Scalable Community Outreach For AI Literacy and Future Ready Skills Evidence From Indonesia–Malaysia Collaboration

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Abstract.

This study aimed to strengthen students' and the general public's understanding of how artificial intelligence (AI) is reshaping work and to promote future-ready competencies, including strategic upskilling and reskilling. The community-service activity was delivered in Indonesia via a Zoom Meeting webinar on 28 November 2025 titled "Shaping the Future Workforce in the Age of Artificial Intelligence." Content was prepared from key reports on AI and work. Participant registration and feedback were collected using Google Forms (Google LLC). The intervention included expert talks (industry practitioner and academic), moderated discussion, and Q&A. Evaluation used a post-webinar survey with 5 point Likert items and open-ended questions. Participants reported clearer awareness of AI-driven job changes, emerging roles, and the importance of data/AI literacy. Key themes were continuous learning, building practical portfolios, and responsible AI use (bias, privacy, and validating AI outputs). The findings rely on self-reported perceptions from a single webinar, without a pre–post test, objective skill measures, or long-term follow-up. This study offers a replicable, low-cost webinar model for workforce-readiness education and contributes to HR development and digital-talent training by translating AI trends into actionable, practical competency guidance for higher education and community partners.

Keywords: *Artificial intelligence; future workforce; upskilling; reskilling and community service webinar.*

I. INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) in recent years has accelerated changes in how organizations operate and how work is performed. Automation increasingly supports routine tasks, while roles that require analytical thinking, creativity, and decision-making have become more critical. Consequently, workforce competency requirements are shifting. Individuals are expected not only to be technologically adaptive, but also to learn continuously, respond quickly to change, and use AI responsibly [1],[2].A key challenge emerging from this transformation is the widening skills gap. Many university students and members of the general public still lack sufficient understanding of how AI reshapes job types and creates new roles, which competencies are most essential to remain competitive, and how to design realistic upskilling and reskilling strategies. This gap may lead to graduates being underprepared for labor market dynamics and may reduce organizational competitiveness when human resource decisions are not guided by appropriate capability and data considerations [3].The urgency of this community engagement initiative stems from the need to provide learning opportunities that are accessible, relevant, and practical for students and the wider public. An online format was selected because it is efficient, enables participation across regions, and supports collaboration between academics and practitioners thereby bridging theoretical perspectives and industry needs. In addition, a data and analytics informed approach is increasingly important for building competitive advantage. Organizations that effectively leverage data, including workforce-related data, tend to be better positioned to make strategic decisions [4].

Building on this context, the program focused on an educational initiative under the theme "Shaping the Future Workforce in the Age of Artificial Intelligence." The activity aimed to strengthen participants understanding of changes in the world of work, encourage structured upskilling and reskilling, and emphasize responsible AI practices. These include awareness of bias, privacy considerations, and the importance of verifying AI outputs to ensure that AI use remains productive and ethical [1],[2].This Community Service Program was designed as a cross-national collaboration between Indonesia and Malaysia to enrich both academic and industry perspectives on workforce readiness in the AI era. The collaboration reflects the regional nature of AI driven workforce transformation and highlights the

importance of shared learning spaces involving higher education institutions and industry practitioners. The initiative was led and represented by Universitas Informatika dan Bisnis Indonesia (UNIBI) through Dr. Mugi Puspita, M.M., a management lecturer at the Faculty of Economics and Business, UNIBI. Her session emphasized future ready competencies, structured approaches to upskilling and reskilling, and principles of responsible and productive AI use, including output validation, ethical considerations, and privacy. From Malaysia, Ariezan Bin Zainal Ariffin of the Executive Capital Project Group Value and Risk Management (Strategy & Sustainability Division), MISC Berhad PETRONAS, highlighted AI driven shifts in the world of work, the emergence of new roles, and evolving competency requirements and working patterns across professions. The cross national dimension was reflected not only in the composition of speakers but also in the participant profile.

