

Faculty of Engineering
State University of Surabaya

HUMAN CAPITAL DEVELOPMENT PLAN



2020 - 2024

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PREFACE

We want to express our sincere gratitude to all parties who contributed to preparing the Human Resources Development Plan for the Faculty of Engineering, Surabaya State University, for 2020–2024, which has been completed on time.

We acknowledge that this document may still have shortcomings. Therefore, we welcome constructive suggestions and feedback to improve and perfect the Human Resources Development Plan.

Lastly, we hope that this plan will serve as a comprehensive resource for the academic community of the Faculty of Engineering, Surabaya State University, and the wider public. It also contributes to developing superior, open-minded human resources and supporting advancements in science and technology.

Surabaya, 2020
Dean of the Faculty of Engineering

ttd

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Chapter 1: Introduction

1.1 Background

Planning is deciding what goals you want to achieve during a specific period in the future and what will be done to achieve these goals. Planning is essential in the managerial process as a determinant of the achievement of the objectives of an organization, as a strategy for achieving goals, and as evaluation material for organizational managerial activities. Planning plays a significant role in reducing the risk of unwanted things happening. With planning, we can predict unwanted things that might happen in the future and take anticipatory actions early. Human resource planning, which we know as human resource planning, is essential in organizations. It is crucial because human resource planning is the beginning of the success of an organization. With good human resource planning and the needs needed in each field, the goals of the organization can be achieved effectively and efficiently. Siagian (2016), in HR management, states that HR planning is the basis for the preparation of work programs for work units that handle HR in organizations.

In realising its existence to achieve goals, the Faculty of Engineering as an organization requires careful planning of employees (educators and education staff) who work at the Faculty of Engineering, better known as Human Resources. These human resources have an impact on organizational effectiveness, both internally and externally. An organization needs the support of appropriate quantitative, qualitative, strategic and operational employees to maintain its existence, develop and advance it in the future. In this case, human resources play a vital role and are a central factor in an organization; human resources are also often understood as people who give their energy, creativity, and hard work effort to an organization. Especially in this global era, organizations will be faced with competencies both on a national and international scale. High-quality human resources, according to Ndraha (in Sutrisno, 2017: 4), are human resources that can create not only comparative value but also competitive-generative-innovative value by using the highest energy, such as intelligence, creativity, and imagination. Law Number 5 of 2014 concerning the State Civil Apparatus (ASN), the smooth running of Government duties and national development through the implementation of professional public policies and services, free from political intervention, and clean from corruption, collusion, and nepotism is highly dependent on the role of civil servants as planners, implementers and supervisors. Therefore, human resources are an essential aspect of an organization that must be able to provide services to the community

with the best quality and lowest cost. The engineering faculty has made various efforts to advance and achieve organizational goals through further study and training for educators and education staff, acceptance of S3 qualified educators/lecturers and acceptance of education staff following the required competencies. But it is undeniable that there are still shortcomings. Departing from this, the preparation of a human resource development plan was carried out by the Faculty of Engineering, Surabaya State University 2020-2024, to achieve the goals that have been set.

1.2 Vision and Mission

Vision: The Faculty of Engineering envisions itself as "A faculty that is resilient, adaptive, and innovative in the field of technology and vocational education with an entrepreneurial orientation."

Mission: The faculty's mission includes several key objectives:

1. To provide quality technology and vocational education characterized by resilience, adaptability, and innovation.
2. To advance research that leads to product innovation and supports entrepreneurship.
3. To engage in community service that disseminates technological innovations for societal welfare.
4. To enhance the Tri Dharma of higher education through synergistic and sustainable practices.
5. To ensure effective governance that promotes quality and transparency.
6. To strengthen national and international collaborations to enhance technology and vocational education recognition.

1.3 Overview of The Faculty of Engineering

Study Programs Offered: The Faculty of Engineering at UNESA offers diverse academic programs designed to equip students with the necessary skills and knowledge for success in their respective fields. The faculty comprises 15 study programs, including:

1. Electrical Engineering Education
2. Mechanical Engineering Education
3. Civil Engineering Education
4. Fashion Design Education
5. Culinary Education
6. Beauty Education

7. Information Technology Education
8. Electrical Engineering
9. Mechanical Engineering
10. Civil Engineering
11. Informatics Engineering
12. Information Systems
13. Urban and Regional Planning
14. Master's in Electrical Engineering
15. Master's in Informatics

1.4 Preparation Background of HCDP

As a Legal Entity State University (PTN-BH) governed by Government Regulation Number 4 of 2014 concerning the Implementation and Management of Higher Education, Surabaya State University (UNESA) confirms its autonomy in academic and non-academic sectors. Following Article 25 of this regulation, the university holds significant autonomy in non-academic management, encompassing several crucial areas. This includes the establishment of norms, operational policies, and personnel management, covering: a) setting requirements and procedures for recruiting human resources; b) assignment, coaching, and development of human resources; c) formulating work targets and career paths for human resources; d) termination of employment.

As a PTN-BH, UNESA executes its duties responsibly, ensuring the quality of its human resources and managing non-academic affairs according to established norms and principles.

Furthermore, the Faculty of Engineering (FT) UNESA is critical in the university's organizational structure, as outlined in Article 45 of Government Regulation Number 37 of 2022. As the academic implementing unit, FT UNESA upholds accountable university governance, particularly in Human Resources (HR) management. The development of HR within FT UNESA is guided by structured mechanisms and provisions established in UNESA Chancellor's Regulation Number 31 of 2022, which governs HR management at Surabaya State University.

1.5 Importance of Human Capacity Development

Human capacity development is integral to the Faculty's mission and vision. By investing in the skills and competencies of academic and administrative staff, the Faculty of Engineering can ensure high-quality education and research outputs. Developing human resources helps to:

- a. Foster innovation: Skilled faculty members can drive research initiatives and create a culture of innovation that benefits both students and the community.
- b. Improve educational outcomes: Continuous professional development enhances teaching methodologies and curriculum design, leading to better student learning experiences.
- c. Strengthen community engagement: Well-trained staff are better equipped to develop community service programs that address societal needs effectively.
- d. Enhance international collaborations: A highly skilled workforce can contribute to productive partnerships with other institutions, promoting knowledge exchange and research collaborations.

1.6 Purpose of the HCDP

Please explain why the HCDP is being created, emphasizing its role in enhancing staff skills, improving academic quality, and fostering research and innovation.

