guides' competencies to be answerable to tourists' questions so that tour guides can play their part for a sustainable tourism development.

Schlegel and Pfoser (2021) emphasize that classifying the information and determining what to convey prevents tour guides from disseminating irrelevant content. Hence, this study provides tour guides with a framework for tourists' questions so that they know what to interpret on tours. Based on this study's results, tour guides can review their interpretations and knowledge of information to amend their guiding services. Likewise, Black and Ham (2005) indicate that tour guide training should provide skills, including knowledge, for the candidates. Therefore, the universities and The Ministry of Culture and Tourism can revise their training curricula and train candidate tour guides to be answerable to tourists' questions in Türkiye. Eventually, as Jacobson and Robles (1992) note, policy-makers should consider the needs of tour guides regarding information, and tourists' questions can be referred to identify tour guides' needs for interpretation.

Tour guides are directed various questions during tours, and some questions are challenging. Despite the challenges, providing answers to tourists' questions is crucial for tour guiding services. Thus it requires expertise and communication skills. Therefore, tour guides should be aware of tourists' potential emotional reactions when preparing their interpretations, as noted by Buzova, Sanz-Blas and Cervera-Taulet (2022). On the other hand, as Dahles (2002) argues, tour guides' narratives can be a reflection of the official policies. Tour guiding legislation in Türkiye does not steer tour guides to any course of interpretation but draws a framework for the profession. Tour Guiding Profession Law No. 6326 states that tour guiding service involves introducing the country's heritage in accordance with the politics of The Ministry of Culture and Tourism ([www.mevzuat.gov.tr](http://www.mevzuat.gov.tr), 2012). Hence, tour guides should handle questions with care and consider the official legislations during their interpretations.

## 5.3. Limitations and Future Research

This study acknowledges some limitations. Firstly, the maximum variation sample was conducted during the sample selection, and tour guides operating in seven languages were involved in the

sample. Also, English-speaking tour guides in the sample operate for tourists from different countries regardless of tourists' native language. However, tour guides in Türkiye are officially registered in 38 different foreign languages ([tureb.org.tr](http://tureb.org.tr), 2023), and this study's findings might be limited to the tourists who speak the languages of the sample. Hence, future research can interview tour guides speaking other foreign languages to enhance the variety of tourists. After all, it is not feasible to identify every question tourists have ever asked. Thus, this study draws a framework for the subject. Secondly, personal networks and recommendations determined the sample, so the number of female tour guides happened to be limited. There is no guarantee that tour guides' gender is decisive in tourists' questions. Yet, it is brought to the attention of future researchers to look out for gender distribution. Also, future research can examine tourists' questions in other countries so that some comparisons can be provided. Likewise, the questions of Turkish tourists in domestic tours can be explored, and the perspectives of domestic and international tourists can be explicated within the realm of questions. Additionally, future research can conduct various data collection methods, such as participant observation, to enhance data. Finally, interviewing tourists themselves to reveal their questions might enhance the results.

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## THE IMPACT OF SOCIAL MEDIA INFLUENCERS ON DESTINATION PREFERENCES: A CROSS-GENERATION COMPARISON

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### ABSTRACT

Social media has gradually transformed into a tool for tourism marketing because of its widespread use and its sales-oriented reflections on purchasing decisions. Hence, almost all tourism businesses and destination management organizations (DMOs) have initiated to attract potential tourists via social media or social media influencers (SMIs). Though more and more publications have emerged to draw attention to the significance of SMI on purchase decisions, the number of research focusing on SMIs effect on destination choice still needs to be furthered. From this point of view, this study aims to evaluate how social media influencers affect travellers' preference for destinations across generations. The data was gathered from 137 followers who follow social media influencers and are over 18. In the study, percentage, frequency, mean, and standard deviation values were employed in the descriptive data analysis, while correlation analysis was used in the relationship measurement tests, and regression analysis was conducted in the hypothesis tests. As a result, it has been inferred that the perception levels of participants towards social media influencers vary across generations and that social media influencers are an essential determinant for destination preference. It has also been concluded that the effect of social media influencers on destination preference differs in the context of X, Y, and Z generations. Thus, this study makes considerably advances the literature by revealing the importance of generation-based social media marketing and emphasizing how SMIs could impact destination preferences.

## 1. INTRODUCTION

The social media term was first used in literature by McLuhan with the terms of electronic data gathering and global access in 1953 (Peters, 2009). Social media enables and facilitates the interaction between users and informants as a communication technology (Enli, 2017). With the increasing rate of social media usage, individuals have begun to spend more and more time on virtual platforms provided by social media tools. They contentedly state their ideas, opinions, or judgments in this new communication and interaction environment without hesitation. Emerging social media tools and apps like Facebook, Instagram, Youtube, Twitter, Whatsapp, Snapchat, LinkedIn, and Pinterest are fundamentally altering global communication patterns. Manovich (2001) presents five fundamental differences between traditional media and social media as follows:

- Numerical presentation: All social media objects are composed of digital codes. Thus, they can be described formally, while algorithmic designs can also manipulate them.
- Modularity: Each social media object (image, sound, shape, etc.) has its own identity on a micro-scale. Each maintains its identity even if micro-scale social media objects are brought together and used.
- Automation: Social media objects can be digitally coded and have a modular structure, allowing many functions to be implemented

automatically while creating and distributing media.

- Variability: The most distinctive feature of traditional media objects is that they are created and distributed by one or more people. A social media object is not fixed for everyone but can exist in different, potentially endless versions. This is another consequence of the medium's numeric encoding and the medium object's modular nature.

- Transcoding: Combining computerization with media has turned media objects into computer data. Accordingly, computers organize the media objects that become data depending on the search results and present them according to a specific ratio.

Social media provides users a wide range of the possibilities for easily accessible communication and interaction because of its multifunctional nature. It also has certain distinguishing features. First of all, it is substantially free and low-cost for users. It allows access to significant communities in a short period. Social media is easy to use, and users can update whenever they want (Korkmaz, 2012). Moreover, social media has a unique dissemination

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environment through social media applications. Social media applications are web-based platforms that gather and integrate various user information, set up a user profile and page, and allow users to connect (Fuchs, 2011). Meanwhile, as the power of web-based communication and interaction augments, the rate of social media usage boosts and social media applications become more and more prevailing (Kara, 2013). In consequence, social media applications have become diversified day by day. Additionally, those programs influence the user characteristics. Previously, social media's strong interaction enabled passive users to become active content producers. Each user creates their own content and publishes it on social media without boundaries, and through comments and feedback on shared content, a strong engagement unfolds (Yaylagül, 2017). Some users become prominent on social media with thousands of followers and thus are called SMIs.

SMIs are individuals who are regularly in interaction on social media and they have high follower rates on social media applications. Their followers mind SMI's opinions and take their posts into consideration. Moreover, followers perceive SMIs as reliable sources that provide true and accurate information (Brown & Hayes, 2008). More importantly, nowadays, SMIs could be used as efficient tools for creating demand for any destination. Hence, companies and suppliers make product placements on the posts of SMIs to market their products, and this product placement could affect followers' purchasing decision process (Yaylagül, 2017).

Today, social media platforms host SMIs in fields including engineering, mathematics, rural life, cuisine, religion, etc. The travel/vacation segment is one of the most popular fields in which SMIs are observed. These SMIs provide engaging content to their followers about travel, sightseeing, tourism, and local cuisine. They constitute a reliable information source for potential tourists and followers by sharing their previous experiments about destinations, entertainment centres, hotels, restaurants, or various touristic activities. Their followers and other potential tourists read comments and review pictures or videos attached to the posts of SMIs. therefore, followers can plan their travel based on those posts or enhance their travel planning due to comments, pictures, or videos (Koç, 2019). In this regard, it is assumed that SMIs are the critical determinants for purchasing decision process and destination choice, primarily when the destination choice is majorly based on internet searches. It is also assumed that social media usage and information channels for travel planning differ regarding age groups and generations. Thus, this study focuses on the effects of SMIs on destination preferences and reveals that the effect of SMIs on destination choice could be diversified in terms of different generations. In the literature, there are some similar studies discussing the effects of SMIs on destination choice in different countries/destinations (Guerreiro et al., 2019; Jaya & Prianthara, 2018; Praničević, 2020; Pop et al., 2022; Xu & Pratt, 2018) and in Türkiye (Avcı & Bilgili, 2020; Bayın & Akoğlan Kozak, 2023; Gürkan, 2021; Ergan & Eru, 2022; Karadeniz, 2019). In contrast to those studies, this study investigates as to how SMIs affect travelers' choices of destinations across generations. Since the results of this study emphasize the role of generation, it is of utmost importance. It also

becomes essential with its results mentioning the role of generation.

## 2. LITERATURE REVIEW

### 2.1. Social Media Influencers and Purchasing Decision

SMIs, replacing traditional information sources in the same way as the advice of acquaintances, can influence individuals' purchasing decisions, feelings, and thoughts (Armağan & Doğaner, 2018; Mert, 2018). As stated before, they are accepted as reliable sources of accurate information. SMIs are generally classified into two categories based on their degree of influence on social media platforms. SMIs with more followers are called mega-influencers, and those with fewer followers are called micro-influencers (Armağan & Doğaner, 2018). Micro-influencers' effect on followers is more than mega-influencers. Thus, it is thought that the interaction and sincerity of micro-influencers with their followers have a greater sense of trust than mega-influencers (Avcı & Bilgili, 2020). Micro-influencers develop a wide-follower group with their liked posts on social media. Besides, adopting micro-influencer approaches has gained popularity with the expansion of content generation and distribution possibilities. Hence, micro-influencers have frequent interactions with qualified and pertinent followers on social media. Shares of any kind intended for advertisement or sales towards these followers circulate quickly and have a lasting effect. (Sarıtay, 2018). The experiences, opinions, and daily routine activities shared by SMIs are thoroughly followed by their followers (Arora et al., 2019). Thus, SMIs can influence their followers' emotions, thoughts, and purchasing decisions through social media applications similar to Instagram, Youtube, Twitter, and Facebook. Furthermore, SMIs have an above-average effect on their ability to persuade people (Avcı & Bilgili, 2020).

Anyone who makes use of social media platforms is able to express their emotions, ideas, and opinions. By posting images, videos, or live broadcasts, social media users can showcase their unique identities. At this point, some content or people are much more preferred by the followers. This allows SMIs to gain more followers and increase their effect on followers (Ki & Kim, 2019). Previous studies revealed that SMIs create this effect thanks to their specific characteristics, presented in Table 1.

