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## **Show me the money: the magic of the marketing and finance interface to drive financial performance in hospitality operations**

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# Chapter 1

## Introduction

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*"Customer service shouldn't just be a department, it should be the entire company."*

– Tony Hsieh, Zappos

## **1.1 Background and Rationale**

The hospitality industry operates in a highly competitive and resource-constrained environment, with thin profit margins, fluctuating demand, and high operational costs. The quality of managerial decision-making is pivotal to achieving continuous financial success, as businesses are exposed to constant strategic choices between maximizing efficiency while maintaining service quality and guest satisfaction (McCoy, 2024). At the same time, many hospitality managers lack formal financial training, making it difficult to effectively combine cost control, revenue management, and customer experience strategies (Wyld et al., 2024). On the other hand, investors and stakeholders may lack deep industry knowledge, making it challenging to ensure that financial decisions align with operational realities and customer expectations.

Data-driven decision-making is increasingly valued for its ability to enhance customer satisfaction, streamline operations, and optimize financial performance. This enables businesses to maximize resource utilization, forecast market trends, and tailor guest experiences, ultimately boosting efficiency and profitability (Bevanda Group, 2024). Hotels and restaurants that leverage real-time data analytics achieve superior financial results, as these insights empower them to anticipate guest preferences, adjust pricing dynamically, and optimize resource allocation with precision (Aita, 2024). However, effective decision-support systems require robust algorithms built on a framework of interconnected, dynamic variables that influence profitability. Identifying and understanding key profit drivers—measurable variables that managers can monitor and optimize—is essential for hospitality leaders tasked with strategically allocating limited resources while maintaining customer satisfaction and competitive edge (Opsyte Online, 2023).

### ***Information for managerial decision making***

Hotel managers have access to a vast array of performance metrics, ranging from high-level management dashboards to granular and isolated insights from different departments. However, the sheer volume of available information can be overwhelming, hindering effective decision-making (Bonacchi & Perego, 2023; Farrell et al., 2006; Luft et al., 2011). A key challenge in this context is establishing a clear link between intangible customer-level outcomes, such as satisfaction or loyalty intention, and quantifiable financial performance (Banker & Johnston, 2007; Epstein et al., 2000; Gjerde & Hughes, 2009; Penman, 2007a; Shields & Shields, 2005; Terpstra & Verbeeten, 2014).

Firms assess their performance across multiple organizational and analytical levels. Operating reports, for example, can be generated monthly or daily, focusing on a small set of variables within the control of property managers, allowing them to respond promptly and take corrective actions. By contrast, accounting performance is summarized monthly or quarterly and audited annually, aligning with accrual timing and tax reporting requirements. Consequently, this information becomes available only after a significant delay. Investors and capital markets evaluate corporate performance from a long-term perspective, while external economic forces exert continuous influence. Consequently, multiple performance metrics at different levels of analysis, such as product, customer, employee, business unit, organization, or industry, create a complex web of relationships, making performance evaluation challenging.

Unsurprisingly, the challenge of connecting customer behavioral insights to multiple financial outcomes is immense (Farrell et al., 2006; Ittner et al., 2003; Ittner & Larcker, 1998a; Mittal et al., 2023; Srinivasan et al., 2005). This complexity is one of the primary reasons managers often struggle or even neglect to integrate customer satisfaction into key financial decisions (Banker, Potter, et al., 2000; Bonacchi & Perego, 2023; Ittner et al., 2003; Said et al., 2003). Accounting research indicates that, in practice, most managers make limited use of statistical analysis to validate their assumptions about the relationships between key performance drivers and financial outcomes (Banker, Potter, et al., 2000; Ittner, Larcker, & Randall, 2003; Kaplan & Norton, 1996). Moreover, as Bonacchi & Perego (2023) recently emphasized, customer analytics, when used at all, remain siloed within designated departments, disconnected from accounting and finance.

The integration of customer insights, financial metrics, and operational performance enables businesses to make strategic decisions that drive revenue growth, enhance cost controls, and support long-term sustainability (McCoy, 2024). By harnessing data-driven insights, hospitality managers can optimize pricing, elevate service quality, enhance operational efficiency, foster customer loyalty, and ultimately reinforce financial resilience. However, both research and practice highlight that these diverse data remain largely fragmented and unaligned, limiting their full potential.

### ***Marketing and Finance interface***

Marketing and finance operate in parallel universes, prioritizing different metrics, as if finance were from Mars and marketing from Venus.<sup>1</sup> Marketing emphasizes brand awareness, customer loyalty and lifetime value, whereas finance and accounting prioritize profitability, risk mitigation, and cost control leading to data fragmentation and misaligned objectives (McManus & Guilding, 2008; Roslender & Wilson, 2008; Ruyter & Wetzels, 2000; Sidhu & Roberts, 2008; Zinkhan & Verbrugge, 2000). The lack of common KPIs and analytical frameworks reinforces the perception that marketing is a discretionary cost rather than a strategic asset. The marketing–finance interface presents a persistent challenge owing to structural, cultural, and analytical barriers (Downie, 1997b; Inglis, 2008; Mattimoe & Seal, 2011; Mills & Tsamenyi, 2000).