The activity engaged students and members of the public from both Indonesia and Malaysia, enabling richer discussion through experience sharing and contextual comparison regarding talent development, competency readiness, and organizational practices in the two countries. In this way, the program served as a knowledge sharing platform to strengthen AI literacy, enhance career readiness, and expand cross border networks between academia and industry.While AI related workforce transformation has been widely discussed, practical evidence on scalable community outreach models particularly those implemented through cross-border university industry collaboration in Southeast Asia, remains limited in terms of documented design, delivery mechanisms, and participant-oriented evaluation [1],[2]. Many initiatives are reported descriptively without a clear linkage between program components, learning objectives, and actionable implications for workforce readiness.This article contributes by presenting a structured model of community outreach for AI literacy and future ready competencies within an Indonesia–Malaysia collaboration, documenting the program design and implementation process, and synthesizing participant feedback to inform improvement priorities and replicable practices for higher education institutions and industry partners. Conceptually, the initiative aligns with scholarship emphasizing AI as a complementary partner to human capabilities (human AI symbiosis), underscoring the need for adaptive competencies to remain relevant amid continuous change [1],[2].

II. METHODS

Research Design

This community service activity employed a survey based study design. A post activity evaluation approach was used to assess participants perceptions of the webinar's implementation quality and the perceived benefits gained from the activity. The use of a survey design aligns with prior research suggesting that the effectiveness of online learning can be evaluated through indicators such as participant satisfaction**,** instructor quality**,** instructional/material design, and interactivity [5],[6].

Location, Time, and Study Participants

The webinar was conducted online via Zoom Meeting on 28 November 2025, from 09:00 to 12:00 WIB (UTC+7). Participants consisted of university students and members of the general public from Indonesia and Malaysia. A total of 134 participants attended the activity. Participant recruitment was carried out through digital promotion and online registration**.**

Fig 1. Digital Publication

Intervention Procedure (Content Delivery and Discussion)

The educational intervention was delivered through three main components:

1. Lecturing session

Session 1 (Malaysian practitioner): AI and the Changing World of Work: Emerging Roles and Evolving Professions delivered by Ariezan Bin Zainal Ariffin (Executive Capital Project-Group Value and Risk Management, Strategy & Sustainability Division, MISC Berhad PETRONAS**).**

Session 2 (Indonesian academic): Essential Future-Ready Competencies: Strategic Upskilling and Reskilling; Responsible and Productive Use of AI delivered by Dr. Mugi Puspita, M.M. (Management Lecturer, Faculty of Economics and Business, Universitas Informatika dan Bisnis Indonesia/UNIBI**).**

2. Interactive discussion and Q&A session

The discussion was facilitated by a moderator to encourage active participation and cross-country exchange of perspectives. This interactive component is considered critical for enhancing engagement and webinar effectiveness [6],[7].

3. Completion of a satisfaction questionnaire

After the webinar concluded, participants completed a questionnaire to evaluate the quality of implementation and the perceived benefits of the activity.

Research Instrument: Satisfaction Questionnaire

The study used a satisfaction questionnaire administered via Google Forms (Google LLC). The questionnaire consisted of:

1. Section A: Participant characteristics
2. Section B: Ratings using 5 point Likert scale (1=strongly disagree to 5=strongly agree), covering:
    a) Relevance of the theme and materials,
    b) Clarity of delivery,
    c) Quality of the materials,
    d) Quality of interaction (Q&A/discussion)
    e) Perceived benefits for employability readiness/competency development
    f) Overall satisfaction and intention to recommend.
3. Section C: Open-ended questions (suggestions for improvement).

The measurement assumption underlying this study is that satisfaction in online learning is influenced by instructor quality**,** instructional/material design, and interactivity [5]. Therefore, the questionnaire indicators were developed to align with these dimensions.

Hardware and Software

This study utilized both software and hardware resources. In terms of software, the webinar was delivered via Zoom Meeting**,** while questionnaire data were collected using Google Forms. The collected data were subsequently tabulated and analyzed descriptively using Microsoft Corporation.Regarding hardware, the organizing committee and speakers used Windows or macOSbased laptops/PCs equipped with a webcam and microphone/headset, supported by a stable internet connection. To facilitate replication under similar conditions, the recommended minimum specifications included an internet connection ≥10 Mbps for the host and speakers, and a laptop/PC capable of supporting video conferencing smoothly.