**Table 1.** Specific Characteristics of SMIs

Chen, Shang and Li (2014)	The authors investigated the impact of blog content's novelty, reliability, comprehensibility, and attractiveness on blog usage and intention to visit the destination. They have concluded that the blog's novelty, reliability, comprehensibility, and attractiveness positively affect the use of the blog and the intention to visit the destination.
Lisichkova and Othman (2017)	It has been found that the honesty, reliability, originality, accuracy, and expertise characteristics of SMIs are effective in online purchases of consumers.
Rebolo (2017)	The study investigated the effect of the reliability phenomenon created by Instagram influencers on purchase intention. As a result, it was determined that honesty and attractiveness, which are reliability dimensions, positively affect purchase intention.
Avçılar, Demirgüneş and Açar (2018)	Researchers have determined that including SMIs in Instagram advertisements positively affects consumers' attitudes toward ads. In addition, it has been concluded that promotions made by SMIs are more effective than word-of-mouth advertisements.
Armağan and Doğaner (2018)	In the study, the attitudes of consumers towards vloggers in line with their socio-demographic characteristics and the effect of vloggers on their purchase intention were investigated. As a result, it has been seen those consumers under the age of 25 are more interested in influencers who make video shooting. In addition, it has been determined that the attitude toward Vloggers significantly affects purchase intention.
Eru et al. (2018)	The authors investigated the trust of young people in Youtubers and the effect of confidence in the brand they promote on purchase intention. It has been determined that the participants between the ages of 10-19 have increased their trust in the brand promoted by Youtubers, and trust in Youtubers positively affects their purchasing behavior.
Magno and Cassia (2018)	It has been determined that the honesty and the sharing of correct information of SMIs affect their followers' intention to travel.
Lou and Yuan (2019)	It was concluded that the knowledge quality of the content produced by SMIs and the reliability, attractiveness, and proximity of SMIs positively affect brand awareness and purchase intention.

As seen in Table 1, SMIs' various characteristics affect purchasing decisions positively. Based on the findings of previous studies, it can be assumed that honesty, reliability, originality, accuracy, expertise, knowledge quality, and novelty of created content are the primary factors that affect purchasing decision process. The purchase of touristic products and, consequently, destination selection, is a prominent domain where SMIs offer assistance in the purchasing process. Therefore, using marketing channels, advertisements and their content have an enormous effect on consumer purchase decisions (Garashov, 2016). As is well-known, the production and distribution of information in social media take place very quickly. Opinions, personal experiences, and travel comments on social media constitute a knowledge source for tourists. Since they also use social media networks, they increasingly mediate the tourism experience by describing and reliving their trips (Tussyadiah & Fesenmaier, 2009). Thus, each user, especially SMIs, impacts potential tourists' touristic purchasing decision process.

## 2.2. Social Media and Generations

Just now, generation classification is carried out by creating age groups depending on the economic, social, and environmental factors of the period in which individuals live. According to this classification, each age group's period and characteristics alter. It is not smooth to draw sharp boundaries about the nature of human beings as social beings. However, classifications like these give us helpful information about the general structure of that community (McCrindle & Wolfinger, 2009). This viewpoint suggests that in order to forecast, comprehend, and categorize the behavior of the future generation, it must be undertaken to look into the a variety of viewpoints that allow for change. Although there are multiple distinct categories, the American-type, which splits generations according to a person's year of birth, is almost universally accepted. To that, it is possible to classify generations as the silent generation, baby-boomers generation, generation X, generation Y, generation Z, and alpha generation (Bağcı & İçöz, 2019; Danışman & Gündüz, 2018; Fox, 2011; Kapoor & Solomon, 2011; McCrindle & Wolfinger, 2009; Williams et al., 2010). When generations are considered in terms of the development of technology, it is seen that X generation constitutes the transition generation to technology (Kuyucu, 2017). By the way, generation Y, who generally prefers individual activities and is liberal (Kavalcı & Ünal, 2016), consists of individuals who spend most of their time online (Lissitsa & Kol, 2016).

Unlike other generations, the generation Z consists of individuals born into technology and actively use technology in every aspect of their lives (Williams & Page, 2011; Turner, 2015). They spend their entire lives intertwined with computers, video games, smartphones, and all other tools of the digital age (Prensky, 2001). Generation Z, which is always in contact with the world thanks to technology, is accustomed to interacting and communicating on social media (Turner, 2015). Generation Z tends towards platforms that are easy to use in their technology preferences, will solve their problems, help coordinate their activities, or allow them to access relevant people or information quickly (Ardıç & Altun, 2017). In this regard, the

social media platforms actively used by generation Z generally refer to web applications allowing users to publish and share content, convey their feelings, thoughts, and lifestyle, and publish their touristic activities (Lange-Faria & Elliot, 2012). Although the American-type classification is generally dominant, it is necessary to re-examine generations in terms of individuals' approaches to social media and their use. At this point, Prensky (2001) classified digital natives and digital immigrants for the generation Y and before, and this classification began to be utilized frequently in the literature later on. Wang et al. (2013: 409) defined digital natives as the new generation born in the digital age.

According to Prensky, digital natives are the first generation to have grown up with new technology and spend their whole lives with the technological toys of the age, just like computers, game consoles, and mobile phones. Prensky (2001) stated that digital natives refer to the generation born after 1980 and named the previous generation as digital immigrants. According to the author, digital natives use a digital language, and their mentality functions differently from digital immigrants. Zur & Walker (2011) stated that digital natives prefer a more egalitarian and less hierarchical order in their workplaces, give importance to their satisfaction rather than loyalty to the company, and prefer remote and flexible working orders. Researchers also emphasized that not every digital native is the same and could be divided into different sections: avoiders, reluctant adopters, and enthusiastic adopters. Those who are digital natives yet have little interest in digital technologies are commonly referred to as avoiders. Reluctant adopters accept that technology is a component of life today and resolve to use it sparingly and only when required. Enthusiastic adopters make up the majority of digital natives. They enjoy technology and devices and thrive with them. In Prensky's classification, digital immigrants are those born before 1980 and who met the internet later. The main difference between digital immigrants and digital natives is that digital natives speak the digital language as their first language. Digital immigrants learn the digital language later and speak with an "accent" (Wang et al., 2013).

## 2.3. Development of Research Hypothesis

Social media platforms play a vital role in the sales of touristic products, especially in benefitting from experiences and making decisions. In addition, those platforms provide convenience in product promotion and consumer communications (Zeng & Gerritsen, 2014). Since there is no opportunity to try touristic products like other products, purchasing is more complex (Dalgin & Oruç, 2015). For this reason, the effect of social media platforms on the tourism product purchasing decision is significant. Živković et al. (2014) stated that 50% of tourists are likely to download travel applications before vacation. SMIs create proof of "I have been there" by posing at the destination and sharing their travel memories on social media platforms. This proof transforms the abstract experience into concrete reality (Lo et al., 2011). Additionally, while SMIs are disseminating these travel memories via social media, many tourists strategically select the information that is useful to them and plan to have the same experience (Kim & Tussyadiah, 2013). Thus, the experiences and

comments stated in social media applications can increase or decrease the demand for the destination and provide predictions of the destination (De Bruyn & Lilien, 2008).

In their study, Fotis et al. (2012) settled that social media is generally used during or after a vacation to share experiences. They also revealed that there is a significant relationship between being affected by social media and purchasing decisions. Fatanti & Suyadnya (2015) assigned that the Instagram application is essential for advertising Bali and Malang in Indonesia. Similarly, Dağıtmaç (2015) accomplished that Instagram is the most addictive application for social media users who make travel decisions. Eşitti & Işık (2015), who tested the relationship between social media usage and travel to Türkiye, determined that tourists could change their planned travel decision when they are affected by social media posts. Yazgan & Sevinç (2015) also revealed a significant relationship between social media usage and destination choice and figured out that tourists use social media to reach accurate information and to get additional knowledge. Various studies conducted in Türkiye (Başarangil, 2019; Çetinöz & Akdağ, 2015; Demiral & Gelibolu, 2019; Doğaner & Armağan, 2018; Eryılmaz & Yüçetürk, 2018; Özdemir et al., 2015; Taş et al., 2019) also support the relationship between social media usage and destination choice in different samples.

Social media enables people to critically gauge the appropriate holiday and destination. Yet, because of the data overload on social media, people have trouble determining the best vacation destination or mode of transportation. Many individuals now prefer to believe what SMIs have to tell. SMIs publish whenever and wherever they want to interact with users. People can communicate with each other on social media through a variety of applications that are supported by various formats, like email, text messaging, and location. Images and location information shared by SMIs become data exchanges for social media and other networks. This data exchange arouses people's curiosity about different destinations (Memon et al., 2015). What is more, tourism enterprises collaborate with SMIs to make a difference, increase awareness and be sustainable in the market (Canöz et al., 2020). As a result of collaborations with SMIs that appeal to the target market of businesses, speak the same language as potential tourists in this market, and have similar tastes contribute positively to the purchase of tourism products or services by potential tourists (Sabuncuoğlu & Gülay, 2014). For instance, in Türkiye, due to the increase in the sharing of SMIs about the eastern express, there was a high demand for eastern express flights, and the number of flights increased fivefold (Ergun et al., 2019). Avcı and Bilgili (2020: 90) also revealed that potential tourists benefit from SMIs while planning their vacations. They concluded that the proximity, attractiveness, and innovativeness of SMIs that recommend a destination positively affect the intention of potential tourists to choose the relevant destination.

Considering the issues discussed so far within the scope of the research and the explanations made in this context, it is conceivable to assert that SMIs affect the choice of destination. Moreover, it is assumed that the consequence of SMIs on destination choice could range among generations within the context of the intensity of preference made by SMIs. In the

literature, there are some studies (Albayrak & Öztürk, 2013; Baran et al., 2020; Karacaoğlu, 2021; Serçek & Serçek, 2017) stressing the relationship between generations and tourism product purchasing. Although previous studies examined destination choice in the field of generations, no studies examine the effect of SMIs on destination choice within the context of generations. Accordingly, the hypotheses of the research are as follows;

H1: SMIs significantly affect tourists' destination choice decisions.

H2: The effect of SMIs on tourists' destination choice decisions differs significantly within the context of generations.

