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### INTEGRATIVE APPROACHES TO FINANCIAL FORECASTING IN THE HOSPITALITY SECTOR - A COMPREHENSIVE ANALYSIS OF HOTEL TAMIŠ

## INTEGRATIVNI PRISTUPI FINANSIJSKOJ PROGNOZI U SEKTORU UGOSTITELJSTVA -SVEOBUHVATNA ANALIZA HOTELA TAMIŠ

Abstract. This paper explores the financial forecasting models applied to the matinee services at hotel Tamiš, which encompass food, drinks, and music offerings, over the period from July 1, 2023, to July 1, 2024. Utilizing SPSS 26. for comprehensive financial analysis, the study examines key metrics such as total revenue, raw material costs, and profit margins associated with these services. Findings indicate that effective management of raw material costs, which account for a significant portion of expenses, alongside strategic pricing, plays a crucial role in enhancing overall profitability. The integration of diverse revenue streams from food, drinks, and live entertainment is highlighted as a key factor in optimizing financial performance. The paper emphasizes the importance of adapting services to meet guest expectations and suggests avenues for future research, including the impact of guest's feedback on the success of matinee offerings in the hospitality sector.

**Key words**: Hotel Tamiš, F&B, Financial forecasting, Matinee, Management, Hospitality.

Apstrakt. Ovaj rad istražuje modele finansijskog predviđanja primenjene na usluge matineja u hotelu Tamiš, koje obuhvataju ponudu hrane, pića i muzike, u periodu od 1. jula 2023. do 1. jula 2024. Koristeći SPSS 26. za sveobuhvatnu finansijsku analizu, studija ispituje ključne metrike kao što su ove usluge, ukupna marža i materijalni prihod. Nalazi ukazuju da efikasno upravljanje troškovima sirovina, koji čine značajan deo troškova, pored strateškog određivanja cena, igra ključnu ulogu u povećanju ukupne profitabilnosti. Integracija različitih tokova prihoda od hrane, pića i zabave uživo je istaknuta kao ključni faktor u optimizaciji finansijskog učinka. U radu se naglašava važnost prilagođavanja usluga kako bi se ispunila očekivanja gostiju i predlažu putevi za buduća istraživanja, uključujući uticaj povratnih informacija gostiju na uspeh matine ponude u ugostiteljskom sektoru.

**Ključne reči:** Hotel Tamiš, F&B, Finansijsko predviđanje, Matinee, Menadžment, Ugostiteljstvo.



#### Introduction

In the hospitality industry, financial forecasting is a fundamental practice that supports decision-making, strategic planning, and resource management (Rushmore & O'Neill, 2015). Given the industry's reliance on fluctuating demand patterns, influenced by factors such as seasonality, economic conditions, and consumer preferences, accurate financial forecasting models are crucial for ensuring operational efficiency and longterm profitability. Among the various segments within the hospitality sector, the food and beverage (F&B) department often presents unique challenges due to its complex nature (Shaheen et al. 2021). The perishable nature of products, varied cost structures, and the necessity to balance service quality with financial constraints make forecasting in this area particularly significant (Marjanović, 2020).

Financial forecasting models are employed to predict future revenues, costs, and cash flows, enabling management to make informed decisions regarding inventory, staffing, pricing, and capital investments. These models range from simple trend analyses to more complex algorithms that incorporate multiple variables, such as market trends, historical performance data, and external economic indicators (Yeh et al. 2012). In hospitality, the effectiveness of these models often determines a hotel's ability to respond to changing market conditions, optimize its F&B operations, and maintain competitiveness. The development and refinement of financial forecasting models are essential for addressing the specific challenges faced by F&B departments (Zrnić, Gajić & Vukolić, 2023). Forecasting models help anticipate periods of high and low demand, plan for seasonal fluctuations, and manage the procurement of raw materials. They also contribute to minimizing waste, optimizing labor costs, and ensuring that pricing strategies are aligned with market dynamics (Cengiz et al. 2018). As such, the adoption of robust financial forecasting models is critical for hotels seeking to enhance their financial performance and sustain growth in an increasingly competitive environment.

