TRACER STUDY: STRATEGIES FOR STRENGTHENING ACADEMIC PROGRAM IN THE 5.0 ERA

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ABSTRACT

As technology evolves through the 4.0 Industrial Revolution and the 5.0 Era, higher education institutions must adapt to remain relevant. Tracer Studies are crucial for tracking alumni career paths and assessing the effectiveness of academic programs, ensuring that curricula align with industry needs.. UIN Ar-Raniry Banda Aceh, with over 55,000 graduates, faces challenges due to the lack of a reliable alumni database. Fragmented data on alumni career paths hinders effective engagement and development. Tracer Studies can address this by providing valuable insights into alumni outcomes and identifying gaps in curricula. This study is also aligned with Indonesia's Eight Key Performance Indicators, focusing on alumni employability and professional success. For UIN Ar-Raniry, it is critical that alumni qualifications meet the evolving demands of the job market, especially in science-related fields. Additionally, Tracer Studies help institutions meet accreditation requirements from Indonesia's National Accreditation Board for Higher Education, ensuring academic programs remain relevant and effective. To address these issues, from January to June 2024, UIN conducted a tracer study on alumni from 2021, 2022, and 2023 in Aceh Besar, Banda Aceh, and Sabang. Data were collected through online questionnaires, blended interviews, and focus group discussions (FGD). The study found that out of 460 respondents, 102 alumni are employed, with 12 being entrepreneurs. Notably, 76% found jobs within six months, although 33.5% were not actively seeking employment. Alumni users expressed high satisfaction with alumni leadership skills and integrity, despite challenges like limited job openings and networking opportunities. Ultimately, this study is essential for evaluating how well institutions meet labor market demands, refining curricula, and strengthening alumni relations. By conducting regular tracer studies, UIN Ar-Raniry Banda Aceh can ensure its graduates are equipped with the necessary skills, improve alumni engagement, and contribute more effectively to regional and national development.

Introduction

As technology advances and the 4.0 Industrial Revolution reshapes industries, higher education must adapt to remain relevant. Tracer Studies are crucial for tracking graduates' career paths and evaluating the effectiveness of educational programs. They offer valuable insights for institutions to adjust curricula and stay aligned with the evolving demands of the 5.0 Era (Herald Schomburg, 2016), which emphasizes AI, big data, IoT, and human-centric innovation.

Without regular updates to curricula based on job market needs and alumni performance, graduates may face skills mismatches, impacting employability. Institutions risk falling behind, leading to decreased enrollment, funding challenges, and difficulty attracting top faculty. Additionally, a lack of robust alumni data weakens career services and networking opportunities (Ron Dearing, 1997). Tracer Studies help institutions address these issues by providing feedback on alumni outcomes, identifying curriculum gaps, and ensuring programs meet industry needs. For example, UIN Ar-Raniry Banda Aceh, with over 55,000 graduates since 1965, can use Tracer Studies to refine its programs and maintain relevance.

Currently, UIN Ar-Raniry Banda Aceh lacks a valid and reliable alumni database, which impedes effective engagement and institutional development. Fragmented data on alumni career paths reduces the quality and usefulness of information. Alumni are a crucial and strategic asset for higher education institutions (Thomas Bieger, 2024). Alumni are a valuable asset, and well-managed alumni relationships can provide critical job market insights and entrepreneurial opportunities for new graduates. Institutions should prioritize systematic alumni tracking and engagement to drive continuous improvement and institutional success (Kemdikbud, 2020).

This research aligns with the Eight Key Performance Indicators (IKU) for higher education, particularly focusing on the quality of alumni as measured by their employment success and experience (Kemdikbud, 2020). For UIN Ar-Raniry Banda Aceh, ensuring that alumni qualifications remain relevant is crucial, especially given the growing preference in business and industry for graduates with science backgrounds. This trend often marginalizes alumni from Islamic Higher Education Institutions (PTKIs) and underscores the need for this research to identify and address these challenges.

The research also plays a key role in evaluating and improving curricula and learning facilities at UIN Ar-Raniry Banda Aceh. Tracer studies are now required for accreditation in Indonesia by the National Accreditation Board for Higher Education (BAN-PT), making them essential for meeting accreditation standards.

Universities must shift from simply producing graduates to actively developing their alumni, in line with Sustainable Development Goals (SDGs) (Ridwan Abdullah Sani, 2014); (David Kirp, 2019). Tracer studies help in this transition by providing valuable insights for curriculum improvement and alumni development, ensuring that institutions effectively prepare students for the job market and maintain strong alumni relations. Alumni should be a key focus for higher education institutions (Jaja Suteja, 2020)
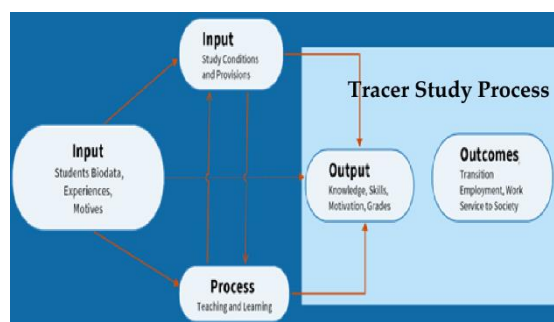

Figure 1 Conceptual Framework of Tracer Study (Schomburg, Handbook: 2003)

Conceptually, tracer study operates on the principle that evaluating outcomes requires a comprehensive understanding of the processes that contribute to them. Schomburg, identifies two primary goals of a tracer study: first, to assess graduates' employability by gathering labor market information, and second, to collect feedback from graduates to refine and improve academic programs.