### 3. METHOD

In this study, the questionnaire technique was used to collect data. The questionnaire form consists of 4 parts. In the first part, demographic questions (gender, age group, marital status, educational status, occupation, income status) were included. In the second part, questions about the certain purchasing behaviours of the participants (social media usage, social media applications, vacation frequency) were included. In the third part, there are 15 expressions about the SMIs scale. SMIs scale adapted from Armağan & Doğaner (2018) based on Ohanian's (1990) study, and the scale consists of three sub-dimensions of proximity, attractiveness, and resource reliability. In the last part, the 5-item behavioral intention to destination scale, adopted from Johnson et al. (2006), was used to measure the destination choices of the participants. Before the survey application, Afyon Kocatepe University Ethics Committee approval was obtained. The survey was conducted via Google Forms between June 2021 and February 2022. The study used a snowball sampling method, and the authors shared the survey link via their WhatsApp, Instagram, and Facebook accounts. Within the context of snowball sampling, 145 participants contributed to the survey, but eight questionnaires were excluded from the analyses due to incorrect or incomplete filling.

The validity of the data set was measured with EFA factor analysis, and the reliability was determined based on Cronbach's Alpha coefficient. Then, descriptive analyses were completed, consisting of some demographic variables of participants (gender, generation, education, marital status, etc.) and the determination of participation level for each item. The research hypotheses were measured with regression analyses, and findings were compared with the conclusions of previous studies.

#### 3.1. Data Analyses

Validity and reliability analyses have been executed within the context of the data analyses. As shown in Table 2, the SMIs scale used in the study is valid and reliable. KMO coefficient (0,931) and Bartlett's test result (0,000) confirm that the SMIs scale is valid and consisting three factors named proximity, attractiveness, and source reliability. Additionally, the factor loadings of the items are above 0,50. Proximity, the first factor of the SMIs scale, constitutes 64,07% of the total variance, while three factors constitute approximately 77,80% of the total variance. Cronbach's alpha coefficient of the scale is 0,959, and three factors have reliability coefficients above 0,89. As seen in Table 3, the destination choice (DC) scale is also valid (KMO:

0,895, Bartlett's test:0,000) and reliable (0,928). DC items interpret 78% of the total variance and have high reliability (sig.: 0,928). As a result, the SMIs scale and the DC scale have been accepted as valid and reliable for further analyses.

**Table 2.** Validity and Reliability of SMIs scale

Factors	Items	Loadings	Eigenvalue	% Variance	% Cumulative Variance	Reliability
Proximity	P1	,884	9,611	64,070	64,070	0,897
	P2	,896				
	P3	,682				
	P4	,569				
	P5	,575				
Source reliability	SR1	,895	1,273	8,488	72,558	0,929
	SR2	,884				
	SR3	,864				
	SR4	,881				
	SR5	,880				
Attractiveness	A1	,861	0,786	5,241	77,799	0,902
	A2	,834				
	A3	,819				
	A4	,596				
	A5	,894				

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy: 0,931  
 Bartlett's Test of Sphericity:  $\chi^2$ : 1891,836 Sig: 0,000  
 Reliability of the scale: 0,959

**Table 3.** Validity and Reliability of DC scale

Factors	Items	Loadings	Eigenvalue	% Variance	% Cumulative Variance	Reliability
DC	DC1	,864	3,904	78,070	78,070	0,928
	DC2	,913				
	DC3	,845				
	DC4	,907				
	DC5	,887				

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy: 0,895  
 Bartlett's Test of Sphericity:  $\chi^2$ : 529,079 Sig: 0,000

Analyses concerning the demographics indicate that 58,4% of respondents (n: 80) are women. Y generation aged 22 to 41 constitutes the primary group (%: 47,4, n: 65), while the Z generation follows this group with a rate of 38% (n: 52). 72,3% of the sample is single (n: 99), and the rest of them are married (%: 27,7, n: 38). One hundred respondents have at least a university degree (%: 73), while 32 have secondary education. On the other hand, 25 respondents use social media more than 5 hours a day, while 56 people spend 3-5 hours on social media. Similarly, 56 participants use social media less than 3 hours a day. Almost all respondents have an Instagram profile (n: 131), while 127 participants use WhatsApp and 124 people use the YouTube application. Fifty respondents make their vacation irregularly (%: 36,5), 41 participants go on holiday once a year, and 32 getaway semi-annually. Ten respondents go on holiday quarterly, and the rest make a trip once a month. In sum, respondents of this study intensively use social media and go on holiday in general.

The last data analysis phase involves evaluating participation levels for each item, as presented in Table 4. Results indicate that the source reliability factor of SMIs ( $\bar{x}$ : 3,438) is perceived as higher than the proximity ( $\bar{x}$ : 3,272) and attractiveness ( $\bar{x}$ : 3,257) of SMIs. The most attended item on the SMIs scale is P1 ( $\bar{x}$ : 3,715), indicating that "I regularly follow this social media influencer (SMI)." In contrast, the least attended item among others is A5 ( $\bar{x}$ : 2,839), which stands for "the SMI, I follow, is my idol."

**Table 4.** Descriptive statistics of SMIs scale and DC scale

Factor	Item	Mean $\bar{x}$	Std. Deviation	Factor	Item	Mean $\bar{x}$	Std. Deviation
Proximity $\bar{x}$ : 3,272	P1	3,715	1,236	Source reliability $\bar{x}$ : 3,438	SR1	3,482	1,295
	P2	3,496	1,278		SR2	3,664	1,308
	P3	3,124	1,342		SR3	3,387	1,279
	P4	2,847	1,543		SR4	3,416	1,293
	P5	3,175	1,277		SR5	3,241	1,269
Attractiveness $\bar{x}$ : 3,257	A1	3,168	1,287	Destination choice $\bar{x}$ : 3,253	DC1	3,474	1,284
	A2	3,314	1,276		DC2	3,350	1,343
	A3	3,292	1,279		DC3	2,825	1,465
	A4	3,672	1,273		DC4	3,328	1,301
	A5	2,839	1,540		DC5	3,285	1,372

$\bar{x}$ : Mean, 1: Strongly disagree, 2: Disagree, 3: Partially Agree, 4: Agree, 5: Strongly agree

Table 4 indicates that "DC1: The destination preference of the SMI that I follow plays an effective role in my choice of holiday" is the item the participants agree with the most. Contrary to this, the "DC3: I feel incomplete when I cannot make the holiday preferences of the social media phenomena I follow" item ( $\bar{x}$ : 2,825) is the least attended on the DC scale. The DC scale's mean is above 3,00 points, indicating partially agreeing. Thus, it can be concluded that the study's respondents consider SMI preferences in the destination choice process. However, this conclusion needs to be tested with further analyses.

**4. FINDINGS**

This section consists of testing the research hypothesis. Concerning the aim of the study, DC is considered the dependent variable, and the SMIs scale and its factors are considered the independent variable. The potential effects of SMIs have been measured with regression analyses to clarify the research hypothesis. A bivariate regression analysis was realized to observe whether SMIs significantly affect the DC process as a first step, and the findings are shown in Table 5. The findings in the table confirm that the regression model is convenient for the analysis (F:506,668, sig.: 0,000), and the mathematical expression of the model is "DC=0,088+ 0,889\*SMIs". Additionally, SMIs perception explains approximately 79% of the total variance of respondents' DC. Each (1) unit increase in SMIs perception creates an increase of 0,889 on the respondents' DC. Therefore, the study's first hypothesis, "H1: SMIs significantly affect tourists' destination choice decisions", is accepted.

**Table 5.** Bivariate Regression Analyses

Gen.	Cons.	Unstandardized coefficients		Std. $\beta$ coefficient	t value	Sig.	R	Adjusted R <sup>2</sup>	F value
		$\beta$	Std. error						
All	-.088	1,005	,045	,889	22,509	,000	,889	,788	506,668
Z	-.190	1,025	,080	,876	12,839	,000	,876	,763	164,829
Y	-.068	,988	,064	,890	15,511	,000	,890	,789	240,588
X	-.206	1,079	,158	,884	6,831	,000	,884	,765	46,661

Predictor: SMIs  
 Gen.: Generations, Cons.: Constant,  $\beta$ : Beta, Std.: Standard, Sig.: Significance

Table 5 also presents the results of regression analyses based on different generations. As seen in the table, a significant effect (sig.: 0,000) is observed in all generations. The effect of SMIs on DC is at the highest level ( $\beta$ : 0,890) in the Y generation, and it is 0,884 in the generation X and 0,876 in the generation Z. Each increment in SMIs perception contributes to DC decision at the rate of 0,890 in the generation Y, and SMIs perception explains approximately 79% of the total variance of respondents' DC. Similarly, each increment in SMIs perception contributes to DC 0,876 in the generation Z. This effect is calculated

as 0,884 in the generation X. In sum, it is clear that SMIs significantly affect DC in all generations, and this effect differs according to generation. From this point of view, the second hypothesis of the research, "H2: The effect of SMIs on tourists' destination choice decisions differs significantly within the context of generations", is accepted.

After accepting the second hypothesis of the study, multivariate regression analyses were carried out to identify which sub-dimension significantly affects DC within the context of different generations. Results in Table 6 reveal that all sub-dimensions of SMIs, without any discrimination based on generations, positively impact the DC of respondents, and the regression model is valid (F: 166,999, sig.: 0,000). According to the model, the source reliability of SMIs is the most contributed sub-dimension to DC decisions ( $\beta$ : 0,351). The source reliability is followed by attractiveness ( $\beta$ : 0,328) and proximity ( $\beta$ : 0,276) sub-dimensions. By the way, SMIs sub-dimensions constitute approximately %79 of the DC variance.