In the hospitality industry, financial forecasting serves as a cornerstone for effective management and operational success (Ivanov & Zhechev, 2012). As hotels operate in a dynamic environment characterized by fluctuating consumer demand, seasonality, and competitive pressures, the ability to accurately predict financial outcomes is crucial. Forecasting models allow hotels to anticipate future performance, make informed strategic decisions, and optimize the use of resources, particularly in critical areas such as the food and beverage (F&B) department (Noone, Enz, & Glassmire, 2017; Zrnić et al., 2023). Sustainable development in tourism, particularly in the Food and Beverage (F&B) department, emphasizes reducing waste, sourcing local and organic ingredients, and minimizing the environmental footprint through energy-efficient practices (Ristić, Bošković & Despotović, 2019). By adopting sustainable strategies, F&B departments can enhance guest experiences while promoting long-term ecological balance and supporting local communities.

This paper explores the various financial forecasting models employed within the hospitality industry, emphasizing their application to the F&B department. Accurate financial forecasting is not merely a tool for operational efficiency; it is a strategic necessity that supports decision-making at all levels of hotel management. By understanding and refining these models, hospitality businesses can achieve greater financial stability, optimize performance, and enhance their overall competitiveness in the marketplace.

#### Literature review

### Financial forecasting in hospitality

Financial forecasting is widely recognized as a critical component of management in the hospitality industry. Studies, such as those by Kim (2018) emphasize the importance of financial forecasting models in dealing with the high level of uncertainty that characterizes the hospitality sector. These

models allow businesses to anticipate demand, manage costs, and make strategic decisions that are aligned with both short-term goals and long-term sustainability. Research highlights that accurate forecasting in the hospitality industry is not only essential for day-to-day operations but also for ensuring resilience during periods of economic downturn or market volatility.

In the hospitality sector, where seasonal swings and changing market conditions are common, financial forecasting is essential to a company's ability to stay profitable and sustainable. Hospitality companies, such as hotels, restaurants, and other service providers, can effectively manage their resources, minimize operating expenses, and project their future financial performance with the help of accurate financial forecasting. Making well-informed decisions about capital investments, hiring, staffing, and inventory management is also aided by it. Revenue forecasting is a key element of financial forecasting in the hospitality industry. This entails forecasting future income sources using market trends, historical data, and other outside variables including shifts in the regional economy, demand for travel, and competition activities. For instance, occupancy rates, average daily rates (ADR), and revenue per available room (RevPAR) are all important factors in revenue forecasting in the hotel industry. Precise revenue projections facilitate more effective pricing and marketing initiatives by enabling management to establish reasonable budgetary targets and recognize peak and off-peak times.

Cost management is a crucial component of financial forecasting in the hotel industry. For a business to remain profitable, it is crucial to forecast expenditures associated with personnel, utilities, food and beverage suppliers, and maintenance. Cost forecasting needs to take supply chain interruptions, changes in demand, and seasonal variations into consideration. For instance, during times of strong demand, labor expenses could go up because more employees are required, while the cost of food and drink might go up because of short-

ages or higher pricing. Hospitality managers may better allocate resources, cut down on wasteful spending, and enhance overall operational efficiency with the help of accurate cost forecasting. Forecasting capital expenditure (Capex) is another crucial factor in financial planning for the hotel industry. This kind of forecasting entails making projections about upcoming expenditures on real estate, machinery, technology, and remodeling. Because the hospitality sector requires a lot of capital, companies need to make frequent investments in renovations and upgrades to remain competitive and satisfy customers. By accurately projecting capital expenditures, businesses can avoid cash flow issues and debt accumulation by ensuring that these investments are planned in a way that complements their longterm strategy and financial capability. Managing market volatility and outside influences is one of the major issues of financial forecasting for the hospitality industry. Unpredictable occurrences like pandemics, natural disasters, or economic downturns can have a significant impact on revenue and demand. Businesses may need to make immediate adjustments if there are differences between their anticipated and actual financial performance because of these external shocks. Consequently, scenario-based forecasting—which entails creating numerous financial estimates based on varying market conditions and outside events—is becoming more and more prevalent in hospitality firms. With this strategy, companies may be ready for a variety of scenarios and put backup plans in place as necessary.

