Chapter 8

Financial Management and Cost Structures in Online Retail 8

Aydın Bağdat¹ Serkan Yücel²

Abstract

Online retail has transformed the landscape of financial management, requiring new approaches to revenue accounting, cost analysis, and profitability metrics. This chapter provides a comprehensive examination of financial management and cost structures in e-commerce, drawing on recent literature and empirical findings. It begins by introducing the unique financial characteristics of online retail and the importance of aligning financial strategy with marketing science insights. We then explore revenue recognition and financial reporting challenges specific to e-commerce, including the timing of revenue, principal-vs-agent considerations, and the treatment of returns and platform sales. Next, we delve into the cost accounting of digital business models, distinguishing fixed versus variable costs and analyzing key cost components such as technology infrastructure, platform fees, and logistics (fulfillment and shipping) expenses. We then examine profitability analysis in the online retail context, highlighting the use of contribution margins for decision-making, the calculation of customer lifetime value (CLV) for longterm profitability, and return on investment (ROI) metrics for evaluating marketing and operational initiatives. This section also examines current research findings and related research in financial management and marketing. The conclusion synthesizes these insights and highlights the need for holistic financial strategies that consider both cost efficiency and customer value to achieve sustainable online retail profitability.

Assoc. Prof., Sakarya University of Applied Sciences, Sakarya Vocational School https://orcid.org/0000-0002-0183-9866, aydinbagdat@subu.edu.tr

² Assoc. Prof., Düzce University, Akçakoca Vocational School, https://orcid.org/0000-0002-8744-5779, serkanyucel@duzce.edu.tr

1. Introduction

The rapid growth of online retail has brought about significant changes in how companies manage finances and cost structures. Global e-commerce sales have expanded dramatically over the past decade, rising from approximately \\$1.3 trillion in 2014 to over \\$4.28 trillion by 2020 and projected to reach about \\$6.39 trillion in 2024. This surge, which accelerated during the COVID-19 pandemic, has increased e-commerce's share of total retail sales from roughly 7% in 2015 to over 18% by 2020. Such growth has made financial management in online retail a critical area of focus for both practitioners and researchers. Online retailers operate under different cost and revenue models compared to traditional brick-and-mortar businesses (Argilés-Bosch et al., 2023). For instance, e-commerce firms tend to have lower labor and in-store costs but higher technology and distribution costs, and they exhibit greater flexibility in adjusting certain expenses. Therefore, reviewing current financial practices in terms of cost management is crucial.

From a marketing science perspective, financial performance in e-commerce is deeply intertwined with customer behavior and digital strategy. Marketing researchers have long advocated metrics like customer lifetime value (CLV) and return on marketing investment to ensure that financial decisions account for long-term customer profitability (Kumar & Shah, 2009). In online retail, these considerations are paramount: many e-commerce businesses operate with thin margins and rely on repeat purchases over time to achieve profitability (Savitri et al., 2023). It is not uncommon for online retailers to invest heavily in customer acquisition (through discounts, free shipping, and digital advertising), incurring shortterm losses in hopes of recouping value over a customer's lifetime (Pfeifer et al., 2005). Therefore, an integrative understanding of accounting principles and marketing insights is necessary to navigate the financial complexities of the online retail model. The development of this integrated understanding should be supported by educational policies that reflect students' strong belief in the indispensable role of accounting in professional practice and their positive attitudes toward the potential of digitalization to facilitate learning processes (Senol et al., 2025). For accounting professionals to successfully fulfill these complex financial roles, it is critically important for their professional well-being that they possess not only technical knowledge but also key personality traits such as effective communication (extraversion) and a propensity for teamwork (agreeableness) (Baral, 2024).

This chapter is structured to provide a comprehensive overview of financial management and cost structures in online retail. It outlines how e-commerce

companies define revenue and report financial results. It highlights topics such as revenue timing, gross and net reporting, and the impact of product returns. It then analyzes the cost structures of digital business models, distinguishing between fixed costs (e.g., platform development, fixed overhead) and variable costs (e.g., payment processing fees, commissions, logistics), and examining how these differ from traditional retail. Because many online retailers operate through marketplaces or utilize hybrid models involving third-party sellers, the study will focus specifically on platform fees and commissions. These regulations significantly impact both revenue and cost accounting. It then describes profitability analysis methods suitable for e-commerce, including contribution margin analysis for products or orders, CLV calculations for customer segments, and return on investment (ROI) metrics to evaluate marketing or technology investments.