**Table 6.** Multivariate Regression Analyses

All	Cons.	-,097	,158	--	-,612	,541	,889
	P	,292	,096	,276	3,051	<b>,003*</b>	
	A	,346	,100	,328	3,477	<b>,001*</b>	
	SR	,369	,067	,351	5,538	<b>,000*</b>	
Z	Cons.	-,202	,314	--	-,642	,524	,876
	P	,356	,169	,324	2,102	<b>,041*</b>	
	A	,301	,206	,276	1,466	,149	
	SR	,370	,137	,336	2,690	<b>,010*</b>	
Y	Cons.	-,081	,208	--	-,387	,700	,893
	P	,182	,133	,171	1,363	,178	
	A	,397	,125	,368	3,177	<b>,002*</b>	
	SR	,405	,089	,425	4,537	<b>,000*</b>	
X	Cons.	-,021	,601	--	-,035	,972	,903
	P	-,077	,374	-,075	-,207	,840	
	A	,911	,402	,857	2,268	<b>,044*</b>	
	SR	,208	,197	,173	1,058	,313	

Predictors: (Constant), reliability, Proximity, Attractiveness

Table 6 also asserts that the generation Z respondents' DC decision is significantly affected by source reliability and proximity sub-dimensions of SMIs. Namely, each increment in the perception of the source reliability contributes to DC decisions at the rate of %33, and the contribution value for proximity is %32. Meanwhile, SMIs sub-dimensions reveal %75,3 of the DC decision for generation Z participants. This variance explanation rate is %78,7 for the generation Y, and the DC decision of generation Y participants is significantly affected by the source reliability ( $\beta$ : 0,425) and attractiveness ( $\beta$ : 0,368) of SMIs. Finally, the DC decision of X-generation participants is affected by only the attractiveness sub-dimension of SMIs. In other words, each unit increment in the attractiveness of SMIs contributes to DC decision %85,7. Based on the findings presented above, it can be ended that social media influencers significantly and highly affect the destination choice of respondents. Therefore, it is assumed that shared vacation/holiday posts of SMIs could significantly determine destination choice decisions for all generations. Meanwhile, their effect could differ regarding generations when it is considered by SMIs sub-dimensions. For instance, the Z-generation respondents are unaffected by the attractiveness of SMIs. At the same time, the proximity and the source reliability do not significantly contribute to the DC

decisions for the generation X.

## 5. DISCUSSION AND CONCLUSIONS

Regression analyses were implemented in this study to figure out how SMIs influenced DC. As a result, it is determined that SMIs have a significant impact on tourists' decisions regarding the destinations they visit through social media applications. A few studies in the literature (Fatanti & Suyadnya, 2015; Fotis et al.; Ravindran et al., 2018) also support this finding. In addition to those studies, Erol & Hassan (2013) concluded that sharings/posts on social media affect destination image positively and negatively. Additionally, they stated that the SMIs, who visited the relevant destination before, affect potential tourists' decisions about destination choice. Eryılmaz & Zengin (2014) revealed that tourists using social media applications shape their stays according to the shares of SMIs. They also inferred that SMIs significantly impact destination preference in general and all sub-dimensions (proximity, source reliability, attractiveness). Avcı & Bilgili (2020) revealed that tourists benefit from the internet and SMIs while planning their vacations and that traditional methods are less preferred now.

Another important finding of the study is that the effects of SMIs on destination choice significantly differ based on generation. The effect of SMIs is higher in generation Y compared to the others. Although the generation Z follows their entertainment activities, identities, role models, personal relationships, and events around them through social media platforms (Kırık & Altun, 2019), most do not have economic freedom and sufficient income to plan their vacations. Therefore, the SMIs' effect on DC is the lowest in this group. Again, generation Y, grown up with numerous economic difficulties, constitutes a considerable proportion of today's workforce. Generation Y, who have limited time to take vacations (Taş et al., 2017), is also accustomed to innovations in computers and the internet (Aydemir & Şentürk, 2016). The people of generation Y must make the right decisions in their limited time, thus they need to search for reliable sources. This assumption aligns with this study's finding that the SMIs' significant effect is mainly observed in the source reliability dimension.

Despite the intensity of the use of social media by Z and Y generations, generation X has begun to use the internet after a certain age (Prensky, 2001). Therefore, they learn the digital language later as digital immigrants and are beginners to social media usage (Wang et al., 2013). Hence, they prefer to communicate by telephone or face-to-face and choose traditional ways to reach knowledge (Toledo, 2007; Zur & Walker, 2011). In other words, they use social media with specific aims based on their interests. In line with this, it can be concluded that the X-generation members are only affected by SMIs' attractiveness within the context of DC decisions.

The overall analysis of the results illustrates that, particularly in terms of social media marketing, both destinations for tourists and businesses should take into account constantly evolving consumer decisions and purchasing trends. They also need to pay more effort into increasing the efficiency of advertising and promotions on social media platforms. Meanwhile, the promotion materials need to be diversified to changing characteristics of different generations. For instance, DMOs that want to attract Z-generation members must formulate SMIs-oriented guerrilla



marketing strategies and offer various activities for adrenalin seekers or young travelers. A destination promoted by a popular SMI will attract new tourists sooner or later if SMI shares the proper and prompt posts. Thus, SMIs constitute significant knowledge sources for holiday seekers, and tourism industry suppliers should be aware of this source to increase the tourism demand. For this reason, more academic research needs to be conducted by which it may reveal the importance of SMIs in tourism marketing. Although it was conducted using a limited sample size, this study can be regarded as groundbreaking in terms of its scope and findings.

This study's findings are noteworthy, however they are also restricted to the sample. To advance the theoretical and managerial aspects of social media influencers' impact on tourism product purchase, further studies must be undertaken. Future research in this area may combine quantitative and qualitative methodologies to produce more in-depth conclusions. Additionally, control variables could be added to research models, or comparative studies could be conducted with different groups.

The use of aggressive marketing is a must for social media marketing, which is a component of digital marketing. Thus, the tourism businesses should create efficient channels of communication with social media influencers and encourage them to cooperate on a win-win basis. Tourism business managers must always keep in mind that marketing strategies are changing rapidly, and virtual applications, including social media, characterize the new century. This unique and multifunctional marketing environment will serve various opportunities for tourism enterprises if a well-planned strategy can be practiced.

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## INDUSTRIAL USE OF FOOD WASTE

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### KEYWORDS

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Food Recycling  
Uncertainty of Food Waste

### ABSTRACT

Food waste is one of the issues whose significance is increasing day by day in the global arena and has become a problem in many environmental, economic, and social areas. Wastes, such as fertilizer and water spent, during the production phase, occupation of the soil, time and effort spent in transportation and cooking processes, pollution of the natural environment, and the risk of not being able to obtain enough food in the future are some of these problems. Recycling, reusing, and minimizing food waste are important for a sustainable life. In this study, the use of waste food in different industrial areas (e.g., health, fashion, gastronomy, fertilizer production, natural preservatives, paint industry, bioplastic, packaging, biodiesel production, and cosmetics) was investigated. The data obtained in the present study were collected and compiled by literature review from secondary sources. It is expected that this study will be a basis for preventing uncertainties about food waste and for waste management practices.

## 1. INTRODUCTION

TFoods, many environmental and economical in the process from the production stage to the consumption process encounter losses. Processing of resources with minimum loss and food produced during production re-evaluation of waste is associated with the concept of sustainability.

The concept of sustainability is expressed as maintaining, the ecological order or any order that is sustainable without being disrupted, without encountering the risk of depletion as a result of excessive consumption and without overloading on existing resources (Aslan, 2022: 8). The main point of this concept is to prevent environmental problems caused by technological and economic developments and to protect the ecosystem.

The concept was officially included for the first time in the document called the World Charter for Nature, published by the IUCN (World Union for Conservation of Nature) in 1982. In this document, which is considered in a global framework, living beings it emphasizes that the resources found in the ecosystem, sea, atmosphere and land that it consumes should be managed sustainably. This process should be carried out in a way that does not endanger the integrity of the ecosystem and the lives of living beings (Mengi and Algan, 2003:19). In the Brundtland Report entitled "Our Common Future" published by WCED- World Environment and Development Commission in 1987, three dimensions of the concept of sustainability were mentioned. According to the report, the 3E of sustainability consists of the concepts of environment, economy, and equality (Ağcakaya and Can, 2019: 791-792).

Among the concepts included in the report, the environment is the one that is mentioned the most decently. Environmental sustainability is defined as minimizing food waste in production areas, increasing efficiency in resource use and ensuring that resources are also used by future generations (Mazurkiewicz, 2005:2). In the economic branch of sustainability, he emphasizes that businesses or individuals should adopt an attitude towards the needs of future generations rather than a win-win (maximum profit-making) philosophy. Minimizing expenses and spending balanced thinking about the future is related to the economic dimension of sustainability. In the dimension of equality, it includes making individuals sensitive and respectful of cultural elements, protecting public health, and raising more conscious individuals through educational services (Ağcakaya and Can, 2019:792).

Uncertainty is an important phenomenon in today's modern structure (Işık et al., 2019: 9). The amount of food waste, the depletion of resources, the negative effects on the environment and the attitudes towards waste food in the future cause uncertainty in the current situation. To minimize this uncertainty and follow a sustainable policy, waste food needs to be re-evaluated. In this study, regarding the use of food waste in different industrial areas, the relevant information was collected by conducting a literature search from

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secondary sources. First, the concepts of waste and waste management were examined and their place in the circular economy was tried to be revealed. Besides, applications related to reintroducing food waste into the economy have been determined. As a result of scanning the secondary data and examining the studies, it is aimed to contribute to the relevant literature by developing new suggestions. This study we have conducted is considered crucial in reducing environmental pollution and creating awareness that food waste can also be evaluated in different sectors

## 1. FOOD WASTE AND WASTE MANAGEMENT

Substances and materials that are left to nature thrown away or have to be disposed of by producers, real or legal persons are called waste (Sıfır Atık Yönetmeliği, 2019). If the wastes are in food grade, food losses are evaluated in three groups as food waste, food loss and food squander (Çirişoğlu and Akoğlu, 2021: 39).

Food waste, is defined as the food losses that occur at the end point of the supply chain. Food waste is generally a concept related to people's behavior. Food waste, edible waste and it is divided into two groups as non-renewable waste. Edible food wastes include damaged products and edible food that is thrown away. Excess needs arise due to reasons, such as purchase, the size of the portion amount and insufficient storage. Non-renewable food waste refers to the parts of food that are unfit for human consumption. The skins of fruits and vegetables, bone fragments, coffee grounds, eggshells and excess fat of meat are examples of this group (Çirişoğlu and Akoğlu, 2021: 39). Food loss is a decrease in the quantities of food and beverages in the supply chain, or it also refers to the occurrence of losses in product quality. Casualties during the production phase can occur in fields or greenhouses, in post-production blending or storage, and processed food can occur in industrial facilities, during the distribution process and consumption process (Demirbaş, 2019: 627). If food squander is as the processed foods become unusable due to faulty applications or the foods are wasted during consumption (dishes left on the plate, the food is not liked...) (Erik and Pekerşen, 2019: 419). Food waste is a general concept that includes both food waste and food losses (Çirişoğlu and Akoğlu, 2021: 40).