Furthermore, qualitative, forward-looking marketing data remains disconnected from quantitative, historical financial accounting data, preventing firms from linking customer delight to profitability (Ruyter & Wetzels, 2000; Sidhu & Roberts, 2008; Zinkhan & Verbrugge, 2000). Marketing’s intangible assets, such as customer satisfaction, brand equity, and service quality hold immense financial value (Epstein et al., 2000; Kumar et al., 2013; Mittal et al., 2023). Research shows that customer satisfaction reduces churn, increases pricing power, and boosts lifetime value, whereas brand equity lowers acquisition costs and stabilizes revenue (Datta et al., 2011; Syverson, 2019; J. Zhu et al., 2021). However, finance often overlooks these because of their lack of direct monetary visibility (Banker & Johnston, 2007; Fornell et al., 2006; Kumar et al., 2000; Niraj et al., 2008). To bridge this gap, decision-support information needs to connect customer insights with financial metrics in sets of management controls. Studies have highlighted that firms that successfully link customer profitability analysis with marketing data achieve better financial performance and resource efficiency (Bonacchi & Perego, 2023; S. Gupta & Zeithaml, 2006; McNair-Connolly et al., 2013; Nemeschansky, 2020; Nemeschansky et al., 2020; Ng & Wood, 2018; Perera et al., 1997; Pfeifer et al., 2005; R. E. Smith & Wright, 2004).

A possible solution lies in quantifying nonfinancial profit drivers and integrating them into an accounting set of controls together with financial performance metrics. Research supports that firms implementing customer value-driven financial planning

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<sup>1</sup> Inspired by Gleaves, R., Burton, J., Kitshoff, J., Bates, K., & Whittington, M. (2008). Accounting is from Mars, marketing is from Venus: establishing common ground for the concept of customer profitability. *Journal of Marketing Management*, 24(7–8), 825–845.

outperform those that rely solely on cost-based budgeting (Banker, Potter, et al., 2000; Banker & Mashruwala, 2007; Dorestani & Rezaee, 2011; Ittner & Larcker, 2003; McManus, 2013; McManus & Guilding, 2008; Nemeschansky, 2020; Said et al., 2003; Srinivasan et al., 2005). Specifically, Assaf & Magnini (2012) empirically show that accounting datasets containing customer satisfaction data yield more accurate and holistic insights than pure accounting data. By adopting integrated decision-support systems, businesses can bridge the gap between marketing value creation and financial accountability, ensuring sustainable profitability in an increasingly data-driven economy. Thus, recognizing the financial impact of nonfinancial performance drivers is key to aligning marketing and finance, optimizing investments, and driving sustainable profitability (Banker, Potter, et al., 2000; S. Gupta & Zeithaml, 2006; Ittner & Larcker, 1998a; Said et al., 2003; Srinivasan et al., 2005).

### ***Nonfinancial drivers in accounting information***

Customer-level behavioral outcomes as performance drivers have been an important yet under-researched area in management accounting (Shields & Shields, 2005), largely because of the discipline's traditional focus on cost-based metrics (Banker & Johnston, 2007; Huefner & Largay, 2008; Shields & Shields, 2005; Walsh, 1996). Given that accounting information is the primary source for managerial decision making (Boyd & Cox, 2002; Huefner & Largay, 2008), the lack of integrated profit-driver models (Banker & Johnston, 2007) hinders the development of holistic customer-centric information systems (Andersson, 2006; van der Rest et al., 2018) and may lead to suboptimal decisions (Assaf & Magnini, 2012; Goldratt, 1983; Ittner et al., 2003). Despite considerable recent advances in profit-driver research in other disciplines, most notably the marketing literature (Mittal et al., 2023), accounting literature still lacks empirical validation and theoretically consistent models that would allow it to make similar advances (Banker & Johnston, 2007). Consequently, research has been fragmented across different disciplines, each applying its own theories and sets of metrics (Luft & Shields, 2003; Shields & Shields, 2005).

While accounting information is expected to facilitate the exchange of information between marketing and finance (Downie, 1997a; Huefner & Largay, 2008; Mills & Tsamenyi, 2000; Roslender & Wilson, 2008; Ruyter & Wetzels, 2000; Sidhu & Roberts, 2008; Zinkhan & Verbrugge, 2000), it often does not occur in practice (Bonacchi & Perego, 2023; Gleaves et al., 2008; Ittner et al., 2003). Accounting serves as the primary source of transactional data for investment and managerial decisions; however, customer analytics is

often assigned to a separate department or overlooked due to cost concerns, leading to fragmented performance reporting (Bonacchi & Perego, 2023). In other words, there is often a lack of awareness of key customer-level profit drivers and most importantly, their link to financial performance, which the majority of managers find difficult to understand (Ittner & Larcker, 1998a). Recognizing business-specific profit drivers and distinguishing them from other performance metrics is vital not only for managing revenue sources and streams (Huefner & Largay, 2008; Ng et al., 2013; Shields & Shields, 2005; Trueman et al., 2001), but also for evaluating business potential and, thus, the quality of investment decisions (Ambler & Roberts, 2008; Penman, 2007b; Sidhu & Roberts, 2008). For instance, Penman (2007a), criticizing the dot-com crash, argued that analysts over-relied on nonfinancial metrics, such as page views and customer reach, without understanding their link to future profits. While many nonfinancial metrics are expected to support financial performance, they do not guarantee it. Moreover, the limited or even nonexistent integration of nonfinancial metrics and accounting stems from their relative novelty to the discipline.