In the hospitality sector, technology integration is also changing financial projections. Artificial intelligence (AI) and machine learning have made it possible for corporations to employ sophisticated algorithms to evaluate massive datasets and produce financial forecasts that are more accurate. With the use of these tools, hospitality organizations may make data-driven decisions and real-time forecasts by seeing patterns in customer behavior, price trends, and market dynamics. AI-driven revenue management systems, for example, can dynamically mod-

ify room rates in response to rival pricing, real-time demand, and other factors, enhancing the profitability and accuracy of financial predictions. However, due to financial limitations and a lack of experience, smaller hospitality organizations may find it difficult to implement these cutting-edge technologies. These companies' financial forecasts may still be done manually or using basic spreadsheets, which could reduce the precision and effectiveness of their projections. Adding outside variables like inflation, currency rates, and shifting product prices further adds to the intricacy of financial forecasting. To ensure accuracy, financial models must be continuously monitored and updated. Furthermore, when it comes to financial forecasting for the hospitality industry, people are still crucial. While technology can improve forecasting accuracy, financial managers' experience and judgment are crucial for deciphering data and coming to wise conclusions. Financial forecasting ought to consider qualitative information as well as quantitative estimates, such as visitor comments, market mood, and new trends. Working together across departments—like sales, marketing, and operations—is also essential to producing thorough predictions that complement the overarching business plan.

Several scholars have developed forecasting models that cater to the specific needs of the hospitality industry. Ampountolas (2024) designed for intermittent demand forecasting, has been adapted in various studies to predict demand in service industries where seasonality plays a significant role. More recent advancements, including the use of artificial intelligence and machine learning algorithms, have been explored by scholars such as Doborjeh et al. (2022), who demonstrate the effectiveness of these technologies in enhancing the accuracy of forecasts.

# The Role of Financial Forecasting in F&B Departments

The F&B department is a particularly complex area within the hospitality industry, requiring specialized forecasting mod-

els. Research by Hinson et al. (2024), underscores the variability in demand within F&B operations, driven by factors such as customer preferences, event management, and external economic conditions. Forecasting in this context is crucial for managing inventory, labor, and pricing strategies, which directly impact profitability. Studies such as those by Enz and McSporran & Cho (2017) highlight the importance of incorporating external economic indicators and consumer behavior trends into F&B forecasting models to improve accuracy. Several traditional methods, including time series analysis and regression models, have been applied to F&B financial forecasting. For example, a study by Claveria, Monte & Torra (2015), demonstrated the effectiveness of time series models in predicting revenue patterns in hotel restaurants. These models help managers anticipate periods of high and low demand, allowing them to adjust staffing levels, order quantities, and pricing strategies accordingly. However, these traditional models often require manual adjustments to account for unique variables specific to F&B operations (Zrnić, 2024).

# Modern forecasting techniques: Ai and machine learning

Recent literature has increasingly focused on the use of advanced technologies, such as artificial intelligence (AI) and machine learning, to improve financial forecasting accuracy in hospitality. AI-driven models can process vast amounts of data, identify patterns, and adapt to changing conditions, offering a more dynamic and responsive approach to forecasting. A study by Bulchand-Gidumal, J. (2022). suggests that AI-based forecasting tools significantly enhance prediction accuracy in the hospitality industry by automating data analysis and continuously refining forecasts based on real-time information. Machine learning algorithms have been particularly effective in forecasting demand and optimizing inventory in F&B departments. Research by Kwon, Lee & Back (2020), explores the use of deep

learning techniques to predict customer demand in hotel restaurants, demonstrating superior performance compared to traditional models. These algorithms can analyze large datasets, including historical sales, weather conditions, and local events, to generate more accurate predictions. The application of such technologies represents a significant advancement in financial forecasting, offering hospitality managers more precise tools for decision-making.

In sectors like hospitality, retail, and banking, modern forecasting techniques - especially those powered by AI and machine learning, are completely changing how firms approach making forecasts. These methods produce more precise, data-driven forecasts than conventional statistical models by utilizing large datasets and complex algorithms. Massive amounts of data can be processed and analyzed at a never-before-seen scale by AI and machine learning models, which can also reveal patterns and insights that conventional forecasting techniques might overlook. As they process fresh data, these dynamic systems learn and get better over time. Artificial intelligence (AI)-based forecasting technologies, for instance, can examine previous data on reservations, lodging rates, seasonality, visitor preferences, and even outside variables like the local weather or events. Machine learning algorithms deliver more accurate demand, pricing, and resource allocation estimates by combining these many data sets. The capacity of AI-based forecasting to consider complicated factors and non-linear connections is one of its main advantages. Conventional techniques, such moving averages and time-series models, can falter when the market circumstances abruptly change, or unanticipated occurrences occur. However, machine learning algorithms are more resilient to these kinds of disturbances, which makes them especially useful in volatile industries like hospitality and tourism. Supervised learning and unsupervised learning are the two main machine learning approaches used in AI-driven forecasting. In

supervised learning, the model is taught to forecast future events using labeled historical data. This is very helpful for forecasting sales, demand, and revenue indicators. A supervised learning model, for instance, might be trained using historical information on guest stays, rates, and seasonal patterns to forecast room occupancy rates.