Wastes are substances that harm the environment and human health. Along with population growth and economic growth, the amount of waste is increasing every day. The fact that wastes cause many environmental, economic, and social problems and the existing resources are depletable has led to the need to manage/evaluate wastes (Aydın and Deniz, 2017: 436-437). Collection of waste, reduction of waste formation, recycling and reuse, temporary storage, classification according to type or characteristic, disposal, post-disposal monitoring, control and supervision of waste is defined as waste management (Atık Yönetimi Yönetmeliği, 2015).

Waste management is a form of management that covers processes, such as minimizing household and medical wastes, separating, and collecting them at the source, creating transfer points, when necessary, transportation, disposal, recycling, control and monitoring (Öktem, 2016:138).

## 2. CIRCULAR ECONOMY

Wastes generated because of population growth, urbanization, industrialization, technological developments, and rapidly increasing consumption; while bringing environmental problems with them, they also negatively affect human and community health (Palabıyık and Altunbaş, 2004:103). To avoid these problems, to use resources effectively and prevent waste, the concept of "circular economy" comes to the fore.

Experts, because of constantly increasing water and carbon footprints, emphasize the importance of renewable, regenerative, sustainable, and restorative operations day by day and propose to benefit from the circular economy paradigm (Açıkalın, 2020: 240). According to the definition made by the European Union, the approach in which materials, products and resources remain in the economy for as long as possible and with minimum waste is called the "circular economy." The basis of this concept is edible energy, restorative industrial economy, minimization of toxin use and avoiding waste (Önder, 2018: 199). 3R concepts are used when defining circular economy. They represent the concepts of <<recycling, reuse, and reduction>>, respectively (Liu et al., 2017:1315).

- **Recycling:** It is the reprocessing and evaluation of a used product as a result of which it becomes unusable. In this process, the products that are evaluated as waste are divided into parts and turned into new products (Zhu et al., 2008: 125). Thanks to recycling, the concept of the waste product has ceased to be a non-us product and entered the literature as an efficient and profitable product (Akdoğan and Güleç, 2007:41).

- **Reuse:** It is defined as repairing, renewing waste products or using them in the production of a different product (Index, 2018:200).

- **Reduction:** It refers to the minimization of wastes generated at every stage of production and consumption activities (Önder, 2018:200).

## 3. INDUSTRIAL RECYCLING OF FOOD WASTE

20. with the machines that have entered our lives with the industrial revolution of the century and the diversified raw materials, the production process has accelerated and the tendency to consumption has increased in the right proportion. Over time, the unconscious consumption of raw materials and the rapidly increasing environmental pollution have caused some problems that cannot be prevented. Thus, consumers have started to look for sustainable solutions to use resources with maximum efficiency and transfer them to future generations (Berber and Keskin, 2021:144). The re-evaluation of waste food within the scope of sustainability and its use in different industrial areas are explained in detail below and supported by examples.

3.1. The use of food waste as an alternative artificial leather

The use of waste food in the sustainable fashion industry is becoming important every day. Especially recently, many well-known brands in the fashion sector have turned to plant-based vegan leather in line with sustainability (buddyatelier.com). Vegan fashion, an alternative in the fashion sector in the name of the non-exploitation of animals, has become a significant business line in the field of sustainability



by transforming from micro-scale to macro-scale (Berber and Keskin, 2021:145).

**Table 1** Examples of the use of food waste as an alternative leather

Vegea™ is another company working in the field of sustainability. The word “veg,” which makes up its name, represents veganism, and the word “gea”

 <p><b>MIANQA BRAND</b></p> <p><b>BAG MADE WITH APPLE PEEL</b> (lidyana.com)</p>	 <p><b>NIKE BRAND</b></p> <p><b>SHOES MADE WITH PINEAPPLE</b> (greenqueen.com.hk)</p>	 <p><b>H&amp;M BRAND</b></p> <p><b>SANDALS MADE OF CACTUS LEAVES</b> (www2.hm.com)</p>
 <p><b>SAYE BRAND</b></p> <p><b>SHOES MADE OF MANGO</b> (www.sayebrand.com)</p>	 <p><b>WAMA BRAND</b></p> <p><b>UNDERWEAR MADE OF HEMP</b> (wamaunderwear.com)</p>	 <p><b>S. CAFE BRAND</b></p> <p><b>CLOTHES MADE FROM COFFEE WASTE</b> (bigumigu.com)</p>

As shown in Table 1, most companies or brands are aiming at sustainability. They have started to make alternative leather, fabric, and fiber in the field of textile and fashion by recycling the wastes of products, such as apple, pineapple leaves, corn, cactus leaves, citrus peel, ground coffee waste, mango, banana peel and hemp.

In 2011, two companies named Orange Fiber and Lenzing produced TENCEL™ brand sustainable fiber using waste materials, such as orange and wood peel. The main goal of the company is to revive waste food, protect nature and achieve transparency in the fashion and textile sector by achieving sustainable industrial activities (orangefiber.it).



**Figure -1**

The process of transformation of orange into fiber



**Figure -2**

Leather made from grape stalks, husks, and seeds.

represents birth from the mother. The company, in cooperation with Italian wineries, has produced an alternative herbal skin using the stems, seeds and skins of the grape used in winemaking. This skin obtained does not contain heavy metals and other harmful substances (www2.hm.com)

### 3.2. Recycling of food waste as food again

When it comes to recycling food waste, one of the first things that comes to mind is citrus waste. Citrus fruits with a high amount of vitamin C create extreme amounts of waste because of processing in fruit juice production (using only their pulp) or decomposing and disposing of them for commercial reasons (damaged, rotten fruits) (Akçay, 2022:16). The shells of these foods are evaluated in the production of jams and marmalades, as flavoring agents in teas and desserts, or for drying and later consumption. (Yaman, 2012:343 and Akçay, 2022:16). In addition, the presence of a high amount of pectin in citrus peels shows us that it can also be evaluated in the production of pectin. Thanks to the pectin contained in the shells, it is used to increase the consistency of different products and create gels (Köse and Bayraktar, 2018:11). The seeds of various fruits and vegetables are used in raw/roasted, salted/unsalted cookies, as well as in breakfast products, side dishes and decorations of cakes and bread, and salads (Tuna, 2015:15).

A high amount of whey (70-90% of milk) is formed at the end of the cheese production process. Using



they juices in mayonnaise making, cream cheese making, salad and meat sauces, the nutritional values and taste of these products can be improved. In addition, they can be ground into powder and used as a food additive in areas such as ice cream, biscuits, and chocolate (Yağcı et al., 2006: 500). During sugar production, high amounts of food wastes called molasses are formed. These wastes are processed and used in the production of ethyl alcohol, baker's yeast, and lactic acid (Şener and Ünal, 2008: 1036).

One of the foods that have been recycled recently is fish. Fish waste (e.g., head, scale, bone, shell, blood, and viscera) contains abundant collagen. Natural transparent gelatins are produced with these collagenes. Gelatins, which are especially evaluated in the halal food sector, are preferred by different faith groups and are important for recycling waste food (Bozkurt and Yüksel, 2019:11). In addition, the residues formed in fish processing facilities are used in the production of fish meal. The water and oil in the waste fish pieces are removed from the environment, and a drying process is applied. It is then ground into flour. These flours contain high levels of amino acids. Therefore, fish meal is often used in feeds produced for animals, such as chicken, cattle, and fish. The oil separated from the fish during this process is used in the production of fish oil. In addition to being a tremendous energy source, fish oil, is also rich in calcium, magnesium,

vitamins and phosphorus. Hence, it is used as a supplementary product in baby foods, functional foods and beverages, and diet products. Experts say that fish oil consumption has a protective effect on cancer, hypertension, cardiovascular disease, inflammatory disease, and immune system diseases (Çolakoğlu and Künili, 2016: 59).

Activated carbon is defined as carbonaceous material with high porosity or surface area that cannot be determined by chemical analysis or structural formula (Orbak, 2019: 5). Activated carbon can be consumed orally and is usually of food waste origin. Examples of materials

used in its production are banana peels, olive seeds, starch, cherry seeds, chestnut peel, tea waste, fruit waste, fish waste and corn cob. Activated carbons are used as food additives to absorb toxins in the body and give color to foods (Ülkeryıldız Balçık et al., 2020: 220-221).

Another example of the re-transformation of food waste as food is in the field of 3D food printers. Industrial design student Elzelingen Van Doleweerd studying at the Eindhoven University of Technology and 3D Food company has used food waste in 3d food printers to prevent food waste. Elzelinde, who is sensitive about not wasting food, noticed that people living in China

waste rice at a high rate. Moreover, she obtained a printable food paste using waste rice (3dprint.com, 2019).



### 3.3. Use of food waste in other areas

The following table gives examples of the uses of food waste in different areas.