The Human Capacity Development Plan (HCDP) is being created to address several critical areas within the Faculty of Engineering at Universitas Negeri Surabaya (UNESA). This initiative plays a vital role in enhancing staff skills, improving academic quality, and fostering research and innovation, contributing significantly to the faculty's mission and vision.

a. Enhancing Staff Skills

The HCDP aims to identify skill gaps and training needs among faculty and administrative staff. The plan ensures that staff members are well-equipped with the latest knowledge and teaching methodologies by providing targeted professional development opportunities. This focus on continuous learning enhances their capabilities, leading to a more competent workforce that can better support student learning and institutional goals.

b. Improving Academic Quality

A well-structured HCDP is essential for improving academic quality. It fosters an environment where faculty members are encouraged to engage in pedagogical innovations and adopt best practices in teaching and assessment. Enhanced staff skills translate into improved course delivery, more effective student engagement, and higher graduation rates. Additionally, focusing on academic quality aligns with the faculty's mission of providing a resilient and adaptive education.

c. Fostering Research and Innovation

The HCDP also plays a crucial role in promoting a culture of research and innovation. By investing

in staff development, the faculty can stimulate research activities that lead to groundbreaking innovations and entrepreneurial initiatives. Faculty members who are well-trained in research methodologies can contribute to high-quality publications, collaborative projects, and community-oriented solutions that address real-world problems. This aligns with the mission of advancing research for societal welfare and technological innovation.

1.7 Foundation of HCDP

The Faculty of Engineering Management Policy Manuscript is implemented with the principles of good governance, which is prepared based on the following:

1. Undang-Undang Nomor 12 Tahun 2012 tentang Pendidikan Tinggi (Lembaran Negara Republik Indonesia Tahun 2012 Nomor 158, Tambahan Lembaran Negara Republik Indonesia Nomor 5336)
2. Undang-Undang Nomor 14 Tahun 2005 tentang Guru dan Dosen
3. Peraturan Pemerintah Nomor 4 Tahun 2014 tentang Penyelenggaraan Pendidikan Tinggi dan Pengelolaan Perguruan Tinggi (Lembaran Negara Republik Indonesia Tahun 2014 Nomor 16, Tambahan Lembaran Negara Republik Indonesia Nomor 5500)
4. Peraturan Pemerintah Nomor 57 Tahun 2021 tentang Standar Nasional Pendidikan (Lembaran Negara Republik Indonesia Tahun 2021 Nomor 87, Tambahan Lembaran Negara Republik Indonesia Nomor 6676) sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 4 Tahun 2022 tentang Perubahan atas Peraturan Pemerintah Nomor 57 Tahun 2021 tentang Standar Nasional Pendidikan (Lembaran Negara Republik Indonesia Tahun 2022 Nomor 14, Tambahan Lembaran Negara Republik Indonesia Nomor 6762)
5. Peraturan Presiden Nomor 62 Tahun 2021 tentang Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi (Lembaran Negara Republik Indonesia Tahun 2021 Nomor 156)
6. Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 28 Tahun 2021 tentang Organisasi dan Tata Kerja Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi (Berita Negara Republik Indonesia Tahun 2021 Nomor 963)
7. Keputusan Menteri Pendidikan, Kebudayaan, Riset dan Teknologi Republik Indonesia Nomor 43141/MPK.A/KP.07.00/2022 tentang Pemberhentian Rektor Universitas Negeri Surabaya Periode Tahun 2018-2022 dan Pengangkatan Rektor Universitas Negeri Surabaya Periode Tahun 2022-2026;

8. Peraturan Pemerintah Republik Indonesia Nomor 37 Tahun 2022 tentang Perguruan Tinggi Negeri Badan Hukum Universitas Negeri Surabaya
9. Surat Edaran Nomor: B/53/74/UN38/Hk.01.01/2023 Tentang Indikator Kinerja Utama Dan Indikator Kinerja Tambahan (IKU-IKT) Universitas Negeri Surabaya Tahun 2023
10. Peraturan Rektor Universitas Negeri Surabaya Nomor 31 Tahun 2022 Tentang Pengelolaan Sumber Daya Manusia Universitas Negeri Surabaya
11. Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia Nomor 27 tahun 2022 tanggal 21 Juni tahun 2022 tentang pedoman pemberian tugas belajar bagi pegawai negeri sipil Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi
12. Peraturan Sekretaris Jenderal Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia nomor 3 Tahun 2023 tentang petunjuk pelaksanaan peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia nomor 27 tahun 2022 tentang pedoman pemberian tugas belajar bagi pegawai negeri sipil Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi
13. Peraturan BKN tahun nomor 7 tahun 2021 tentang perubahan atas Peraturan Badan Kepegawaian Negara nomor 24 tahun 2017 tentang Tata Cara Pemberian Cuti Pegawai Negeri Sipil
14. Peraturan Rektor Universitas Negeri Surabaya Nomor 7 Tahun 2019 Tentang Pedoman Studi Lanjut Pegawai Universitas Negeri Surabaya
15. UU Nomor 5 Tahun 2014 tentang Aparatur Sipil Negara
16. PP Nomor 11 thn 2017 tentang Manajemen PNS
17. Keputusan Direktur Jenderal Pendidikan Tinggi Kementerian Pendidikan dan Kebudayaan Nomor 12/E/KPT/2021 tentang pedoman operasional beban kerja dosen
18. Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia Nomor 1 Tahun 2023 Tentang Jabatan Fungsional

1.8 Scope

The Human Capacity Development Plan (HCDP) for the Faculty of Engineering at Universitas Negeri Surabaya (UNESA) is designed to enhance the skills and competencies of both academic and administrative staff. The scope of the HCDP includes several key areas that are vital for the overall improvement of the faculty's educational and operational effectiveness.

- a. Target Audience

1. **Academic Staff:** This includes faculty members engaged in teaching, research, and community service. The HCDP will address their professional development needs, ensuring they are equipped with the latest pedagogical skills and research methodologies.
 2. **Administrative Staff:** This group includes individuals responsible for the management and support functions within the faculty. The HCDP will focus on enhancing their organizational and operational skills to improve the efficiency and effectiveness of administrative processes.
- b. Areas Addressed
1. **Teaching and Learning:** Professional development workshops and training sessions aimed at enhancing teaching methodologies, curriculum development, and assessment practices will be a primary focus. This area seeks to improve the quality of education and student engagement.
 2. **Research Skills:** The HCDP will provide training in research methodologies, grant writing, and publication processes. By fostering these skills, the plan aims to increase the quantity and quality of research outputs from the faculty, contributing to advancements in technology and vocational education.
 3. **Leadership and Management:** Training programs will be developed for both academic and administrative staff to enhance leadership, project management, and strategic planning skills. This focus on leadership is essential for fostering a collaborative and innovative organizational culture.
 4. **Community Engagement:** The plan will encourage staff to develop skills related to community service and outreach programs, ensuring that faculty members can effectively disseminate knowledge and innovations that benefit society.
 5. **Collaboration and Networking:** The HCDP will promote opportunities for staff to engage in national and international collaborations. This area focuses on enhancing partnership skills, enabling staff to build networks that can lead to productive research and community service initiatives.

