

Intangible Asset Management in the Perspective of Higher Education Management

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ABSTRACT

Intangible assets have become strategic resources in higher education institutions, particularly in strengthening institutional performance, competitiveness, and sustainability. This study aims to examine the concept and role of intangible asset management in the perspective of higher education management through a comprehensive literature-based analysis. Using a qualitative approach with a library research design, this study analyzes scholarly articles, academic books, and reputable publications related to intangible assets, intellectual capital, and higher education management. Data were collected from open-access and indexed academic databases and analyzed using content analysis techniques to identify key themes and conceptual patterns. The findings indicate that intangible assets in higher education consist of human capital, structural capital, and relational capital, which interact synergistically in creating institutional value. Human capital plays a crucial role in enhancing academic quality and innovation, structural capital ensures the institutionalization of knowledge through governance systems and policies, while relational capital strengthens reputation and stakeholder trust. The study concludes that effective management of intangible assets requires an integrative and strategic approach rather than a fragmented administrative practice. This research contributes conceptually by offering a holistic framework for managing intangible assets in higher education and provides practical insights for university leaders in developing sustainable institutional strategies.

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1. INTRODUCTION

Higher education is a knowledge-based organization that has a strategic role in human resource development and social development. In the context of increasingly competitive higher education competition, universities no longer only rely on tangible assets such as buildings, laboratories, and

physical facilities, but also on intangible assets that are the main source of institutional value creation (Barney, 1991; Secundo et al., 2017).

Intangible assets are defined as non-physical resources that an organization has and contribute to the achievement of strategic objectives as well as long-term competitive advantage. In higher education organizations, intangible assets include lecturer competencies, academic systems, organizational culture, institutional reputation, and networks of cooperation with various stakeholders (Edvinsson & Malone, 1997; Ramírez-Córcoles, 2013).

Attention to intangible assets is increasing along with the shift in the economic paradigm towards a knowledge-based economy, where the main value of the organization no longer lies in physical assets, but in knowledge, innovation, and strategic relationships. Higher education as the main producer of knowledge has a high dependence on the quality and management of these intangible assets (Bontis, 1998; Dumay & Garanina, 2013).

One of the theoretical approaches that is widely used in studying intangible assets is the concept of intellectual capital. Intellectual capital is understood as the sum of knowledge, skills, and relationships that can be converted into value for the organization. In the context of higher education, intellectual capital consists of three main components, namely human capital, structural capital, and relational capital (Stewart, 1997; Bontis et al., 2000).

Human capital in higher education reflects the quality of human resources, especially lecturers and education staff, which includes academic competence, research experience, creativity, and professional commitment. Various studies show that the quality of human capital has a significant relationship with the quality of education, research productivity, and the reputation of higher education institutions (Chen et al., 2004; Secundo et al., 2016).

Structural capital refers to systems, procedures, organizational culture, curriculum, and quality assurance mechanisms that allow individual knowledge to be institutionalized and sustainable. Structural capital plays an important role in maintaining the stability and consistency of the quality of education, even when there is a change in human resources in the organization (Edvinsson & Malone, 1997; Ramírez et al., 2014).

Relational capital is related to the quality of university relationships with external parties, such as students, alumni, the industrial world, the government, and the wider community. Public trust, academic reputation, and research collaboration networks are forms of relational capital that have a direct impact on the sustainability and competitiveness of universities, especially private universities (Bontis, 1998; Leitner, 2004).

Although important, the management of intangible assets in higher education faces a variety of challenges, especially in terms of identifying, measuring, and integrating intangible assets into institutional management systems. In contrast to physical assets that are easily quantitatively measured, intangible assets are abstract, contextual, and often depend on human dynamics and organizational culture (Dumay, 2009; Mouritsen, 2006).

In Indonesia, the study of intangible assets and intellectual capital in the context of higher education management is still relatively limited and tends to focus on the measurement aspect or its influence on institutional performance. Meanwhile, studies that discuss how the intangible assets management process is carried out from the perspective of higher education management are still rare, especially in private universities (Ulum, 2017).