**Table 2** Use of food waste in other areas

Usage Area	Purpose of Use
<i>Compost (Organic Fertilizer)</i>	Carrots, potatoes, cucumbers, onions and fruit peels, fruit pulp, coffee, and tea, their pulp and eggshells are evaluated as compost (organic fertilizer) (Yaman, 2012:341). Composts have many benefits, such as reducing the use of fertilizers and pesticides used in agriculture, increasing the amount of humus in the soil, preventing weed growth, increasing crop yield, reducing the water requirement of the soil, increasing the worm population, and preventing plant diseases (Keskin and Baran, 2021: 95-96).
<i>Natural Protector</i>	Recently, food waste has been used to extend the shelf life of food. Uçak (2019) in his study used a high amount of onion peels since it contains flavonoids and has high antioxidant and antimicrobial effects; he thought that it could be used as an alternative preservative in foods and made studies to extend the shelf life of fresh shrimp. The findings showed that onion peels provide acceptable protection for up to eight days. Another example of food waste used as a preservative is eggshells. Egg shells are especially used in ceramic products, such as pottery and pottery, for glazing (ensuring that air and water are not passed into the interior) and beautifying their appearance. In addition, thanks to the eggshell, glossy or matte surface glazing can be made in green and brown tones without using any colorants (Kum and Poyraz, 2022: 51).
<i>Paint Making</i>	Environmentally friendly natural dyes have reached the potential to compete with synthetic and cheap dyes in the world market. In addition, the wastes generated during the processing of natural dyes are used in the production of organic fertilizers and energy. This situation makes natural dyes valuable as a sustainable product (Keşmer et al., 2020: 57). In paint production, foods, such as onion peel, quince leaf, almond leaf, wild cherry peel, corn tassel, walnut leaf and shell, corn, wild cranberry peel and vine leaves, are used (Etikan and Özmer, 2014: 54; Kashmer et al., 2020: 57; Yılmaz, 2020: 1186).
<i>Bioplastic Making</i>	With the environmental pollution caused by disposable plastics reaching significant levels, cheap and sustainable alternatives have started to be sought. At this point, bioplastic materials made from food waste have gained value as an innovative approach. In their study, Özel and Erdem İşmal (2022) worked on converting waste food into bioplastics as an environmentally friendly alternative. They used avocado seeds, tomato skins, watermelon skins, lemon peels, tangerine peels, banana peels, cucumber skins, artichoke leaves, purple cabbage, purple onion skins, beet stems, yellow onion skins, radish skins, almond skins, and pomegranate peels. As a result of their study, they concluded that bioplastics can be made in different appearances textures, and colors by adding fiber to waste materials
<i>Packaging Material Making</i>	Since food packaging produced using petroleum-based polymers is not sustainable, biodegradable packaging (which is not harmful to nature and can be reprocessed) has been developed recently. Biodegradable packaging has started to be produced from many food wastes, such as orange peel, soy protein, sugar beet pulp, potato peel, corn starch, pomegranate peel and lemon peel. Biodegradable packaging reduces environmental problems, supports sustainability, and makes waste food economically valuable (Karakuş and Ayhan, 2019:1008).
<i>Cosmetics</i>	Cosmetics is the science that deals with materials that beautify the whole or part of the body or make it look clean. Many waste Biodiesel is an alternative fuel obtained from renewable sources (plant and animal) (Alptekin and Çanakçı, 2006:58). Abali
<i>Its Use in Biofuel Production</i>	Waste parts of food, called shells and core, are used to treat some diseases. Examples of the use of food waste in the health sector are stated.
<i>Its use in the field of health</i>	The drug named Laetrile™, obtained from apricot kernels, is used in the treatment of cancer in countries, such as Mexico and America (Tuna, 2015: 9-13). The membrane parts of the eggshells are used as a nutritional supplement and serve as superior protection against harmful bacteria. It is an important calcium store for the body. Also, the eggshell membrane is used in wound closure, surgical implants and producing biomedical bandages (Yüceer, 2021: 43-44).

## CONCLUSION AND RECOMMENDATIONS

Food and beverages experience many losses in the process until they reach our table. Many reasons, such as the increase in the development level of countries, the widespread use of social media, easy access to food and unconscious consumption, cause consumable food to turn into waste. While these wastes negatively affect sustainability,

social, environmental and creates severe economic problems. The most basic way to eliminate these problems is to ensure the recycling of waste.

Recycling is the breaking down of a product that is in a state that will not be used and reprocessing it and making it efficient. Recycling and evaluation of waste food provide added economic value but also avoids environmental problems. In this study, the recycling of waste foods and their use in different industrial areas were compiled. This study shows that environmentally friendly natural dyes are made by recycling waste food, used to extend the shelf life of food, evaluated as fertilizers, sustainable bioplastic materials are made instead of disposable plastics to reduce environmental pollution, biodegradable packaging that does not harm nature is developed, medicines are made from the shell and core parts of food and waste food is used in the construction of some equipment used in the field of health. Recycling and reuse of food waste in different areas is very important for a sustainable life.

Waste management will be effective in preventing uncertainties in the food policies of both businesses and countries. Especially regarding sustainability, industrial use examples of food waste are very important in terms of the efficient use of resources and their transfer to future generations. Increasing these examples will allow for increasing environmental awareness and the spreading of recycling. For these developments to be experienced, it is expected that central and local governments will focus on the issue effectively and lead efforts to increase the level of awareness. Especially the central administration; should provide coordination between the parties of the issue by leading the planning, management, and administration. Local government and non-governmental organizations should take part in the implementation and project design phase of this coordination. In this context, local government studies, workshops and project competitions should be organized. They should set up waste collection and separation systems within their jurisdiction and mobilize food and restaurant businesses in this regard. While local governments take on the role of regulating and supervising the systems, non-governmental organizations should make active efforts to raise awareness of society and businesses on this issue. Societies with a high level of consciousness and awareness will play an important role in the sustainable transfer of resources to future generations. All these studies will contribute to the transfer and effective use of resources from today to the future under the coordination of the central administration. This study and further studies will contribute to increasing the level of consciousness and awareness.

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## COVID-19 AND THE EMERGENCE OF INDUSTRIAL GRADE TRAVEL-RELATED SANITIZATION APPLICATIONS USING ULTRAVIOLET LIGHT: THE CASE OF STERIBIN LLC

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### KEYWORDS

UV-light  
Disinfection  
Sanitation  
Air travel  
Baggage bins  
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### ABSTRACT

Knowledge regarding the power of ultraviolet light to kill various bacteria and viruses has existed for some time. Even prior to the onslaught of the Covid-19 virus, scientists were busy studying various types of UV light and how it might be applied to a wide variety of sanitization applications. Initially driven by the desire to effectively apply UV light to quickly sanitize airport security bins, Steribin was founded prior to the emergence of the Covid pandemic. It has since expanded into a number of sanitization applications, utilizing all of forms of UV technology, with a primary focus on sanitization needs in travel-related applications.

## 1. INTRODUCTION

Michael Christensen, Chief Operations & Maintenance Officer for LAWA (Los Angeles World Airports) recently stated (May, 2023), "It's clear to see the significant impact the COVID-19 pandemic had on our traffic (along with revenue, employment, and schedules). We still haven't completely recovered, with our traffic projections this summer being around 87% of 2019 levels. It's important to note that this pandemic wasn't the first one we've experienced at LAX, and we don't believe it will be the last. As evidence of this outlook, LAX has obtained and is maintaining the two available industry-accepted health accreditations, ACI (Airport Council International) and GBAC (Global Biorisk Advisory Council), to be sure we maintain industry best practices for cleaning and sanitizing our passenger terminals." LAWA/LAX has more origin & destination (O&D) passengers than any other airport in the USA, and it is clear they believe that cleanliness of their facilities, and the health safety of their passengers, are major concerns; before, during, and after the Covid-19 pandemic.

The health safety of travelers was emphasized by the Covid-19 pandemic, but dangers have always, and will always, exist. The purpose of this article is to specifically address the emergence of UV (ultraviolet) light technologies in the sanitization of highly contaminated surfaces that virtually all travelers come into contact with.

This paper presents a case analysis of Steribin, LLC, a startup company first-to-market in designing, testing, and offering UV lights for the sanitization of airport security bins, and other applications. The

purpose of this case analysis is to evaluate the viability of the commercial use of UV lights to improve the safety and health of people using highly congested public spaces (e.g., airports, hotels, hospitals, malls, etc.) and coming in frequent contact with surfaces and objects that are likely to be contaminated with viruses and bacteria. This paper discusses the evolution of Steribin (Section 5), its business model, and the reaction of people and organizations to the use of UV lights used to sanitize highly contaminated surfaces. Strengths and weaknesses are explored, and recommendations given for future applications and improvements.

Finally, recommendations for future improvements are offered based on the findings of the case analysis. These recommendations focus not only on Steribin itself, but also on the travel industry and its acceptance and use of UV technologies to protect the public from exposure to unhealthy viruses and bacteria transmitted through contact with contaminated surfaces.

Overall, this case analysis provides valuable insights into the Steribin's business model and strategies, as well as the entire UV sanitization market, particularly as it relates to travel. The findings and recommendations presented in this paper can be used to guide future decision-making and help further protect the traveling public and

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those employed in businesses with frequent and close contact with contaminated surfaces.

In 2018, researchers from the University of Nottingham were working with Finland's Department of Health and Safety when they discovered airport security bins used by passengers were 18 times filthier than airport toilets when swabbed for "influenza A and B viruses, respiratory syncytial virus, adenovirus, rhinovirus and coronaviruses" (Ikohen et al., 2018, para 2). Seeing a very real issue at hand, inventors Wayne Provost and William Christensen of Utah Tech University in Utah began looking for a solution that would thoroughly disinfect security bins while not affecting airport security's effectiveness or increasing the time passengers would need to wait in line. Christensen and Provost began researching Pulsed Ultraviolet (PUV) light disinfection to determine which method would be the most efficient and effective for airport security bins. [1]

Today, with the challenges of COVID-19, this technology is even more valuable considering its potential to reduce the spread of bacteria and viruses while allowing people to resume travel safely under pandemic conditions. "Safety" in the current situation can be seen in both physical and psychological aspects. Especially when it comes to things so small that we cannot see them (e.g., bacteria and viruses), perception is critical. In this regard, perception of cleanliness is, for many, even more important than actual cleanliness. Even before COVID-19, a third of airport travelers took "active measures during air travel to prevent themselves from becoming sick" (Park & Almanza, 2020). Because of COVID-19, not only are passengers looking to see (not just be told) things are being disinfected, they're also looking to turn to other methods of travel due to concerns about the safety of air travel (Stimac et al. 2020). Strategically, the inventors believed that installing the machine at the front of airport security lines would be most effective in convincing travelers their luggage bins were sanitized and make them feel more secure in their decision to travel by air. Several designs were created, all to provide a disinfection rate greater than 99.999%, while being compatible with current security lines and allowing passengers to be the first people to touch the sanitized bin.

We suggest that Steribin's disinfecting technology and attention to travelers' perception of safety result in a device that is not only scientifically effective but also psychologically beneficial for users. If implemented on a mass scale, Steribin, or a similar technology, has the potential to ease travel anxiety during pandemic times and beyond.

## 2. METHODOLOGY

To conduct this case analysis, the authors conducted a comprehensive review of the historical application of UV technology. This includes the evolution of UV technology, and the introduction of UV sanitization of highly contaminated surfaces frequently contacted by travelers and the public (e.g., airport security bins). The emergence of various UV market opportunities and the development of Steribin is also discussed. Data was collected from various sources including previous research, news reports, press releases, industry publications, and interviews with key stakeholders.

## 3. HISTORY AND BACKGROUND

### 3.1 History of UV Light for Disinfection

UV-C light has a long history of being an effective disinfectant in multiple settings. As Reed (2010) points out, by 1845, scientists knew microorganisms responded to light and in 1877, Downes and Blunt discovered "the ability of sunlight to prevent microbial growth" with "test tubes remain[ing] bacteria-free for several months." They also discovered sunlight's ability to "neutralize bacteria was dependent on intensity, duration and wavelength" (16). This is one of the reasons Provost and Christensen turned to this technology. Having a well-documented record of effectiveness for the disinfecting component of their device was of paramount importance to the inventors. Since Downes and Blunt's discovery in the late-1800s, UV-C disinfection has been readily accepted and utilized in water treatment, hospitals, and now airport security bins.