Chapter 2: Assessment of Current Human Resources

2.1 Overview of Current Staffing

The Faculty of Engineering at Universitas Negeri Surabaya (UNESA) is committed to delivering high-quality education and research in various engineering disciplines. To achieve this goal, a thorough understanding of the current staffing situation is essential. The faculty comprises a diverse team of academic and administrative staff who bring a range of expertise and qualifications to support the educational mission. This section will provide an overview of the current distribution of staff across the eleven study programs within the Faculty of Engineering, highlighting their qualifications and areas of specialization. By examining the existing human resources, we can better identify the strengths and opportunities for development that will enhance the faculty's capacity to meet its objectives.

Human resources at the Faculty of Engineering, Surabaya State University, are classified into 2 parts, namely Educators and Education. Here's the explanation:

The Distribution by Rank (Golongan) chart shows how many faculty members fall under each classification of ranks, known as "Golongan." In Indonesia, Golongan refers to the hierarchical classification system used in civil service, and each Golongan has specific responsibilities and salary scales.

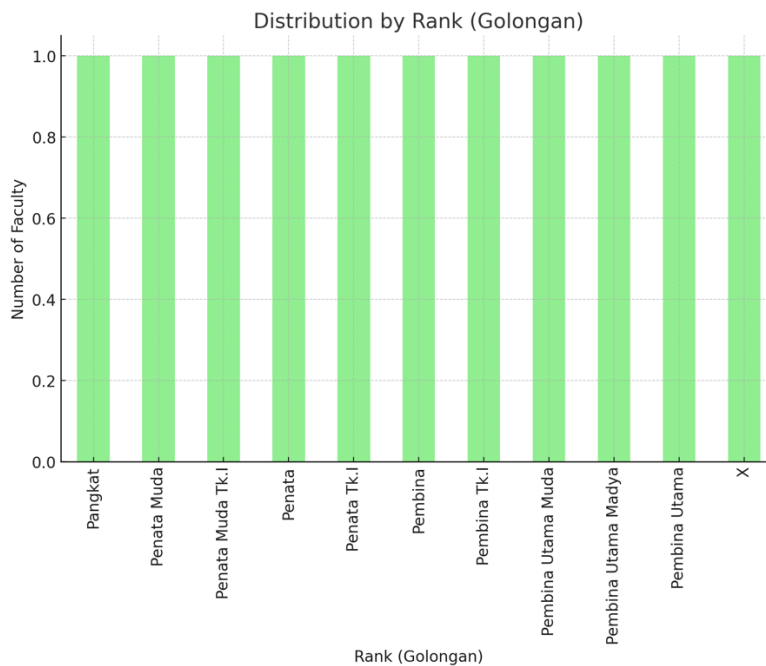


Figure 1 Distribution by Rank

The distribution by rank (Golongan) shows a significant concentration of faculty members in the lower ranks, particularly in Golongan III/a to III/d. This indicates that many faculty members are in the early to mid-level stages of their careers, suggesting potential for growth and promotion. The higher ranks, such as Golongan IV/a and IV/b, are less populated, reflecting the typical hierarchy where only more experienced faculty reach these levels. The limited representation in the highest ranks, such as IV/d and IV/e, aligns with the fact that these ranks are reserved for senior faculty members who have met rigorous requirements. Overall, this distribution highlights a balanced structure with a greater number of faculty in the lower to mid-level ranks, which provides opportunities for promotions and leadership development as senior faculty members approach retirement. This structure can guide future planning for mentorship and career progression within the institution.

a. Educator / Lecturer

There are 98 lecturers at the Faculty of Engineering, consisting of 25 (20%) with doctoral qualifications and 73 people with master's degrees (80%) with master's qualifications as shown in Figure 1. Of these, there are 5 (5%) lecturers who are graduates of foreign universities. This situation requires strategies to improve the quality of lecturers, one way is to facilitate them to take doctoral studies. This effort must be made so that FT Unesa is able to compete at national and regional levels and contribute to bringing Unesa to go international. Of the 102 lecturers, 20 lecturers are currently pursuing S3 studies; 4 of them studied abroad and the rest (16) studied in Indonesia. This means that the Faculty of Engineering has the task to develop the competence of 53 lecturers who still pass the master to doctoral levels.

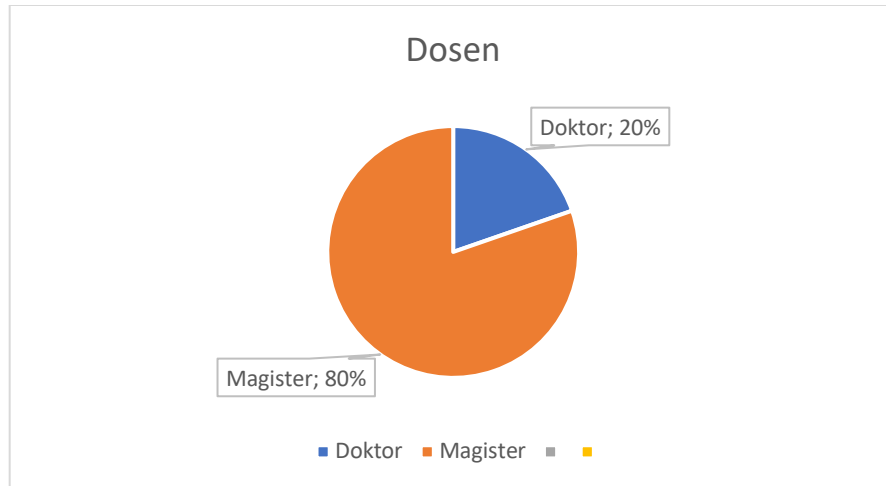


Figure 2 Distribution of FT lecturers based on education

Judging from their employment status, lecturers are divided into two types of employees, namely some are civil servants and permanent employees. Lecturers with Civil Servant (PNS) status are 98 lecturers consisting of 25 people with doctoral qualifications and 73 with master qualifications. Lecturers with the status of Contract Employees are 5 lecturers with master qualifications. Recruitment of lecturers with this status to meet the needs of lecturers so that the ratio of lecturers and students is ideal.

