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Activity-Based Costing for Higher Education Institutions in Europe: A Literature Review with a Focus on Albania

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Abstract: Objectives: This study aims to systematically review the adoption of Activity-Based Costing (ABC) in higher education institutions (HEIs) across Europe, with a focus on Albania. It seeks to evaluate the extent of ABC implementation, identify its benefits, and highlight challenges faced by HEIs in improving cost transparency and financial sustainability. **Prior Work:** Activity-Based Costing (ABC) has been recognized as a method to enhance cost allocation accuracy in organizations, including HEIs. Unlike traditional costing methods, ABC assigns costs to specific activities, providing a more granular understanding of resource utilization, particularly in complex environments like higher education. **Approach:** This study employs a systematic literature review methodology, analyzing peer-reviewed studies from 2010 to 2024. The review focuses on ABC implementation in European HEIs, with a particular emphasis on Albania, to assess adoption patterns, benefits, and barriers in both Western and Eastern European contexts. **Results:** The review finds that Western European countries, have increasingly adopted ABC to enhance cost transparency and operational efficiency in HEIs. In contrast, Eastern European nations, including Albania, rely heavily on traditional costing methods, constrained by resource limitations, centralized funding models, inadequate data infrastructure, and limited managerial expertise. The findings suggest that ABC could improve financial sustainability in Albanian HEIs but requires overcoming significant barriers. **Implications:** This study contributes to the literature on ABC in higher education by highlighting regional disparities in adoption and identifying specific challenges in transitioning economies like Albania. It underscores the need for capacity-building and policy support to facilitate ABC implementation and align Albanian HEIs with European higher-education frameworks. **Value:** The study provides valuable insights for HEI administrators and policymakers by identifying the potential of ABC to enhance cost management and financial sustainability. It also highlights areas for improvement in Albanian HEIs, offering a foundation for future case studies and regional strategies to support ABC adoption in transitioning economies.

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Keywords: Activity-Based Costing; Higher Education Institutions; Cost management; Cost transparency; Traditional costing methods

JEL Classification: M43, I23

1. Introduction

1.1. Definition of Activity-Based Costing

Activity-Based Costing (ABC) is a flexible costing methodology that allocates costs to activities based on their consumption of resources and then assigns these costs to cost objects, such as products, services, or programs, based on their use of those activities (Kaplan & Anderson, 2004). This approach contrasts sharply with traditional costing methods, which typically rely on simplistic, volume-based cost drivers, such as direct labor hours (Cooper & Kaplan, 1988) or student enrollment numbers for universities. Traditional methods often fail to capture the complexity of resource usage in multifaceted organizations, leading to cost distortions that can mislead decision-making (Horngren et al., 2012). For instance, in higher education institutions (HEIs), where indirect costs such as facility maintenance, administrative support, and library services are substantial, ABC provides a more accurate reflection of resource consumption across diverse activities. By identifying specific cost drivers, such as the number of research projects or student contact hours, ABC ensures that costs are traced more precisely to the activities that generate them (Turney, 1991).

1.2. Importance of ABC in Cost Management

The importance of ABC in cost management within HEIs cannot be overstated, given the intricacy of their operations and funding structures. Universities engage in a wide array of activities, including teaching, research, community outreach, and administrative functions, each with distinct resource demands (Cropper & Cook, 2000). Traditional costing often aggregates these costs into broad categories, obscuring the true expenses of individual programs or services (Hilton et al., 2019). Activity-based costing addresses this by offering detailed insights into cost behavior, enabling institutions to identify inefficiencies, optimize resource allocation, and enhance budgeting processes (Ellis-Newman, 2003). For example, a university might use ABC to determine that a particular undergraduate program is disproportionately expensive because of high administrative overhead, prompting a reallocation of resources or a revision of tuition fees. Studies have shown that ABC can lead to significant cost savings and improved decision-making, as it empowers managers with data to prioritize high-value activities while reducing wasteful expenditures (Innes & Mitchell, 1995). In an era of tightening budgets and increasing

accountability, such precision is invaluable for HEIs across Europe and Albania, which has also seen decreasing levels of expenses for education.

