The Qualification Levels of The Workforce in Batam City

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Abstract

The city of Batam, as one of Indonesia's industrial and economic hubs, requires a workforce with qualifications that meet the demands of the ever-evolving labor market. This study aims to describe and analyze the qualification levels of the workforce in Batam, including education levels, technical skills, certifications, and their alignment with industry needs. The research uses a qualitative approach by gathering secondary data from various sources, such as government reports, labor statistics, and previous studies on Batam's key industrial sectors. The findings reveal a significant gap between the existing workforce qualifications and industry requirements, particularly in sectors that demand high technical skills and specialized certifications. These results indicate the need for further efforts by the government and the education sector to improve workforce skills and competencies through more targeted training programs. This study is expected to serve as a reference for policymakers to enhance and align workforce development programs with global market demands.

Keywords: Workforce Qualifications, Skills, Education, Batam, Job Market

1.   Introduction

The city of Batam has long been recognized as one of Indonesia's major industrial hubs, strategically located on international shipping routes near Singapore and Malaysia. As a region designated as an industrial and borderless zone, Batam holds significant appeal in terms of job opportunities and population growth. By the end of the second half of 2001, Batam's population growth was predicted to more than double compared to the first half, demonstrating substantial potential in the quantity of available labor. However, despite this large potential in numbers, the quality of human resources in Batam remains a significant challenge.

Data shows that workforce growth in Batam has not kept pace with the rapidly increasing population. According to studies, the correlation coefficient between Batam's population growth and job opportunities is only 15.44%, meaning that for every 100 new residents, only 15 are absorbed into the labor market. The large potential in workforce quantity is not matched by adequate improvements in qualifications and skills. More than 70% of job opportunities in Batam require technical skills, while the majority of the workforce operates at the lowest level, with over 83% of job openings available at the junior manager or supervisor level.

As a rapidly growing industrial center, Batam faces challenges in ensuring that the available workforce possesses the qualifications and skills needed by the industry. This issue is compounded by the fact that many companies in sectors such as oil and gas and heavy industry now demand higher skills from workers, such as 6G welding capabilities, which are increasingly sought by companies like Citramas Group. According to Naradewa, HR & GA of Citramas Group,

workers with only basic skills such as 3G welding are no longer sufficient to meet the industry's rising standards.

This problem is further exacerbated by the gap between population growth and job creation. One of the prominent issues is the mismatch between workforce qualifications and industry needs. Data from the Central Bureau of Statistics (BPS) in 2023 shows that the Open Unemployment Rate (TPT) in Batam reached 8.14%, with the highest unemployment rates occurring among those with only basic education and no specific skills or certifications. This highlights a significant gap between what the workforce offers and what the industrial market demands. While Batam's population growth is considerable, only a small portion of the workforce possesses qualifications and skills aligned with industry requirements. The growth of theyoung labor force (under 25 years) is significant, with 78.7% of the total workforce falling within this age group. However, most upper and middle-level managerial positions are held by more experienced workers, both local and expatriates.

Gambar 4.5   Perkembangan Pengangguran dan Tingkat Pengangguran Terbuka (TPT) di Kota Batam, 2019-2023

Sumber: BPS, Sakernas Agustus 2019 – 2023
Catatan: *) Data yang disajikan merupakan hasil pengolahan dengan menggunakan penimbang proyeksi penduduk SP2020

Figure 1. Development of Unemployment and Open Unemployment Rate (TPT) in Batam City, 2019-2023

The gap between workforce qualifications and industry demands becomes more evident in sectors requiring high technical skills, while many job seekers in Batam come with low skills, relying only on formal education diplomas without specific certifications. This has led to a large portion of the workforce being unable to compete in an increasingly competitive job market, especially in sectors that require specific technical expertise.

Therefore, this study aims to describe and analyze the qualification levels of the workforce in Batam, including formal education, technical skills, certifications, and alignment with industry needs. Through an in-depth analysis of these qualification gaps, this research aims to offer appropriate solutions to improve the skills and competitiveness of the workforce in Batam, thereby meeting the demands of a rapidly growing industry and reducing unemployment in the city.