This study offers a novel contribution by presenting a comprehensive tracer study at UIN Ar-Raniry Banda Aceh, a public Islamic university with over 55,000 alumni, yet lacking a centralized alumni tracking system. Departing from conventional tracer studies that emphasize only employment rates, this research adopts a mixed-method approach combining quantitative surveys with qualitative insights from interviews and focus group discussions (FGDs). It uniquely examines alumni trajectories across multiple graduation years (2021–2023) and geographic regions (Aceh Besar, Banda Aceh, and Sabang). Furthermore, it is among the first tracer studies in Indonesian higher education to explicitly align findings with the Ministry of Education and Culture's Eight Key Performance Indicators (IKU), offering actionable insights for curriculum development, accreditation readiness, and long-term institutional competitiveness in the dynamic 5.0 labor market.

In addition, this study makes a theoretical contribution by integrating Career Adaptability Theory (Savickas, 1997) into the analysis of alumni outcomes. By linking alumni performance to constructs such as concern, control, curiosity, and confidence, the four dimensions of career adaptability, the research introduces a novel perspective rarely explored in tracer studies, particularly within the context of Islamic higher education institutions. This integration enhances the depth of traditional tracer study frameworks by highlighting the role of personal agency and self-regulation in career success, an aspect often overlooked in institutional alumni tracking systems. Furthermore, this approach underscores the importance of tracer studies in assessing the extent to which higher education institutions meet the evolving demands of the business and industrial sectors.

Research Methods

This study is a qualitative research. Its aim is to understand a phenomenon in its natural social context by emphasizing deep communication interactions between the researcher and the phenomenon under investigation (Sugiyono, 2011). Qualitative research is a type of research where findings are not obtained through statistical procedures or other numerical methods (Suharsimi Arikunto, 2006).

In this study, both primary and secondary data sources are used. Primary data is collected directly from respondents and informants using instruments such as questionnaires, focus group discussions (FGD), and interviews. In addition to primary data, secondary data is also utilized, which consists of the alumni database from the Student Affairs and Alumni Division at UIN Ar-Raniry Banda Aceh to calculate the number of alumni during the specified period.

Data collection techniques refer to the methods used by the researcher to gather information from various sources for the research (Imam Gunawan, 2013; Komariah et al., 2011; Lexy J Moleong, 2018). This study employs both online and offline approaches for data collection. Online data collection is carried out through questionnaires. The study uses four data collection techniques: questionnaires, interviews, focus group discussions (FGD), and documents. Data analysis is conducted through several stages, including reduction, display, and conclusion/drawing/verifying.

Results and Discussion

This study addresses three key issues (1) distribution of UIN Ar-Raniry Banda Aceh Alumni, (2) alignment of Job Types with Alumni Potential in the Business and Industrial Sectors, (3) employer Satisfaction with Alumni Performance.

1. Distribution of UIN Ar-Raniry Banda Aceh Alumni

The first issue investigates the geographic distribution of UIN Ar-Raniry alumni from 2021, 2022, and 2023, focusing on Aceh Besar District, Banda Aceh City, and Sabang City. Data from 460 respondents, including those from focus group discussions (FGDs), reveals that most alumni from these years are predominantly located within Aceh Province.

There is no evidence of alumni from 2021, 2022, and 2023 working abroad. Most alumni remain within Aceh Province, with movement mainly occurring between districts and cities within the province. A few alumni have moved to other provinces, primarily for further studies. For instance, one alumni from Sabang is employed at Pertamina in East Kalimantan, while others pursuing studies outside Aceh are primarily based in Yogyakarta. The data indicates that the alumni distribution remains concentrated in Aceh Province, with only a small number relocating for education or employment in other regions. The low distribution of UIN Ar-Raniry alumni to other regions is also influenced by cultural factors. The Acehnese cultural tradition does not categorize them as migrants.

2. Adaptation of Job Types
    a. Analysis of Alumni Employment

According to the Central Bureau of Statistics (BPS), employment is defined as economic activity undertaken by an individual with the aim of earning or helping to earn income or profit, for at least one hour (continuously) in the past week (Steve Taplin, 2022). This includes activities involving unpaid work that contributes to a business or economic activity.

Employment is a key focus of this research. Among the 460 respondents surveyed, 102 (22.17%) are currently employed. The remaining data shows that 70.65% of UIN Ar-Raniry alumni who graduated in 2021, 2022, and 2023 are not employed, while 7.17% are pursuing further studies. This information is illustrated in the following graph.

    b. Job Search Activity

Over the past four weeks, many alumni have been relatively passive in their job search, with 33.5% not actively seeking employment. Meanwhile, 6.1% are awaiting the results of job applications, and 8.5% are expected to start work within the next two weeks.

This data reflects current labor market trends. A recent LinkedIn study found that 85% of professionals in Indonesia are seeking new job opportunities in 2024, indicating a shift in job seekers' attitudes. This trend includes a growing focus on roles that better align with their expertise, as well as increasing demand for higher salaries and improved work-life balance. In the 5.0 Era, not actively seeking employment is not the right solution. The 5.0 Era presents many challenges, not only concerning knowledge but also regarding skills (Aldoory & Toth, 2004); (Craig E. Johnson & Michael Z. Hackman, 2013)

    c. Job Search Methods

One of the challenges faced after completing higher education is securing employment. Factors hindering job acquisition include limited networking opportunities and the rapid evolution of the business and industrial sectors, especially in technology. These changes

demand new skills that educational institutions have not yet fully adapted to (Burke & Diazgranados, 2011; Marciniak et al., 2022; Sadeghi et al., 2012).