1.3. Studying Activity-Based Costing in Europe

Europe offers a compelling context for examining ABC in higher education because of the heterogeneity of its higher education systems, which span centralized models in countries like France to decentralized frameworks in nations like Germany and the Netherlands (Estermann & Nokkala, 2009). This diversity creates a natural laboratory for analyzing how institutional structures, governance models, and funding mechanisms influence the adoption and efficacy of ABC (Bleiklie et al., 2017). Moreover, the European Union's strategic frameworks, such as the Lisbon Strategy and the Europe 2020 Agenda, emphasize efficiency, transparency, and accountability in public sector spending, including higher education (European Commission, 2010). These policies have spurred interest in advanced costing methods such as ABC, as universities seek to demonstrate value for money to governments, taxpayers, and students (Eurydice, 2020). For instance, in countries with performance-based funding, such as the United Kingdom, ABC can help institutions align costs with outcomes and enhance their competitiveness (Hazelkorn, 2015). Studying ABC in Europe provides insights into its adaptability across different regulatory and cultural landscapes, offering lessons for both policy and practice.

1.4. Focus on Albania: Objectives and Scope

This review focuses on Albania, a Southeast European nation undergoing significant transformation in its higher-education sector. Since joining the Bologna Process in 2003, Albania has pursued reforms to align with European standards, including increasing institutional autonomy and modernizing governance (Treska & Canaj, 2013). However, challenges persist, such as chronic underfunding, aging infrastructure, and a shortage of managerial expertise, all of which hinder financial management (World Bank, 2019). This review has three objectives: to assess the current state of ABC adoption in Albanian HEIs, to compare this with broader European trends, and to explore the opportunities and barriers to its implementation in this context. The scope encompasses peer-reviewed studies, reports, and policy documents from 2010 to 2024, ensuring a focus on contemporary issues in the field. By examining Albania, this study aims to shed light on how transitioning economies can leverage ABC to improve higher-education efficiency, drawing parallels with more developed European systems (Kallio et al., 2016).

2. Methodology

2.1. Literature Selection Process

A systematic literature review was conducted to synthesize existing research on ABC in European HEIs, with a specific focus on Albania. The process adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and reproducibility (Moher et al., 2009). This involved a multistage approach: initial database searches, title and abstract screening, full-text eligibility assessment, and data extraction. The systematic nature of this method minimizes bias and provides a robust foundation for the review findings (Page et al., 2021).

2.2. Databases and Time Range

The review drew on four major academic databases: Google Scholar, JSTOR, EBSCOhost, and Scopus. These platforms were selected for their extensive coverage of journals and reports in education, management, accounting, and economics, which are the disciplines central to this study (Booth et al., 2016). The time range was restricted to publications between 2010 and 2024, reflecting the period of significant reform in European and Albanian higher education, including the aftermath of the 2008 financial crisis and subsequent EU policy shifts (European Commission, 2010). This timeframe ensured that the analysis captured current practices and challenges.

2.3. Keywords Utilized

The search strategy employed a combination of keywords to target relevant literature: “Activity-Based Costing,” “ABC,” “higher education,” “universities,” “Europe,” “Albania,” “cost management,” and “accounting practices.” These terms were combined using Boolean operators (e.g., “Activity-Based Costing AND higher education AND Europe”) to narrow the scope and enhance precision, as Lefebvre et al. (2019) have explained. Variations such as “activity-based costing” and “HEIs” were also included to account for different terminologies used in the literature.

2.4. Inclusion and Exclusion Criteria

The inclusion criteria were carefully defined to ensure relevance and quality: (1) studies must focus on ABC in the context of higher education institutions; (2) they must be published in English or Albanian to align with the linguistic scope of the review; and (3) they must be peer-reviewed articles, conference papers, or authoritative reports from recognized organizations (e.g., World Bank, European University Association). The exclusion criteria eliminated studies that (1) did not

specifically address ABC or higher education, (2) were published before 2010, or (3) lacked peer review or credible authorship. These criteria filtered out tangential or outdated studies, ensuring a high-quality evidence base.