2. Revenue Recognition and Financial Reporting in E-Commerce

Financial reporting in online retail must adhere to standard accounting principles (such as IFRS 15 or ASC 606 on revenue from contracts) while also accommodating the unique aspects of digital transactions. Revenue recognition in e-commerce can be more complex than in traditional retail due to multi-party arrangements (e.g. marketplace platforms), the timing of delivery (digital vs. physical goods), and high rates of returns. This section discusses how e-commerce companies recognize revenue and report performance, focusing on key issues like the principal-versus-agent distinction, gross merchandise value versus net revenue, and the accounting for returns and refunds.

Principal and Agent Considerations: A fundamental question for online retailers, especially those operating marketplaces or drop-shipping models, is whether the company acts as the principal in a sale (selling goods to the customer) or an agent (facilitating a sale between third-party seller and customer). Under accounting standards, this determination drives whether revenue is reported on a gross or net basis. If the firm is a principal, it records the total transaction amount as revenue; if an agent, it records only the commission or fee earned. The criteria hinge on control of the goods or services and exposure to risks. IFRS 15, for example, requires an entity to identify each specified good or service and determine control - providing guidance and indicators to assess if the company controls the product before transfer or merely arranges the sale on behalf of a vendor (IFRS Foundation, 2014). The consequences of this assessment are significant: "The determination of whether an entity is a principal or an agent leads to an entity recognizing revenue either gross or net of amounts payable to the

supplier, which affects profit margins" (IFRS Foundation, 2024). In such critical financial reporting decisions, ensuring reliability and managing risks largely depends on the existence and effectiveness of institutional internal control systems such as COSO (Çakırsoy & Baral, 2022). Differences in principal/agent judgments can thus alter reported revenue and complicate comparisons across companies. For instance, Amazon.com sells some products as a retailer (principal) but also hosts third-party marketplace sales as an agent; in the latter case, Amazon reports only the fees it charges sellers as revenue, not the full customer payment. Amazon's disclosures indicate that it bases its gross vs. net reporting on this principal-agent evaluation, which has been a focus of regulatory scrutiny. In one SEC inquiry, Amazon had to explain how it determines principal vs agent for digital content and clarify whether revenues from services like Prime, AWS, advertising, and third-party seller fees are recognized at once or over time. The broader implication is that online retail financial reporting must clearly delineate different revenue streams - direct sales, marketplace commissions, subscription services, etc. - and apply appropriate recognition policies for each (Butler, 2018). Public companies often supplement their financial statements with metrics such as gross merchandise value (GMV) to provide context. GMV represents the total value of goods sold via the platform (including third-party sales) and is commonly tracked in e-commerce to indicate scale, even though it may not equal recognized revenue (Hayes, 2025). GMV is "the total value of goods sold on e-commerce platforms, accounting for business growth but not actual net revenue". For example, in 2021 Amazon's gross merchandise volume was estimated at over \\$490 billion, while its reported net sales were much lower, reflecting that a substantial portion of transactions were thirdparty sales where Amazon acted as an agent. Analysts and investors pay attention to GMV and the take rate (commission as a percentage of GMV) as indicators of a platform's economic reach and monetization efficiency (Fernando, 2025). However, only the net commissions contribute to the firm's revenue, reinforcing how principal/agent accounting can cause revenues to diverge from underlying sales activity (IFRS Foundation, 2024). Clear disclosure of these dynamics in financial reports is crucial for understanding an online retailer's performance.

Timing of Revenue Recognition: Another important aspect is when e-commerce revenue is recognized. In online retail, revenue is typically recognized at the point when control of the goods or services transfers to the customer - which, for physical products, is often upon delivery (or shipment, depending on shipping terms), and for digital goods or services, when the service is rendered or access provided (IFRS Foundation, 2014).

Under IFRS 15's five-step model, e-commerce companies must identify performance obligations (e.g. delivering a product) and recognize revenue when those obligations are satisfied (usually a point-in-time recognition for retail product sales). If an online retailer sells a product that it will ship to the customer, revenue is generally recognized when the product is delivered to the customer's control. Some e-commerce firms consider the shipping of goods as the point of transfer (FOB shipping point) if the customer assumes control and risk at shipment; others may wait until actual delivery. The correct timing ensures that revenue figures in financial statements reflect what has been earned within the period, an especially non-trivial determination in cases of pre-orders, backorders, or digital content delivery. Notably, software-as-a-service (SaaS) models and digital content sales in online retail may require recognizing revenue over subscription periods or as customers consume the service, rather than upfront, aligning with performance obligations (Cordoba et al., 2022).