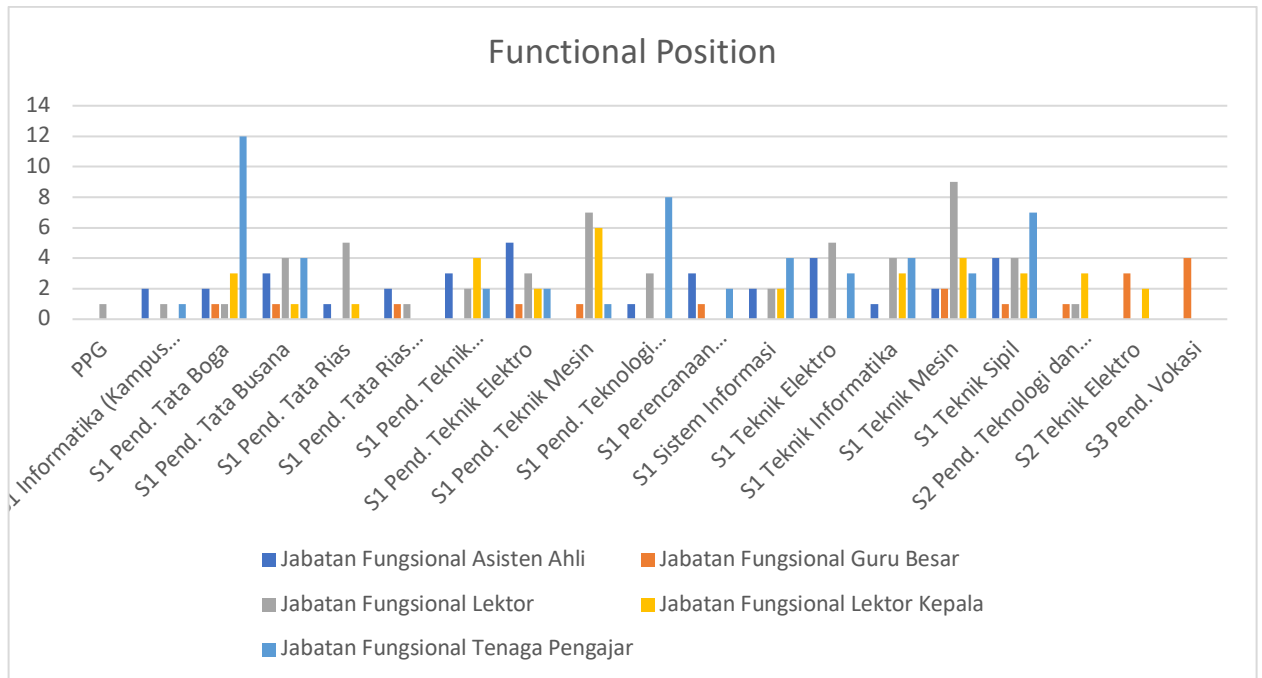


Figure 3 Distribution of Functional Position

The composition of human resources (HR) has shown positive movement, especially for lecturers with a PhD qualification, Associate Professors, and Professors, as shown in Figure 2.8. In 2020,

the Faculty of Engineering recorded 50 lecturers with PhD qualifications, 50 Associate Professors, and 12 Professors. The total number of lecturers in the Faculty of Engineering in 2018 was 196, which increased to 198 in 2019, and in 2020, there were 197 lecturers. The percentage of Professors was 6.1%.

b. Education Personnel

Figure 2 shows the number of education staff as many as 62 people consisting of Masters: 2 people, Bachelor: 25 people, Diploma 3: 2 people, Diploma 2: 1 person, Diploma 1: 5 people, and Secondary Education: 27. The number is divided into 2 types of employees, namely Civil Servants (PNS) that totaled 47 education personnel consisting of Masters: 2 people, Bachelor: 15 people, Diploma 3: 1 people, Diploma 2: 2 people, Diploma 1: 5 people and Secondary Education: 27 people. Of these, there are 4 staff who are currently pursuing Bachelor studies. There are 15 contract employees consisting of Bachelors: 10 people, Diploma 3: 1 person, and Secondary Education: 4 people.

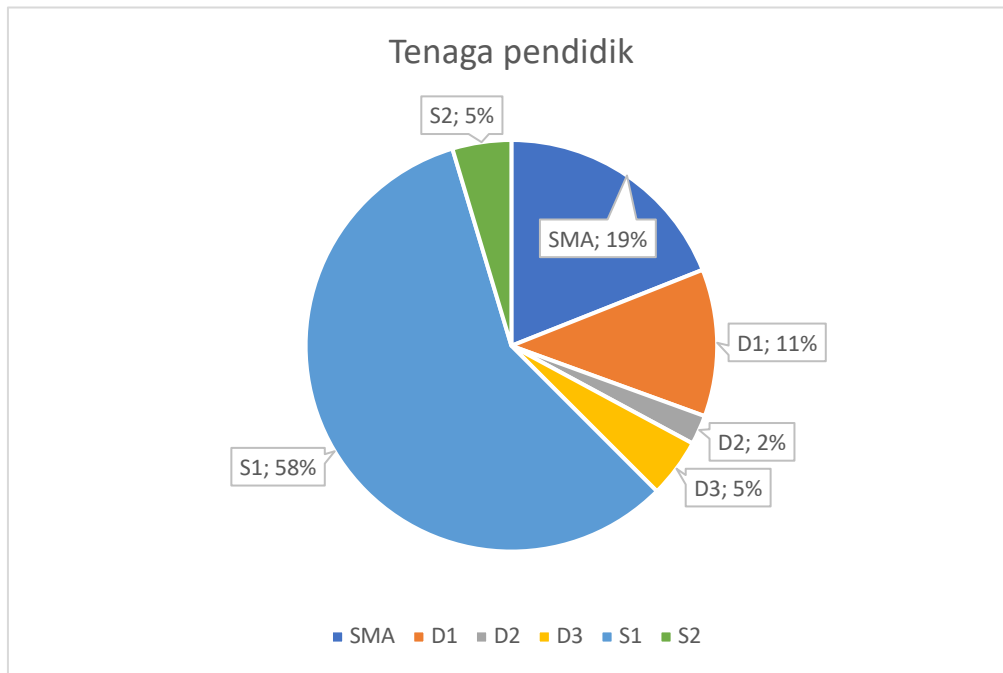


Figure 4 Distribution of administrative staff of the faculty of engineering by education

From Figure 3, it can be said that the distribution of qualifications of administrative employees is not ideal. More than half of the employees of the faculty of engineering (27 people) are qualified on the basis of diplomas that may not have specific skills. This situation is a challenge for the Faculty of Engineering to improve the abilities, skills and expertise of administrative staff. In addition, the Faculty of Engineering needs to find the right solution so

that this can happen to efficient and effective administrative staff.

2.2 Skill Inventory

A comprehensive skill inventory is crucial for understanding the capabilities and expertise of the academic and administrative staff within the Faculty of Engineering at Universitas Negeri Surabaya (UNESA). This assessment not only highlights the strengths present within the faculty but also identifies areas that require further development to align with the faculty's vision of fostering a resilient, adaptive, and innovative educational environment. By systematically cataloguing the current skills, qualifications, and experiences of faculty members, we can establish a clearer picture of how these competencies support the faculty's mission and goals. This section will detail the findings of the skill inventory, providing insights into the diverse backgrounds and specializations of our staff, ultimately guiding future professional development initiatives.