3. Literature Review on Higher Education Institutions

3.1. Overview of ABC Implementation in Europe

The adoption of ABC in European HEIs has been documented across various countries, reflecting a growing recognition of its potential to enhance financial management in the sector. Lutilsky and Dragija (2012) surveyed Croatian universities, finding that while ABC adoption was limited, interest was rising due to its ability to pinpoint cost drivers in complex academic environments. Similarly, López Rodríguez and Antonio Rodríguez Samaniego (2018) explored ABC in Spanish universities, noting its effectiveness in allocating overhead costs, such as utilities and IT services, across departments, thereby improving transparency. In the UK, Goddard and Ooi (1998) reported early experiments with ABC in universities facing funding cuts, highlighting the method's role in identifying cost-saving opportunities. These studies collectively underscore ABC's emerging role in Europe, although its implementation varies by country and institution type (Mitchell, 1996).

3.2. Adoption Rates Across Countries

Adoption rates of ABC differ across Europe and are influenced by institutional capacity and policy priorities. The European University Association (2015) estimated that approximately 20% of Western European universities, particularly in the Netherlands, Germany, and Scandinavia—have adopted the ABC or similar full-costing methods, compared to just 5% in Eastern Europe. For instance, in the Netherlands, universities such as Utrecht have integrated ABC into their financial systems to comply with national performance-based funding models (Van der Kolk et al., 2019). Conversely, in Eastern European countries, such as Romania and Bulgaria, adoption remains low because of centralized funding systems and limited managerial autonomy (Matei & Iwinska, 2016). These disparities highlight the role of structural and economic factors in shaping ABC vaccine uptake (Deem et al., 2007).

3.3. Sector-Specific Insights

ABC's application varies between research-intensive and teaching-focused HEIs, reflecting their distinct operational priorities and needs. In research-intensive

universities, ABC is often used to disentangle the costs of teaching and research, which frequently share resources such as faculty time and laboratory facilities (Ellis-Newman, 2003). In teaching-focused institutions, ABC is more commonly applied to evaluate program-specific costs or administrative efficiency. This flexibility makes the ABC a versatile tool that can be adapted to the diverse missions of European HEIs (Parker, 2011).

3.4. Challenges Faced by Institutions

The implementation of ABC poses significant technical and organizational challenges. Technically, it demands detailed data collection, for example, tracking time spent on specific activities, and the development of tailored cost drivers, which can strain institutional resources (Lutitsky & Dragija, 2012). Organizationally, resistance from staff accustomed to simpler costing methods or wary of increased scrutiny poses cultural barriers (Ellis-Newman, 2003). Smaller HEIs, such as regional colleges, often lack the financial or human capital to sustain ABC, while larger universities may struggle to coordinate data across decentralized units (Hopper & Major, 2007). Additionally, the initial investment in training and software can deter adoption, particularly in budget-constrained environments (Adams, 1996).

3.5. Benefits of ABC Implementation

Despite these hurdles, ABC offers substantial benefits. A Dutch university reduced administrative costs by 15% after using ABC to identify redundant processes, such as overlapping student-support services (Van der Kolk et al., 2019). In Germany, Krüger and Hommel (2012) found that ABC enabled a university to reallocate funds from low-impact activities to high-priority research, thereby enhancing financial sustainability. Beyond cost control, ABC improves transparency, as seen in a Finnish case where it clarified the cost of international student programs, aiding negotiations with funding bodies (Kallio & Kallio 2014). These examples demonstrate ABC's capacity to align resource use with institutional goals, making it a powerful tool for HEIs in Europe.

4. Literature Review: Albania

4.1. Current State of ABC in Albanian Institutions

Evidence of ABC adoption in Albanian HEIs is sparse, reflecting the country's nascent stage of financial-management reform. Treska and Canaj (2013) observed that while Albanian universities have progressed under the Bologna Process, for example, adopting European credit systems, their accounting practices remain

rudimentary, relying heavily on traditional methods such as absorption costing. A report by the Albanian Ministry of Education and Sports (2020) acknowledged the need for modern tools to address inefficiencies; however, no specific mention of ABC was made. This suggests that Albanian HEIs are still focused on compliance with external standards rather than internal management innovation (Sporn, 2007).