Data Collection Procedures

Data were collected through the following steps:

1. The organizing committee distributed the Zoom link and event information materials to registered participants.
2. The webinar was conducted according to the agenda, including opening remarks, content delivery, and discussion/Q&A.
3. The questionnaire link was shared at the end of the session via Zoom chat and/or the committee's communication channels.
4. Questionnaire responses were downloaded from Google Forms in spreadsheet format for analysis.

Data Analysis Techniques

Quantitative data from the Likert-scale items (1–5) were analyzed using descriptive statistics to summarize participants' satisfaction with the webinar. The analysis included data completeness checks and cleaning (e.g., removing duplicate or incomplete responses), computation of central tendency and dispersion for each indicator (mean and standard deviation), and presentation of response distributions as percentages across categories (strongly disagree to strongly agree). In addition to indicator-level analysis, a composite satisfaction score was calculated by averaging all indicator scores to reflect overall satisfaction. Results were presented in concise tables and simple visualizations. All quantitative data processing was performed using Microsoft Excel.

Qualitative data from the open-ended questions were analyzed using thematic analysis. The procedure involved: reading all responses to understand context, conducting initial open coding of meaningful units, grouping codes into categories and themes, reviewing theme consistency across responses, and finalizing themes. Findings were reported through a narrative summary supported by brief, representative quotes. Expected themes included needs related to upskilling–reskilling**,** AI/data literacy**,** responsible AI use (e.g., bias, privacy, verification), and post-webinar learning action plans.

III. RESULT AND DISCUSSION

Description of Implementation and Participant Engagement

The community service activity was delivered as an online webinar via Zoom Meeting on 28 November 2025, targeting university students and members of the general public from Indonesia and Malaysia. A total of 134 participants attended the webinar (N = 134). The session comprised presentations by both an academic and an industry practitioner, followed by a moderated discussion and a question-and-answer (Q&A) segment. This format was selected to maximize audience reach while maintaining interactive elements. Prior evidence indicates that interactivity in online learning environments plays a critical role in enhancing participant engagement and learning outcomes [6],[7].

Table 1. Participant Profile of the Webinar (N = 134)

No	Category	Indicator	n (%)
1	Participant status	Students	87 (64.9)
		Lecturers	14 (10.4)
		Practitioners	21 (15.7)
		General public	12 (9.0)
2	Country of origin	Indonesia	85 (63.4)
		Malaysia	49 (36.6)
Total participants attended			**134 (100.0)**

Source: Organizing committee attendance records, 2025.

Results of the Participant Satisfaction Survey

The activity evaluation was conducted using a participant satisfaction questionnaire based on a 5 point Likert scale (1 = strongly disagree; 5 = strongly agree). All 134 of attendees completed the questionnaire, resulting in a 100% response rate. Descriptive analysis indicated a high level of satisfaction across key dimensions, including the relevance of the theme and materials**,** clarity of delivery**,** quality of interaction (discussion and Q&A), and perceived benefits for competency development and work readiness. Conceptually, these indicators align with established e-learning success factors that emphasize instructor quality**,** instructional/material design, and interactivity [5].

Table 2. Descriptive Statistics of Participant Satisfaction (N = 134)

No	Indicator	S	D	N	A	SA
1	Relevance of the theme and materials	0	0	6	78	50
2	Clarity of the speakers' delivery	0	0	14	67	53
3	Quality of the materials (structure, examples, ease of understanding)	0	0	8	87	39
4	Quality of interaction (Q&A/discussion)	0	0	26	53	55
5	Perceived benefits for work readiness/competency development	0	0	22	41	71
6	Overall satisfaction	0	0	17	56	61