In the context of the 5.0 Era, which emphasizes the integration of advanced technologies and human-centric approaches, the data on job search methods among UIN Ar-Raniry Banda Aceh alumni reflects how traditional and modern strategies align with these evolving trends. The most prevalent method, using advertisements on social media platforms such as WhatsApp, Instagram, X, and LinkedIn, aligns with the 5.0 Era's focus on leveraging digital technology for job searching. Social media's dominance in the job search process highlights the growing importance of digital skills and online presence, which are crucial in today's technology-driven job market.

Personal connections and direct contacts, utilized by 12.75% of alumni, represent the human-centric aspect of the 5.0 Era. This approach underscores the significance of networking and relationship-building, which remain vital even as technology evolves. The strategy of applying to companies without knowing available positions (10.78%) and directly contacting companies (9.80%) indicates a proactive approach in a competitive job market, reflecting the 5.0 Era's emphasis on adaptability and initiative. Building networks since college (11.76%) and seeking opportunities through family (5.88%) also tie into the 5.0 Era's emphasis on leveraging existing relationships and personal networks, which complement technological advancements.

However, traditional methods such as using academic advisors (1.96%) or newspapers and magazines (1.96%) show a slower adaptation to the digital shift, indicating areas where alignment with the 5.0 Era's focus on technology and innovation could be improved.

Interestingly, UIN Ar-Raniry's involvement in alumni job placement is minimal, with only 1% of alumni having been contacted by the university or program. Some alumni expressed frustration during the survey, noting a lack of communication from the university since their graduation, as reflected in comments like, "I graduated two years ago from UIN and have never received any information, so why are you asking for data now?"

Yandra, Head of the Aceh Library, commented on the high unemployment among alumni, suggesting that the issue extends beyond job opportunities to include job seekers' confidence. He emphasized that universities should not only focus on academic preparation but also on building students' self-confidence to better support their career advancement (Yandra, 2024). Yandra 's perspective reflects a well-established concept in career development theory. It aligns with Savickas's theory of Career Adaptability, introduced in 1997. Career Adaptability refers to an individual's ability to self-regulate and effectively manage unfamiliar and complex issues related to career development, job transitions, and work challenges. This theory is recognized as a crucial approach for enhancing career readiness (Hirschi et al., 2015). This theory is considered a significant approach to enhancing career readiness.

According to Career Adaptability theory, there are four key aspects that form adaptability (1) Concern: Awareness and planning for future career needs and opportunities, (2) Control: The ability to take charge of one's career development and manage one's career path actively, (3) Curiosity: The desire to explore and learn about different career options and environments, (4) and Confidence: The belief in one's ability to handle career challenges and transitions effectively.

d. Alignment

Improving the quality, relevance, and competitiveness of education is a major challenge. A significant gap often exists between graduates' skills and job market demands (Toquero & Ulanday, 2021). Higher education institutions sometimes focus too heavily on academic

processes, which can lead to a mismatch between graduates' skills and employer needs, and contribute to hasty recruitment decisions . Key factors affecting educational quality include curriculum design, facilities, technology, teaching methods, evaluation techniques, and alignment with industry needs (Knight & De Wit, 2018). In terms of relevance, the data shows a varied connection between alumni's jobs and their academic programs. Among 102 respondents, 10.8% find their jobs entirely unrelated to their field of study, and 31% feel their jobs are only somewhat related. However, 43.1% believe their current jobs are closely related to their studies (Poell, 2014).

The overall alignment between academic programs and job fields is generally positive. Twenty-seven percent of alumni rate this alignment as level 5, indicating a very close relationship, and 20.6% rate it as level 4, reflecting a strong connection. Yet, unemployed alumni in Sabang reported a mismatch between their skills and recruitment requirements. Focus Group Discussions (FGDs) revealed that local recruitment often prioritizes foreign language skills and IT expertise and is conducted on short notice. This was confirmed by the Head of the Sabang Library, who noted that job openings are rarely advertised publicly and often cater to specific needs.

Muhammad Amin praised UIN Ar-Raniry Banda Aceh alumni for their performance, noting their effective task completion and teamwork. However, he emphasized the need to improve technological proficiency, which has become increasingly important (Amin, interview, June 8, 2024). Overall, while there is a positive correlation between academic programs and job fields, enhancing technological skills is crucial for better alignment with market demands.

e. Alumni Employment Status

Employment status determines employees' rights and protections. According to the Central Bureau of Statistics (BPS), it reflects an individual's role in a business or activity. Among 102 alumni, the data shows that 10 are Civil Servants (ASN), 38.2% are Temporary Contract Employees (PKWT), 26.5% are Permanent Contract Employees (PKWTT), 22.5% are honorary employees, and 2.9% are still interns. Temporary Contract Employees (PKWT) often face job insecurity compared to Permanent Contract Employees (PKWTT), who enjoy more stability. PKWT contracts can last up to 10 years but do not include severance pay upon termination.

The study indicates that 27.45% of alumni work in government institutions, 36.27% are employed in unspecified sectors, 2% in multinational state-owned enterprises, 2% in national state-owned enterprises, and 10.78% in non-formal educational institutions like dayah (Islamic boarding schools). Permanent Contract Employees (PKWTT), representing 26.5% of alumni, have indefinite employment with a probationary period of up to 3 months, during which the employer must pay at least the minimum wage.

f. Alumni Main Occupation

According to the Central Bureau of Statistics (BPS), a main occupation is defined as follows: if an individual holds only one job, that job is classified as their main occupation. If an individual has multiple jobs, the main occupation is the one to which they dedicate the most time. If time allocation is equal across jobs, the job that generates the highest income is considered the main occupation. An individual is classified as having multiple jobs if they manage these jobs separately.

