

# Campus Asset Management: Optimization of Tangible Assets and Intangible Assets in Improving Higher Education Performance

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## ABSTRACT

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Higher education institutions as knowledge-based organizations possess complex asset characteristics, encompassing not only tangible assets such as infrastructure, facilities, and technology, but also intangible assets including human resources, organizational systems, academic culture, and institutional reputation. The main challenge in campus asset management lies in the prevailing administrative-oriented approach that prioritizes physical assets, while intangible assets despite their strategic role in institutional value creation remain insufficiently integrated into asset management practices. This study aims to examine campus asset management through the perspective of integrating tangible and intangible assets to enhance institutional performance, reputation, and competitiveness. The study adopts a qualitative approach using a literature review method, drawing on books, national and international journal articles, and policy documents related to asset management, intellectual capital, and higher education governance. The findings indicate that tangible assets function as foundational enablers for the development of intangible assets, whereas intangible assets serve as key value drivers in achieving sustainable competitive advantage. The integration of both asset types is therefore essential for establishing strategic, sustainable, and value-oriented campus asset management.

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## 1. INTRODUCTION

Higher education is a strategic institution in human resource development and scientific development. In the face of the challenges of globalization, technological disruption, and increasing demands for public accountability, universities are required to be able to manage their resources effectively, efficiently, and sustainably. The management of these resources is not only limited to the academic aspect, but also includes asset management as the main support for the implementation of the tridharma of higher education

Campus asset management is an important issue as university activities become increasingly complex. Campus assets are not only understood as physical facilities and infrastructure such as buildings, land, laboratories, and educational equipment, but also include non-physical assets attached to the institution. In practice, many universities still place asset management limited to the inventory and maintenance of tangible assets, so that the potential of other assets has not been managed optimally.

Tangible assets have a fundamental role in supporting the process of learning, research, and community service. The availability of adequate, modern, and well-managed facilities will have a direct effect on the quality of academic services. However, the existence of abundant tangible assets does not automatically guarantee an improvement in institutional performance if it is not accompanied by strategic management that is integrated with organizational goals.

On the other hand, the development of the knowledge-based economy places intangible assets as the main source of organizational value creation. Intangible assets such as the competence of lecturers and education personnel, academic culture, management systems, institutional reputation, cooperation networks, and intellectual capital have a significant contribution to the competitive advantage of universities. Edvinsson and Malone assert that the value of modern organizations is determined more by the ability to manage intellectual capital than by physical assets alone.

In the context of higher education, intangible assets are often a differentiating factor that is difficult for other institutions to replicate. Academic reputation, public trust, and graduate quality are the result of a long process of managing intangible assets. However, the main challenge in the management of intangible assets lies in its intangible nature, difficult to measure quantitatively, and not fully accommodated in a conventional campus asset management system.

Another problem faced by universities is the lack of integration of tangible assets and intangible assets management in one comprehensive asset management framework. The management of physical assets often runs on its own through infrastructure units, while the development of intangible assets is spread across various academic and non-academic units without strong strategic coordination. This condition has the potential to cause inefficiency and hinder the optimal creation of institutional value.

Therefore, a new paradigm is needed in campus asset management that views tangible assets and intangible assets as a unit that is interrelated and mutually reinforcing. The integration of the management of these two types of assets is expected to be able to encourage sustainable improvement of higher education performance, both from the academic, governance, and competitive aspects of the institution.

Based on this description, studies on campus asset management based on tangible assets and intangible assets are relevant and important to be carried out. This research is expected to make a conceptual contribution to the development of higher education asset management and become a reference for policy makers in formulating asset management strategies that are oriented towards value creation and institutional excellence.

### **Asset Management**

Asset management is a series of coordinated activities to plan, acquire, operate, maintain, and develop assets optimally to achieve organizational goals (ISO 55000, 2014). In the context of public and educational organizations, asset management is not only oriented towards cost efficiency, but also on public value creation and institutional sustainability.

### **Tangible Assets in Higher Education/Campus**

Tangible assets in universities include land, lecture buildings, laboratories, libraries, educational equipment, and technological infrastructure. Good management of tangible assets will support the

process of learning, research, and academic services optimally. According to Mardiasmo (2018), effective management of public assets is characterized by careful planning, optimal utilization, and accountable supervision.