Therefore, this study aims to examine Intangible Asset Management in the Perspective of Higher Education Management by emphasizing the conceptual understanding, characteristics of intangible assets, and their implications for strengthening the performance and sustainability of higher education institutions. This study is expected to make a theoretical contribution to the development of higher education management studies as well as practical contributions for university leaders in formulating strategies for managing intangible assets systematically and sustainably.

Literature Review

Intangible Assets in Higher Education Organizations

In strategic management, intangible assets are understood as non-physical resources that have strategic value, are rare, difficult to replicate, and are not easily replaced by other organizations. This perspective is rooted in the Resource-Based View (RBV) which emphasizes that an organization's competitive advantage is determined by the ability to effectively manage internal resources, including intangible assets (Barney, 1991). In the context of higher education, intangible assets are the main resource because the main product of educational institutions is academic knowledge and services.

Intangible assets include various elements such as knowledge, skills, organizational culture, management systems, and institutional reputation. In contrast to tangible assets, intangible assets cannot be measured directly but have a significant contribution to the long-term performance of the organization (Hall, 1992; Lev, 2001). Therefore, the management of intangible assets demands a systematic and sustainable managerial approach.

Intellectual Capital as a Representation of Intangible Assets

The concept of intellectual capital is the dominant framework in studying intangible assets. Intellectual capital is defined as the sum of knowledge, experience, and relationships that an organization has that can be converted into value and competitive advantage (Stewart, 1997; Edvinsson & Malone, 1997). In higher education organizations, intellectual capital is the core asset that determines the academic quality and reputation of the institution.

Bontis (1998) classifies intellectual capital into three main components, namely human capital, structural capital, and relational capital. These three components interact with each other and form a value system that determines organizational performance. This approach is widely used in higher education research because it is relevant to the characteristics of knowledge-based institutions (Leitner, 2004; Ramírez-Córcoles, 2013).

Human Capital in Higher Education

Human capital refers to the quality of human resources owned by an organization, including knowledge, skills, experience, creativity, and professional values inherent in individuals (Becker, 1964). In higher education, human capital is mainly reflected in the competence of lecturers, education staff, and academic capacity of students.

Studies have shown that the quality of human capital has a significant relationship with the quality of learning, research productivity, and academic reputation of higher education institutions (Chen et al., 2004; Secundo et al., 2016). However, human capital is inherent in individuals so it is vulnerable to loss when there is mobility of lecturers or staff. Therefore, human capital management must be integrated with organizational systems in order to provide sustainable value for institutions (Edvinsson & Malone, 1997).

Structural Capital as an Organizational Support

Structural capital encompasses the entire system, procedures, policies, organizational culture, and non-physical infrastructure that enable the organization to operate effectively. In the context of higher education, structural capital includes curriculum, internal quality assurance system, academic governance, and academic information system (Bontis et al., 2000; Ramírez et al., 2014).

Structural capital plays an important role in converting individual knowledge into institutional knowledge. With strong structural capital, universities can maintain the consistency of educational quality and organizational sustainability despite changes in human resources (Edvinsson & Malone, 1997; Dumay, 2009).

Relational Capital and Institutional Reputation

Relational capital refers to the quality of an organization's relationship with external stakeholders, including students, alumni, industry, government, and society. In higher education, relational capital is reflected in academic reputation, public trust, cooperation networks, and strategic partnerships (Bontis, 1998; Leitner, 2004).

Institutional reputation is a form of relational capital that has a significant impact on student attractiveness, research cooperation opportunities, and financial sustainability of universities. Research shows that relational capital contributes directly to the performance and competitiveness of universities, especially in the context of global competition in higher education (Secundo et al., 2017).

Intangible Asset Management in Higher Education

The management of intangible assets in higher education cannot be separated from the characteristics and objectives of educational institutions. In contrast to business organizations, universities have academic, social, and moral missions that must be the basis for the management of intangible assets. Therefore, intangible asset management in higher education emphasizes strategic planning, human resource development, strengthening the academic system, and building institutional reputation (Mouritsen, 2006; Dumay & Garanina, 2013).