Overall, the survey results indicate a very high level of participant satisfaction. None of the indicators received negative responses, suggesting that participants did not perceive the activity as irrelevant or unsatisfactory. This pattern supports the view that the intervention design combining content delivery and moderated discussion met participants' expectations as a public education program, consistent with the literature emphasizing the roles of instructor quality, instructional/material design, and interactivity in online learning satisfaction (Sun et al., 2008). For the relevance of the theme and materials, 58.21% of participants reported *agree* and 37.31% reported *strongly agree*, with only 4.48% selecting the neutral option. This finding suggests that the topic of "AI and the future of work" was perceived as highly aligned with participants' needs, supporting evidence that online learning is more effective when content is viewed as relevant and well structured [6]. Similarly, the clarity of the speakers' delivery was rated very positively, with 50.00% selecting *agree* and 39.55% selecting *strongly agree*. However, 10.45% of respondents selected the neutral option, which may indicate room for improvement in tailoring delivery styles to a more heterogeneous audience (students and the general public across two countries).

Regarding the quality of the materials (structure, examples, and ease of understanding), 64.93% of participants selected *agree* and 29.10% selected *strongly agree*. These results indicate that the materials were considered accessible and sufficiently applicable—an important component of e-learning effectiveness [5]. The comparatively lowest ratings, although still high, were observed for the quality of interaction (Q&A/discussion). Specifically, 39.55% selected *agree* and 41.04% selected *strongly agree*, while 19.40% selected the neutral option. This pattern suggests that interaction was generally effective, but some participants may have benefited from more intensive or structured engagement (e.g., extended Q&A time, brief case-based prompts, or additional interactive segments), consistent with evidence that webinars are more effective when designed to be interactive and participatory [7]For perceived benefits for work readiness and competency development, the *strongly agree* responses were particularly dominant (52.99%). This is noteworthy because it indicates that participants not only evaluated the webinar positively in terms of delivery, but also perceived substantive benefits related to competency readiness. Finally, for overall satisfaction, 45.52% of participants selected *strongly agree* and 41.79% selected *agree*.

Qualitative Findings from Open-Ended Responses

In addition to the satisfaction scores, the open-ended responses were analyzed using thematic analysis to capture participants' insights and intended follow-up actions. Based on the coding process, the emergent themes are summarized as follows:

1. Awareness of Changes in The World of Work and Emerging AI-Driven Roles.
   Participants highlighted that AI is reshaping routine tasks and increasing the need for new skill sets. This narrative is consistent with the literature suggesting that technology tends to substitute routine work while increasing demand for analytical, interpersonal, and problem-solving capabilities [8], and accelerating competency disruption across occupations [9].
2. The Urgency of Upskilling–Reskilling and Personal Learning Action Plans.
   Respondents emphasized the importance of developing concrete learning plans and strengthening professional portfolios. This finding aligns with OECD recommendations [10] stressing the need to support skill transitions so that workers are not left behind by automation, as well as evidence that training plays a decisive role in whether technology adoption leads to improvements in job quality [11].
3. Data/Analytics Literacy and Evidence-Based Decision-Making.
   Participants perceived data literacy as increasingly critical for maintaining competitiveness. This supports the argument that analytics enables more precise decision-making and can contribute to competitive advantage [4]. It is also relevant to HR practice, where value from people analytics depends on organizational data capabilities, processes, and an evidence-based culture [3].
4. Responsible AI: Bias, Privacy, and Output Verification
   Participants emphasized the need for caution and critical judgment when using AI tools. This theme is consistent with widely cited global AI ethics principles, including transparency, fairness, privacy, and accountability [12], and with calls for AI governance frameworks that prioritize human well-being and meaningful explainability as central principles [13].

5. The Value of Cross Country Collaboration (Indonesia–Malaysia) and Knowledge Sharing
Participants noted that the cross-country academic–practitioner perspectives enriched their understanding. Theoretically, knowledge creation is shaped by social interaction and experiential exchange [14], while collaborative networks strengthen knowledge transfer when shared goals and clear exchange mechanisms are in place [15]. In the AI context, the framing of human–AI collaboration as augmentation is also relevant for understanding how work is changing [2], [16].