Historically, financial accounting has been viewed as merely retrospective, failing to support actions that maximize future cash flow and throughput (e.g., D. Smith, 2000). Traditional financial performance metrics have been criticized for overlooking nonfinancial benefits in modern production systems, limiting their ability to assess key revenue and profit drivers (Brimson, 1989; Johnson, 1991; Perera et al., 1997). As a result, accounting researchers have begun drawing from other research traditions, including sociology, strategy, psychology, and economics (Farrell et al., 2006). This has led to the emergence of performance drivers from various theoretical perspectives in the management accounting literature (Luft & Shields, 2003). Consequently, there is a need to better understand, systemize, and test these metrics, particularly their impact on financial performance across different settings. The premise is that using drivers of revenue and profit as key indicators enhances decision-making and financial performance more effectively than cost-based metrics<sup>2</sup>, which merely reflect resource consumption (Cleland, 2013; Goldratt, 1983; Ittner et al., 2003; Shields & Shields, 2005; Walsh, 1996). This premise constitutes the concept of nonfinancial performance measurements (NFPM).

Figure 1 offers a broad view of various drivers and driver-profit models in

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<sup>2</sup> Accounting treats revenue as the key source and driver of profit; thus, revenue drivers may be automatically presumed as profit drivers, which is not always the case. Furthermore, all revenue drivers are simultaneously cost drivers, however cost drivers are not automatically revenue drivers (Shields & Shields, 2005)

accounting research, building on the seminal work of Shields & Shields (2005), who systematically analyzed earlier business studies that provided qualitative and/or quantitative evidence on revenue drivers, as well as accounting revenue driver models. The various models depicted in Figure 1 vary in complexity, theoretical background, purpose, driver philosophy, and type of metrics. For instance, Activity Based Costing (ABC) treats the costs of various employee activities as revenue drivers (e.g., Banker et al., 1989), representing a classical accounting focus on costs. Strategic Cost Analysis (SCA) and Management (SCM) stem from economics and focus on executional drivers of business success that are necessary to execute a firm's strategy and set apart from competitors (Cugini et al., 2007; Govindarajan & Shank, 1992; Shank & Govindarajan, 1992), mainly on investment level. Meanwhile, the Balanced Scorecard (BSC) combines multiple qualitative metrics through various organizational levels (Banker et al., 2004; Kaplan & Norton, 1996) and offers a more holistic yet qualitative view of performance evaluation. These models are also often combined with each other in a single study (Angelis & Lee, 1996; Cugini et al., 2007) or used as a foundation for one another.

The nonfinancial metrics and variables used in accounting research can be found in the lower part of Figure 1. Regarding customer behavioral outcomes, the only metric used in accounting research is Customer Satisfaction, with different models deploying it at different levels of analysis. The majority of analytical models did so at the organizational level, with NPFM being a single case of customer-level analysis. NPFM is the broadest model, offering vast research potential and posing the majority of research questions, relationships, and effects. Thus, in the context of the BSC model, accounting research problematizes the definition and distribution of importance weights among financial and nonfinancial metrics, including customer satisfaction (Banker & Mashruwala, 2007). The purpose of such a distribution is to correctly evaluate performance in management compensation contracts. Other models, such as action-profit linkage (APL) or Service-Profit-Chain (SPC), are concerned with the thresholds of customer satisfaction and their financial effects on firm performance. Understanding these effects can be especially useful in the context of revenue management when broadening the traditional price-demand perspective (Huefner & Largay, 2008; Noone et al., 2003; Shoemaker, 2005). Despite the acknowledgement of these themes as important, quantitative empirical evidence in accounting research is limited and fragmented across few industries.