The higher education management approach views intangible assets as strategic resources that must be managed integratively in order to be able to support the tridharma of higher education and institutional sustainability. Thus, the management of intangible assets is not only oriented towards short-term performance, but also on the creation of long-term academic and social value.

2. METHODS

This research uses a qualitative approach with the type of literature study (library research) to examine the concept and practice of intangible asset management in the perspective of higher education management. This approach was chosen because the research focuses on conceptual understanding and synthesis of theories, rather than on quantitative testing of hypotheses. Literature studies allow researchers to examine a wide range of relevant scientific thoughts and findings in order to build a comprehensive theoretical framework (Creswell, 2014; Zed, 2014).

The source of this research data is in the form of secondary data obtained from articles in reputable national and international journals, academic books, and scientific proceedings related to intangible assets, intellectual capital, and higher education management. Literature search was carried out through scientific databases such as Google Scholar and open access journal portals using the keywords intangible asset management, intellectual capital in higher education, and higher education management. The selected literature was purposively selected based on its relevance, source credibility, and theoretical contribution (Ridley, 2012).

Data analysis is carried out through content analysis by identifying themes, concepts, and thought patterns that appear in the literature. The analysis stages include data reduction, conceptual categorization into the dimensions of human capital, structural capital, and relational capital, as well as theoretical synthesis to formulate a conceptual understanding of intangible asset management in higher education. To maintain the validity of the data, source triangulation is carried out by comparing various relevant references (Krippendorff, 2018; Miles et al., 2014).

3. FINDINGS AND DISCUSSION

1) Intangible Assets as Strategic Assets of Higher Education

The main findings from the literature review show that intangible assets are the main strategic assets in the management of higher education. Various studies confirm that the competitive advantage of universities is no longer determined by physical assets alone, but by the ability of institutions to manage intangible assets such as human resource competencies, academic systems, and institutional reputation (Barney, 1991; Edvinsson & Malone, 1997; Leitner, 2004).

In the context of higher education, intangible assets contribute directly to improving the quality of learning, research productivity, and stakeholder trust. These findings show that universities that are able to manage intangible assets systematically tend to have more sustainable institutional performance.

2) Classification of Intangible Assets in Higher Education

The results of the literature synthesis show that intangible assets in higher education are generally classified into three main dimensions, namely human capital, structural capital, and relational capital. This classification is consistently used in various studies to explain intangible resources in knowledge-based organizations, including universities (Bontis, 1998; Secundo et al., 2016).

Table 1. Findings of the Intangible Asset Dimension in Higher Education

Dimensions	Intangible Asset Form
Human Capital	Lecturer competence, academic experience, research capacity
Structural Capital	Curriculum, quality assurance system, academic governance
Relational Capital	Institutional reputation, industry networking, alumni relations

These findings show that the three dimensions complement each other and form a unified value system in the management of higher education.

3) The Dominance of Human Capital in Higher Education Value Creation

The literature reviewed shows that human capital is the most dominant intangible asset dimension in higher education. The competence and quality of lecturers play a key role in the creation of academic value, both in learning and research (Becker, 1993; Secundo et al., 2016).

However, the findings of the study also indicate that the dominance of human capital without adequate structural capital support has the potential to lead to institutional dependence on certain individuals. This reinforces the finding that individual knowledge management needs to be institutionalized in order to become an organizational asset.

4) The Role of Structural Capital in Institutional Sustainability

The next findings show that structural capital acts as a link between human capital and institutional performance. Academic systems, curriculum, and quality assurance mechanisms function as a means to transform individual competencies into sustainable institutional excellence (Mouritsen, 2006; Dumay, 2009).

The literature confirms that universities with strong structural capital tend to be more adaptive to changes in the external environment, including the demands of accreditation, digitalization of learning, and global competition.

5) Relational Capital as an External Competitiveness Enhancer

The findings of the study also show that relational capital is an important factor in strengthening the position of universities at the external level. Institutional reputation, public trust, and networking with industry and alumni contribute to increasing the competitiveness and sustainability of institutions (Bontis, 1998; Leitner, 2004).

Relational capital not only functions as a result of human and structural capital management, but also as a strategic resource that can expand opportunities for cooperation, funding, and educational innovation.