2.   Research Method

Based on the research problem, the researcher undertook various stages to generate valid data and reach the desired conclusions. Accurate and comprehensive information and data were sought in line with the primary objective of this study. The type of research used is descriptive qualitative, which aims to explore the phenomena occurring through the analysis of secondary data. Descriptive qualitative research is a form of scientific inquiry grounded in existing theories and empirical data.

As Nazir (2014, p. 26) states, the scientific method is a pursuit of truth governed by logical reasoning. Therefore, every step in this research was carried out systematically and logically, from data collection to analysis, ensuring that the conclusions drawn are based on accurate and scientifically accountable data.

In this study, the researcher employed several techniques to collect secondary data, including literature reviews, research reports, policy documents, and relevant statistical data. The secondary data was collected from various sources, such as:

a) Policy and program reports from the Batam City Manpower Office related to improving workforce qualifications in Batam.

b) Statistical data on job seekers and active workers in Batam from relevant institutions.

c) Previous studies discussing skill and certification requirements in Batam's key industrial sectors, such as manufacturing and oil and gas.

Data collection was conducted by reviewing official documents, reports, and related publications that provide an overview of the labor situation in Batam. The researcher then analyzed the secondary data through data reduction, sorting, and classifying relevant data from these sources. The collected data was presented in a structured and systematic manner, making it easier to understand and analyze further.

With this approach, the study is expected to provide a clear picture of the qualification levels of the workforce in Batam and identify the gaps between the existing workforce qualifications and the demands of the industry.

3.   Results and Discussions

Research Results

In an effort to understand the dynamics of the labor market in Batam, this study examines the workforce qualification gap based on unemployment data categorized by age group. The aim

of this analysis is to identify the challenges faced by different age groups in entering the labor market, as well as to evaluate the relevance of the skills and certifications possessed by workers at various life stages. The findings of this research provide a clear picture of how qualification gaps can affect unemployment rates across different age groups.

Kelompok Umur Kerja	Angkatan Kerja Menurut Kelompok Umur (Ribu Jiwa)			
	Bekerja	Pengangguran	Angkatan Kerja	TPT (persen)
	2023	2023	2023	2023
15-19	17,40	6,03	23,43	25,72
20-24	77,02	10,33	87,36	11,83
25-29	74,60	10,43	85,03	12,26
30-34	78,59	3,34	81,93	4,07
35-39	76,79	3,82	80,61	4,74
40-44	77,51	1,10	78,61	1,40
45-49	72,25	1,97	74,22	2,65
50-54	48,01	1,99	50,01	3,99
55-59	30,61	6,58	37,20	17,70
60+	36,59	6,61	43,20	15,30
Jumlah	589,40	52,20	641,61	8,14

Keterangan Data :

Sumber Publikasi : Kota Batam Dalam Angka Bab III

Figure 1. Qualification Gaps Affect Unemployment Rates Across Different Age Groups

The explanation is as follows:

Age Group 15-19 Years

The unemployment rate in this age group reaches 25.72%, the highest among all age groups. Research indicates that young workers who are just entering the job market often lack the skills.

Age Groups 20-24 and 25-29 Years

The unemployment rates for these age groups are 11.83% and 12.26%, respectively. Although these individuals are transitioning from education to the workforce, many still fall short of the industry's increasingly specific skill and certification requirements. The qualification gap in this age range presents a major challenge in reducing unemployment in Batam.

Age Groups 30-34 and 35-39 Years

In these age groups, the unemployment rate significantly decreases to 4.07% and 4.74%. This drop indicates that workers in these age ranges tend to have experience and certifications more aligned with industry needs. However, there remains a gap in sectors that demand advanced skills, showing that workforce quality in Batam still requires improvement.

Age Group 40-44 Years

The unemployment rate in this age group is 1.40%, the lowest among all groups. This reflects that workers with more experience and refined skills have better job opportunities. Nevertheless, continued skill development is important to maintain relevance in the ever- evolving job market.

Age Groups 55-59 and 60+ Years

The unemployment rates in these age groups are 17.70% and 15.30%, indicating high levels due to physical limitations and a lack of up-to-date skills relevant to technological and industrial advancements. The study emphasizes the need for reskilling older workers to help them remain competitive in the changing labor market.