Returns and Refunds: High return rates in e-commerce create challenges for revenue recognition and require robust estimates and disclosures. Online purchases tend to have significantly higher return rates (often 15-30% in categories like apparel) than in-store purchases (NRF & Appriss Retail, 2023). Accounting standards dictate that revenue be recognized net of expected returns. IFRS 15 specifically provides that companies should not recognize revenue for goods expected to be returned, and instead must record a refund liability for the expected refunds and a corresponding asset for the right to recover products from customers. In practice, when an e-commerce sale occurs, the retailer will estimate how many units (or what dollar value) will likely be returned based on historical return rates and current information. For the portion expected to be returned, revenue is not booked; instead, a liability is recorded for the refund obligation and an asset (often inventory) for the item's expected recovery (PricewaterhouseCoopers, 2014). For example, if an online fashion retailer sells 100 items and expects 20% to be returned, it will only recognize revenue on the 80 items kept by customers and set up a liability for the 20 returns. This treatment ensures that the income statement reflects net sales and the balance sheet shows the obligations and assets related to potential returns. Empirical data suggest that managing returns effectively is vital for profitability in e-commerce, given the significant costs they incur (Savitri et al., 2023). Many online retailers have begun tightening return policies or charging return fees to mitigate these costs (NRF & Appriss Retail, 2023). Financially, the gross profit impact of returns can be substantial: not only must the revenue be reversed, but costs like shipping (often not refunded) and handling of returns

add to expenses. Financial reporting standards help by clarifying that returns are a form of variable consideration - revenue is recognized only to the extent it is highly probable that it will not be reversed (IFRS Foundation, 2014). As such, online retailers with generous return policies must disclose their methodology for estimating returns and may highlight net sales after returns as a key performance metric in earnings reports.

Financial Statement Presentation and Disclosures: E-commerce companies often augment their financial statements with additional metrics and segmentation to give a fuller picture of performance. For instance, firms might report net sales by category (e.g. product sales vs. service revenue), gross merchandise value (to show total platform volume), and key ratios like gross margin and operating margin. Because digital businesses can scale rapidly, investors look at growth rates in active customers, order volumes, and take rates. Accounting rules now also require relevant disclosures: under IFRS 15, companies must disclose remaining performance obligations for things like gift cards or loyalty point liabilities and significant judgments made in revenue recognition.

Overall, e-commerce financial reporting requires combining standard accounting rigor with an appreciation for the digital context: multi-actor platforms, intangible service elements, and customer-centric metrics. By adhering to these principles and clearly communicating key metrics, online retailers can provide an accurate and insightful view of their financial performance.

3. Cost Accounting For Digital Business Model

Online retail presents a different cost structure compared to traditional retail, characterized by different fixed and variable cost ratios and new expense categories. This section will examine cost accounting for digital business models, focusing on the mix of fixed and variable costs and key cost components such as platform fees, technology infrastructure, and logistics (fulfillment and delivery costs). Understanding these cost structures is crucial for pricing, budgeting, and achieving profitability in e-commerce.

Fixed vs. Variable Costs in E-Commerce: In any business, fixed costs are those that do not change with sales volume (at least in the short run), whereas variable costs scale with the level of output or sales. E-commerce has a cost profile both similar to and different from brick-and-mortar retail in interesting ways. Some traditional fixed costs like physical store rent and in-store labor are greatly reduced (or eliminated) for pure online players, effectively replaced by technology and fulfillment infrastructure costs

which often have a high fixed-cost component (such as building a website, maintaining servers, or leasing warehouse space). Labor costs for e-commerce tend to be more flexible as well - while fewer sales staff are needed, there may be warehouse and customer service staff whose numbers can adjust with volume (Argilés-Bosch et al., 2023). Certain costs in e-commerce are variable and increase with sales volume. For example, shipping and packaging costs for each order, payment processing fees, and marketplace commissions if the retailer uses third-party platforms are variable costs.