Table 1. Type of Institutions Where Alumni Work

Type of Institution	Number	%
Multinational State-Owned Enterprise (BUMN)	2	1.96
National State-Owned Enterprise (BUMN)	2	1.96
Dayah (Islamic Boarding School)	11	10.78
Government Institution	28	27.45
Multinational Private Company	7	6.86
National Private Company	7	6.86
Entrepreneur/Self-Owned Business	8	7.84
Other	37	36.27
Total	102	100

The data shows that 27.45% of alumni are employed in government institutions, and 10.78% work in Dayah (Islamic boarding schools), highlighting strong representation in public sector and educational roles. Additionally, 7.84% are engaged in entrepreneurship. Both multinational and national private companies employ 6.86% of alumni each, while only 1.96% work for multinational or national state-owned enterprises. The "Other" category covers 36.27% of alumni, indicating diverse employment across various sectors. Overall, alumni are mainly employed in government and education, with notable entrepreneurial activity and varied roles in other sectors.

g. Alumni Starting Work

The data indicated that recent graduates are increasingly entering the workforce, with 39.6% starting their careers in 2023 and 19.8% in 2022. This trend indicates a faster transition into employment, aligning with the 5.0 Era's emphasis on rapid adaptation and leveraging new technologies. In contrast, alumni from earlier years, such as 2003, 2006, and 2014, had more dispersed and gradual career starts. This shift towards more immediate employment among recent graduates reflects the era's focus on agility and timely integration into the job market.

The data shows the distribution of alumni starting their careers across different years. The majority of alumni began working in 2023, accounting for 39.6% of the total, indicating a recent surge in career starts. In 2022, 19.8% of alumni started their careers, while 2021 saw 11.9% begin working. The numbers from 2019 and 2020 are lower, with 7.9% and 4.0% respectively. Earlier years, such as 2003, 2006, 2014, 2015, 2016, 2017, and 2018, had very few alumni starting their careers, ranging from 1.0% to 2.0%. The data reflects a trend of increasing numbers of alumni entering the workforce in recent years, with a significant peak in 2023.

h. Job Search Waiting Time

The data on waiting time for graduates to secure employment reveals that 58 graduates, or 56.9%, found jobs within three months of graduation. This indicates that the majority of graduates experience relatively short job search periods. In contrast, 18 graduates, or 17.6%, secured employment between three to six months after graduating. This shows a moderate waiting period for some. The remaining 26 graduates, or 25.5%, took more than six months to find a job, highlighting that a quarter of the graduates face a longer job search duration. Overall, most graduates are able to find employment quickly, although there is a notable portion who experience extended job search periods. Of the 102 respondents who are employed, 67.6% had jobs while studying. Consequently, these individuals are not included in the waiting period for securing employment.

However, some individuals changed jobs after graduating because they received new offers with better salary prospects. Among the 102 employed respondents, 17.7% had a waiting period of 3 to 6 months, while 56.3% had a waiting period of less than 3 months. According to BAN-PT guidelines, a waiting period of less than 3 months receives a score of 4. It is important to note that this waiting period is relative, as some respondents had already secured employment before graduating.

3. Alumni User Satisfaction with UIN Ar-Raniry Alumni

This section analyzes the satisfaction of UIN Ar-Raniry Banda Aceh alumni users across 13 key aspects of alumni performance, including: integrity, teamwork and leadership, expertise, foreign language skills, communication skills, IT skills, self-development, problem-solving skills, responsibility, concern for the job and organization, adaptability, initiative, and overall usefulness to the work institution.

a. Integrity (ethics and morals)

Alumni user satisfaction with the ethical, attitude and integrity aspects of alumni in the work environment shows a balanced level of participants between Satisfied and Very Satisfied. Ethics refers to the moral standards and values that govern a person's behavior in social and professional interactions. In the workplace, ethics plays a vital role in ensuring that decisions and actions are in line with widely accepted norms. Ethics help prevent dishonest or harmful practices, and promote transparency and fairness in all aspects of work.

The presence of ethics, politeness, and strong integrity in the work environment yields several benefits. First, it enhances productivity, as a workplace grounded in strong ethical standards encourages employees to focus on shared goals, minimizing distractions caused by conflicts or unfair practices (Linda K. Trevino & Katherine A. Nelson, 2019). Second, it helps preserve the company's reputation. Organizations recognized for their ethical behavior and integrity are more likely to attract top talent and maintain a positive image with customers and the public (Jones, 1991).

b. Teamwork and Leadership

The results indicate that 68.8% of alumni users are satisfied with the leadership demonstrated by alumni, while 31.3% are very satisfied. This suggests that many alumni may lack strong leadership skills, which are crucial for individual growth and community development in the 5.0 Era. Effective leadership is now a critical necessity across various professions, not just an advantage. As Northouse notes, good leadership involves managing teams, motivating others, and fostering cooperation towards common goals (Peter G. Northouse, 2013). Alumni with strong leadership qualities are better at managing diverse teams and promoting collaboration, essential in today's teamwork-focused work environment. Additionally, Avolio and Bass emphasize that effective leadership directs efforts towards shared goals, contributing to both organizational success and personal career growth (Avolio & Bass, 2004). Therefore, developing leadership skills among alumni is crucial for their professional advancement and effective teamwork in a rapidly changing job market.