Conversely, unsupervised learning finds structures and patterns in data without the need for predetermined labels. This is useful for understanding various guest segments and their preferences, as well as for detecting clusters of client behavior. Businesses can offer more specialized services, such customized marketing campaigns or improved service delivery, by identifying these tendencies. Because neural networks can represent intricate interactions between variables, they have demonstrated extraordinary performance in predicting applications, particularly when it comes to deep learning models. Time-series forecasting is particularly well-suited to recurrent neural networks (RNNs) and long short-term memory (LSTM) models, which are particularly good at learning dependencies over time. These models can be used in the hospitality industry to forecast client demand across a variety of time horizons, which can improve staffing, pricing, and inventory management for companies. For instance, by considering the time-based dependencies between different elements like booking lead times, guest preferences, and seasonal swings, LSTM models can be utilized to anticipate occupancy rates. Their specialization in jobs involving sequential data stems from their capacity to capture long-term dependencies.

Predictive analytics using AI and machine learning models also makes real-time forecasting possible. These models can absorb real-time data streams from various sources, including social media, online bookings, and economic indicators, and adjust projections instantly, in contrast to conventional forecasting techniques that rely on static data. This is especially useful in dynamic situations like the hospitality industry,

where pricing and demand can be significantly impacted by sudden changes in local events, the weather, or guest behavior.

Real-time forecasting technologies, for example, enable hotels to maximize revenue and occupancy by dynamically adjusting room rates in response to changes in real-time demand. By anticipating food and beverage needs and optimizing stock levels and cutting waste based on dynamic demand patterns, predictive analytics technologies can also be applied in other contexts. Even while machine learning and AI forecasting models have many advantages, there are still certain difficulties. The high cost and intricate nature of execution are among the main obstacles. These models need to be developed, trained, and maintained, which means a large investment in both human and technological resources. Due to their limited resources, smaller hospitality companies might find it difficult to completely implement these strategies, which could create a competitive advantage for independent operators over larger hotel The quality of the data is another chains. difficulty. A major factor in AI-driven forecasting's efficacy is the precision and caliber of the incoming data. Data that is out-ofdate, inconsistent, or incomplete can greatly distort the results and produce forecasts that are not trustworthy. Furthermore, machine learning models can be resource-intensive because they need to be updated and retrained frequently to stay effective. More advanced forecasting systems that can smoothly incorporate a variety of variables, including real-time market trends, customer feedback, and external economic indicators, are expected to emerge as technology develops. As technology costs fall and new user-friendly platforms appear, smaller firms will probably have greater access to AI and machine learning models. Furthermore, the increased focus on explainable AI (XAI) will facilitate broader adoption by making it simpler for hospitality professionals to comprehend and believe the predictions made by these models.

# Challenges and limitations in financial forecasting

Despite the advancements in forecasting models, challenges remain in applying these techniques within the F&B sector of the hospitality industry. One significant issue highlighted in the literature is the need for accurate and high-quality data. As noted by Chen, Miao & Shevlin (2015), poor data quality can undermine the effectiveness of even the most sophisticated forecasting models. The integration of external variables, such as macroeconomic factors and competition, is also a challenge, as these can be difficult to quantify and predict. Moreover, the adoption of AI and machine learning models, while promising, requires substantial investment in technology and training. Research by Zhang et al. (2024) discusses the barriers to technology adoption in hospitality, including cost, lack of expertise, and resistance to change. These factors can limit the accessibility of advanced forecasting models for smaller hotels or those with limited resources (Vujić et al., 2022). The intrinsic unpredictability of demand variations is a major problem in the implementation of forecasting models within the F&B sector, in addition to the technological and data-related difficulties. Variations in consumer behavior, seasonality, and local events are some of the factors that can cause large variations in demand, which are frequently hard to forecast with great accuracy. Conventional statistical models can handle some unpredictability, but they might not be flexible enough to react to abrupt shifts in the market or outside shocks like economic downturns or crises in the world's health. This is especially problematic for the food and beverage industry, since inventory control and perishable commodities are essential to cutting waste and increasing profits.