6) Patterns of Relationships Between Intangible Asset Dimensions

The final findings show a pattern of hierarchical relationships and interdependence between the intangible asset dimensions. Human capital plays a role as the main input, structural capital as a value processing mechanism, and relational capital as a strategic output that strengthens the institution's position.

Human Capital → Structural Capital → Relational Capital

This pattern is the conceptual basis for the development of intangible asset management models in higher education.

Discussion

The findings of the study show that intangible asset management is a strategic foundation in the management of higher education, especially in the face of competition for quality, reputation, and institutional sustainability. Intangible assets—which include human capital, structural capital, and relational capital—can no longer be positioned as complementary assets, but rather as the main value creation resource in higher education organizations. This is in line with the Resource-Based View (RBV) view which emphasizes that sustainable competitive advantage comes from assets that are difficult to replicate, are unique, and knowledge-based (Barney, 1991).

In the context of higher education management, human capital is the most crucial asset because it is directly related to the quality of lecturers, education staff, and institutional leadership. Academic competence, research productivity, integrity, and collaborative work culture have been proven to contribute significantly to improving the quality of the tridharma of higher education. However, the findings of the study show that many universities still place human resource development administratively, not fully managed as a long-term strategic investment (Bontis, 1998; Secundo et al., 2017).

Furthermore, structural capital plays a role as a support system that ensures the sustainability of institutional knowledge. Organizational structure, academic policies, quality assurance systems, and the use of information technology are important instruments in transforming individual knowledge into organizational knowledge. Universities that have a strong governance system, SOP, and academic culture tend to be more adaptive to changes in the external environment, including the demands of accreditation and globalization of higher education (Sveiby, 1997; Wiig, 1997).

Meanwhile, relational capital reflects the quality of institutional relationships with stakeholders, such as students, alumni, industry, government, and society. The reputation of the institution, public trust, and strategic cooperation network have proven to be social capital that strengthens the competitiveness of universities. This discussion affirms that the success of intangible asset management depends not only on internal assets, but also on the ability of institutions to build and maintain productive and sustainable external relationships (Etzkowitz & Leydesdorff, 2000).

Conceptually, the results of this discussion confirm that intangible asset management in higher education must be managed integratively and strategically, not partially. The imbalance in management between the dimensions of intangible assets has the potential to weaken the overall performance of the institution. Therefore, a management model is needed that is able to integrate human resource development, organizational systems, and external relations as a unit of higher education management strategies.

Tabel 2. The Dimension of Intangible Assets in Higher Education Management

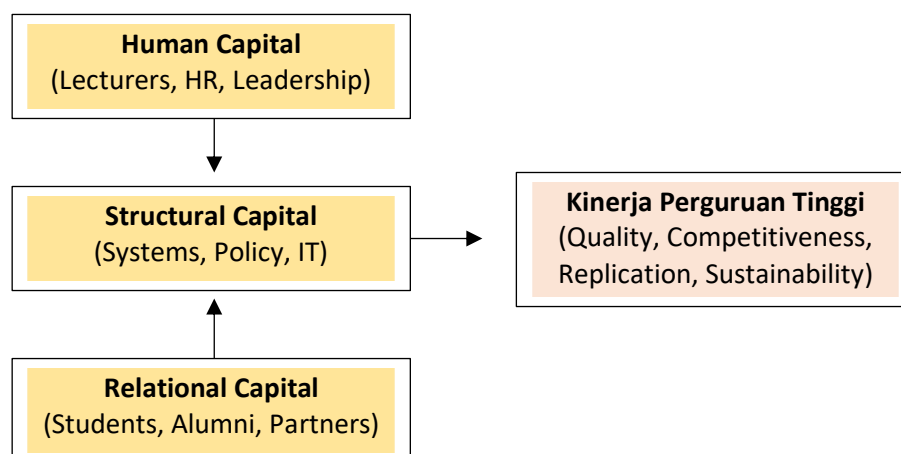
Intangible Asset Dimension	Main Components	Strategic Contribution
Human Capital	Lecturer competence, leadership, academic culture	Improving the quality of the tridharma
Structural Capital	Academic systems, policies, IT, quality assurance	Sustainability and organizational efficiency
Relational Capital	Reputation, networking, public trust	Competitiveness and institutional legitimacy

Source: Adapted from Bontis (1998); Sveiby (1997)

Figure 1 below illustrates the conceptual model of intangible asset management in higher education which emphasizes the synergistic relationship between human capital, structural capital, and relational capital in improving university performance. Human capital represents the quality of human resources, especially lecturers, education staff, and institutional leadership, which are the main drivers of the academic process and institutional innovation.