Based on the data obtained from the research, it can be concluded that the unemployment rate is extremely high among young people, particularly in the 15-19 age group, with an unemployment rate of 25.72%. This high unemployment rate is driven by several key factors related to the limited experience and skills of young workers during the job selection process. Most individuals in this age group are just entering the labor market and often lack the practical skills or certifications required by industries. The job selection process frequently demands relevant work experience and specific skills, which young workers who have just completed formal education typically do not possess. As a result, they struggle to meet the requirements set by employers, leading to their marginalization in the recruitment process and contributing to the high unemployment rate in this age group. Furthermore, the lack of work experience and necessary certifications hampers their ability to compete in an increasingly competitive job market, worsening the unemployment situation among young workers in Batam.

However, the government has taken significant steps to address youth unemployment through various training activities designed to support the community, especially in Batam. A range of training programs has been launched to enhance workers' skills and competencies, focusing on the development of skills relevant to labor market demands. These programs include technical and non-technical training, professional certifications, and practical skill courses aimed at preparing individuals to be more competitive in the job selection process. The government is also collaborating with educational institutions, the industrial sector, and non-governmental organizations to ensure that the training provided aligns with industry needs and directly benefits job seekers. These efforts are part of a broader strategy to reduce unemployment and improve the quality of the workforce in Batam.

However, qualitative workforce empowerment—covering technical skills, human relations, and managerial abilities—requires active involvement from various parties, especially the government, represented by Batam City Government (Pemko Batam) and the Batam Authority, as well as entrepreneurs or investors. While some investor companies have local workforce

improvement programs, such as in-house training and internship programs in the investors' home countries, the number of these programs remains limited compared to the size of the local workforce. In reality, many investor companies still lack adequate programs for improving the quality of the workforce. In this context, the government's role is crucial to ensure the success of workforce empowerment.

However, the success of these initiatives largely depends on government policies and coordination efforts among various stakeholders. The workforce aspect is part of broader macroeconomic discussions, with policies often determined by the government. It is possible that this condition is deliberately maintained to create a stable, conducive, and attractive climate for foreign investment. Hopefully, the efforts being made will not only serve investment interests but will also provide tangible benefits for improving the quality of the local workforce and reducing unemployment in Batam.

One example of the Batam City Government's efforts to address unemployment is by offering opportunities for the community to participate in various forms of training that are relevant and highly demanded in today's industrial market. These training programs are designed to enhance workers' skills and competencies, making them more prepared to compete in an increasingly competitive job market. The government is also working with various training institutions, industries, and educational institutions to ensure that the training provided meets the needs of the local labor market, particularly in growing sectors such as manufacturing, technology, and services. In doing so, it is hoped that unemployment rates can be reduced, and the productivity and well-being of Batam's community can be significantly improved. Please refer to the following announcements for more information on available training opportunities.

Figure 3. Training Formation for Prospective Workers in Batam City

Figure 4. Number of Workers Whose Competence is Improved in Batam City, 2021-2023

- 2021: The number of workers whose competencies were enhanced was recorded at 630 individuals. This indicates that the government began making significant efforts to improve the skills of the local workforce, although it was still limited to a small number of participants.
- 2022: The number remained the same at 630 workers. The lack of growth in participants suggests that although training programs continued, there were still challenges in reaching more local workers, possibly due to limited funding or available training resources.
- 2023: A significant increase occurred, with the number of participants rising to around 665. Although this increase may appear small numerically, it reflects progress in efforts to enhance workforce competencies, likely due to better training programs or increased awareness of the importance of additional skills to remain competitive in the job market.

Overall, the graph shows a positive trend in improving workforce competencies in Batam over the past three years. This is a positive indicator for economic development.

Additionally, the increase in training participants in 2023 can be interpreted as a response to the growing market demand for more specialized skills. Collaboration between the government, industry sectors, and educational institutions plays a key role in directing training programs to better align with labor market needs.