Moreover, a key element in predicting the effectiveness of forecasting models in F&B operations is organizational preparedness. Studies show that many hospitality organizations still use antiquated or manual techniques for demand forecasting, which makes it more difficult to adopt more sophisticated,

data-driven strategies. The scattered nature of data sources and the absence of digital infrastructure led to inefficiencies that impede the adoption of more precise forecasting models. Firms that don't digitize their operations can find it difficult to fully utilize AI and machine learning technologies, as they depend on integrated, real-time data. The use of forecasting in F&B departments is heavily influenced by the human component as well. To comprehend model outputs and make wise judgments, staff members' experience and judgment are still crucial, even with cutting-edge technical solutions. Forecasting mistakes can arise from an over-reliance on technology in the absence of sufficient human monitoring, particularly in intricate and dynamic settings such as the hospitality industry. It is impossible to overestimate the significance of fusing advanced technology with astute managerial abilities to guarantee that forecasting models are not only accurate but also applicable to day-today operations. Another issue is the F&B industry's operational and cultural aversion to implementing new technologies. Because of their unfamiliarity or fear of losing their jobs, managers and employees may be reluctant to accept new tools, which can impede the adoption of more advanced systems. This opposition is frequently exacerbated by the fact that the hospitality industry, especially in smaller venues, favors interpersonal service over technical innovation and has a more traditional operational philosophy. In addition to financial support, overcoming this opposition calls for change management techniques that allay employee worries and highlight the real advantages of cutting-edge forecasting models. The application of sophisticated forecasting models in the food and beverage industry is also influenced by regulatory factors. Policies pertaining to data privacy, like the General Data Protection Regulation (GDPR) in Europe, have the power to restrict the gathering and application of client information, which is necessary for customized forecasting. Another level of complication is ensuring adherence to these

regulations while using customer data to estimate demand accurately. Establishments may further impede the adoption of new technology by having to carefully negotiate these regulatory frameworks to avoid legal consequences.

Forecasting models have advanced dramatically, but there are still several obstacles in the way of their use in the food and beverage industry. Overcoming these obstacles will necessitate a coordinated effort that strikes a balance between technology and human skill, resolves opposition to change, and guarantees compliance with pertinent regulations. These obstacles range from data quality and integration of external variables to technological, organizational, and legal constraints.

### Methodology

The financial analysis for the matinee services at hotel Tamiš, covering the period from July 1, 2023, to July 1, 2024, offers an insightful examination of the department's revenue, cost structures, and profitability. This analysis emphasizes the financial dynamics of integrating food, drink, and music services into the matinee experience.

The study highlights how effective forecasting models have played a crucial role in managing the complex interplay of revenue streams and costs. The analysis reveals significant aspects of the department's performance, including the total revenue generated from food, drinks, and music. By examining the revenue figures, raw material costs, and profit margins, the study sheds light on the financial health of the matinee services. The data showcases the substantial contribution of each service component—food, drinks, and music-to the overall revenue, while also emphasizing the importance of managing raw material costs, which represent a significant portion of the expenses.

Using the financial forecasts, the study details how cost optimization strategies have impacted profitability. The integration of diverse revenue streams, such as the combina-

tion of food, drinks, and live entertainment, has been key to enhancing financial performance. The analysis highlights that, despite the high share of raw material costs, strategic pricing and efficient cost management have led to favorable profit margins.

The data was analyzed using SPSS 26. which facilitated detailed financial modeling and trend analysis. This approach provided a clear view of the department's expenditure

on raw materials, labor, and other operational costs, allowing for a comprehensive understanding of how these factors influence overall profitability. The study also examines how the department's innovative approaches and pricing strategies contribute to financial success, offering insights into the effectiveness of various forecasting models in a hospitality context.