4.2. Comparative Insights from Available Studies

In the absence of direct studies on ABC in Albanian HEIs, insights can be inferred from analogous contexts. Nouroozi et al. (2013, 2016) analyzed ABC in Iranian hospitals, a sector in a transitioning economy like Albania's, finding that while ABC improved cost accuracy, implementation was stymied by poor data infrastructure and staff training deficits—issues likely mirrored in Albanian universities (World Bank, 2019). Similarly, a study of Bulgarian public institutions noted that modern costing methods were underutilized because of centralized control and resource scarcity (Petkov, 2015). These parallels suggest that Albania's HEIs face comparable structural and cultural barriers to the adoption of ABC.

5. Comparative Analysis

5.1. Albania vs. European Trends

Albanian HEIs lag significantly behind their Western European counterparts in ABC adoption. In countries such as the Netherlands and Germany, ABC is embedded in financial systems to meet accountability demands (Van der Kolk et al., 2019), whereas in Albania, universities grapple with basic funding and operational challenges (World Bank, 2019). Western Europe benefits from greater institutional autonomy, robust funding, and managerial expertise, enabling ABC uptake, whereas Albania's centralized system and economic constraints limit such advancements (Eurydice, 2020). This gap reflects a broader divide between mature and transitioning higher-education systems.

5.2. Gaps in ABC Adoption

Several gaps impede the adoption of ABC in Albania. There is no regulatory mandate or incentive for modern costing methods, unlike in Western Europe, where EU policies encourage efficiency (Treska & Canaj, 2013). Access to training, software, and technical support is limited, and awareness of ABC's benefits among administrators appears to be low (Ministry of Education and Sports, 2020). Furthermore, the absence of a culture of data-driven decision-making exacerbates

these challenges (Hazelkorn, 2015). Addressing these gaps requires targeted policy and capacity-building efforts.

5.3. Institutional acceptance in Albania

Albanian HEIs lack the infrastructure, such as integrated data systems and expertise needed for ABC, reflecting years of underinvestment (World Bank, 2019). However, the 2015 Law on Higher Education, which grants universities more autonomy, signals the potential for change (Ministry of Education and Sports, 2020). For instance, the University of Tirana has piloted performance metrics, a step toward data-driven management that could support the ABC (Kaso, 2018). However, readiness remains low without significant investment in technology and training (Bleiklie et al., 2017).

5.4. Economic Factors Influencing ABC

The economic realities heavily influence the ABC prospects in Albania. Public funding for higher education is among the lowest in Europe, at roughly 0.5% of GDP, compared to the EU average of 1.3% (World Bank 2019). Below, we can see a small difference in public funding during the years 2010-2024. The sources include official reports, data from international organizations, and estimates based on documents from the Albanian government.

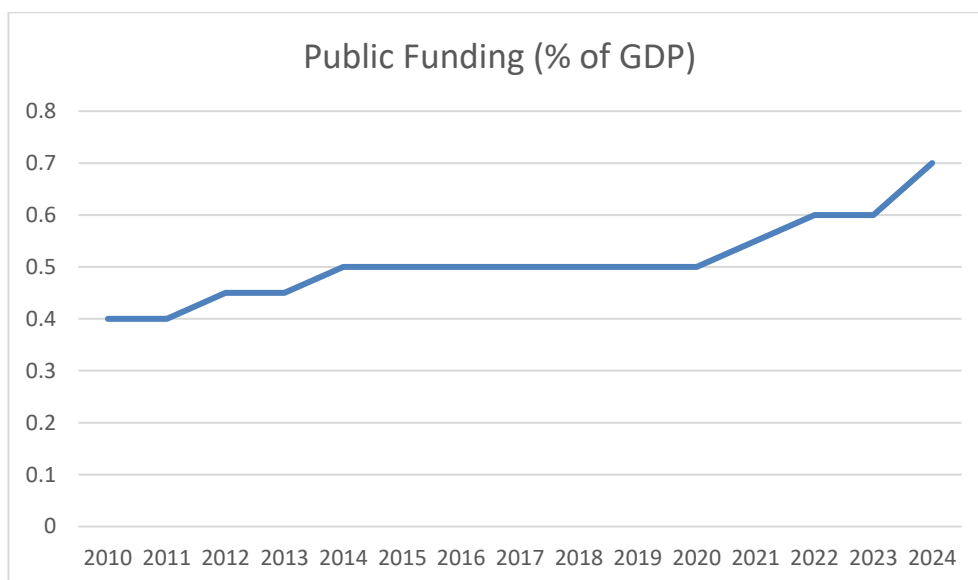


Figure 1. Education public funding expenditures as a % of GDP

Source: World Bank, European Commission, Ministry of Education and Sports, Albania, Ministry of Finance and Economy, Albania, United Nations

This scarcity, coupled with a reliance on tuition fees, prioritizes short-term survival over long-term investments, such as ABC (Eurydice, 2020). In contrast, Western European countries can leverage larger budgets and EU grants to fund initiatives (European Commission, 2010). Albania's economic context thus poses a formidable barrier to the adoption of ABC.