### 3.2. UV-C Light as a Disinfectant in Water Treatment

UV-C light as a disinfectant in water treatment plants is relatively new. Qualls et al. (1989) released their ground-breaking study on UV-light disinfection water treatment, finding that both exposure time and intensity determined the survival rates of organisms with either DNA or RNA-based genetic material. This study, and others released around the same time, contributed to the rise in UV light disinfection

For example, Kruithof et al., (1992) released their findings on nine locations from around the Netherlands with UV disinfection installations, saying the systems were utilized for "(a) the destruction of *E. coli* and *Aeromonas* bacteria or a decrease in colony counts in groundwater; (b) a decrease in colony counts in bank-filtered water following GAC filtration; and (c) the replacement of post-chlorination in extensively pre-treated surface water" (88). While UV disinfection systems for drinking water had been utilized since 1955 around Europe, the 1980s saw a steep rise in both the literature being produced in the scientific community and the use of UV disinfection in water treatment plants. This was seen in the rapid increase in the number of UV plants in countries like Switzerland, Austria, and Norway—with the latter building 400 plants between 1975-1985 (Kruithof, Leer and Hinjen, 1992: 89).

The United States has been relatively slow in accepting UV-C water disinfection systems. While Europe hosts over 2,000 systems (Oram, 2020, para. 2), the number of systems in the United States is not even published. One must wonder why the system has seemingly been rejected in the United States. There are a few theories for the US' reluctance to accept the system, with Oram (2020) pointing out, "it was used for drinking water disinfection and treatment in the early 1900s but was abandoned due to high operating costs, unreliable equipment, and the expanding popularity of disinfection by chlorination" (para. 1). However, given the increasing use in other countries, it is assumed that US officials will eventually begin to accept UV-C light disinfection plants as a viable method for cleaning water.

One example of this is Walwick, New Jersey's Northwest Bergen County Utility Authority Wastewater Treatment Plan changing from a chlorination system to a UV-C light system in 1989 due to concerns for public safety and "recent findings



and concerns over the environmental impact of chemical releases and spills” relating to chlorine leaking into the environment (EPA, 1999, 4). UV-C light systems have no known environmental or public risks due to the system

requiring no chemicals and being in a fully contained environment and are more reliable in their disinfection than chlorination techniques. As long as UV sensors and the source are properly set up UV-C light can kill a host of viruses and bacteria in a matter of seconds, including Hepatitis B, Rotavirus SA 11, Influenza, Salmonella, Streptococcus, and Tuberculosis (Oram, 2020, Table 1). In addition to its security bin sanitization system, Steribin is also developing systems for water treatment, using PUV, which is proving to be the most effective and fastest method of UV light disinfection. PUV lights strike each security bin with three seconds of pulsed lighting, offering more than enough time to kill the most common pathogens found on bins. The difference between PUV and constant UV can be easily explained using the metaphor of a hammer and nail. Constant, or regular UV light is analogous to trying to place the head of a hammer on a nail and pushing the nail in. That requires a lot of time and force. On the other hand, PUV is like striking the nail with the hammer numerous times, and we know how much more effective that is.

UV-C water disinfection system technology is constantly advancing as well. Bohrerova et al. (2008) discovered that pulsed UV-C lighting is more effective than continuous lighting, especially regarding deactivating e-coli (2980). Researchers believe this may be due to bacteria weakening more with each hit versus exposure to a continuous stream of light.

### 3.3. UV-C Disinfection Systems in Hospitals

Hospitals have begun to utilize pulsed UV-C light systems for disinfection over the past decade. Just like in water treatment plants, pulsed UV-C lighting has been found to have greater success than continuous light streams. Nerandzic et al. (2015) discovered that pulsed UV-C

lighting “resulted in statistically significant reductions in the percentages of sites positive for MRSA, *C. difficile*, and VRE with the exception of glass surfaces, which benefit more from continuous light streams” (194). These results match those found by Bohrerova et al. (2008) on pulsed lighting’s effectiveness in water treatment plants. Furthermore, Villacis (2019) found pulsed lighting to be more effective than manual disinfection after examining 17 rooms in an Ecuadorian hospital. Using PUV-C light allows hospitals to sterilize rooms in a matter of minutes without the risk of contamination that is seen in rooms cleaned by staff.

Re-contamination post disinfection is a real problem faced by hospitals today. Casini et al. (2020) tested 345 sample sites around a teaching hospital. Only 18% of samples that had been treated with UV-C light tested positive for bacteria compared to 63% of samples that had been cleaned following standard operating protocol (SOP); furthermore, only 11% of samples following SOP met the hygienic standards put forth by the Italian Works Compensation Authority. While UV light cannot physically clean or remove material, therefore meaning it will never fully replace those who complete manual cleaning, its use as a tool—especially after cleaning staff have left the room—is routinely shown to be the most effective

method to ensure sanitization and disinfection of high-traffic and high-touch areas in medical settings.

## 4. COVID-19 AND AIRPORT SECURITY BINS

In 2020, the COVID-19 pandemic forced scientists to examine the disinfectant qualities of UV-C light against the virus. At the time of writing, only one study has been conducted on UV-C light concerning airport security bin disinfection and SARS-CoV-2 (COVID-19). Cadnum (2020), points out how airport security bins are the perfect surface for UV-C decontamination due to it being a “hard, smooth surface that can be placed close to UV-C bulbs” (para. 2) and found that with 30 seconds of exposure (albeit not in an enclosed area), 99.9% of bacteria were killed, including MRSA (para. 10). However, Cadnum (2020) also acknowledges that a sterilization machine would need to be contained to protect passengers from UV-C exposure in addition to automated movements so foot traffic in security lines would not be held up.

A challenge of sanitizing airport security bins with UV light is that to maintain passenger flow, disinfection must occur within 3-6 seconds. With the effectiveness and speed of pulsed UV lights, they provide the best solution to this challenge. Nevertheless, clusters of mercury UV lights and dense bundles of LED UV lights can also provide log1 (99.9%) kill rates. Although perhaps acceptable in some applications, this does not compare to the log6 (99.9999%) kill rates possible with pulsed UV lights within only a few seconds. When one considers the billions of bacteria and viruses that may reside on a security bin, even a 99.9% kill may leave millions of live contaminants on the bin. Although able to utilize any of the UV lights sources (e.g., pulsed, mercury, and LED), Steribin’s development has focused on the use of high-intensity pulsed UV lighting because of its superior effectiveness in killing bacteria and viruses. Steribin researchers are planning additional tests to support the effectiveness of pulsed UV light disinfection with short time exposures.

On March 16, 2021, the Transportation Security Administration (TSA) announced they were testing UV-C disinfection technology for airport security bins with two checkpoints at Ronald Reagan Washington National Airport (DCA) to provide a safer environment for travelers. TSA Federal Security Director Scott T. Johnson stated, “We are excited to test technologies that might prove effective in disinfecting checkpoint bins and eventually provide another layer of protection against viral and bacterial spread” (para. 2). The technology used at DCA was a competing brand; however, Steribin was used at LAX in November 2020 and is currently working with a number of domestic and international airports regarding use of its equipment in security lines.

### 4.1. Customer Psychology Related to Perceptions of Contamination and Disinfection

Before COVID-19, disinfection tended to happen behind closed doors, minus the occasional table wipe down in restaurants. Today, proper disinfection happens right in front of people’s eyes, and customers believe it’s imperative they see the disinfection process. In fact, when researchers surveyed grocery store customers’ thoughts on disinfection, they rated it both positive and significant during their shopping experience (Rukuni and Maziriri, 2020). This isn’t limited to grocery stores either. When Ecolab (2021)

found 95% of customers wanted “to see as much or more cleaning and sanitation practices at the places they eat, stay and shop.” Understanding that for most people “perception is reality,” Christensen and Provost created a system that allows travelers to see the airport security bin being disinfected, and have no one touch the bin after disinfection before they utilize it.

## 5. DEVELOPMENT OF STERIBIN

Although UV light is not a new technology, the application of UV light technologies in travel-related applications was virtually unheard of until recently. In 2018, seeing that a disinfection system was needed for airport security bins, the founders of Steribin looked to create a system that could disinfect security bins quickly and efficiently without needing a large amount of space, in addition to being fully contained. Their first prototype machine was cloaked in stainless steel, featured 360-degree UV-C disinfection

lighting, and housed a carbon ozone filter to capture any emissions produced by the UV-C. Bins were fed manually into the machine. See Figure 1.



**Figure 1.** Steribin Prototype. Copyright: Steribin

To combat concerns about a disinfection system holding up foot traffic in security areas, Steribin's machines are designed to take up very little space so that they can be placed at the front of a security line and require very little change to a security line layout. Being able to thoroughly sanitize a bin in about 5 seconds allows a throughput of over 720 passengers per hour, which is more than sufficient to allow normal flow rates. This meets or exceeds TSA's (2021) objective that, “the equipment will have no impact on passenger screening times or the efficiency of the checkpoint screening process” (para. 5).

In addition to time and space constraints, Steribin faced challenges related to the cost of UV lighting. Although significantly more effective than other forms of UV lighting, PUV is also more expensive. However, having established a collaborative working relationship with a U.S. pulsed light manufacturer, Steribin was able to lower the cost and use more suitable light designs that will make this superior lighting technology competitive with other less-efficient UV light technologies.[2] Nevertheless, Steribin has also recognized the need to supply systems at various price levels and in accordance with various customer specifications, so their designs can also easily accommodate other UV light types (e.g., LED and mercury).

Steribin continues to refine its designs for airport security bin sanitization and is working with partners around the world to bring this technology to airports and air travelers everywhere. Their latest design incorporates a proprietary auto-feed system

in which a stack of bins is placed on the machine, and the machine auto-feeds the bins through the UV light chamber, one bin at a time, with a cycle time of about 6 seconds. See Figure 2.



**Figure 2.** Steribin updated design. Copyright Steribin

### 5.1. Steribin beyond Airport Security

In addition to equipment for use in the sanitization of airport security bins, a number of other travel-related UV applications have been developed by Steribin, and a host of other developers. These applications include things such as whole-room low-level UV lighting (e.g., used in some restroom applications); UV scrubbing of escalator hand rails; UV cleaning of touch screens used by passengers; Robotic UV sanitization of aircraft interiors between flights; and kiosks available to passengers for self-use UV cleaning of cell phones, tablets, and other small personal items (note: Steribin has such a kiosk device on test at a local airport).

