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THE IMPACT OF INFORMATION TECHNOLOGY ON THE POOR COMMUNITY EMPOWERMENT IN PLEBURAN AREA, SEMARANG CITY

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Abstract

Information Technology (IT) in this era plays a vital role in driving growth and economic development. This study explores the impact of information technology on the poor community empowerment in Pleburan area, Semarang City. The data were drawn from questionnaire of 32 Pleburans people and analyzed using quantitative descriptive analysis. The questionnaire consists of six indicators such as informational indicators, economic indicators, social and political participation indicators, digital skills and education indicators, organizational and institutional indicators, and social and cultural development indicators. The focus of this research is to find out how important the development of digital education and skills is, which are the key to Information Technology-based economic empowerment. But this study shows that Information Technology not only has an impact on the economic empowerment of the community, but it can also make the social and cultural structure of the community stronger. In turn, the environment created will become more conducive to sustainable development. The results show that the Inromation Technology (IT) has an overall positive impact on the economic empowerment of the poor in the Pleburan area of Semarang City, which can be seen through empirical evidence.One of the positive impacts can be seen from the easiness that the community feels through Information Technology facilities in accessing various information widely and quickly, so that the knowledge and skills they have will also increase their income and welfare. For this reason, Information Technology should always be encouraged and integrated into regional economic development policies so that digital and economic inclusion can be created more broadly.

Keywords: Information Technology; Poor Community Empowerment; Semarang City

Introduction

Poverty remains a persistent and cyclical issue in Indonesia, appearing resistant to resolution. According to *Menghapus Kemiskinan Bagian 1* (2023), the challenge of poverty alleviation in developing nations is particularly complex due to their entrenchment in a deepening cycle of deprivation.Not only small towns or rural areas are facing poverty problems, but big cities such as the capital city are also struggling with the problem of poverty. One of them is the capital city of Central Java, Semarang City. Serving as the administrative and economic center of Central Java, Semarang City holds a pivotal role in driving regional development. Nevertheless, despite its strategic significance, the city continues to exhibit pockets of poverty, with a portion of its population remaining below the poverty line. Although the poverty rate in Semarang City demonstrates a downward trend from year to year, there are some factors that can trigger the poverty issue again, such as low education and skills, unemployment, and difficulty in accessing the healthcare. The problem of poverty in Semarang City must be addressed immediately, which is a comprehensive and sustainable alleviation that involves many parties in it, including both the government and the community. According to Priseptian & Primandhana (2022), the poverty rate is one of the parameters used to assess the success of government development in a region.

The strategic utilization of Information Technology (IT) is widely regarded as an effective approach to poverty reduction, given its transformative impact across multiple sectors, including the economy, education, and public services, which collectively contribute to enhancing community well-being. Nonetheless, disparities in IT adoption persist across various regions, often due to infrastructural and socio-cultural limitations. As noted by Setyaningsih (2017), there remains a general misconception among the public, where ICT is often narrowly understood as limited to computers and the internet, while some equate it with traditional tools. A significant barrier to the optimal use of IT is the low level of educational attainment. In this context, Abdussamad (2003) emphasizes that the poor quality of human resources constitutes a fundamental cause of poverty within a nation (p. 214).

In reducing poverty, there are several attempts that can encompass the community as a whole and are sustainable, one of which is by empowering the community. Marien Pinotoan, 2020 stated that,

> "Empowerment can be understood as the process of enhancing the capacity of individuals, particularly those from vulnerable or marginalized groups, to gain control over their lives. This includes: (a) the ability to meet basic needs and attain various forms of freedom—not only the freedom of expression, but also freedom from hunger, ignorance, and suffering; (b) access to productive resources that enable increased income and access to essential goods and services; and (c) meaningful participation in development processes and decision-making that directly impact their lives" (p. 91).

A key aspect of community empowerment lies in enhancing the capacity and self-reliance of individuals, enabling them to effectively manage and utilize available resources. This aligns with the observation by Fatmawati and Aisyah (2023), who noted that even in the modern era, many communities continue to struggle in optimizing and making full use of existing facilities (p. 346).