### **Intangible Assets and Intellectual Capital**

Intangible assets are often associated with the concept of intellectual capital consisting of human capital, structural capital, and relational capital (Edvinsson & Malone, 1997; Bontis, 1998). In higher education, human capital is reflected in the quality of lecturers and education staff, structural capital in the academic and management systems, and relational capital in cooperation networks and institutional reputation.

## **2. METHODS**

This research uses a qualitative approach with the literature study method (library research). Data is collected through searching textbooks, national and international journal articles, and policy documents relevant to asset management, tangible assets, and intangible assets in universities. Data analysis was carried out in a descriptive-analytical manner by synthesizing various concepts and findings of previous research.

## **3. FINDINGS AND DISCUSSION**

Based on the results of literature reviews on various studies related to asset management, intellectual capital, and university governance, several key findings were obtained that show the pattern of campus asset management, both tangible assets and intangible assets. These findings are thematically arranged to provide a comprehensive overview of the conditions, challenges, and opportunities for asset management development in higher education.

The first findings show that the management of tangible assets in universities tends to be administrative and operational. Most institutions already have a physical asset inventory system, but still focus on recording, maintenance, and reporting, not yet fully geared towards optimizing the strategic value of assets. This is in line with the findings of Mardiasmo (2018) who stated that public sector asset management is still predominantly oriented towards administrative compliance.

The second finding indicates that intangible assets have a significant contribution to the performance and reputation of universities, but have not been managed systematically. Intellectual capital that includes human capital, structural capital, and relational capital often develops naturally without a measurable management framework. Edvinsson and Malone (1997) and Bontis (1998) emphasized that knowledge-based organizations will lose their potential value if intellectual capital is not managed strategically.

The third finding shows that there is an integration gap between the management of tangible assets and intangible assets. The management of physical assets is generally under the infrastructure unit, while the development of intangible assets is spread across various academic and non-academic units. The absence of an integrative framework causes physical assets to not be fully enablers for strengthening intangible assets, such as improving the quality of learning and research.

**Table 1. Classification of Campus Assets and Their Management Patterns**

Jenis Aset	Contoh	Pola Pengelolaan Umum	Tantangan Utama
Tangible Assets	Buildings, laboratories, libraries	Inventory and maintenance	Lack of strategic value optimization
Human Capital	Lecturers, education staff	Partial human resource development	Its contribution has not been measured
Structural Capital	Academic system, SOPs, work culture	Administrative	Less innovative
Relational Capital	Reputation, cooperation, networking	Insidental	Not well documented

### Discussion

The findings of the study suggest that campus asset management requires a more holistic and strategic approach. The dominance of the administrative approach in the management of tangible assets indicates that physical assets have not been fully positioned as a value-creation instrument. In fact, according to ISO 55000 (2014), asset management should be oriented towards value creation, not just asset control

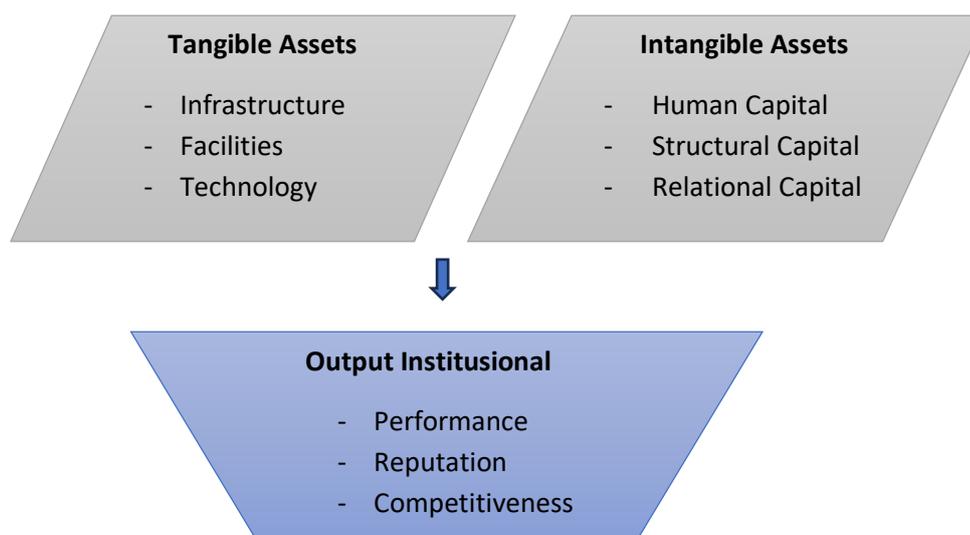
From the perspective of intellectual capital theory, intangible assets are the main source of sustainable competitive advantage. Superior human capital will result in high quality learning and research, while strong structural capital ensures the sustainability of the academic system. Relational capital strengthens the position of the institution in the eyes of the public and stakeholders. These findings are consistent with the view of Sveiby (1997) who emphasizes the importance of knowledge-based asset management.