## 6. CONCLUSION

According to The Brookings Institution, a leading non-profit public policy organization in the US, “The COVID crisis has led to a collapse in international travel.” Relying on data from the World Tourism Organization, Brookings reports that “international tourist arrivals declined globally by 73 percent in 2020, with 1 billion fewer travelers compared to 2019, putting in jeopardy between 100 and 120 million direct tourism jobs.” The impact on tourist-dependent economies is hard to overestimate as the pandemic brought about the collapse of export and import industries in many places and jeopardized transportation services in general (Milesi-Ferretti 2021).

Traveler perceptions and fear of health risks related to bacteria and viruses have profound implications for travel providers. Travel providers would be well advised to understand both the realities of contamination and sanitization, as well as traveler perceptions, and to whatever degree possible, address both through the effective use of sanitization methods, including UV, to create and maintain a clear perception of that reality. Along with value-adding amenities and services, successful travel providers will need to provide additional value by creating real perceptions of cleanliness and health safety in order to effectively compete in a post-Covid-19 travel environment.

The world will not quickly recover from the global Covid-19 pandemic, so concerns related to

cleanliness will likely linger long after this pandemic is gone. In retrospect, the cleanliness of contaminated surfaces encountered regularly in public spaces should have been something addressed long ago. Steribin provides an easy to implement solution for air travelers that uses scientifically proven technology to sanitize airport security bins. The advantage of Steribin technology is in the use of UV light, a disinfecting mechanism known for decades for its efficiency and ease of use. Although UV light technologies have existed for some time, the more recent innovations lie in using UV light in travel-related applications. More specifically, Covid-19 has highlighted the need to respond to travelers' desires to witness the sanitization process rather than simply being assured that it took place. Ultimately, Steribin is one example of a startup company that is working to apply UV and PUV light technology to some of the most prevalent situations in which we encounter highly contaminated surfaces, helping to bring "peace of mind at the speed of light" ©.

Yet, despite the proven effectiveness of UV technology and Steribin's equipment, airports, especially in the U.S., have been extremely slow to address the need to sanitize common surfaces (e.g., security bins). Reasons for this include the lack of funding, a seemingly disinterested bureaucracy, pandemic burnout, and the politicization of Covid-19. Steribin saw the need to improve traveler health safety well before the Covid-19 pandemic. Although it seems reasonable to assume that the Covid-19 pandemic would have accelerated the widespread adoption of sanitization technologies, such as UV, in fact, the opposite seems to have occurred. That is, for all the reasons stated above, the recent pandemic seems to have dulled concerns regarding traveler health and safety, and slowed the adoption of UV sanitization technologies to protect the traveling public. Although this is not universally true, the United States seems to have become the largest and most powerful denier of the hazards of harmful viruses and bacteria, and the slowest to adopt helpful change, including UV sanitization technologies.

Failure of governments and the travel industry to use whatever tools (e.g., Steribin UV devices) become available to increase the perception and reality of safer travel, surely increases economic policy uncertainty (EPU) indices. Such increases have been shown to have a negative impact on international tourism, thus exacerbating a quick return to pre-pandemic travel levels (Işık et al. 2020).

As economies, supply chains, and travel industry recover from the ill-effects of the pandemic, it will be necessary to implement higher standards of cleanliness, including sanitization of contaminated surfaces, and for governments to support industry efforts and set standards and guidelines to improve the safety and health of the traveling public and those working in the travel industry. The need for better sanitization and traveler health safety is great and urgent. However, just like the need to prepare for any natural disaster is great and urgent, it is, unfortunately, too often ignored until it is too late. Hopefully, governments and the travel industry will not forget the lessons of Covid-19 and will continue to prepare and improve the reality and the perception of traveler health safety, including greater use of proven UV light technologies.

[1] UV light is a form of electromagnetic radiation. The sun emits three different types of UV light: UV-A, UV-B, and UV-C; however, only UV-A and UV-B waves reach the Earth's surface. UV-C light, which must be created artificially via lamps and bulbs, produces the best results for sterilization (Reed, 2010; FDA, 2020). UVC light kills microorganisms, including strains of coronavirus, by both destroying nucleic acids and damaging the RNA or DNA (Buonanno, Welch, Shuryak, & Brenner, 2020).

[2] Xenon UV-C produces high-quality bulbs specifically chosen by Steribin creators due to their longevity and proven track record of disinfection. For example, in 2020, Kitagawa et al. examined the effects of pulsed Xenon bulbs in conjunction with manual cleaning on high-touch surfaces in a hospital in Japan and found that UV-C disinfection decreased instances of MRSA on hard surfaces by a further 72.1% versus manual cleaning alone (141). With further development of systems to utilize these bulbs, it's very likely manual human disinfection will be used much more rarely in the future.

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The chapter title needs be short. It can be two title lines (all in UPPER CASE), each containing a maximum of 26 characters (including blank spaces), with no word hyphenated from the first to the second line.

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Right under the chapter title, the name of the author appears in online, followed by the name of his/her institution and country on the next line. Same format for additional authors.

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To protect the anonymity of the review process, acknowledgments are included in the title page. If eventually accepted for publication, appropriate format will be suggested at that point.

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- 3. Method
- 3.1. Sampling
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Framework of Paper:

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- 1. Introduction\*
- 2. Literature Review\*
- 3. Method\*
- 4. Findings and Discussion\*
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- 6. Appendix (optional)
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This is the main body of the chapter, headed with a section heading capturing the theme/scope/nature of the chapter, ALL IN UPPER CASE. Often this heading is somewhat similar to the chapter title itself.

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The study methodology, if applicable, is then introduced. Then the chapter proceeds to discuss the study

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This section, headed simply CONCLUSION, can begin with a restatement of the research problem, followed by a summary of the research conducted and the findings.

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To do justice to the chapter, this section should not be limited to one or two paragraphs. Its significance/contribution deserves to be insightfully featured here, including remarks which they had been added to the earlier sections would have been premature.

If the CONCLUSION section is longer than 1,000 words (an average length), one may choose to subdivide it into appropriate Subheadings in Italics.

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Each table (single space) or figure appears on a separate sheet at the end of the chapter, with all illustrations considered as Figures (not charts, diagrams, or exhibitions). The title for tables should be above whereas titles for figures should appear below the table.

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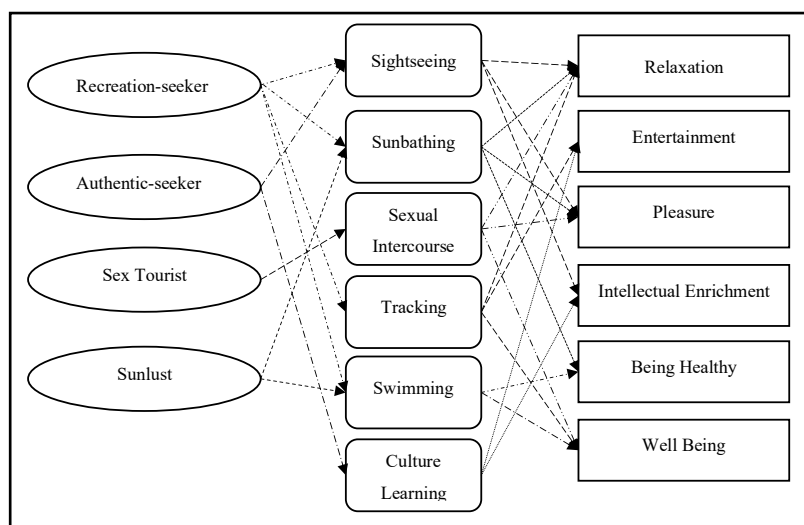


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Table 1: Table Title (Times New Roman, Regular, 11pt, Centered)

TABLE	TABLE	TABLE	TABLE
Table	Table	Table	Table
Table	Table	Table	Table
Table	Table	Table	Table

(Reference –If necessary)

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### 5.1. Journal Articles

Aksöz, E. O. (2015). Perceived Image of Cittaslow By Tourism Students: The Case of Faculty of Tourism, Anadolu University-Turkey. *Annals of Faculty of Economics*, 1 (2), pp. 331-339.

Dogru T., Isik, C., & SirakayaTurk E. (2019). The Balance of Trade and Exchange Rates: Theory and Contemporary Evidence From Tourism. *Tourism Management*, 74 (4), pp. 12-23.

Sezgin, E., & Duz, B. (2018). Testing the proposed “GuidePerf” scale for tourism: performances of tour guides in relation to various tour guiding diplomas. *Asia Pacific Journal of Tourism Research*, 23 (2), pp. 170-182.

### 5.2. Online Journal Articles

Yukse, G. (2013). Role of Information Technologies In Travel Business And Case Of Global Distribution System: AMADEUS, *AJIT-e: OnlineAcademic Journal ofInformation Technology*, 4(12), pp. 17-28, Retrieved from //.....



### 5.3. Conference Proceedings

Yilmaz, A., & Yetgin, D. (2017). Assessment on Thermal Tourism Potential in Eskisehir through the Tour Guides' Perspective. *5th International Research Forum on Guided Tours, (5th IRFGT)*, University of Roskilde, Denmark, pp.70-84.

### 5.4. Book

Kozak, N. (2014). *Academic Journal Guides of Turkey (1st Ed.)*. Ankara: Detay Publishing

### 5.5. Article or Chapter in Edited Book

Kaya-Sayarı, B., & Yolal, M. (2019). The Postmodern Turn in Tourism Ethnography: Writing against Culture. In *Tourism Ethnographies, Ethics, Methods, Application and Reflexivity* (Eds: H. Andrews, T. Jimura, & L. Dixon), pp. 157-173. New York, NY: Routledge.

### 5.6. More than one Contribution by the Same Author

Coşkun, I.O., & Ozer, M. (2014). Reexamination of the Tourism Led Growth Hypothesis under Growth and Tourism Uncertainties in Turkey. *European Journal of Business and Social Sciences*, 3(8), pp. 256-272.

Coşkun, I.O., & Ozer, M. (2011). MGARCH Modeling of Inbound Tourism Demand Volatility in Turkey. *Management of International Business and Economic Systems (MIBES) Transactions International Journal*, 5(1), pp. 24-40.

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Toker, A. (2011). *The Role of Tourist Guides at Sustainability of Cultural Tourism: Ankara Sample* ( Unpublished Master's Thesis). Anadolu University, Eskisehir, Turkey.

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