**Table 1.** Financial forecasting for matinee (food) from 1th of July 2023 – 1th of July 2024, hotel Tamiš F&B department

MATINEE (FOOD)			
Sale item	Com.	Price	
Food		797295.00	
Total raw materials	0.000	797295.00	
VTA		0.00	
The share of raw materials		64%	
Price without VTA		1241709.00	
Selling price			
Profit in rsd		444414.00	

Source: Author`s research
\*All prices are presented in Serbian dinar (RSD); \*Value Added Tax (VAT)

Table 1. presents the financial forecasting for matinee food sales in the F&B department of hotel Tamiš, covering the period from July 1, 2023, to July 1, 2024. The table includes several key financial indicators related to the sale of food items, raw material costs, and the resulting profit for the department. The total sales revenue generated from food items during the specified period is projected to be RSD 797,295. This figure represents the gross revenue before accounting for costs and taxes.

The cost of raw materials is critical in determining profitability, and in this case, raw materials account for 64% of the total sales revenue. This percentage reflects the share of raw material costs relative to the total revenue, indicating a significant portion of the income is allocated to covering the cost of ingredients and supplies needed for food preparation. The table also provides information about the price structure. The price without VAT (Value Added Tax) is RSD 1,241,709,

which suggests that the overall selling price includes additional markups beyond the cost of raw materials. The final selling price of the food items has not been explicitly stated, but it is implied that it incorporates the raw material costs, operational expenses, and profit margins. The projected profit for the period is RSD 444,414.

This figure represents the net income after deducting all relevant costs, including raw materials and operational expenses, but before applying VAT. The absence of VAT information in the table may indicate that this tax is either included elsewhere in the financial analysis or considered separately.

Overall, this financial forecast provides an overview of the expected revenue, cost structure, and profitability for the matinee food operations within the F&B department at hotel Tamiš for the given period. The table highlights the importance of managing raw material costs and pricing strategies to achieve the desired profit margins.

MATINEE (DRINKS)				
Sale item	Com.	Price		
Drinks		205669.00		
Total raw materials	0.000	205669.00		
VTA		0.00		
The share of raw materials		32%		
Price without VTA		639603.00		
Selling price				
Profit in rsd		433934.00		

**Table 2.** Financial forecasting for matinee (drinks) from 1th of July 2023 – 1th of July 2024, hotel Tamiš F&B department

Source: Author's research

Table 2. presents the financial forecasting for matinee drink sales in the F&B department of hotel Tamiš, covering the period from July 1, 2023, to July 1, 2024. Like the food sales forecast, this table outlines key financial indicators related to the sale of drinks, raw material costs, and the resulting profit for the department.

The total revenue generated from drink sales during this period is projected to be RSD 205,669. This represents the gross income from all drink sales before considering any associated costs or taxes. The cost of raw materials for drinks is shown to account for 32% of the total revenue, a relatively smaller share compared to the food segment. This suggests that the cost of producing drinks is lower in proportion to the revenue generated, which could contribute to a higher profit margin for drinks compared to food. The price without VAT (Value Added Tax) for drinks is estimated at RSD 639,603. This figure

includes markups beyond the raw material costs, reflecting additional expenses such as operational costs and profit margins.

As with the food sales forecast, the final selling price is not explicitly stated in the table, but it is implied that the selling price factors in the total cost of raw materials and other related expenses. The projected profit for drink sales is RSD 433,934. This net income figure is calculated after deducting all associated costs, excluding VAT. The absence of VAT details in the table suggests that VAT is either accounted for separately or is integrated elsewhere in the financial analysis. Overall, this financial forecast for drink sales within the matinee service at hotel Tamiš indicates that, despite a lower revenue compared to food sales, drinks offer a favorable profit margin due to their lower raw material costs. Effective management of pricing strategies and cost control will be essential in maintaining these profit levels throughout the forecast period.

**Table 3.** Financial forecasting for matinee (drinks, food & music) from 1th of July 2023 – 1th of July 2024, hotel Tamiš F&B department

MATINEE (DRINKS, FOOD & MUSIC)				
Sale item	Com.	Price		
Drinks		205669.00		
Food		797295.00		
Music		240000.00		
Total raw materials	0.000	1242964.00		
VTA		0.00		
The share of raw materials		66%		
Price without VTA		1881312.00		
Selling price				
Profit in rsd		638348.00		

Source: Author's research

<sup>\*</sup>All prices are presented in Serbian dinar (RSD); \*Value Added Tax (VAT)

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Table 3. presents the financial forecasting for the combined matinee offerings of drinks, food, and music in the F&B department of hotel Tamiš, covering the period from July 1, 2023, to July 1, 2024. This table consolidates the financial data for all three categories, providing a comprehensive view of the expected revenue, costs, and profit associated with the matinee service. The projected total revenue from drinks, food, and music during this period amounts to RSD 1,242,964. This figure represents the gross income before considering any associated costs or taxes. The breakdown includes RSD 205,669 from drinks, RSD 797,295 from food, and RSD 240,000 from music, showing the combined contribution of each component to the overall revenue.