To effectively understand the current capabilities within the organization, conducting a skill inventory is crucial. This process allows for a comprehensive assessment of both strengths and weaknesses among staff members. By identifying existing competencies, the organization can determine areas of excellence as well as those requiring further development, facilitating targeted training and strategic planning for future growth.

Table 1 Strength and Weaknesses Analysis

Strength	Weaknesses
The human resources of the Faculty of Engineering at Unesa are categorized as excellent, supported by 143 lecturers, including 14 Professors and 35 PhD holders. Additionally, 76% (108 lecturers) have already obtained professional educator certification.	There are still lecturers with a PhD qualification who hold the rank of Associate Lecturer. Efforts to motivate lecturers to improve both their academic rank and academic qualifications are being intensified.
A number of faculty members have made significant contributions to applied research, particularly in addressing local and regional challenges. This has resulted in several successful collaborations with industries and the development of practical solutions that benefit society.	There are still researchers who struggle to publish in high-impact international journals, despite their expertise in applied research.

Strength	Weaknesses
<p>Many lecturers have substantial experience in traditional teaching methods and have developed deep expertise in their specific engineering fields. This provides students with a strong foundation in core subjects and ensures a reliable delivery of technical education.</p>	<p>There are still lecturers who primarily rely on conventional teaching approaches, with limited use of modern pedagogical tools such as blended learning or student-centered methods. Efforts to enhance teaching innovation through digital tools and active learning strategies are being actively promoted.</p>
<p>The collaborations undertaken by the Faculty of Engineering in the past three years have greatly contributed to improving the quality of academics, human resources, and facilities.</p>	<p>The quantity and quality of collaborations are still lacking.</p>

2.3 Professional Development Needs Assessment

The analysis of the current staffing at the Faculty of Engineering UNESA reveals several critical skill gaps that must be addressed to align with the faculty’s broader objectives. One of the most prominent areas for improvement is **teaching innovation**. While many faculty members are experienced and well-versed in traditional pedagogical approaches, there is a clear need for the adoption of more **modern teaching methods**. Techniques such as **blended learning, flipped classrooms**, and the integration of **digital tools** into everyday teaching are currently underutilized. As the education landscape rapidly evolves, particularly in the wake of technological advancements, it is vital for lecturers to enhance their capabilities in delivering more engaging, flexible, and student-centered learning experiences. By doing so, the faculty can ensure that its graduates are well-prepared for the demands of both the national and international job markets.

In terms of **research and publication**, there is a noticeable gap in the ability to secure competitive **research grants** and publish in **high-impact international journals**. While many faculty members are engaged in applied research, particularly in collaboration with local industries, they face challenges in extending their research reach to a global level. The faculty’s research output could benefit from more extensive **grant writing workshops** and training in **international research collaboration**, which would not only improve the quality and scope of research but also

elevate the faculty's reputation in the academic world. Additionally, fostering skills in interdisciplinary research would allow faculty members to tackle complex, global challenges that require collaboration across multiple fields.

Another key gap lies in the realm of **leadership and management**. As the university grows and faculty members progress in their careers, the need for skilled academic leaders becomes more pressing. However, many of the current staff, while highly qualified in their technical or academic fields, lack formal training in leadership. This gap is particularly important to address as the faculty prepares for the retirement of senior members. Establishing **leadership and management training programs** will ensure that the next generation of faculty leaders is equipped to handle the administrative, strategic, and operational challenges that come with leadership positions. Such programs would also help create a transparent and efficient governance system, aligning with the faculty's broader goal of improving institutional management.

Finally, there is a clear need to support faculty members in completing their **educator certification (Serdos)**. While some staff have successfully obtained this certification, others have yet to fulfill this essential requirement. Certification is a critical indicator of teaching quality and compliance with national standards, and it directly impacts the faculty's ability to provide **high-quality education**. Therefore, offering structured professional development programs, mentorship, and guidance to ensure that all faculty members complete their educator certification is imperative for maintaining educational excellence. These programs would not only address regulatory compliance but also promote continuous improvement in teaching practices across the faculty.

By addressing these gaps through targeted professional development initiatives, the Faculty of Engineering UNESA can enhance its teaching, research, and leadership capabilities, ultimately advancing its mission to provide high-quality education and make significant contributions to society.

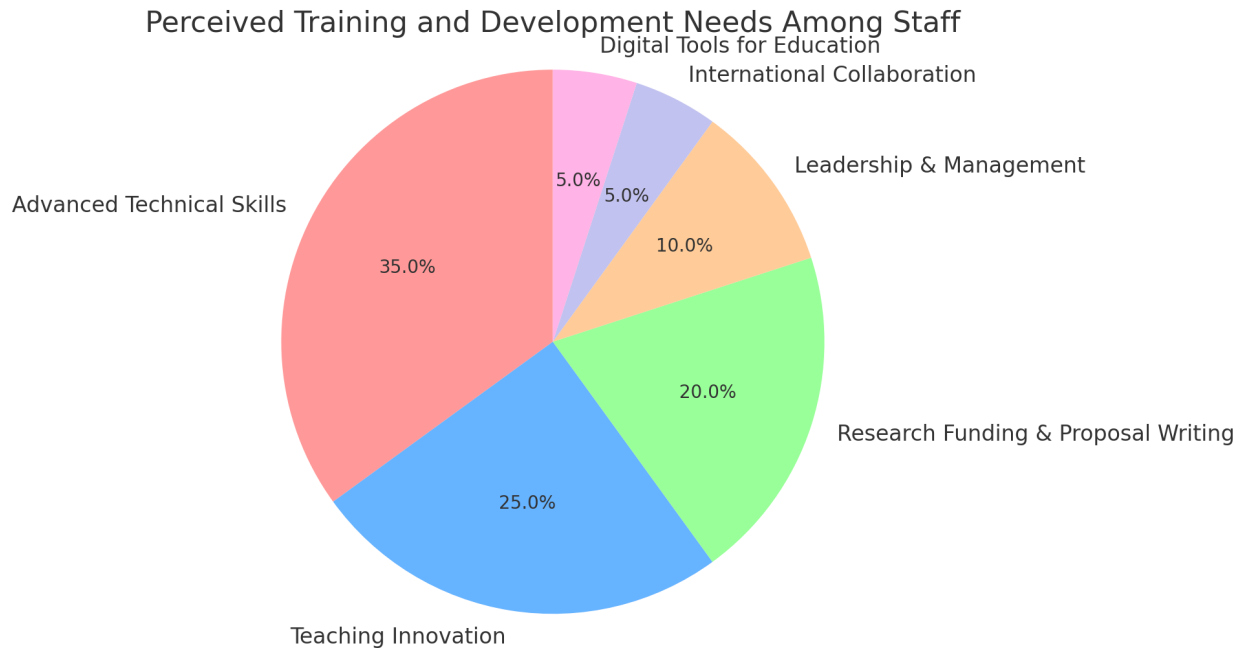


Figure 5 Perceived Training and Development Needs Among Staff

The pie chart above represents the results of a survey conducted among staff to identify their perceived training and development needs. Here are the key insights:

