

THE ROLE OF SERVICE DIVERSIFICATION IN IMPROVING THE BREAK-EVEN POINT FOR ACCOMMODATION FACILITIES

Linda Emilia SEBESTIEN¹, Lacrimioara ȘANDRO¹, Ciprian – Petrică ȚARĂU¹, Ioana IOVA¹, Ioan CHEREJI^{1*}, Aurelia Ioana CHEREJI¹

¹University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru St., 410048, Oradea, Romania

REVIEW

Abstract

Diversification of services is an important strategy for increasing the economic sustainability of accommodation units, in the context of a high dependence on occupancy and a significant share of fixed costs. The purpose of this paper is to analyze the influence of service diversification on the break-even point of accommodation units. The research is of a review nature and combines the analysis of the specialized literature with the use of a cost-volume-profit model with an illustrative role. The results highlight the fact that the expansion of the service portfolio contributes to reducing the occupancy required to achieve financial equilibrium and to improving the stability of income. At the same time, the favorable effects of diversification tend to diminish as the number of services increases, as a result of the additional costs associated with them. The study highlights the importance of economically substantiated diversification for increasing the performance and financial resilience of accommodation units.

Keywords: break-even point; service diversification; cost-volume-profit; accommodation facilities

*Corresponding author: ionut.chereji@uoradea.ro

INTRODUCTION

To succeed in the increasingly fierce competition, hotels are required to continuously improve quality, service and price.(Chartady, R., Salihi, APS and Sambodo, B., 2020.) The break-even point is the economic indicator that highlights the production volume, sales level or degree of activity necessary for a company's total revenues to fully cover fixed and variable expenses. At this level of activity, the result of the exercise is zero, since the company does not make a profit, but does not record losses either.(Cricovan, D. 2025)

Accommodation units are distinguished by certain economic particularities that differentiate them from other business categories in the service sector, one of the most important being the significant share of fixed costs in the total expense structure. In the cost structure of an accommodation unit, asset depreciation, basic personnel expenses, utilities, insurance, property taxes and administrative costs have a predominantly fixed character, remaining relatively constant in the short term, regardless of the volume of accommodation services sold.(Schmidgall, 2011; Guilding, 2014).The predominance of fixed costs gives the unit high operational leverage, so that variations in occupancy have a significant impact on profitability, amplifying both gains and losses.. In this context, determining the profitability

threshold and the associated occupancy rate becomes particularly important, as these indicators provide relevant information for monitoring the financial sustainability and optimizing the activity of the accommodation unit. These indicators reflect the minimum level of economic activity necessary for the generated income to fully cover the costs incurred by the unit. The significance of these indicators is amplified by the current level of occupancy of accommodation structures. According to Eurostat data (2025), the net occupancy rate of accommodation places in hotels and similar units was approximately 49% at the European Union level in 2024. In contrast, Romania was among the states with the lowest values of this indicator, recording an occupancy rate of approximately 35%, along with the Czech Republic and Slovakia.(Eurostat, 2025).The low level of occupancy compared to that required to reach the break-even point suggests that many accommodation facilities depend on complementary sources of income to maintain their financial sustainability.(INS, 2025).

Diversifying revenue sources through complementary services, such as food, wellness or event organization, is a frequently used strategy to strengthen financial performance, with these activities contributing up to 40% to the total revenues of full-service establishments..In addition to the impact on turnover, these additional sources of income

help reduce the effects of seasonality and improve the unit's ability to maintain long-term financial balance. (Jang & Tang, 2009; Park & Jang, 2012).

This reorientation has been accelerated by changing consumer behavior after 2020. The changes generated by the COVID-19 pandemic have accelerated the diversification of business models in the hospitality sector, with many establishments using existing spaces for additional revenue-generating activities. (Chereji et al., 2022).

The literature approaches the relationship between service diversification and breakeven from different perspectives. Studies in the financial field analyze the effects of diversification on organizational performance and risk, strategic research integrates it into resource development and capitalization models, and managerial accounting works focus mainly on the profitability of accommodation services..

The purpose of this study is to integrate these directions and clarify the mechanisms through which the diversification of services contributes to the improvement threshold of profitability of accommodation units.

MATERIAL AND METHOD

The work is of type review which combines qualitative literature synthesis with an illustrative numerical model. The sources were identified by study Web of Science, Scopus, ScienceDirect and Google Scholar databases, supplemented with official reports and statistics (Eurostat, National Institute of Statistics). Keyword combinations such as "break-even", "cost-volume-profit", "operating leverage", "revenue diversification", "ancillary revenue" and "hotel/accommodation" were used. Priority was given to reviewed works and official statistical sources relevant to the cost structure, diversification and financial performance in hospitality.