Structural capital functions as a support system that institutionalizes individual knowledge into the form of policies, governance, quality assurance systems, and the use of information technology. The existence of structural capital ensures that personal competencies can be converted into sustainable organizational performance and do not depend solely on individuals.

Meanwhile, relational capital reflects the strength of external relations between universities and stakeholders, such as students, alumni, the industrial world, the government, and society. Productive and sustainable relationships strengthen the institution's reputation and open up opportunities for strategic collaboration. The dynamic interaction of the three dimensions of intangible assets results in an increase in university performance which is reflected in academic quality, competitiveness, reputation, and institutional sustainability.

**Figure 1.** Intangible Asset Management Model in Higher Education

Description:

The chart shows that the performance of universities is the result of a synergistic interaction between human capital, structural capital, and relational capital. These three dimensions reinforce each other and form a sustainable institutional value system.

4. CONCLUSION

This study concludes that intangible asset management is a strategic foundation in higher education management that contributes significantly to improving the performance and competitiveness of institutions. Intangible assets that include human capital, structural capital, and relational capital have proven to have a central role in creating added value, strengthening reputations, and ensuring the sustainability of universities in the midst of global dynamics and competition.

Human capital management that focuses on developing competencies, academic leadership, and organizational culture is the main key in improving the quality of the tridharma of higher education. On the other hand, structural capital functions as a support system that institutionalizes knowledge and best practices through policies, governance, quality assurance systems, and the use of information technology. Meanwhile, relational capital strengthens public legitimacy and trust through a network of strategic collaboration with students, alumni, industry, government, and society.

Therefore, higher education management needs to adopt an integrative and long-term oriented approach to managing intangible assets, rather than simply placing them as administrative supporting elements. The conceptual model produced in this study is expected to be a foundation for university policymakers in formulating an adaptive, competitive, and sustainable institutional development strategy. Further research is recommended to test this model empirically in a specific college context to enrich the findings and strengthen their validity.

REFERENCES

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36(2), 63–76. <https://doi.org/10.1108/00251749810204142>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications. URL: <https://us.sagepub.com>
- Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From National Systems and “Mode 2” to a Triple Helix of university–industry–government relations. *Research Policy*, 29(2), 109–123. [https://doi.org/10.1016/S0048-7333\(99\)00055-4](https://doi.org/10.1016/S0048-7333(99)00055-4)
- Krippendorff, K. (2018). *Content analysis: An introduction to its methodology* (4th ed.). Thousand Oaks, CA: Sage Publications. URL: <https://us.sagepub.com>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications. URL: <https://us.sagepub.com>
- Ridley, D. (2012). *The literature review: A step-by-step guide for students* (2nd ed.). London: Sage Publications. URL: <https://uk.sagepub.com>
- Secundo, G., Pérez, S. E., Martinaitis, Ž., & Leitner, K. H. (2017). An intellectual capital framework to measure universities’ third mission activities. *Technological Forecasting and Social Change*, 123, 229–239. <https://doi.org/10.1016/j.techfore.2016.12.013>
- Sveiby, K. E. (1997). *The new organizational wealth: Managing and measuring knowledge-based assets*. San Francisco: Berrett-Koehler Publishers. URL: <https://www.bkconnection.com>
- Wiig, K. M. (1997). Knowledge management: An introduction and perspective. *Journal of Knowledge Management*, 1(1), 6–14. <https://doi.org/10.1108/13673279710800682>
- Zed, M. (2014). *Metode penelitian kepustakaan*. Jakarta: Yayasan Obor Indonesia. URL: <https://obor.or.id>