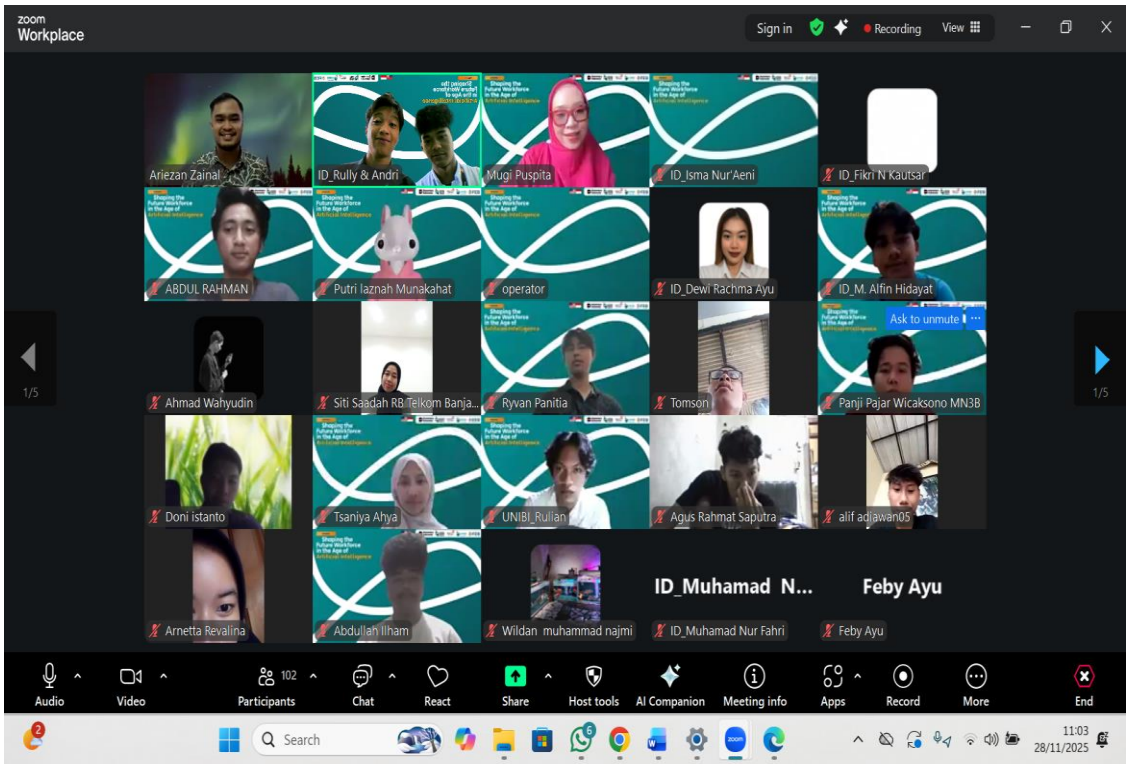

Fig 2. Zoom Webinar Session and Participant Engagement (Indonesia–Malaysia Collaboration), 28 November 2025.

IV. CONCLUSION

Overall, the quantitative results (satisfaction ratings) and qualitative findings (emergent themes) suggest that the webinar has strong potential as an effective educational platform for enhancing workforce readiness in the AI era, particularly when integrating academic and industry perspectives. Participants' emphasis on upskilling and reskilling indicates alignment with global trends in competency renewal, as highlighted in *The Future of Jobs* report [1].Furthermore, the emergence of the responsible AI theme underscores that AI readiness should not be understood merely as the ability to use tools, but also as risk and ethics literacy.

In other words, public education initiatives that incorporate issues of bias, privacy, and accountability are not only normatively important, but also practically needed by participants as guidance for real-world use [12], [13].From an instructional design perspective, the high ratings for interactivity support evidence that interaction (e.g., Q&A, discussion, and case-based activities) is a key determinant of webinar effectiveness and participant satisfaction [5],[7]. Accordingly, future implementations should sustain and further strengthen participatory elements to ensure that learning outcomes extend beyond conceptual understanding and translate into concrete action plans.

V. ACKNOWLEDGMENTS

The authors gratefully acknowledge Universitas Informatika dan Bisnis Indonesia (UNIBI) for providing funding and institutional support for this community service (PKM) activity, which enabled the successful implementation of the Indonesia–Malaysia webinar.

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