The conceptual framework is based on three complementary directions. The first is cost-volume-profit analysis and the multiproduct break-even point, in which the equilibrium is determined by the weighted average contribution margin of the revenue streams (Schmidgall, 2011; Guilding, 2014). The second is the diversification theory, from Ansoff's product-market matrix (1957) to studies on the relationship between diversification and profitability (Rumelt, 1982).

The third is the resource-based perspective (Penrose, 1959; Wernerfelt, 1984; Barney, 1991), which explains why establishments can leverage existing assets and skills to add services at reduced marginal cost. In the hospitality field, these directions are connected by studies linking diversification to profitability, risk and revenue stability (Hsu & Jang, 2008; Jang & Tang, 2009; Park & Jang, 2012).

To make visible these mechanisms built a multi-product cost-volume-profit model, calibrated on reference values from the European literature (occupancy rate, average rate, cost structure). The model was applied to both a representative unit and a synthetic population of 600 units, whose structural characteristics (capacity, average rate, variable cost ratio, fixed cost per room, depth of diversification) were generated on plausible intervals for the accommodation sector in the region. The proposed model has a conceptual character and is used to illustrate the relationships between the analyzed variables. The parameter values are based on information from the specialized literature and on aggregate statistical data, without coming from an empirical investigation carried out at the level of the analyzed units. In this context, the results obtained should be interpreted as theoretical projections with an indicative role, and not as results of a field research.

The break-even point expressed as occupancy rate was calculated for two structures. For the unit that sells exclusively rooms:

$$BEOR_{about} = CF / (mc_{about} \times ZD),$$

where CF represents the annual fixed costs, $mc_{(cam)}$ the contribution margin per occupied room (average rate minus variable cost per room), and ZD the number of room-days available ($capacity \times 365$). For the diversified unit, where each added service j brings a contribution per occupied room $\alpha(j)$, an autonomous contribution $A(j)$ independent of occupancy, and an incremental fixed cost $CF(j)$:

$$BEOR_{div} = (CF + \sum CF_j - \sum A_j) / [(mc_{about} + \sum \alpha_j) \times ZD].$$

The degree of diversification was quantified by a Herfindahl-type income diversification index (IDI), $RDI = 1 - \sum s(m)^2$, where $s(m)$ are the weights of income streams calculated at a reference occupancy level; the value 0 corresponds to a single-stream unit, and values close to 1 to a highly diversified structure. The margin of safety and the degree of

operational leverage were additionally analyzed at a realistic occupancy level of 45%.

RESULTS AND DISCUSSIONS

The high share of fixed costs explains why the break-even point of accommodation establishments is structurally high. Since each occupied room brings a relatively high contribution margin (the rate substantially exceeds the direct variable cost), the establishment slowly covers a large volume of fixed costs; until the threshold is reached, each occupancy point counts enormously, and beyond the threshold, profit increases rapidly. This asymmetry is measured by the degree of operational leverage, which in the model reaches very high values near the threshold. The model indicates a break-even occupancy rate of approximately 56% for establishments that exclusively sell accommodation services. Given that this level is higher than the occupancy rates commonly recorded in many European markets, the results suggest difficulties in achieving financial break-even through room sales alone. (Eurostat, 2025; NIS, 2025).

The services through which accommodations diversify their revenues can be grouped into several categories with distinct economics (Table 2). Some, such as food and beverage or spa services for guests, are predominantly related to occupancy: they

increase revenue and contribution per occupied room. Others, such as a restaurant open to the public, event organization or spa with external access, generate a partially autonomous contribution, independent of room occupancy, which directly compensates for fixed costs. The difference is essential for the break-even point, because the two types act on different terms of the equation.

From the literature and model analysis, four channels emerge through which diversification improves the break-even point. The first is increasing the contribution margin per occupied room: occupancy-related services raise the denominator of the break-even point equation, so that fewer rooms are needed to cover costs. The second is autonomous contribution: independent occupancy flows reduce the amount of fixed costs that room sales must cover, shifting the break-even point downward. The third is seasonality and risk smoothing – stream diversification reduces revenue variability and stabilizes the bottom line, consistent with studies that associate diversification with greater stability of hospitality returns (Hsu & Jang, 2008; Park & Jang, 2012). The fourth is cross-selling, through which guest presence generates demand for ancillary services, increasing total revenue per available room.