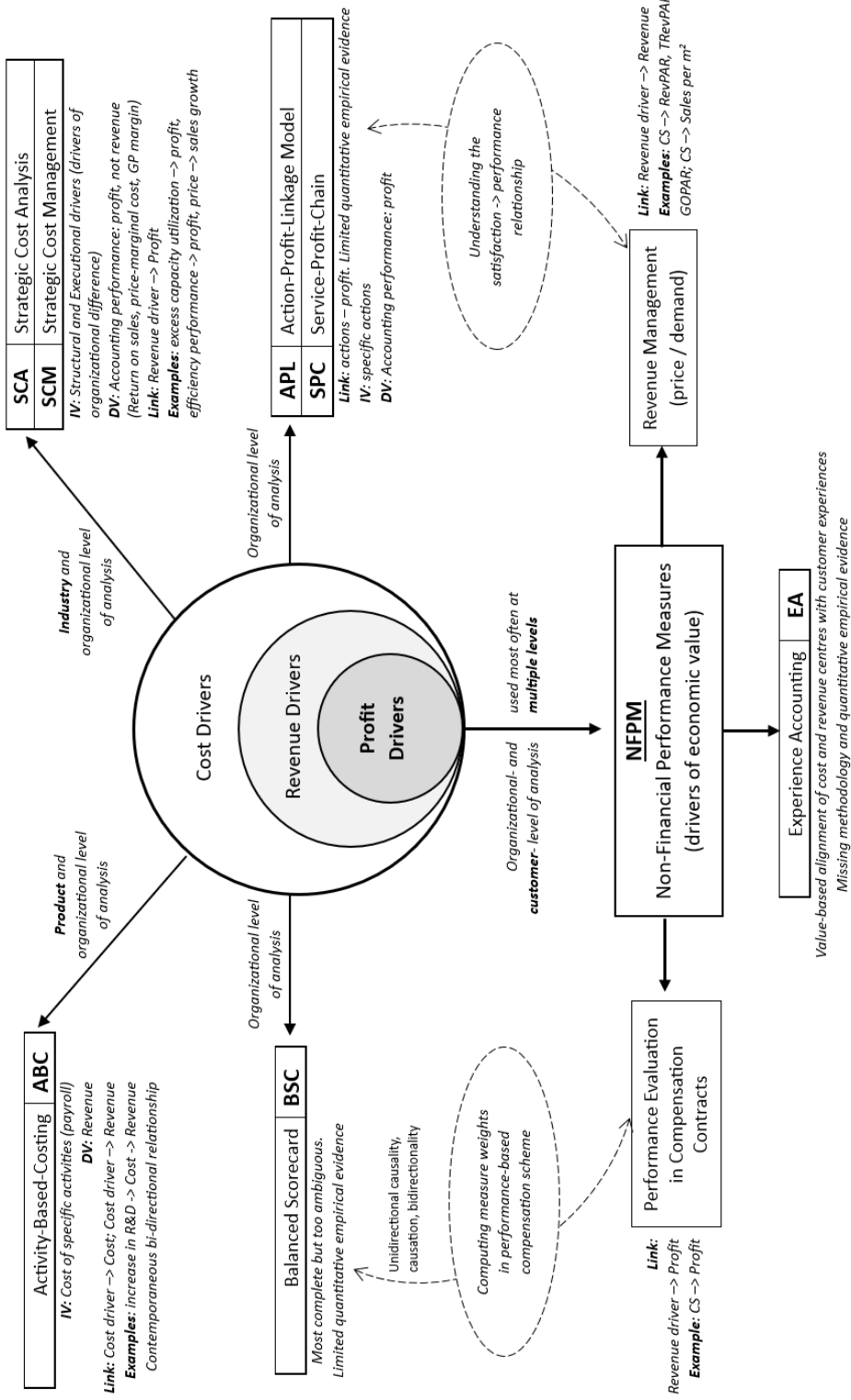
### ***Integrated cross-level models***

Accounting, management, and marketing literature operate in different research traditions, utilizing different theories, epistemological assumptions, and methodological perspectives. First identified by the seminal works of Shields & Shields (2005) and Banker & Johnston (2007), the lack of models linking effects at multiple performance levels, or according to both authors “cross-level models”, which are consistent with accounting theories, continues. The incompatible nature of customer and accounting metrics further limits the ability to deliver significant and publishable results, discouraging research from responding to this call.

Shields & Shields (2005) summarized the empirical evidence on driver effects based on the level of analysis. The arrows in Figure 1 link drivers to these accounting models and show the levels of analysis. Thus, product, customer, organization, and industry are the analytical levels to which the different drivers belong. Researchers conclude that the majority of these models, as summarized in Figure 1, emphasize cost over revenue, and that true revenue driver models are yet to be developed. Banker and Johnston (2007) reviewed quantitative empirical models in cost and profit driver research. They concluded that future research needs to consider the simultaneous interconnectivity of drivers and outcomes at the operating, accounting, and industry levels and to incorporate customer and shareholder value perspectives.

The recently suggested integrated marketing-accounting models for cost and profit drivers (Andersson & Carlbäck, 2009; Carlbäck, 2010), including the Balanced Scorecard (Kaplan & Norton, 1996), are largely conceptual and provide little guidance for the accounting discipline. Owing to the limited availability of quantifiable customer experience information that could potentially bridge marketing and accounting perspectives, there is a lack of integrated empirical models that provide solid decision-making foundations (Banker & Johnston, 2007; Shields & Shields, 2005). The primary gap is in defining measurement weights (Banker, Potter, et al., 2000) or the importance-performance scores of these elements (Busacca & Padula, 2005; Matzler et al., 2004) linked to profitability (Banker et al., 2000; Nemeschansky, 2020; Shields & Shields, 2005). In service-oriented and experience-based businesses, the integration of nonfinancial customer metrics into a managerial set of accounting controls is especially important (Assaf & Magnini, 2012; Demydyuk & Carlbäck, 2024; McManus, 2013; Nemeschansky, 2020).

**Figure 1:** Revenue and profit driver models in accounting research



### ***The Role of Customer Satisfaction in This Thesis***

A comprehensive, holistic, and cross-level model that integrates all available metrics, each with its own antecedents and relationships, cannot be fully examined within a single study. Accordingly, this thesis adopts a multi-stage approach to investigate the complex role of customer satisfaction as a profit driver. Through five distinct studies, it examines the contextual nuances of this driver across various organizational performance dimensions, the interactions between customer satisfaction and other profit drivers, and the informational value of performance metrics at different decision-making stages. While employing a holistic cross-level modelling approach, each study focuses on a specific area of performance, exploring various aspects, from optimizing operating resources based on consumer behavior to assessing firms' capital market performance. In doing so, this thesis seeks to contribute to cost- and profit-driver research within the accounting discipline (Banker & Johnston, 2007; Banker & Mashruwala, 2007; Epstein et al., 2000; Farrell et al., 2006; Shields & Shields, 2005), specifically in the hospitality industry, with a focus on lodging and hotel operations (O'Neill & Mattila, 2006; Queenan et al., 2011; Srinivasan et al., 2005). The theoretical contribution lies in analyzing, documenting, and systematizing various driver effects, thereby establishing a foundation for conceptual and empirical generalizations as well as future theory development (Bettis et al., 2016; Luft & Shields, 2003; Shields & Shields, 2005). The novelty of this approach lies in the integration of customer satisfaction with financial, accounting, and operational variables, treating it as a measurable metric that directly relates to and assesses financial performance (Assaf & Magnini, 2012; Ittner et al., 2003; Said et al., 2003).