The cost of raw materials represents 66% of the total revenue. This percentage highlights the significant portion of income allocated to covering the costs of drinks, food, and music, which includes not only ingredients and supplies but also the expenses associated with providing live entertainment. This figure suggests that raw material costs play a crucial role in determining the profitability of the matinee service. The price without VAT (Value Added Tax) for the combined offerings is calculated at RSD 1,881,312. This figure reflects the pricing strategy that incorporates the total costs and desired profit margins. While the table does not provide a specific selling price, it implies that the pricing for the matinee service includes adjustments to cover all expenses and ensure profitability. The projected profit for the matinee service, which includes drinks, food, and music, is RSD 638,348. This net income figure is calculated after deducting all related costs, excluding VAT. The absence of VAT details in the table may suggest that it is accounted for separately or considered in another part of the financial analysis. Financial forecast for the matinee service at hotel Tamiš indicates a well-balanced operation with a focus on maximizing profitability across multiple categories. By combining drink and food sales with entertainment offerings, the hotel

can create a more comprehensive experience for guests, which contributes to higher overall revenue. Effective cost management and pricing strategies will be key to achieving the projected profit margins for this period.

Discussion and conclusion

In analyzing the financial forecasting for matinee services at hotel Tamiš, including food, drinks, and music, several insights emerge that highlight the critical role of accurate forecasting models in optimizing the F&B department's performance. The provided data across three tables reveals key trends and considerations that are essential for effective financial management in the hospitality sector. The forecasts for food and drink sales, as well as the combined matinee service, underscore the significance of raw material costs and their impact on overall profitability. For the food segment, with a revenue of RSD 797,295 and raw material costs comprising 64% of this amount, the financial analysis indicates a substantial portion of income is dedicated to covering ingredient costs. This is consistent with the known complexity of managing food costs in the hospitality industry, where ingredient quality and waste management directly affect profit margins.

In contrast, the drinks segment, which generates RSD 205,669 in revenue with raw material costs at 32% of revenue, demonstrates a higher profit margin due to relatively lower material costs. This differential highlights how pricing strategies and cost control in the beverage sector can contribute to a more favorable financial outcome compared to food. When considering the combined matinee offerings of drinks, food, and music, the total revenue of RSD 1,242,964 with a raw material cost share of 66% reflects the integrated nature of these services. The significant portion of revenue allocated to raw materials, combined with a total profit of RSD 638,348, indicates that while the raw material costs are high, the overall pricing and revenue strategies effectively support a healthy profit margin. The absence of VAT details in the forecasts suggests that further analysis is needed to understand the complete financial picture, including tax implications. The financial forecasts for matinee services reveal that while managing raw material costs is crucial, integrating multiple revenue streams-such as food, drinks, and entertainment—can enhance overall profitability. This integrated approach provides a more robust financial foundation, allowing the hotel to leverage diverse income sources to offset costs and maximize revenue. Additionally, the higher profit margins observed in the drinks segment suggest that focusing on optimizing pricing and controlling material costs in both food and beverage operations can significantly impact financial outcomes.

In conclusion, the financial forecasting models for the F&B department at hotel Tamiš illustrate the importance of detailed and accurate predictions in managing operational costs and profitability. The data highlights the need for strategic pricing, effective cost management, and the integration of various revenue streams to achieve financial success. By understanding and addressing the factors influencing raw material costs and revenue generation, hotel Tamiš can better align its financial strategies with operational goals, ensuring sustainable growth and enhanced profitability in the competitive hospitality market.

#### Reference

Ampountolas, A. (2024). Addressing complex seasonal patterns in hotel forecasting: a comparative study. *Journal of Revenue and Pricing Management*, 1-10.

Bulchand-Gidumal, J. (2022). Impact of artificial intelligence in travel, tourism, and hospitality. In *Handbook of e-Tourism* (pp. 1943-1962). Cham: Springer International Publishing.