The integration gap between tangible assets and intangible assets demonstrates the need for an integrated campus asset management model. Physical assets such as laboratories and technological infrastructure should be designed to support the development of intellectual capital, not just as passive facilities. This integration will strengthen synergies between assets and increase the effectiveness of achieving institutional objectives.

**Table 2. Comparison of Conventional and Integrative Asset Management**

Aspek	Conventional Approach	Integrative Approach
Focus	Physical Assets	Physical and non-physical assets
Orientation	Administration	Value Creation
Measurement	Asset Book Value	Performance and Reputation
Impact	Limited efficiency	Continuous Excellence

Conceptually, the findings of this study support the development of a campus asset management model based on the integration of tangible assets and intangible assets. This model places physical assets as enablers and intangible assets as value drivers. Thus, universities are not only able to increase internal efficiency, but also strengthen the competitiveness and sustainability of institutions in the midst of higher education competition.



**Figure 1. Conceptual Model of Campus Asset Management Integration**

This conceptual model explains that tangible assets are the initial foundation in campus asset management which includes infrastructure, physical facilities, and supporting technology. These tangible assets function as enabling resources that enable academic and managerial processes to run effectively.

Furthermore, tangible assets support the development of intangible assets consisting of human capital, structural capital, and relational capital. Human capital is reflected in the competence of lecturers and education personnel, structural capital is manifested in organizational systems, procedures, and culture, while relational capital includes the reputation of the institution and the network of cooperation with stakeholders.

The integration between tangible assets and intangible assets comes down to institutional output, namely improving university performance, strengthening academic reputations, and creating sustainable competitiveness. Thus, this model emphasizes that the excellence of universities is not solely determined by the ownership of physical assets, but by the ability of institutions to manage tangible assets as a value lever for intangible assets.

#### 4. CONCLUSION

Campus asset management is a strategic element in university governance that is oriented towards improving the performance and competitiveness of the institution. This study emphasizes that university assets cannot be partially understood only as tangible assets, but must be viewed comprehensively by integrating intangible assets as the main source of institutional value creation.

The results of the study show that the management of tangible assets in higher education so far still tends to be administrative and operational, so it has not been fully utilized as a strategic instrument. On the other hand, intangible assets such as human capital, structural capital, and relational capital have been proven to have a significant contribution to university performance, reputation, and competitiveness, but they often have not been managed systematically and measurably.

This research emphasizes the importance of integrating the management of tangible assets and intangible assets in a holistic campus asset management framework. Tangible assets act as the foundation and enabler, while intangible assets act as a value driver that determines sustainable

competitive advantage. The integration of these two types of assets allows universities to not only achieve resource management efficiency, but also create added value that has a long-term impact.

Theoretically, this study contributes to the development of the literature on asset management and intellectual capital in the context of higher education by offering a conceptual model of campus asset integration. Practically, the findings of this research can be a reference for university leaders in formulating policies and asset management strategies that are more strategic, integrated, and oriented towards achieving institutional performance and competitiveness.

Further research is recommended to test this conceptual model through empirical studies, both with qualitative and quantitative approaches, on different types of colleges. Thus, the development of campus asset management is expected to further contribute to supporting the sustainability and excellence of higher education in the midst of increasingly competitive dynamics of higher education.

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