Each study takes a multidisciplinary approach, contributing to multiple research areas, as detailed in Section 1.3. While each study advances its respective research streams, collectively, they empirically address the marketing-finance interface in the hospitality industry (Downie, 1997b; McManus & Guilding, 2008). Furthermore, their contributions facilitate the use of accounting information as a foundation for marketing-finance integration (Hooley et al., 1988; Mattimoe & Seal, 2011; Roslender & Wilson, 2008; Sidhu & Roberts, 2008). As a whole, this collection of studies advances customer-centric financial management by bridging the existing empirical and conceptual knowledge gaps. (Andersson, 2006; Carlbäck, 2010; Nemeschansky et al., 2020; Sjoblom, 1998; R. E. Smith & Wright, 2004; Terpstra & Verbeeten, 2014).

The findings provide valuable guidance for property managers across different functions regarding the importance and thresholds of customer satisfaction at different levels of analysis, helping them make important decisions regarding pricing and resource allocation based on customer preferences. Moreover, the insights provided by this study are instrumental not only for tactical management, but can be applied to strategic decisions in crafting product offers, property design, and investment. Therefore, investors, corporate management, and financial analysts can broaden the scope of their analysis enriching it with customer satisfaction as guided by the present findings, thus improving the quality of their investments and forecasts.

## **1.2 Aim and Objectives**

To provide direction for the research, the following overall purpose statement is formulated:

To improve our understanding of customer satisfaction as a driver of financial performance by integrating decision-making information from marketing and accounting.

To achieve this aim and to explore the issue in further depth, five studies were undertaken, which collectively pursue the following research objectives:

1. To examine the financial effects of customer satisfaction across different reporting levels and hotel operating contexts.
2. To explore how customer metrics can be integrated into an accounting control framework.
3. To apply the principles of the experience accounting (EA) framework to align customer preferences with associated costs in a lodging context.

Three overarching Grand Tour (GT) research questions were formulated to guide the inquiry, followed by corresponding sub-questions that aligned with the five studies as well as the aim and objectives of this thesis (See Figure A1 in the Appendix).

## **1.3 Overview of Studies**

This thesis builds on five empirical studies carried out across three different market segments: (1) upscale lodging, (2) cruise dining, and (3) low-cost accommodation. The five studies presented seek to deepen our understanding of customer satisfaction as a profit driver along with other profit drivers by examining their effects on financial performance

at different levels of analysis. The challenge of doing so is rooted in the fact that the process of customer satisfaction is not captured by accounting controls and treated as a parallel set of relationships. Therefore, testing these relationships requires the integration of marketing, operating, and accounting data. Multiple business processes that either cause costs or generate revenue are directly connected to customer activity. At the same time, all these relationships (driver effects) are different and take place simultaneously (Banker & Johnston, 2007). Owing to the complex and dynamic nature of these interactions, the studies examine multiple research questions from different perspectives.

The first three studies (Chapters 2, 3, and 4) are archival managerial accounting studies that investigate the following. It is widely accepted that improving customer satisfaction should sooner or later result in better profits, yet knowledge about “how?”, which is based on systematic and theory-consistent empirical evidence, is scarce and fragmented across disciplines (Epstein et al., 2000; Kumar et al., 2000, 2013). Marketing, accounting, and economics studies leverage their own phenomena, theories, metrics, and models (Luft & Shields, 2003; Mittal et al., 2023; Shields & Shields, 2005). Moreover, while marketers traditionally focus on customer-level metrics, they usually stick to top-line performance (revenue), whereas accountants and economists tend to ignore customer behavioral outcomes and focus on costs or the effects of production volumes on profit (Gleaves et al., 2008; Huefner & Largay, 2008). Hotel managers are simultaneously trained to leverage profitable capacity utilization by managing demand by deploying different pricing strategies and, using their own set of metrics (Enz et al., 2016; Kimes & Renaghan, 2011; Noone et al., 2003; Queenan et al., 2011). This lack of integrated information sets managers’ understanding of the satisfaction–profit link (Banker, Potter, et al., 2000; Srinivasan et al., 2005) and the development of customer-centric accounting systems capable of providing insights into profit potential as well as the thresholds of customer satisfaction.