Platform Fees and Commissions: Many online retailers do not operate fully independently but instead interact with platforms and marketplaces that charge fees. These fees are an important part of cost structure (or contra-revenue). For example, sellers on marketplaces like Amazon, eBay, or Etsy pay listing fees, referral commissions on each sale, and sometimes fulfillment service fees (if they use services like Fulfillment by Amazon). These marketplace fees can be significant – commissions typically range from around 6% up to 15% of the product's price for many categories on Amazon (with some categories even higher, up to 45% for certain low-price add-on items or specialized services) (Cloud Interactive, 2024). In practical terms, if an online retailer chooses to list products on a third-party marketplace, it must account for these fees when setting prices and projecting margins. For instance, a 10% platform fee on a \\$100 item reduces the net revenue to \\$90 before any other costs. In cost accounting, such fees can be treated as variable costs linked to sales on that channel. Payment processing fees (e.g. credit card transaction fees or PayPal fees) similarly take a percentage (often ~2-3%) of transaction value (Cloud Interactive, 2023).

In summary, platform fees and digital service costs have become a new "cost of doing business" in retail. For financial management, this means negotiating favorable fee arrangements when possible, optimizing sales mix (e.g. encouraging customers to use the channel with lower fees), and incorporating these fees into product pricing decisions. Many online retailers set higher prices on marketplaces to compensate for fees, while offering lower prices on their own sites, effectively passing some savings to customers to encourage direct buying.

Logistics and Fulfillment Costs: One of the largest cost categories in online retail is logistics - which includes warehousing, order fulfillment (picking and packing), shipping, and handling of returns. These costs are largely variable or volume-driven, but they have components of fixed investment (like automation systems in a warehouse or long-term shipping contracts). Traditional retailers incur logistics costs too (shipping goods to stores, inventory holding, etc.), but e-commerce adds the last-mile delivery and individualized packing for each customer order. According to industry analyses, fulfillment and shipping can account for 15-25% of an online retailer's net sales for physical goods, though this varies widely by product type and company efficiency (AlixPartners & WRC, 2023).

For cost accounting, companies often separate fulfillment costs (internal handling and outbound freight) and account for them either in cost of goods sold or as a separate fulfillment expense line. Some firms treat outbound shipping as a cost of sales (especially if they do not separately charge customers for shipping), whereas others (like Amazon) report fulfillment (which includes picking, packing, and shipping costs) as an operating expense. Either approach has to reflect the economic reality: free shipping is not free to the retailer; it's an expense that must be covered by the margins on products or by charging elsewhere.

Technology and Overhead Costs: A sizable fixed cost in online retail is technology development and maintenance. Building and operating an e-commerce platform involves web development, IT infrastructure, cybersecurity, and software licenses. These costs behave mostly as fixed or step-fixed costs - they don't increase directly with each sale, but periodic upgrades or scaling (adding servers) might create jumps. Many e-commerce companies capitalize some development costs (amortizing them over time) and expense others as incurred. For financial planning, it's important to project these IT costs as the business grows (Savitri et al., 2023).

Cost structures in online retail are distinguished by lower physical storefront costs but higher costs in technology and delivery. Fixed costs like platform development and warehouse leases must be covered by sufficient volume - leading many e-commerce players to chase growth and scale economies. Variable costs like the cost of goods sold (COGS), shipping, payment fees, and marketplace commissions directly impact contribution margins and require careful management (negotiating better rates, optimizing packaging, etc.). An intimate understanding of these costs allows e-commerce firms to implement tactics such as dynamic pricing, customer segmentation and operational improvements. This careful management necessitates the identification and accounting of quality costs (prevention, appraisal, internal failure, and external failure) in order for businesses to enhance their competitive strength and sustain profitability (Baral, 2024).

4. Profitability Analysis in Online Retail: Contribution Margins, Customer Lifetime Value and ROI

Achieving profitability in online retail requires analyzing not just aggregate financial statements but also granular metrics that capture per-product, per-order, and per-customer economics. Marketing science and financial management intersect strongly here, through concepts like contribution margin analysis, customer lifetime value (CLV), and return on investment (ROI) for various activities. This section will cover how these tools are used to evaluate and increase profitability in e-commerce.