Backgammon 1

Break-even point and safety margin for a representative 80-room unit, by diversification levels (illustrative model)

Flows of services	Fixed cost added (EUR/year)	Contribution SELF (EUR/year)	Contribution/ chamber (EUR)	Occupancy rate in balance (%)	Margin of safety at 45% (%)
0	0	0	57.40	52.50	-16.67
1	95,000	35,000	71.40	45.09	-0.19
2	167,000	59,000	81.40	41.57	7.63
3	211,000	111,000	87.90	38.18	15.15
4	223,000	123,000	92.90	36.13	19.72
5	231,000	131,000	96.70	34.71	22.87

Source: illustrative model; 80-room unit, average rate EUR 82, fixed cost EUR 11,000/room/year. The safety margin is calculated against an achievable occupancy rate of 45%.

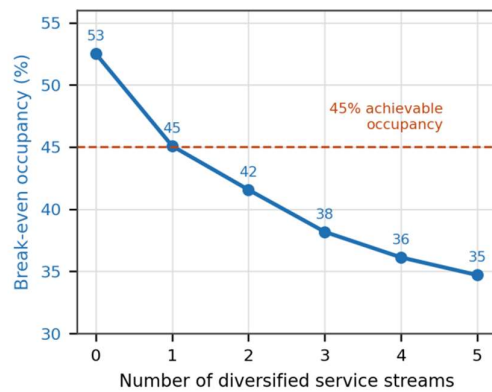


Figure 1 Equilibrium occupancy rate according to the number of service flows, representative unit of 80 rooms

Table 1 and Figure 1 illustrate the cumulative effect of diversification on a representative facility. In the room-only structure, the equilibrium occupancy rate is approximately 52.5%, above the achievable level of 45%, which corresponds to a negative safety margin – the facility operates at a loss at the

assumed occupancy. Diversification of services leads to a progressive reduction in the level of employment required to reach the break-even point and improves the financial safety margin. However, the marginal benefits of diversification diminish as the service portfolio expands, due to the additional costs associated with each activity. The synthetic population analysis confirms this trend, highlighting the decrease in the break-even point as the level of diversification increases. (Figure 2). For non-diversifying establishments, the average threshold remains around 58%, while for those with four–five service streams the threshold drops to 30–39%. The average difference between the diversified and rooms-only structure, for establishments adopting at least one service, is around 10.4 percentage points and is statistically significant. The share of viable establishments at an achievable occupancy rate of 45% almost doubles, from around 27% (rooms-only) to around 48% (diversified).

Table 2 Typology of ancillary service flows and their effect on the break-even point

Category of service	Main mechanism income	Character (occupation vs. independent)	Fixed cost added	Effect on THRESHOLD
Food and drinks (F&B)	Consumption of guests and external clientele	Mixed	High	Reduces strongly
Spa and wellness	Guest treatments and external access	Mixed	High	Reduce
Events and MICE	Space rental, conferences, weddings	preponderant independent	Moderate	Reduce
Parking and transfer	Rates per guest / use	Related to EMPLOYMENT	Reduced	Reduces slightly
Experiences and tours	Commissions, packages lockout	Related to EMPLOYMENT	Reduced	Reduces slightly

Source: indicative classification, synthesized from literature and model calibration.

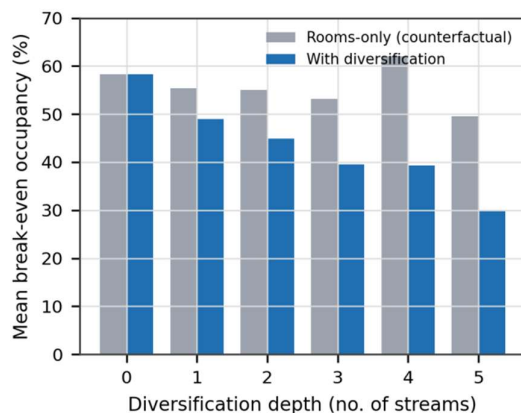


Figure 2 Average equilibrium employment rate by diversification levels (simulated population, N = 600)

The relationship between the income diversification index and the breakeven point is not linear (Figure 3). A regression of the

equilibrium employment rate on the RDI index, its square, unit size, and contribution margin reveals a significant negative coefficient for RDI (about -13.8) and a positive coefficient for the quadratic term (about +39.9), indicating a U-shaped curve: the breakeven point decreases with diversification, but up to an estimated inflection point around $RDI \approx 0.59$, beyond which the benefit diminishes and may reverse. The model explains about 24% of the variation in the breakeven point across units.