The data shows a strong consensus among respondents about their teamwork abilities, with 50% being "satisfied" and 50% "very satisfied." Research by Salas, highlights that effective teamwork is essential for organizational success and enhances job satisfaction and performance (Salas & Cannon-Bowers, 2001). Similarly, Tuckman's study on team development stages-forming, storming, norming, and performing-indicates that satisfaction with teamwork is linked to the effectiveness of these stages (Tuckman, 1965). Thus, the positive perceptions reported align with these findings on team dynamics and satisfaction.

In addition, alumni users also think this question is very important for them so they can provide input. In the ability of alumni to work in teams with different backgrounds, users are Satisfied, which is 50.00%. The data on the ability to direct work teams shows that 56.3% of respondents are "satisfied," while 43.8% are "very satisfied" with their capacity to lead teams. This indicates a generally positive view of their team management skills. Research underscores the importance of effective team leadership. According to Hackman, effective leadership significantly impacts team performance and satisfaction by fostering a positive work environment and ensuring clear direction (Hackman & Oldham, 1976). Furthermore, Yukl highlights that leaders who can effectively direct teams contribute to higher levels of team satisfaction and productivity, as they help align team efforts with organizational goals (Yukl & Gary, 2013).

c. Alumni Expertise and Professionalism

The expertise and professionalism of alumni are perceived as unsatisfactory by users, with only 43.8% very satisfied with alumni's ability to apply their knowledge in the workplace. This suggests a competency gap, as satisfaction with alumni's field-specific expertise remains below 50%. Research underscores the importance of field-specific skills for job performance and satisfaction (Bell & Kozlowski, 2008). Therefore, addressing these competency gaps is crucial for improving alumni effectiveness and user satisfaction.

Mastering a specific field of knowledge is crucial for achieving success and making a significant impact in one's career and professional life. When individuals have a deep understanding of their area of expertise, they often find better career opportunities. Companies and organizations in 5.0 era are actively seeking individuals whose skills align with their specific needs, and those who have demonstrated mastery in a particular field are frequently provided with more opportunities for career advancement and development. Proficiency in a particular area allows professionals to deliver impactful contributions that drive organizational success and innovation (McCall et al., 1998).

d. Foreign Language Ability

In the context of the 5.0 era, which emphasizes the integration of advanced technologies and human-centered approaches, mastering a foreign language remains a crucial asset. The 5.0 era is necessitating strong communication skills across diverse cultural and linguistic backgrounds. As globalization continues to expand, companies increasingly value employees who can bridge language barriers and engage with international partners and customers effectively.

In this environment, 56.3% of alumni users are very satisfied with the foreign language skills of alumni, reflecting a positive response to their ability to navigate global interactions. However, 12.5% of alumni users express dissatisfaction with these skills, highlighting an area that still needs improvement. This dissatisfaction suggests that while many alumni meet the expectations for foreign language proficiency, there remains a significant opportunity to enhance these skills further. Addressing this issue is crucial in the 5.0 era, where effective communication and cultural fluency are key to leveraging technological advancements and fostering successful global collaborations.

e. Alumni Communication Skills

Communication is the process through which information, ideas, thoughts, and feelings are exchanged between two or more individuals. The purposes of communication can vary widely, including conveying information, building interpersonal relationships, expressing emotions, influencing others, or providing entertainment (Julia T. Wood, 1997).

According to alumni users, the communication skills of alumni are considered quite strong. Specifically, 43.8% of alumni users view communication skills as essential, and 56.3% are very satisfied with the communication abilities of alumni working in their organizations. The Head of the Sabang Transmigration Office, Lutfi, has notably praised the communication skills of UIN Ar-Raniry Banda Aceh alumni employed at his office. He highlighted that the presence of these alumni has been particularly beneficial, especially in assisting foreign tourists who encounter issues in Sabang (Lutfi, Interviews, 2024)

The ability to communicate well is essential in everyday life, both in personal and professional contexts, as it allows individuals to interact, collaborate, and build strong relationships with others. Being able to communicate effectively with coworkers is a very important skill in the work environment. Good communication allows for more productive and harmonious collaboration among team members. This helps in achieving common goals more efficiently.

f. IT Usage Skills

Being able to use information technology properly according to the needs of the work environment is very important in today's digital era. Information technology not only facilitates productivity and efficiency, but also becomes the foundation for various aspects of work and communication in the organization. Mastering information technology allows individuals to complete tasks more efficiently.

As many as 62.5% of alumni users are satisfied with the alumni's ability to use information technology and 31.3% are very satisfied, meaning. The alumni's ability to use information technology still needs to be improved, the campus needs to emphasize this ability for students so that when they finish college and enter the workforce, alumni already have the ability to master technology which is very much needed by the workforce.

Modern organizations increasingly depend on information technology to achieve strategic goals. Smart technologies have the potential to enhance and rehumanize work rather than dehumanize it (Allison Fine & Beth Kanter, 2018) . This shift emphasizes not only efficiency but also the importance of maintaining human values in technological advancement.

Skills in using technology effectively help support the overall strategy and initiatives of the organization. From the data, it can be seen that 62.5% of alumni users are satisfied with the ability to use IT alumni in the work environment and even 31.3% feel very satisfied. IT skills are indeed one of the soft skills that must be mastered by fresh graduates. This is because companies want someone who is experienced, dedicated, and able to utilize technology in helping to accelerate their work.

g. Problem Solving

To effectively resolve issues in the workplace, it is essential to first understand the root cause of the problem. This involves conducting a thorough analysis to uncover the underlying factors contributing to the issue (Reason, 1990) (Reason, 1990). Once the root cause is identified, gathering sufficient and relevant information is crucial. This may include collecting data, consulting with relevant parties, or conducting research to obtain a comprehensive understanding of the situation (Peter F. Drucker, 2006).