Chapter 2. The first study titled “Customer Satisfaction as a Profit Driver in Upscale Hotel Chains: A Cross-Level Analysis of Financial Performance” aims to develop an understanding of *how* customer satisfaction impacts financial performance. Using aggregated firm-level data from six US public hotel chains, the study develops a set of hypotheses specifying an integrated cross-level model that examines the complex dynamic relationships underlying hotels’ long-term market performance. The study utilizes publicly available archival data on listed corporations, which were collected manually, and develops

a regression-based moderated mediation model. The model aligns operating, accounting, and stock market perspectives by establishing relationships between variables across these different levels of analysis. Conceptually, customer traffic, price, and customer satisfaction are seen as profit drivers, each playing different roles in a firm's financial performance. The analysis of 17 years of firm-level panel data (2004-2020) seeks to understand how customer-level profit drivers interact with economic outputs at different performance levels. Conditional process analysis is performed using PROCESS (Hayes, 2022).

In line with previous studies in other industries that used American Customer Satisfaction Index (ACSI), we identify customer satisfaction as a leading positive predictor of stock market performance and accounting profitability, while the contemporaneous effect on gross operating profitability we observed was either negative or absent. In contrast, price is a positive short-term profit driver, but has no effect on long-term performance. These findings reveal that in upscale lodging, customers prioritize positive experiences independent of the price point, which together with sufficient sales volume, drives long-term financial success. It is therefore important for practitioners to have realistic expectations about the absence of immediate effects on profit, while ensuring continuous satisfaction performance, which will repay in future returns. Chapter 2 establishes underlying relationships in a broader context at the industry level.

Chapter 3. The aggregated firm-level data used in the first study poses a number of limitations, mainly related to the potential dilution of operating-level driver effects (Croes & Semrad, 2012) and estimating the ACSI for multi-brand firms (Fornell et al., 2006; Ittner et al., 2009). The second study titled “Extending the Sales-Volume-Driver Hotel Profitability Model: An analysis of Full- and Limited-Service Upscale Chain Hotels” goes more in-depth on the operating side of the profit generation process. Moving ahead with a more granular analysis and actionable insights, the analysis modifies the original model introduced in the first study by testing it on a micro-style property-level accounting dataset provided by the Smith Travel Research (STR) Share Center, merged with Internet customer reviews. This study re-examines the original model with a new set of data and variables, adjusted from the firm to the property level. The population of upscale hotel properties was drawn from public corporations that participated in the first study. The study is further extended with an additional analysis of customer satisfaction in different categories stemming from Internet reviews, thereby providing specific dimensions of customer satisfaction at the operating level. The latter are analyzed in a series of multiple regressions

as independent variables, measuring their effects on different outputs: (1) overall satisfaction with the stay at the customer level, (2) gross profit at the operating level, and (3) accounting profit at the organizational level. The overall analysis of the study is deepened by additional segmentation into full-service and limited-service properties, helping to explain the effects better.

The results suggest that financial accounting metrics fall short of capturing the impact of customer satisfaction on profit across mixed property type datasets. These findings motivate further integration of behavioral and accounting data, which is necessary to understand the link between satisfaction and financial performance, a link that current accounting systems cannot identify. In practical terms, managers must remain realistic about the inability of accounting information to reflect the economic effects of customer satisfaction, and develop an understanding of customer-level drivers at different performance levels that are highly business specific. For example, in full-service hotels, customer satisfaction drives price acceptance proxied by gross operating profit, with all satisfaction attributes being equally important for achieving higher ratings. In contrast, the performance of limited-service hotels is positively driven by the basic product proxied as a review category *room* at all levels. At the same time, *location* and *value for money* may positively predict overall satisfaction, yet negatively predict profits, indicating a clear threshold of these experience attributes and positioning them as an “overkill” feature.

The empirical results of the driver analysis from the two studies are summarized following the recommendations of Shields and Shields (2005), indicating the type of relationship, sign, additivity, directness, timing, directionality, and linearity for each driver relationship. Understanding and systematizing drivers’ behavior and effects at different performance levels (operating, accounting, and stock market) and from different perspectives (firm, property, customer, product) provides a solid basis for conceptual and empirical generalizations.

Chapter 4. Firms invest resources to produce quality products that customers will accept and be willing to pay (Dutta et al., 2003; Kruesi & Bazelmans, 2023). The third study titled “Integrating Customer Satisfaction into Cost and Revenue Management: A Two-Stage DEA of Upscale Chain Hotels” assesses resource utilization within the context of customer satisfaction. This two-stage efficiency study adopts a customer-centric accounting perspective to evaluate hotel capabilities in integrating customer satisfaction into cost and revenue management in upscale chain hotels. The first stage evaluates the

hotel's ability to generate customer satisfaction from its expenditure, termed Cost-Satisfaction Efficiency, whereas the second stage, Satisfaction-Revenue Efficiency, evaluates the hotel's ability to generate revenue from its achieved level of customer satisfaction. Staying at the property level, Chapter 4 analyzes the same data as Chapter 3 using a two-stage network Data Envelopment Analysis (DEA) model. DEA models measure efficiency, or how successful decision-making units (DMUs) produce output(s) from input(s). In this two-stage efficiency study, customer satisfaction was integrated with operating-level accounting data (inputs = departmental costs, outputs = departmental revenues) as an intermediate variable, meaning that efficiency is measured relative to customer satisfaction achieved by a property. Network DEA was chosen as a tool capable of capturing multiple non-linear effects, especially those attributable to datasets containing behavioral metrics. Therefore, this study addresses the potential limitations of the first two studies. As the last in this series, Chapter 4 focuses particularly on the integration of accounting and behavioral data for management control. The selection of variables, their combinations, and models represent the key novelty of the three studies. Similar cross-level integrated studies are missing in the extant literature (e.g., Banker and Johnston, 2007) because of the substantial workload associated with data collection, the matching of multiple datasets, and the availability of reliable non-proprietary data needed to conduct such studies.