- **Advanced Technical Skills:** 35% of the respondents expressed a need for training in advanced technical areas to enhance their expertise in their respective fields.
- **Teaching Innovation:** 25% of the staff highlighted the need for professional development in innovative teaching methods and pedagogical tools.
- **Research Funding & Proposal Writing:** 20% of the respondents see the need for improving their skills in securing research funding and writing competitive proposals.
- **Leadership & Management:** 10% of the staff are interested in leadership and management training to advance their career prospects.
- **International Collaboration:** 5% want to strengthen their ability to collaborate on international projects.
- **Digital Tools for Education:** 5% indicated the need to improve their skills in using digital tools for education, such as learning management systems.

To achieve the Faculty of Engineering UNESA's goals, it's essential to analyze the existing competencies of the faculty members against the skills required for modern educational practices and industry standards. Here's a structured analysis highlighting the gaps:

Faculty Goals

1. Deliver high-quality education in technology and vocational education that is resilient, adaptive, and innovative.
2. Develop research that leads to product innovation and entrepreneurship.
3. Enhance community service by disseminating innovations in technology and vocational education for societal welfare.
4. Strengthen the three pillars of higher education (Tridharma) through synergistic, integrated, and sustainable approaches.
5. Improve effective governance that ensures quality and accountability.
6. Foster productive national and international collaboration in technology and vocational education.

Table 2 Gaps Analysis

Goal	Requires Skills	Existing Competencies	Identified Gaps
High-Quality Education Delivery	<ul style="list-style-type: none"> • Innovative teaching methodologies (e.g., blended learning, flipped classrooms) • Digital literacy in education tools 	<ul style="list-style-type: none"> • Traditional teaching methods • Basic digital tool usage 	<ul style="list-style-type: none"> • Limited experience with modern pedagogical techniques • Insufficient integration of digital tools in teaching practices
Research Development	<ul style="list-style-type: none"> • Grant writing and funding acquisition • Interdisciplinary research collaboration 	<ul style="list-style-type: none"> • Strong local industry connections • Applied research focus 	<ul style="list-style-type: none"> • Weak skills in securing international research grants • Lack of

Goal	Requires Skills	Existing Competencies	Identified Gaps
	<ul style="list-style-type: none"> Advanced data analysis 		interdisciplinary research capabilities
Community Service Enhancement	<ul style="list-style-type: none"> Community engagement strategies Needs assessment techniques 	<ul style="list-style-type: none"> Involvement in local projects - Basic outreach activities 	<ul style="list-style-type: none"> Limited expertise in systematic community engagement Need for training in project impact evaluation
Strengthening Tridharma	<ul style="list-style-type: none"> Collaborative planning and execution Integration of research into teaching 	<ul style="list-style-type: none"> Focus on individual performance - Some collaboration within departments 	<ul style="list-style-type: none"> Lack of a unified approach to integrate teaching, research, and community service efforts
Effective Governance	<ul style="list-style-type: none"> Leadership and management skills Transparency and accountability practices 	<ul style="list-style-type: none"> Existing governance structures Basic management skills 	<ul style="list-style-type: none"> Limited training in modern governance practices Need for skills in performance

Goal	Requires Skills	Existing Competencies	Identified Gaps
			evaluation and continuous improvement
National and International Collaboration	<ul style="list-style-type: none"> • Networking and partnership building • Cultural competency for collaboration 	<ul style="list-style-type: none"> • Some regional partnerships • Basic understanding of global trends 	<ul style="list-style-type: none"> • Insufficient skills in international collaboration and negotiation • Limited exposure to diverse cultural contexts

2.4 Current Challenges and Limitations

As the Faculty of Engineering at Universitas Negeri Surabaya (UNESA) strives to enhance its educational offerings and research capabilities, it faces several challenges and limitations that could impede its progress. These challenges include issues related to staff retention and recruitment, which can affect the faculty's ability to maintain a diverse and qualified workforce. Additionally, there may be barriers to accessing professional development opportunities, such as limited funding, inadequate training resources, and insufficient alignment between staff needs and available programs. Understanding these challenges is crucial for devising effective strategies that not only address the limitations but also create a supportive environment conducive to growth and innovation. This section will explore the current challenges and limitations faced by the faculty, providing a clearer picture of the obstacles that must be overcome to achieve its vision and mission. In the Faculty of Engineering at UNESA, like many higher education institutions, there are specific challenges related to staff retention and recruitment. These challenges can hinder the faculty's ability to maintain a high-quality workforce capable of achieving its academic and research goals. Below are some of the key issues faced:

Recruitment Challenges

2. **Competitive Salaries:** Engineering professionals, particularly those with expertise in specialized fields such as electrical engineering, civil engineering, and information technology, are often drawn to industry roles that offer higher salaries compared to academia. The faculty needs to offer attractive compensation packages to remain competitive with the private sector.
3. **Stringent Requirements:** Recruitment in academia often requires candidates with not just technical knowledge but also academic experience, such as holding a Ph.D. and having a robust publication record. These high standards can further reduce the number of eligible candidates.

Retention Challenges

1. **Career Development Opportunities:** One of the primary reasons staff may leave is the lack of clear career advancement pathways within the faculty. To retain top talent, there must be opportunities for professional development, research funding, and leadership roles.
2. **Work-Life Balance:** Academia can sometimes require long hours for research, teaching, and administrative duties, which can lead to burnout and dissatisfaction. Addressing these concerns is critical to staff retention.
3. **Research and Innovation Resources:** Without adequate resources for conducting innovative research, faculty members may seek opportunities at institutions that can provide better infrastructure, funding, or collaborative networks.

Challenges in **staff retention and recruitment** can significantly impact the Faculty of Engineering's overall performance, student outcomes, and research initiatives. When qualified staff leave or are difficult to recruit, existing faculty may become overworked, leading to burnout and a decline in teaching quality. This affects students' learning experience, as they miss out on experienced mentors and consistent course delivery. Additionally, research initiatives may suffer due to a lack of experienced researchers, reducing the faculty's ability to innovate, publish, and secure research funding.