Cengiz, E., Cengiz, F., Demirciftci, T., & Cobanoglu, C. (2018). Do food and beverage cost-control measures increase hotel performance? A case study in Istanbul, Turkey. *Journal of Foodservice Business Research*, 21(6), 610-627.

Chen, S., Miao, B., & Shevlin, T. (2015). A new measure of disclosure quality: The level of disaggregation of accounting data in annual reports. *Journal of Accounting Research*, 53(5), 1017-1054.

Claveria, O., Monte, E., & Torra, S. (2015). A new forecasting approach for the hospitality industry. *International Journal of Contemporary Hospitality Management*, 27(7), 1520-1538.

Doborjeh, Z., Hemmington, N., Doborjeh, M., & Kasabov, N. (2022). Artificial intelligence: a systematic review of methods and applications in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 34(3), 1154-1176.

Harris, P. (2010). Accounting and finance for the international hospitality industry. Routledge.

Hinson, R. E., Mensah, I., Amoako, G. K., Mensah, E. A., Coffie, I., & Khosa, E. (2024). Hospitality and Tourism Marketing: Building Customer Driven Hospitality and Tourism Organizations. CRC Press.

Ivanov, S., & Zhechev, V. (2012). Hotel revenue management—a critical literature review. *Tourism: an international interdisciplinary journal*, 60(2), 175-197.

Kim, S. Y. (2018). Predicting hospitality financial distress with ensemble models: the case of US hotels, restaurants, and amusement and recreation. *Service Business*, *12*(3), 483-503.

Kwon, W., Lee, M., & Back, K. J. (2020). Exploring the underlying factors of customer value in restaurants: A machine learning approach. *International Journal of Hospitality Management*, *91*, 102643.

Marjanovic, M. (2020). Service orientation of the employees in Serbia's tourism agencies. *Economic Horizons*, 22(1), 67-77.

McSporran, A. J., & Cho, Y. C. (2017). Analyzing The Determinants of Attitude, Behavior, And Satisfaction On Imported Products: Implications For The Growing Food And Beverage Industry. *Journal of Service Science (Online)*, 10(1), 13.

Noone, B. M., Enz, C. A., & Glassmire, J. (2017). Total hotel revenue management: A strategic profit perspective.

Ristić, L., Bošković, N., & Despotović, D. (2019). Sustainable integral development of agriculture and tourism in the Republic of Serbia. *Economic Horizons*, 21 (1), 57-73

Rushmore Jr, S., & O'Neill, J. W. (2015). Updated benchmarks for projecting fixed and variable components of hotel financial performance. *Cornell Hospitality Quarterly*, 56(1), 17-28.

Shaheen, O. H. A. G., Morsy, M. A., Qoura, O., & Zaki, K. M. G. (2021). The Impact of Yield Management on the Profitability of Food and Beverage Department in Five-Star Hotels. *International Journal of Heritage, Tourism and Hospitality*, *15*(1), 116-126.

Vujić, T., Vujić, M., Zrnić, M., Gajić, T., & Vukolić, D. (2022). Selected quality factors in the function of creating guests' satisfaction. *Marketing*, *53*(4), 276-283.

Yeh, C. Y., Chen, C. M., & Hu, J. L. (2012). Business diversification in the hotel industry: A comparative advantage analysis. *Tourism Economics*, 18(5), 941-952.

Zhang, Q., Khan, S., Khan, S. U., Khan, I. U., & Mehmood, S. (2024). Tourist Motivations to Adopt Sustainable Smart Hospitality: An Innovation Resistance Theory Perspective. *Sustainability*, *16*(13), 5598.

Zrnić, M. (2024). Optimizing gastronomy services for enhanced guest experience and satisfaction: A Quality management analysis in Serbian hotels using the APUCI model. *Ekonomika preduzeća*, 72(7-8), 400-410.

Zrnić, M., Gajić, T., & Vukolić, D. (2023). Importance of food management system–illustration from hotel Moskva. 13th International Scientific Conference Science and Higher Education in Function of Sustainable Development – SED 2023. 56-60.

Zrnić, M., Gajić, T., Vukolić, D., Knežević, S., & Knežević, M. (2023). Managing food and beverage in hotels: Challenges, opportunities and best practices. *Turističko poslovanje*, (31), 63-70.

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