With a clear understanding of the problem, you can then explore various potential solutions. Creative thinking is key to generating multiple options, and evaluating the pros and cons of each will help determine the most effective course of action. Effective problem-solving often requires collaboration; thus, clear communication with colleagues, supervisors, or relevant teams is necessary to gain support and diverse perspectives that can aid in resolving the issue (Hackman & Oldham, 1976).

There are several steps that can be taken to overcome or resolve problems in the work environment, including: Identifying the Root Cause: before solving a problem, it is important to understand the root cause. Careful analysis will help identify the underlying factors of the problem. Sufficient and relevant information, having all the relevant information about the problem. This can involve collecting data, talking to relevant parties, or conducting research to understand more about the situation at hand.

h. Responsibility

Responsibility is an important aspect in all individuals. Responsibility according to the Big Indonesian Dictionary (KBBI) is a state of being obliged to bear everything. Responsibility is a person's awareness of the obligation to bear all the consequences of something he has done.

Responsibility involves two aspects, namely attitude and behavior. Attitude is related to how to think and behavior is related to action. Alumni users see these two things in UIN Ar-Raniry alumni as good so that 61.4% of them are satisfied with the attitude and behavior of alumni and 37.5% admit to being very satisfied.

i. Concern

Caring is an attitude and behavior that demonstrates empathy and concer for individuals, the environment, and surrounding circumstances (Noddings, 2003). it involves a genuine willingness to help, support, and show regard for the well-being of others without expecting any form of reward. This attitude encompasses feelings of sympathy, emphaty, and compassion, which are essential component of ethical interpersonal relationships (Davis, 1994).

Concern for consumers, coworkers, and the work environment is a critical aspect of professionalism and organizational sustainability. Alumni have reported high satisfaction with the ability of alumni to demonstrate this concern. Effective customer service involves being attentive, empathetic, and responsive to customer needs and concerns (Alan Wilson et al., 2012). This type of environment is especially important in the 5.0 era, where these values are integral to organizational success. This type of environment is especially important in the 5.0 era, where these values are integral to organizational success.

Concern for colleagues values diversity and equality in the workplace. Respect the opinions and contributions of each individual. Then form concern for the work environment by complying with established work policies and procedures. Ethical and professional behavior helps create a positive work environment. This an environment kind is very important in 5.0 era.

j. Adaptability

Adaptation is the ability to adjust to the environment. In 5.0 era, this ability is very necessary in the world of work, one of the reasons being that the world of work changes so quickly that it requires rapid adjustments (Widyaningrum, 2021). The ability to respond to change and be able to resolve and to adapt it well and appropriately in the world of work is an attitude expected by the world of work and business sectors.

As explained above with the career adaptability theory, adaptation can be learned and developed. Since its emergence, Savickas has conceptualized career adaptability as the attitudes, behaviors, and competencies that individuals use in adjusting to jobs that suit them, consisting of four dimensions of concern (planning, being planned), control (decision making, being decisive), curiosity (exploring, being curious), and confidence (problem solving, being efficacious) (Hirschi et al., 2015).

Adapting to pressure and change in the work environment is a very valuable skill in the professional world especially in business sectors. Alumni users argues Very Satisfied or 37.5% with the ability of alumni to adapt to pressure and change that occurs in their work environment and 56.3% of alumni users feel Satisfied. This is something to be happy about.

However, there were two alumni users who, when interviews, provided input so that UIN Ar-Raniry should introducing the work atmosphere to alumni and the new paradigm of standard work. This is important because the workplace atmosphere is very important for workers. If someone does not fit in with the work atmosphere, the results will not be optimal (Wildan and Yandra, Separate interviews May 28, 2024. This means that alumni's abilities in this regard need to be improved further, considering thatGraduates who can combine these skills with their technical and professional knowledge will be better prepared to face the challenges that may arise in the dynamic and changing modern work environment.

   k. Initiative

Initiative is the ability to be resourceful and work without always being told what to do. It is closely related to self-management skills, which are recognized as critical competencies for young professionals in the 21st century (World Economic Forum, 2023). These skills enable individuals to take responsibility for their actions, manage time effectively, and proactively seek opportunities for growth and development. This assessment aligns with the findings from a personal interview conducted with Prof. Wildan, the Rector of ISBI, in 2024. He noted that UIN Ar-Raniry alumni working under his supervision demonstrate strong initiative and creativity in their roles (Wildan, Personal Interview, 2024)..

Strengthening Academic Program

Education 5.0 represents a forward-looking approach that integrates cutting-edge ICT technologies to transform and enhance the learning experience, aiming to overcome traditional barriers in education (Andres Diaz Lantada, 2020). Personalized learning experiences supported by AI and immersive technologies such as VR represent a major shift in modern educational paradigms" (Ifenthaler & Tracey, 2021).

In this context, alumni tracking, or tracer studies, plays a pivotal role. These studies involve assessing alumni outcomes, including their employment status, relevance of their education, and feedback on their alma mater, as well as gathering insights from various stakeholders. For institutions like UIN Ar-Raniry Banda Aceh, leveraging the results of these tracer studies can be instrumental in refining and strengthening academic programs. As the educational landscape shifts towards the 5.0 society era, it is crucial to focus on developing six foundational literacies: data literacy (understanding technological systems, including coding, AI, and engineering), and human literacy (encompassing humanities, communication, and design). These literacies are essential for navigating and thriving in this new educational paradigm, ensuring that institutions can effectively adapt to and meet the demands of the future.