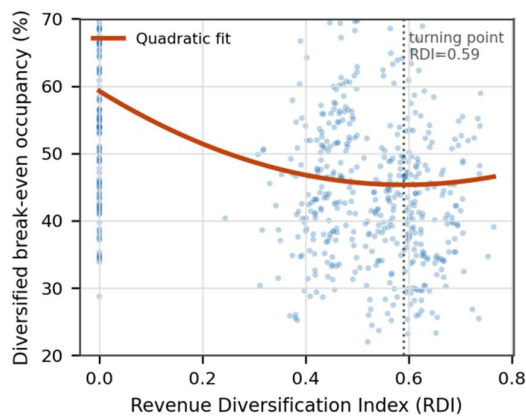


Figure 3 Relationship between the income diversification index (IDI) and equilibrium employment, with quadratic adjustment

The effect of diversification depends on the size of the facility. The interaction coefficient between RDI and the logarithm of the number of rooms is negative and significant (approximately -17.9), indicating that diversification reduces the threshold more

strongly in large facilities, which can spread the fixed costs of new services over a larger volume of activity. For small facilities, the fixed costs of services such as a full restaurant or spa may exceed the additional contribution, so aggressive diversification risks raising, not lowering, the threshold. This nonlinearity is consistent with the literature reporting nonlinear relationships between diversification and performance in hospitality (Park & Jang, 2012).

In addition to shifting the threshold, diversification attenuates the operating leverage effect: in the model, the average degree of operating leverage at 45% occupancy decreases from about 38 (room-based structure) to about 22 (diversified structure). With a lower threshold and a larger safety margin, the sensitivity of profit to demand shocks is reduced, which explains the resilience observed empirically in units with diversified revenues (Jang & Tang, 2009).

Backgammon 3

Summary of illustrative model results (simulated population, N = 600)

Indicator	Value
Occupancy rate balance, only rooms (average)	55.9%
Balanced, diversified occupancy rate (average)	47.8%
Average threshold reduction (units) accommodation which have diversified services)	10.4 pp ($p < 0.001$)
Viable units at 45% occupancy-only rooms	27.2%
Viable units at 45% occupancy-MIXED	47.8%
RDI correlation-break-even point	-0.40
Estimated Inflection Point (RDI)	≈ 0.59
Degree of operational leverage: rooms $\rightarrow$ diversified	38.4 $\rightarrow$ 22.0

pp = percentage points; RDI = revenue diversification index.

Source: Illustrative values, generated by the calibrated cost-volume-profit model.

Diversification of services has a positive effect on profitability, by reducing the level of employment required to reach financial equilibrium. However, the marginal impact of each additional service tends to diminish, as expanding the offer also implies additional costs. The results obtained for the synthetic population confirm the existence of an inverse relationship between the degree of diversification and the level of employment required to reach the profitability threshold. (Rumelt, 1982).

CONCLUSIONS

The break-even point of accommodation units is structurally high, due to the high share of

fixed costs and operational leverage, which makes profitability sensitive to occupancy.

Diversification of services reduces the equilibrium occupancy rate through two main channels: increasing the contribution per occupied room and the autonomous contribution, independent of occupancy, which compensates for fixed costs.

In the illustrative model, moving from a room-only structure to one with more services reduces the threshold by about ten percentage points on average and nearly doubles the share of viable units at achievable occupancy.

The results of the analysis indicate that the benefits associated with service diversification do not increase proportionally with the

expansion of the portfolio of activities. After a certain level, the favorable effects tend to diminish because each additional service involves specific resources and costs. Under these conditions, diversification must be based on economic criteria and integrated into a coherent strategy for managing resources and cost structures.

Also, the positive impact of diversification is more evident in the case of larger units, which benefit from a superior capacity to distribute fixed costs over a higher volume of activity.

The conclusions drawn are based on a literature review and the results of an illustrative model. Therefore, their confirmation requires further research based on data collected directly from accommodation units, and the values presented should be interpreted as analysis scenarios and not as empirical results obtained through direct observation.

The effect is subject to diminishing returns and may reverse beyond an inflection point, as each added service entails its own fixed costs; diversification should be treated as a targeted financial structuring decision.

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