Our main findings indicate consistently high cost-satisfaction performance across hotels compared to lower and divergent revenue generation outcomes. Only a few leading hotels were able to earn greater revenues from higher customer satisfaction, which traditional accounting systems cannot capture. This makes an important contribution to efficiency research in general, and the hotel industry in particular by (a) suggesting that efficiency be measured relative to customer satisfaction, and (b) indicating that unrealized profit potential is primarily on the revenue side. As a practical tool to determine areas with potential for improvement, we propose a quadrant classification approach based on a hotel's cost and revenue efficiencies relative to customer satisfaction.

The last two studies (Chapters 5 and 6) focus on consumer behavior to demonstrate through several hands-on approaches how data integration can be used for value-based resource optimization. They investigate customer drivers at even greater depths, showing how marketing customer survey information can be framed and structured for subsequent integration with accounting data in practice. When available, customer analytics belongs to a dedicated department that is often unattainable for the majority of businesses, leading to

a complete disintegration of marketing and accounting information (Bonacchi & Perego, 2023). Both studies apply the restaurant-management tool, Experience Accounting (EA), which represents an integrated marketing-accounting analytical framework (Andersson & Carlbäck, 2009; Carlbäck, 2010; Nemeschansky, 2020). EA rests on the preposition that resource allocation aligned with customer preferences, and consequently their willingness to pay, will help optimize profits. Specifically, profit optimization can be achieved by reducing costs in areas not appreciated by customers (waste) and focusing on the areas of high customer value and consequently maximizing revenue. While being a useful and novel experience-based accounting system, EA lacks instrumental approaches and needs to be elaborated upon. The following studies use modern AI tools to ease and advance the applicability of EA and adopt it in other industries relevant to hotel operations.

Chapter 5. Resource allocation based on customer preferences requires constant updates and adjustments to trends and evolving consumer choice. While choices evolve gradually over time, critical events, such as the COVID-19 pandemic, may catalyze shifts in consumer behavior (Cruz-Cárdenas et al., 2021; Zwanka & Buff, 2021). The fourth study titled “Navigating the Evolving Dining Choices: Practical Insights into Analysis of Cruise Passengers’ Expectations Using Experience Accounting (EA) Framework” examines shifts in consumer dining preferences and satisfaction levels among cruise passengers before and after the pandemic cruise ban. The analysis utilizes text-mining techniques applied to a comprehensive collection of online post-cruise reviews. To theorize the application of the EA framework, we extend the multi-stakeholder experiencescape model suggested by Pizam and Tasci (2019) to the cruise dining context by subcategorizing the sensory component as a more instrumental approach for the food service industry. For this purpose, Internet customer reviews of the cruise dining experience are grouped as preceding and following the imposed break in cruising caused by the COVID-19 pandemic and then contrasted. An extended discourse analysis of these reviews is performed using text-mining techniques in a mixed method approach. Specifically, the extraction of words and bigrams is used to define the top-of-mind, perform thematic analysis, and analyze word count frequency, all of which are performed using the NVIVO software package.

Our findings indicate a significant shift in cruise ship passengers' dining preferences, with a move away from basic, utilitarian meals and towards a focus on high-quality cuisine, personalized service, and a diverse range of options. These changing expectations represent significant opportunities and challenges for hosts in the hospitality

industry. In the EA-guided resource allocation framework this means a stronger focus on service quality, including staff exercising the role of host and digitalized ordering options, culinary finesse over basic food, quality over quantity, and emphasis on the dining outlets included in the cruise fare rather than specialty dining. Our findings provide implications for cruise lines and hotels with multiple food service outlets to optimize resource allocation across multiple onboard food and beverage outlets and their marketing appeals.

Chapter 6. Airbnb entering the accommodation market has been disruptive for hotel operators, especially for small independent properties that offer budget accommodations (Andreu et al., 2020; Benítez-Aurioles, 2019; Roma et al., 2019). Due to higher cost structures and a customer base attracted to special Airbnb features, many of these hotels struggled to survive, as they are unable to offer lower price and show value to customers (Dann et al., 2019; Ert et al., 2016; Stors & Kagermeier, 2015; Y. Zhu et al., 2019). By understanding guest profiles and meeting expectations, hotels can rebalance their offers in a profitable manner and sustain competition from alternative service providers. The fifth study titled “Surviving Competition: Practical Insights from Experience Accounting (EA) and Machine Learning for Optimizing Profitability in Economy Hotels” develops a resource optimization approach in economy hotels. Specifically, by ranking the importance of various hotel amenities for different types of vacation travelers, the analysis seeks to identify important and redundant amenities, based on hotel type and customer base. The study utilizes supervised machine-learning (ML) algorithms to perform customer benefit segmentation on online survey data obtained from 399 Brazilian respondents. In evaluating combinations of multiple factors and attributes, the Shapley Value technique was deployed to interpret the results. A custom-written Python code was used for machine-learning analysis. The findings are summarized in several comprehensive recommendation tables.