In the future, UIN Ar-Raniry can enhance its academic programs by utilizing the results of tracer studies.

The following steps can be implemented to achieve this goal:

   1. Implementing Data-Driven Decision-Making

One effective strategy for strengthening academic programs is to use data-driven decision-making. Leveraging data analytics allows universities to tailor their academic offerings to better meet students' needs. According to Howie and Bosker, integrating digital technology into education is essential for improving educational outcomes by 2030 (Scherman et al., 2011) Hiltz and Turoff emphasize that utilizing digital technology

transforms traditional learning systems into modern, digitalized environments (Hiltz and Turoff, 2000).

2. Enhancing Curriculum Relevance through Industry Collaboration

Collaborating with industry partners is another key strategy. Industry collaboration ensures that academic curricula are aligned with current industry standards and future job market demands, which enhances graduates' employability. Such partnerships can result in internships, co-op programs, and curriculum updates that better prepare students for the workforce.

3. Promoting Interdisciplinary Learning

Encouraging interdisciplinary learning is an effective approach to enhance academic programs. Interdisciplinary programs promote critical thinking and problem-solving skills by exposing students to diverse perspectives and methodologies. By developing programs that cross traditional academic boundaries, universities can offer a more holistic education that equips students to tackle complex real-world challenges.

4. Investing in Faculty Development

Investing in faculty development is crucial for improving and maintaining the quality of academic programs. Continuous professional development helps faculty members enhance their teaching quality and program effectiveness. Ongoing training and support ensure that educators remain up-to-date with the latest pedagogical advancements and integrate best practices into their teaching.

5. Utilizing Technology-Enhanced Learning

Incorporating technology-enhanced learning methods can significantly strengthen academic programs. Digital tools and platforms can enrich the learning experience by facilitating interactive and personalized learning. Researchers note that integrating digital technologies into the classroom supports diverse student needs and learning styles, making learning more engaging and accessible (source needed).

By implementing these measures, the university is expected to strengthen its academic programs, thereby better preparing itself to face the convergence of technology and humanity in the 5.0 era. This integrative capability is key to the success of higher education in the 5.0 era.

Conclusion

Tracer studies are essential for tracking alumni and offer critical insights that can enhance academic programs. Research indicates that well-designed academic programs can produce competent graduates who are recognized and valued in the workplace. This study assesses the employment status, job relevance, salary, company types, competitiveness, and satisfaction of UIN Ar-Raniry Banda Aceh alumni from the 2021, 2022, and 2023 cohorts in Aceh Besar, Banda Aceh, and Sabang. The research highlights employment status, job adaptation, and factors influencing employment opportunities. Of the 2,799 alumni surveyed, a sample of 460 (17%) was analyzed, with 23% male and 68% female. The average GPA was 3.48, with a mean of 3.51 and a standard deviation of 0.23, ranging from 2.47 to 3.95.

Key findings show that 23.91% of alumni are employed, and 7.17% are pursuing further education. Among the employed, 5% have launched their own businesses, with 58% of these businesses being partnerships. While most alumni remain within Aceh Province, some have relocated for further studies or employment opportunities, such as working at Pertamina in East Kalimantan or residing in Yogyakarta. The data suggests that 25.5% of alumni find their jobs closely related to their studies, indicating positive job adaptation. Alumni are generally rated as competent by employers, though some areas for improvement were noted, particularly in IT skills and soft skills related to service provision. Factors affecting employment opportunities include a lack of job openings aligned with alumni competencies, a non-transparent recruitment

process in Aceh, insufficient alumni networking, and limited support from UIN Ar-Raniry Banda Aceh.

To meet the evolving demands of the 5.0 era, which emphasizes the integration of technology and human skills, UIN Ar-Raniry Banda Aceh must leverage these insights to strengthen its academic programs. Addressing identified weaknesses and enhancing curriculum relevance will be crucial for preparing graduates who can adapt to the rapidly changing landscape. By focusing on these areas, the university can ensure continuous development and align its academic offerings with the future requirements of higher education in the 5.0 era.

References

Alan Wilson, Valarie A. Zeinthaml, Mary Jo Bitner, & Dwayne D. Gremler. (2012). *Services Marketing: Integrating Customer Focus Across the Firm*. McGraw Hill Education.

Aldoory, L., & Toth, E. (2004). Leadership and Gender in Public Relations: Perceived Effectiveness of Transformational and Transactional Leadership Styles. *Journal of Public Relations Research*, *16*(2), 157–183. https://doi.org/10.1207/s1532754xjprr1602_2

Allison Fine, & Beth Kanter. (2018, March 18). *Using Technology to Make Work More Human*. Harvard Business Review. https://hbr.org/2022/03/using-technology-to-make-work-more-human

Andres Diaz Lantada. (2020). Engineering Education 5.0: Continuously Evolving Engineering Education. *International Journal of Engineering Education*, *36*(6), 1814–1832.

Burke, S., & Diazgranados, D. (2011). *Team leadership: A review and look ahead*. https://www.researchgate.net/publication/291048177

Craig E. Johnson, & Michael Z. Hackman. (2013). *Leadership: A Communication Perspective*. Waveland Press.

David Kirp. (2019). *The College Dropout Scandal*. Oxfors University Press.