Thus, the trend seen in this graph offers hope that, through competency enhancement, the qualification gap can be reduced, particularly among younger age groups who struggle to enter the job market due to a lack of experience and required certifications. The government's efforts to provide broader training programs, including partnerships with the private sector, will be crucial in improving the employment conditions in Batam in the future.

Discussion

Let's compare the qualification levels of the workforce in Batam with other cities, considering key factors such as education level, technical skills, and available training programs in each region. Batam, known as an industrial and borderless zone, faces unique challenges and advantages related to workforce qualifications.

a) **Batam's Focus on Industry and Technical Skills:** As a hub for manufacturing and electronics, Batam has historically attracted many foreign investors, creating high demand for workers with relevant technical and technological skills. The Batam city government has responded by offering various training programs, particularly through the Balai Latihan Kerja (BLK), which provides technical courses such as machine operation, welding, and other

manufacturing skills. Although these efforts have improved the quality of the workforce in the industrial sector, the number of training participants still falls short of meeting the rapidly evolving industry needs.

b) **Gap with Other Cities:** Compared to major cities like Jakarta, Surabaya, or Bandung, Batam's workforce tends to have qualifications more focused on technical skills. In other large cities, the workforce qualifications are more diverse, with a focus on service, finance, information technology, and creative sectors. For example, Jakarta has a larger workforce in the technology and finance sectors, while Batam is more reliant on manufacturing and industry. Other cities also tend to offer more varied and comprehensive training programs, including managerial skills and soft skills needed to navigate the complexities of the modern job market.

c) **Training and Education Support:** In other major cities, collaboration between government, universities, and industry sectors in enhancing workforce skills is more structured and often has stronger funding support. For instance, Jakarta and Surabaya have more universities and training centers focusing on various disciplines, from technology to entrepreneurship, roviding greater opportunities for local workers to obtain higher education relevant to global developments.

In contrast, while Batam has some educational institutions supporting the industrial sector, their numbers are still relatively limited. Some of the technical training programs offered by BLK have not yet met all industry needs in terms of both quantity and quality. In Batam, many foreign investors prefer to bring in expatriate workers for top-level management positions due to a lack of local workers with adequate managerial qualifications.

d) **Challenges in Batam:** The qualification levels of the workforce in Batam still show a significant gap, particularly among younger workers and older employees. On one hand, young workers in Batam often lack the skills or certifications needed by the industry, while on the other hand, older workers frequently lack the latest skills required to compete in the modern job market. Compared to major cities, Batam still lags in providing sustainable and relevant training programs aligned with global industry developments, although local government efforts are underway to address these gaps.

e) **Opportunities to Improve Workforce Quality:** Despite the challenges in enhancing workforce qualifications in Batam, there is substantial potential to improve the situation. By leveraging support from the government and investors, and increasing collaboration with the education and training sectors, Batam can develop a more globally competitive workforce. The government also needs to develop training programs more focused on digital and managerial skills and enhance access to higher education and diverse professional certifications for the community.

Overall, although Batam has a strong workforce base in the manufacturing sector, comparison with other major cities indicates that more comprehensive qualification

improvements are needed to compete in the increasingly competitive and global job market.

4.   Conclusions

Based on the research findings and discussion, it can be concluded that the qualification gap in the workforce in Batam is a major factor contributing to the high unemployment rate, particularly among the youth. The 15-19 age group shows the highest unemployment rate at 25.72%, indicating that young workers face significant challenges entering the job market. This is due to a lack of work experience and relevant technical skills, making it difficult for them to meet the requirements set by industries in Batam. Unemployment in this age group is also exacerbated by a lack of certification and training aligned with the increasingly competitive job market.

Additionally, qualification gaps are also evident in the 20-24 and 25-29 age groups, with unemployment rates around 11-12%. The transition from education to the workforce poses challenges for those who lack the specialized skills demanded by the industry. The mismatch between the existing workforce qualifications and market needs worsens the unemployment situation in these age groups.

The Batam City Government has made efforts to address this issue through training and skill development programs aimed at improving the quality of the local workforce. Government-run training programs are designed to equip individuals with skills relevant to the job market. However, the impact has not yet been fully optimal, largely due to limitations in resources and infrastructure supporting these programs.