The application of the EA model to the economy accommodation sector indicates two areas of improvement for hotels; cost-intensive comfort elements and amenities defining their price floors and no-cost elements of immersive experience, which customers anticipate from their Airbnb stays. This study uses ranking algorithms from supervised machine learning (ML) to evaluate and segment customer travel preferences and the importance placed on hotel amenities, identifying elements that can be eliminated without impacting customer experience (Dev et al., 2018; Zaman et al., 2022). Based on the identified profiles, multiple amenities can be excluded from the price package or eliminated. By increasing perceived value, reconsidering offers, and optimizing costs,

hotels can lower their price floors and remain profitable despite the growing competition. The systematic approach applied in this study establishes a foundation for an integrated accounting, consumer choice, and marketing framework by providing clear guidance for developing product offerings and optimizing costs based on guest preferences. The deployment of ML algorithms within the EA framework allows automated analysis with high-precision outcomes for hotels to identify guest profiles accurately. Specific recommendations are provided for shaping offerings and reducing costs for economy hotels in general and for each profile in particular.

The approaches used in Chapters 5 and 6 aim to develop practical tools for handling overwhelming consumer preference data in a way that makes them matchable to resources and associated costs. Importantly, EA is a rare integrated accounting system that propagates experience-based cost and revenue management. Thus, its elaboration and instrumentalization further promote data integration leading to the availability of customer-centric accounting systems.

As a whole, the five studies advance the integration of marketing, accounting, and finance information, by applying accounting profit-driver and revenue-driver models at different levels of analysis, as summarized in Table 1. Specifically, Chapters 2 and 3 integrate customer satisfaction into an accounting set of controls (Assaf & Magnini, 2012), thus significantly advancing the concept of Nonfinancial Performance Measurements (NFPM) as profit drivers (Banker, Potter, et al., 2000; Banker & Mashruwala, 2007; Said et al., 2003; Srinivasan et al., 2005) by creating, testing, and extending a cross-level model applied to firm- and property-level data. Remarkably, using accounting information as a source of exchange, the model and its extensions combine the experience-based attributes of customer satisfaction with the financial performance of hotel firms from a capital market perspective. Chapter 4 utilizes the Strategic Cost Accounting (SCA) perspective (R. Cooper & Slagmulder, 1998; Cugini et al., 2007) contributing to this stream by introducing a customer perspective and integrating satisfaction measurement into a typical efficiency model (Assaf & Magnini, 2012). Chapters 5 and 6 utilize the Experience Accounting (EA) framework (Andersson & Carlbäck, 2009) to analyze consumer choice marketing information and structure it in a usable way, enabling its integration with accounting information, specifically, for experience- and value-based resource optimization.

**Table 1:** Overview of the studies

Chapter	Title	Accounting driver model	Methodology
Chapter 2	<i>Customer Satisfaction as a Profit Driver in Upscale Hotel Chains: A Cross-Level Analysis of Financial Performance</i>	NFPM at firm level	Regression-based moderated mediation model  Aggregate financial data of hotel corporations (10-K filings)
	<u>Publication process:</u> Published Demydyuk, G., & Carlbäck, M. (2024). Balancing Short-Term Gains and Long-Term Success in Lodging: The Role of Customer Satisfaction and Price in Hotel Profitability Model. <i>Tourism Economics</i> , 30(4), 844-875, <a href="https://doi.org/10.1177/13548166231199156">https://doi.org/10.1177/13548166231199156</a>		
Chapter 3	<i>Extending the Sales-Volume-Driver Hotel Profitability Model: An analysis of Full- and Limited-Service Upscale Chain Hotels</i>	NFPM at property level	Replication: Regression-based moderated mediation model  Micro-style dataset: property-level data (STR Host reports) merged with internet reviews
Chapter 4	<i>Integrating Customer Satisfaction into Cost and Revenue Management: A Two-Stage DEA of Upscale Chain Hotels</i>	SCA at property level	Two-stage Network DEA  Micro-style dataset: property-level data (STR Host reports) merged with internet reviews
	<u>Publication process:</u> Published Ng, F., Demydyuk, G., Cui, C. (2025). Maximizing Revenue from Satisfaction: Customer-Centric Perspective on Revenue and Cost Management in Hotels, <i>Tourism Economics</i> , 0(0), 1-22. <a href="https://doi.org/10.1177/13548166251372201">https://doi.org/10.1177/13548166251372201</a>		
Chapter 5	<i>Navigating the Evolving Dining Choices: Practical Insights into Analysis of Cruise Passengers' Expectations Using Experience Accounting (EA) Framework</i>	EA at customer level	Extended discourse analysis  Internet reviews (big data)
	<u>Publication process:</u> Published Demydyuk, G., Kaurav, R., Carlbäck, M., & Vejlggaard, H. (2025). From the Galley to Gourmet: The Evolving Dining Choices of Cruise Passengers since the Return of Cruising. <i>Journal of Foodservice Business Research</i> , latest articles, <a href="https://doi.org/10.1080/15378020.2024.2391161">https://doi.org/10.1080/15378020.2024.2391161</a>		
Chapter 6	<i>Surviving Competition: Practical Insights from Experience Accounting (EA) and Machine Learning for Optimizing Profitability in Economy Hotels</i>	EA at customer and product level	Supervised machine learning  Survey data