Investing in staff retention and recruitment is essential to ensure the faculty maintains high standards in education and research, which are key to its growth and reputation.

Chapter 3: Strategies and Implementation

3.1 Overview of Implementation Strategies

The Faculty of Engineering at Universitas Negeri Surabaya (UNESA) is committed to fostering the continuous professional growth of its faculty and staff. To achieve this, the faculty implements a range of broad approaches aimed at developing professional skills, enhancing research capabilities, and improving teaching effectiveness. These approaches focus on building competencies, encouraging innovation, and fostering an environment that supports both personal and professional development. Here are the key approaches:

1. Continuous Professional Development (CPD) Programs

Objective: Provide faculty and staff with regular opportunities to enhance their knowledge and skills in their respective fields, ensuring they remain current with advancements in technology, research, and education.

Approach:

- a. **Regular Workshops and Training:** Organize workshops on cutting-edge technologies, new teaching methods, and vocational education innovations. These workshops will be conducted in partnership with industry experts and international academic institutions.
 - b. **Short Courses and Certifications:** Offer short-term courses or certifications in areas like engineering design, data analytics, project management, and educational technology. These courses can be conducted both in-person and online.
- #### 2. Research and Innovation Support

Objective: Promote research excellence by providing support systems and resources that encourage faculty members to pursue ground-breaking research projects and innovative teaching practices.

Approach:

- a. **Research Funding and Grants:** Provide internal funding opportunities and guidance on securing external grants for faculty research. This includes support for interdisciplinary and collaborative research initiatives.
- b. **Collaborative Research Platforms:** Facilitate partnerships between faculty members and external stakeholders (industry, government, and international institutions) to foster innovative research projects with real-world applications.

3. International Exposure and Collaboration

Objective: Provide opportunities for faculty members to engage with the global academic community, gain exposure to international best practices, and contribute to global knowledge exchange.

Approach:

- a. **International Conferences and Workshops:** Encourage and financially support faculty participation in international conferences, workshops, and symposiums. This enables faculty to present their research, network with global peers, and stay updated on the latest developments in their fields.
- b. **Joint Research Initiatives:** Foster international research collaborations, enabling faculty members to work with international partners on joint projects, co-author publications, and contribute to global innovations.

These broad approaches provide a holistic strategy to achieve professional development goals for the faculty of engineering at UNESA. By combining continuous learning opportunities, research support, and international collaboration the Faculty of Engineering aims to foster an environment where faculty can thrive professionally and contribute meaningfully to the academic community.

3.2 Professional Development Programs

The Faculty of Engineering at Universitas Negeri Surabaya (UNESA) is committed to enhancing the skills and competencies of its staff through targeted professional development programs. These programs will include workshops, seminars, and mentorship opportunities designed to address specific needs identified in previous assessments. By providing access to these resources, the faculty aims to foster a culture of continuous learning and improvement, ensuring that both academic and administrative staff are well-equipped to meet the challenges of the evolving engineering field.

In general, the phase of the Human Resource Development program Technical Activity is based on: Unesa is phase 1 which is an achievement until 2015-2019, phase 2 is a plan and target for achievement in 2020-2024, phase 3 is a plan and target for achievement in 2025-2030, Phase 4 is a plan and target for achievement in 2031-2034, and Phase 5 is a plan and target for 2035-2040 as presented in Figure . Currently, Unesa is entering phase 2, namely towards a Recognized Regional Teaching University.

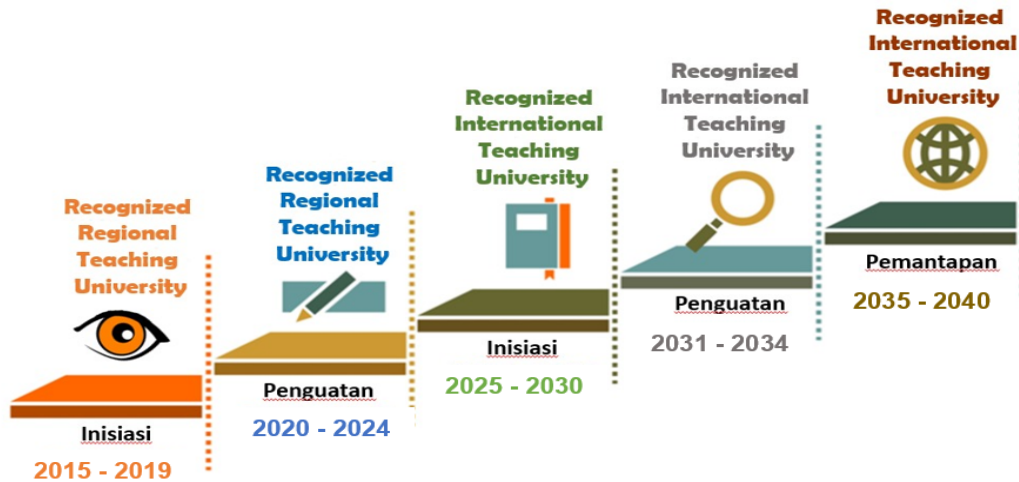


Figure 6 Phase of the Human Resource Development program

ALREADY ACHIEVED 2015-2019		TARGET 2020-2024	
LECTURER		LECTURER	
• Doctorals	: 25	• Doctorals	: 53
• Masters	: 73	• Masters	: 102
TOTAL	: 98	TOTAL	: 155
EDUCATION PERSONNEL		EDUCATION PERSONNEL	
• Masters	: 2	• Masters	: 6
• Undergraduate	: 25	• Undergraduate	: 38
		• Diploma 3	: 7
		• Diploma 2	: 1
		• Diploma 1	: 0
		• SMA	: 19
		TOTAL	: 71

The Human Resources Development Program for the 2020-2024 period is divided into 2 targets, namely lecturers and education staff in terms of quantity and quality. The explanation is as given:

1. Educator / Lecturer

Based on the lecturer identification data presented, the Faculty of Engineering plans Human Capital Development in terms of quantity and quality.

a. Quantity

Meeting the needs of lecturers by considering the ideal lecturer-student ratio according to the provisions. These efforts are carried out through recruitment carried out by the Ministry of Education, Culture, Research and Technology as well as the recruitment of permanent and contract lecturers by Unesa.

Encouraging, facilitating, assigning master's qualified lecturers for further study to the doctoral level. These efforts must be made immediately to increase the number of doctoral qualified lecturers which currently amounts to 112 people or 66% of the total number of lecturers. This policy also brings Unesa, especially the Faculty of Engineering, ready to go international.

b. Quality

Continuing education. Facilitating lecturers with master's qualifications for further study at the doctoral level as an effort to increase their competence according to the scientific field. Joint research and joint publication (collaborative research). This program is carried out by inviting researchers or guest lecturers from leading universities abroad or sending lecturers of the Faculty of Engineering to foreign universities or other universities in Indonesia, especially those that already have an MoU with Unesa. The lecturers carry out activities in the form of joint research & joint publications.