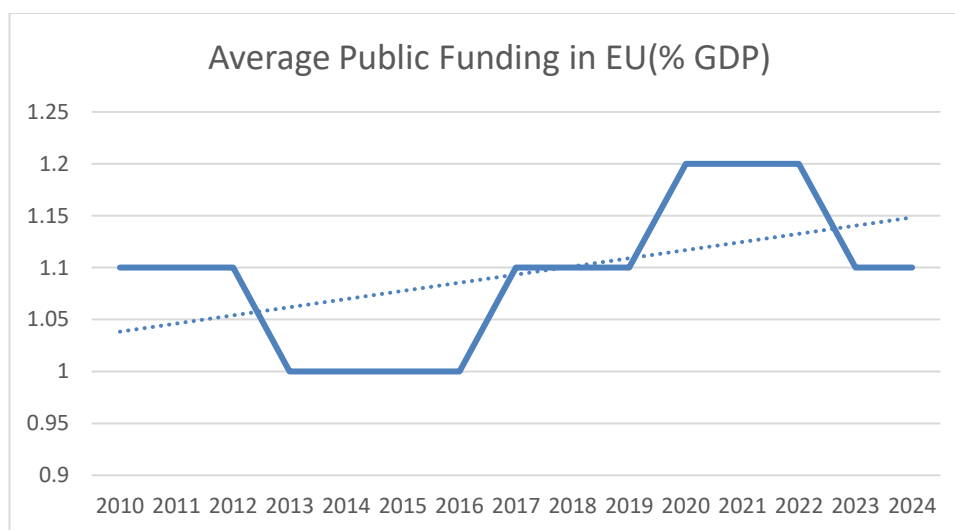


Figure 2. Average Education public funding in EU as a % of EU GDP

Source: Eurostat, World Bank and European Commission

6. Discussion

6.1. Interpretation of Findings

The review reveals a stark contrast: Western European HEIs increasingly adopt ABC to enhance efficiency and meet accountability demands, while Albanian institutions remain anchored in traditional practices owing to resource and structural constraints. This disparity mirrors broader trends in higher education management, where advanced systems lead innovation and transitioning systems lag. However, Albania's integration into European frameworks, such as the Bologna Process, suggests a potential tipping point, where external pressures could drive the adoption of tools such as ABC.

6.2. Implications for Higher Education Management

Implementing ABC in Albania could yield transformative benefits, such as identifying cost inefficiencies (e.g., underused facilities) and aligning resources with strategic goals (e.g., research expansion) as Ellis-Newman (2003) explained. It could also bolster Albania's alignment with European standards and enhance its credibility with international partners as European Commission (2010) has reported in their report findings. However, success hinges on overcoming barriers through government support, international collaboration, and institutional commitment to modernizing financial practices. Without such efforts, Albania risks falling further behind its European counterparts.

7. Conclusion

7.1. Limitations of the Review

The primary limitation of this review is the scarcity of direct studies on ABC in Albanian HEIs, necessitating reliance on indirect evidence from similar contexts. The focus on English and Albanian-language sources may also exclude relevant research in other languages, such as French or German, which are common in European schools. Additionally, the rapid pace of reform in Albania means that some findings may soon become outdated.

7.2. Recommendations for Future Research

Future studies should prioritize case studies of ABC implementation in Albanian universities to provide empirical data and practical insights. Comparative analyses with other Balkan or Eastern European countries can identify regional best practices. Research into policy interventions, such as EU-funded training programs, could also illuminate pathways to ABC adoption, supporting Albania's higher-education development. It also looks into the latest update on the ABC method, Time-Driven Activity-Based Costing (TDABC), which can bring more benefits to these HEIs by minimizing the limitations of ABC in HEI.

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