Contribution Margin and Unit Economics: Contribution margin (CM) is a vital metric for understanding profitability at the product or unit level. It is defined as sales revenue minus variable costs for a product or service, representing how much is left to cover fixed costs and contribute to profit. In formula form;

Unit CM = Price - Variable Cost per unit.

The contribution margin ratio is CM divided by price, indicating the percentage of each sales dollar that is margin (Farris et al., 2010). Online retailers frequently compute contribution margins for individual SKUs, product categories, or even per order. Because e-commerce often involves selling a large assortment and running promotions, knowing the contribution margin helps avoid selling at an unintended loss.

Economies of scale can help by spreading fixed costs (like a warehouse or software platform) over more units, thereby not affecting CM directly but improving net profit as volume increases. Argilés-Bosch et al. (2023) found e-commerce firms can adjust operating costs more flexibly as sales fluctuate, which suggests they can protect contribution margins during downturns by cutting semi-variable costs (like reducing marketing spend or scaling back temporary fulfillment labor). This flexibility in cost structure is an advantage in profitability management for e-commerce.

Customer Lifetime Value (CLV): While contribution margin looks at per-unit or per-order profitability, Customer Lifetime Value takes a customer-centric view by estimating the total profit a customer will generate during their entire relationship with the firm (Berger & Nasr, 1998; Gupta et al., 2004). Marketing science has provided sophisticated models to estimate and maximize CLV (Rust et al., 2004; Kumar & Shah, 2009). One key insight is that retention and loyalty are critical drivers of lifetime value: higher retention rates (or purchase frequency) significantly boost CLV. Online retailers often use subscription models (e.g., Amazon Prime)

or loyalty programs to increase purchase frequency and lock in retention, thereby increasing CLV. They also analyze customer purchase patterns to predict who is likely to churn or who could be upsold to more value. For instance, Kvíčala et al. (2024) employed a multilevel model on e-shop data and found that variables like number of transactions, average days between purchases, and even traffic source (direct vs. via campaigns) have predictive power for CLV in e-commerce. Customers coming directly to the site and making frequent purchases tend to have higher CLV than those acquired through one-off campaigns or social media ads (Kvíčala et al., 2024).

Return on Investment (ROI) Metrics: Finally, we consider ROI as a key measure of profitability and efficiency. ROI is a generic metric defined as net return (gain) from an investment divided by the cost of the investment, usually expressed as a percentage (Fernando, 2025). In formula terms;

 $ROI = Net Profit / Investment Cost \times 100\%$.

It is used to evaluate a wide range of decisions - from marketing campaigns to capital expenditures - by comparing the returns generated to the resources spent.

ROI provides a convenient percentage to compare different investments, but it does not account for scale or time duration. A small project might have a very high ROI but contribute little total profit, whereas a large project might have moderate ROI but high absolute profit. E-commerce financial analysts often use ROI alongside other metrics like payback period, NPV (net present value), and IRR when making investment decisions.

Financial management in online retail uses ROI analysis to ensure that resources are being allocated efficiently to the highest returns. As AlixPartners (2023) noted, many retailers invested heavily in digital capabilities in recent years but often without robust ROI measurement, resulting in profit dilution[30]. In their survey, only about 48% of retail executives measured the true costs and benefits of omnichannel initiatives, implying that the rest may have been investing in e-commerce growth without clear ROI accountability.

In conclusion, profitability analysis in the online retail sector leverages both traditional accounting measures and marketing science metrics. Contribution margin analysis ensures each sale or product meets margin requirements and helps optimize pricing and product mix. Customer lifetime value provides a strategic, long-term perspective on profitability, guiding customer acquisition and retention investments by focusing on lifetime profit, not just immediate transactions. And ROI metrics offer a unifying

language to evaluate the effectiveness of various initiatives – be it marketing campaigns, customer acquisition programs, or infrastructure investments – in financial terms. By using these tools in tandem, online retail managers can make data-driven decisions that drive sustainable profitability.

5. Conclusion

The evolution of online retail has necessitated a rethinking of financial management practices and cost structure analyses. This chapter has presented a detailed overview of how e-commerce businesses recognize revenue, manage costs, and analyze profitability, all through an academic lens that integrates accounting standards and marketing science insights.