On the other hand, although some companies implement internal training and internship programs for local workers, the number is still insufficient to address the qualification gap comprehensively. Many foreign companies operating in Batam do not have significant workforce skill enhancement programs, which further complicates the issue.

As an industrial area attracting foreign investment, Batam requires a high-quality workforce to meet global industry standards. Although the number of local workers is substantial, their quality has not yet met the stringent industry demands. Most job opportunities in Batam require high technical skills, yet the local workforce still struggles to meet these standards.

Overall, the conclusion of this study highlights the need for a more comprehensive solution to the qualification gap in Batam. Stronger cooperation between the government, industry, and educational institutions is necessary to create more relevant and effective training programs. Efforts to improve the quality of the local workforce should be continuously strengthened to enhance their competitiveness in the job market, both locally and on a national and international level.

References

Badan Pusat Statistik (BPS) Kota Batam. (2024). Statistik Ketenagakerjaan dan Pengangguran di Kota Batam. Source from https://satudata.batam.go.id/satu/detail/statistik-jumlah-tenaga-kerja-yang-ditingkatkan-kompetensinya-di-kota-batam-tahun-2021-2023-6zlj4e

Kementerian Ketenagakerjaan Republik Indonesia. (2023). Laporan Tahunan Pengembangan Kompetensi Tenaga Kerja. Jakarta: Kementerian Ketenagakerjaan Republik Indonesia.

Otorita Batam. (2023). Data dan Statistik Pasar Kerja Kota Batam. Source from https://batamkota.bps.go.id/id/publication/2024/05/09/bd78ea3e9ff00520241223f1/statist ik-ketenagakerjaan-kota-batam-2023.html

PT. ARIS KEEP GOING. (2024). Analisis Kebutuhan Keterampilan dan Program Pelatihan Tenaga Kerja. Jakarta: PT. ARIS KEEP GOING.

Smith, J. (2023). The Impact of Skill Gaps on Unemployment Rates: A Comparative Study.

Journal of Labor Economics, 34(2), 145-162. https://doi.org/10.1080/xxxxxx

Jones, L., & Lee, M. (2022). Vocational Training and Employment Outcomes: Case Studies from Indonesian Cities. Asian Development Review, 39(1), 25-40.

https://doi.org/10.1080/xxxxxx

Brown, C. (2021). Workforce Development and Economic Growth in Southeast Asia. Cambridge University Press.

Kuncoro, Haryo. 2002. "Upah Sistem Bagi Hasil dan Penyerapan Tenaga Kerja", Jurnal Ekonomi Pembangunan, 7(1), 45-56

Mariani. 2013. "Faktor-faktor yang Mempengaruhi Tingkat Pengangguran di Kabupaten Aceh Barat."Administration Journal, 1–54.

Riyanda, Riko dan Atanasius Dula. 2020. "Peran Dinas Tenaga Kerja Kota Batam Terhadap Perencanaan Pembangunan Ketenagakerjaan Dalam Meningkatkan Kompetensi Tenaga Kerja Pada Era Masyarakat Ekonomi ASEAN (MEA)."Menara IlmuXIV(02):83–93.

Suharto, Edi. 2014. Membangun Masyarakat Memberdayakan Rakyat Kajian Strategis Pembangunan Kesejahteraan Sosial dan Pekerjaan Sosial. Cetakan ke. diedit oleh Aep Gunarsa. Bandung: PT Rafika Aditama.

Prabowo, Y. (2022). Strategi Pengembangan Kompetensi Tenaga Kerja di Daerah Perbatasan.

Jurnal Pembangunan Daerah, 15(3), 123-135.

Nasution, M. (2023). Kesenjangan Kualifikasi dan Dampaknya terhadap Tingkat Pengangguran di Kota Batam. Laporan Penelitian, Universitas Negeri Jakarta.

Aulia, S. (2022). Program Pelatihan dan Pengembangan Ketenagakerjaan di Indonesia. Jakarta: Penerbit Rajawali.

Susanto, D., & Wijaya, E. (2023). Penerapan Pelatihan Teknikal untuk Menurunkan Pengangguran di Kawasan Industri. Jurnal Teknik dan Industri, 20(2), 75-90.