Davis, M. H. (1994). *Empathy: A Social Psychological Approach*. Westview Press.

Hackman, J. R., & Oldham, G. R. (1976). Motivation Through the Design of Work: Test of a Theory. *Organizational Behavior and Human Performance*, *16*(2), 250–279. https://doi.org/10.1016/0030-5073(76)90016-7

Herald Schomburg. (2016). *Carrying Out Tracer Studies: Guid To Anticipating and Matching Skills and Jobs*. International Labour Office.

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior*, *87*, 1–10. https://doi.org/10.1016/j.jvb.2014.11.008

Imam Gunawan. (2013). *Qualitative Research Methods, Theory and Practice*. Bumi Aksara.

Jaja Suteja. (2020). *Menyoal Peran dan Eksistensi Alumni Perguruan Tinggi*. https://www.researchgate.net/publication/342519881

Jones, T. M. (1991). Ethical Decision Making by Individuals in Organizations: An Issue-Contingent Model. *The Academy of Management Review*, *16*(2), 366. https://doi.org/10.2307/258867

Julia T. Wood. (1997). *Communitacion in Our Lives*. Wadworth.

Kemdikbud. (2020). *Peraturan Menteri Pendidikan dan Kebudayaan Nomor 22 Tahun 2020 Tentang Rencana Strategis Kementerian Pendidikan dan Kebudayaan Tahun 2020-2024*.

Knight, J., & De Wit, H. (2018). Internationalization of Higher Education: Past and Future. *International Higher Education*, *1*(95), 2–4. https://doi.org/10.6017/ihe.2018.95.10715

Komariah, Aan Satori, & Diam'an. (2011). *Qualitative Research Methods*. Alfabeta.

Lexy J Moleong. (2018). *Qualitative Research Methodology*. Remaja Rosdakarya.

Linda K. Trevino, & Katherine A. Nelson. (2019). Managing Business Ethics: Straight Talk About Gow to do it Right. In *Personnel Psychology* (7th ed., Issue 4). Wiley. https://doi.org/10.1111/peps.12360

Marciniak, J., Johnston, C. S., Steiner, R. S., & Hirschi, A. (2022). Career Preparedness Among Adolescents: A Review of Key Components and Directions for Future Research. *Journal of Career Development*, *49*(1), 18–40. https://doi.org/10.1177/0894845320943951

McCall, M. W., Lombardo, M. M., Morrison, & Ann M. (1998). *The Lessons of Experience : How Successful Executives Develop on the Job*. Lexington Books.

Noddings, N. (2003). *Caring: A feminine Approach to Ethics and Moral Education*. University of California Press.

Peter F. Drucker. (2006). *The Effective Executive*. Harper Collins Publishers.

Peter G. Northouse. (2013). *Leadership Theory and Practice*. Sage Publications.

Poell, R. (2014). Workplace Learning Theories and Practices. In *Human Resource Development* (pp. 19–32). Macmillan Education UK. https://doi.org/10.1007/978-1-137-36133-2_2

Reason, J. (1990). *Human Error*. Cambridge University Press. https://doi.org/10.1017/CBO9781139062367

Ridwan Abdullah Sani. (2014). *Pembelajaran Saintifik Untuk Impementasi Kurikulum 2013*. Bumi Aksara.

Ron Dearing. (1997). *Higher Education in the Learning Society*. https://web.archive.org/web/20190105025759/http://www.leeds.ac.uk/educol/ncihe/

Sadeghi, A., Akmaliah, Z., & Pihie, L. (2012). Transformational Leadership and Its Predictive Effects on Leadership Effectiveness. *International Journal of Business and Social Science*, *3*(7). www.ijbssnet.com

Salas, E., & Cannon-Bowers, J. A. (2001). Teamwork and Team Training. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 15487–15492). Elsevier. https://doi.org/10.1016/B0-08-043076-7/01436-4

Scherman, V., Howie, S. J., & Bosker, R. J. (2011). Constructing Benchmarks for Monitoring Purposes: Evidence From South Africa. *Educational Research and Evaluation*, *17*(6), 511–525. https://doi.org/10.1080/13803611.2011.632663

Steve Taplin. (2022, May 27). *Using Technology To Reduce Employee Turnover*. Forbes Technology Council. https://www.forbes.com/councils/forbestechcouncil/2022/05/27/using-technology-to-reduce-employee-turnover/

Sugiyono. (2011). *Metode Penelitian Kualitatif dan R & D*. Alfabeta.

Suharsimi Arikunto. (2006). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Rineka Cipta.

Thomas Bieger. (2024, January 29). *The Role of Alumni in the Development of their University*. Global Focus. https://globalfocusmagazine.com/the-role-of-alumni-in-the-development-of-their-university/

Toquero, C. M. D., & Ulanday, D. M. P. (2021). University Graduates' Assessment of the Relevance of the Curriculum to the Labor Market in the Philippines. *International Research in Education*, *9*(1), 19. https://doi.org/10.5296/ire.v9i1.17421

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, *63*(6), 384–399. https://doi.org/10.1037/h0022100

Widyaningrum, A. Y. (2021). Kajian Tentang Komunitas Virtual: Kesempatan dan Tantangan Kajian di Bidang Ilmu Komunikasi. *Jurnal Komunikatif*, *10*(2), 141–152. https://doi.org/10.33508/jk.v10i2.3457

World Economic Forum. (2023). *Future of Jobs Report 2023*. https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

Yukl, & Gary. (2013). *Leadership in Organizatios* (8th ed.). Pearson.