- *Academic Recharge Program*

Faculty of engineering lecturers are encouraged to take academic refills at overseas universities.

- *Competency certification*

This program is carried out by sending lecturers to universities abroad as part of their professional development activities according to the scientific field.

- *Guest lecturers & Guest professors*

This program provides lecturer exchange, between Unesa and foreign universities. While at Unesa guest lecturers can act as keynote speakers in International Conferences, give lectures on relevant subjects, including giving public lectures.

- *Workshops & trainings*

This program is held for lecturers according to their needs, both academic and non-academic

- *International conference*
Provide a forum for lecturers to interact academically through organizing international conferences.
2. Administrative staff
- a. Quantity
Meeting the needs of education personnel by considering the workload through needs and position analysis. Encourage and facilitate administrative staff to carry out further studies. Only recruit education personnel who have diploma or bachelor qualifications according to competence.
 - b. Quality
 - Continuing education.
Encouraging, facilitating, and assigning education personnel to continue their education to a higher level as an effort to increase their competence and expertise.
 - Provide workshops & training to administrative staff according to their skills and needs.
 - Facilitate opportunities to learn English
Employee education personnel with minimum qualifications of Diploma graduates with mastery of ICT and active mastery of English, both oral and written.

3.3 Resources and Support

To successfully implement the professional development programs, the Faculty of Engineering at Universitas Negeri Surabaya (UNESA) will allocate necessary resources and support structures. This includes a dedicated budget to fund training initiatives, workshops, and seminars aimed at enhancing staff skills. Additionally, the faculty will invest in infrastructure such as training facilities and digital platforms that facilitate online learning. Leveraging internal expertise, experienced faculty members will lead various training sessions, while collaborations with industry partners will provide practical insights and experiences. By ensuring that adequate resources and support are in place, the Faculty of Engineering aims to create a robust environment for professional growth that aligns with its strategic goals and enhances the quality of education and research.

The budget allocation for a Human Capital Development Program (HCDP) typically covers

several essential components. A significant portion, around 40%, is dedicated to Training and Development, including skills development programs, workshops, seminars, and mentorship opportunities. Another 20% goes toward Technology and Tools, such as learning management systems (LMS), e-learning platforms, and employee performance tracking tools. Additionally, 15% is allocated for Employee Engagement and Well-being, which includes initiatives like mental health support, wellness programs, and team-building events. Recruitment and Onboarding receives 10% of the budget, ensuring resources for talent acquisition and smooth integration of new hires. Consulting and advisory services make up another 10%, with funds set aside for external consultants and specialists who can provide insights on talent management and workforce strategies. A smaller portion, 5%, is reserved for Monitoring and Evaluation, using tools to assess the program's success and gather employee feedback. Lastly, the remaining 5% is for Miscellaneous Costs, covering contingencies and administrative expenses. This allocation ensures a well-rounded approach to developing employee skills, engagement, and overall effectiveness.

Chapter 4: Implementation Plan

The Implementation Plan outlines how the strategies identified in previous chapters will be executed to enhance human capacity within the Faculty of Engineering at UNESA. It includes specific action steps, timelines, roles and responsibilities, resource allocation, communication strategies, risk management, and feedback mechanisms.

4.1 Overview of Implementation Goals

The primary goals of this implementation plan are to:

- Enhance staff skills and competencies through targeted professional development programs.
- Foster a culture of continuous learning and innovation within the faculty.
- Ensure alignment of development initiatives with the faculty's vision and mission.

4.2 Action Steps

This section lists specific initiatives to be undertaken, along with the key actions for implementation.

Table 3 Action Steps Analysis

Action Step	Description	Key Actions
Needs Assessment and Skill Inventory	Identify current skill levels and development needs of academic and administrative staff.	<ul style="list-style-type: none"> • Conduct surveys and assessments • Categorize roles based on specific needs
Develop Professional Development Programs	Design tailored programs based on identified needs to enhance teaching, research, and administrative skills.	<ul style="list-style-type: none"> • Create specialized training programs • Implement mentorship initiatives • Foster industry collaborations
Allocate Resources and Support	Provide financial and institutional support for development programs.	<ul style="list-style-type: none"> • Ensure adequate budget allocation • Offer incentives for program participation
Establish a Monitoring and Evaluation System	Track the effectiveness of development programs to	<ul style="list-style-type: none"> • Set clear goals and KPIs • Conduct regular evaluations to assess

	ensure continuous improvement.	impact on staff performance and outcomes
Address Retention and Recruitment Challenges	Develop strategies to retain qualified staff and attract new talent to fill skill gaps.	<ul style="list-style-type: none"> • Improve working conditions • Promote faculty strengths to attract top talent
Long-Term Strategic Planning	Align human capacity development efforts with the long-term goals of the faculty to ensure sustainability.	<ul style="list-style-type: none"> • Align with faculty mission and vision • Integrate development programs into the regular operations of the faculty

4.3 Roles and Responsibilities

Clearly defined roles ensure accountability and effective execution of the plan.

- **Faculty Development Committee:** Responsible for overall planning and coordination of professional development initiatives.
- **Department Heads:** Assist in identifying specific needs within their departments and facilitate participation in training.
- **External Consultants:** Provide expertise for specialized training programs.
- **Administrative Staff:** Manage logistics and communications related to training sessions.

4.4 Resource Allocation

Resources necessary for the successful implementation of the plan include:

- **Budget:** Allocation for training materials, external trainers, and administrative expenses.
- **Facilities:** Use of university classrooms and labs for conducting training sessions.
- **Technology:** Access to online platforms for virtual training and webinars.
- **Personnel:** Staff time allocated for participation in training and mentoring activities.

4.5 Communication Plan

A robust communication strategy is vital for ensuring all stakeholders are informed and engaged throughout the implementation process.

- **Monthly Updates:** Distribute newsletters to faculty and staff outlining upcoming training

sessions and progress.

- **Workshops and Seminars:** Host introductory sessions to explain the benefits of professional development initiatives.
- **Feedback Channels:** Establish open channels for staff to provide input and suggestions regarding training needs.

4.6 Risk Management Strategies

Identifying potential risks and implementing strategies to mitigate them will help ensure the success of the HCDP.

- **Staff Resistance:** Address concerns through transparent communication and showcasing the benefits of training.
- **Resource Constraints:** Prioritize essential training programs and seek external funding or partnerships.
- **Scheduling Conflicts:** Plan sessions at varied times to accommodate different staff schedules.