Online retailers must apply revenue recognition principles in scenarios that often involve multi-sided platforms, intangible digital goods, and generous return policies. As discussed, determining whether the firm acts as a principal or agent in transactions is critical to revenue reporting, affecting both the top line and profit margins. The treatment of returns is another critical area - e-commerce firms typically face higher return rates and thus must carefully estimate and defer revenue for expected returns. The financial reports of online retailers benefit from supplemental disclosures (gross merchandise value, segment revenues, etc.) that provide transparency into underlying business dynamics beyond the net revenue figures. Ultimately, adherence to accounting standards combined with clear communication of e-commerce-specific metrics helps stakeholders appreciate the performance and risks of the online retail business model.

The cost structure of online retail differs markedly from that of traditional retail. We saw that costs like rent and in-store personnel are largely absent, while new costs – technology, fulfillment, shipping, and platform fees – take center stage (Rodrigue, 2024). E-commerce has a high proportion of variable costs associated with each transaction (e.g., payment processing, picking and packing, last-mile delivery), making cost-per-order a vital metric. At the same time, significant fixed costs exist in building and maintaining the digital and logistical infrastructure. The flexibility to scale and adjust these costs has been highlighted as allowing e-commerce firms to reduce certain operating costs more easily during recessionary periods than traditional firms.

Retailers are responding with strategies such as outsourcing to third-party logistics (to convert fixed costs into variable costs), investing in automation (to reduce variable labor cost per order), and re-thinking service levels (e.g., encouraging click-and-collect models which have lower variable costs than home delivery). Financial management in this realm involves continuously

monitoring cost drivers and seeking productivity gains so that the economic value of e-commerce sales is not eroded by their cost to serve.

Unlike in traditional financial analysis which might focus purely on products or departments, online retail success heavily depends on customer-centric metrics. We discussed how contribution margin provides a foundation for understanding profitability at a micro level, but customer lifetime value (CLV) extends that view to capture long-term profitability from customer relationships. By aligning marketing strategies with financial goals (for example, not just acquiring customers, but acquiring profitable customers), online retailers can avoid the trap of chasing revenue at the expense of margin.

In sum, financial management in online retail requires a holistic and dynamic approach. It demands mastery of accounting rules (to properly recognize revenue and liabilities), astute cost management (to navigate a cost structure that is both technologically intensive and service-oriented), and the incorporation of marketing science tools (like CLV and ROI) to ensure that growth translates into value. As e-commerce evolves (with trends like omnichannel retail, social commerce, and new fulfillment technologies such as drones or dark stores), continuous research is needed to update cost and revenue models. Moreover, emerging concerns such as data privacy regulations or environmental costs (e.g., handling of returns and packaging waste) may introduce new kinds of liabilities and costs that financial managers must account for. The integration of environmental, social, and governance (ESG) metrics into financial reporting may soon require online retailers to quantify the cost of returns or delivery in terms of carbon footprint and incorporate those into decision-making

In conclusion, online retail has brought both unprecedented scale and efficiency and new challenges to financial management. By leveraging rigorous financial accounting practices and marrying them with marketing analytics and strategic insights, online retailers can design cost structures and revenue models that not only drive top-line growth but also deliver healthy bottom-line results.

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Assoc. Prof. Aydın Bağdat serves as a faculty member at the Sakarya Vocational School of the Sakarya University of Applied Sciences. He completed his bachelor's degree in Business Administration at the Faculty of Economics and Administrative Sciences, Sakarya University, in 2003. In the same year, he entered the private sector and worked for an international company between 2003 and 2010 in the accounting, logistics, quality, and customs departments; during this period, he obtained his Certified Public Accountant (SMMM) license. He earned his master's degree in Accounting and Finance in 2008 and his PhD in Accounting and Finance in 2019, both from Sakarya University. He has authored numerous conference papers, journal articles, books, book chapters, and projects on accounting, finance, and taxation. He has held various roles in non-governmental organizations and continues to provide consultancy and training services in the private sector.

Assoc. Prof. Serkan Yücel serves as a faculty member at Akçakoca Vocational School, Düzce University. He completed his bachelor's degree in Accounting and Finance Education at the Faculty of Commerce and Tourism Education, Gazi University, in 2004. In 2006, he began his teaching career within the Ministry of National Education, where he served at various levels between 2006 and 2011. He joined Düzce University in 2011 as a lecturer and completed his master's degree in 2013 and his PhD in 2018 in the Department of Business Administration at Düzce University. He has authored numerous conference papers, journal articles, books, and book chapters on accounting, finance, and taxation.