Community empowerment can be pursued through various approaches, one of which involves the introduction of Information Technology (IT). Given the rapid advancement of information and communication technologies, equipping individuals with the skills to use IT effectively offers a promising pathway for expanding both social and economic networks. Through improved access to information and enhanced digital competencies, individuals can strengthen their economic opportunities. However, for empowerment initiatives to be both effective and sustainable, socio-cultural dimensions must also be taken into account. This study aims to explore and assess the impact of IT on the economic empowerment of impoverished communities in the Pleburan area of Semarang City. It is expected that through such empowerment, communities will experience not only economic improvement but also a reduction in existing disparities, such as income inequality. Achieving these outcomes contributes directly to one of the key objectives of national development, which, as Fatmawati and Aisyah (2023) note, is to reduce poverty levels (p. 345).

Methodology

The research in this scientific paper will be conducted using survey research with quantitative methods. Survey research is a form of quantitative methodology that employs various instruments such as questionnaires and interviews to collect data. This approach enables researchers to describe phenomena, examine causal relationships, explore variables, conduct evaluations, and make predictions related to the research topic. Based on this framework, survey research can be defined as a method of systematically collecting data through a series of structured questions posed to respondents.

To investigate the influence of information technology on the economic empowerment of the poor, this study targets the population residing in the Pleburan area of Semarang City. The sample is drawn from residents of Pleburan Neighborhood 1 / Hamlet 1, with participants aged between 20 and 65 years.

The study utilizes a closed-ended questionnaire as the primary data collection tool. Respondents are presented with a series of predetermined questions and response options via a digital platform. For this purpose, Google Forms is employed as a practical and accessible medium for both researchers and participants.

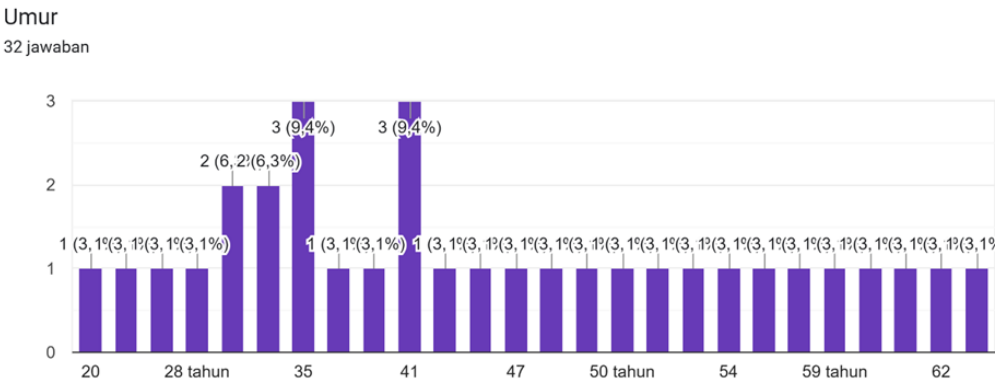

Figure 1
Respondents' Age Range

Results dan Discussions

In this survey, data were collected through a questionnaire administered via Google Forms. Respondents were presented with items measured using a Likert scale ranging from 1 to 5, where 1 represented the lowest level of agreement or perception ("worst") and 5 represented the highest ("best"). The demographic profile of

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respondents indicates that 65.6% were female and 34.4% were male. Additionally, the majority of participants reported having owned a digital device prior to the year 2020.

Table 1: Impact of Information Technology with Informational Indicator

Questions Number	*Score 1 (%)*	*Score 2 (%)*	*Score 3 (%)*	*Score 4 (%)*	*Score 5 (%)*
Question 1	0	0	12,5	62,5	25
Question 2	0	0	28,1	46,9	25
Question 3	0	0	50	46,9	3,1
Question 4	0	0	0	37,5	62,5
Question 5	0	0	31,1	50	18,8

Source: Data Processing Result, 2025

Based on the data presented in the table, it is evident that respondents generally responded positively to items related to informational indicators. In Questions 1 and 2, which addressed the adequacy of infrastructure, over 70% of respondents selected options 4 or 5 on the Likert scale, indicating a perception that the existing infrastructure is adequate. The remaining respondents considered the infrastructure to be "sufficient." Regarding Question 3, which assessed environmental quality (specifically air cleanliness), 50% of respondents expressed satisfaction with the air quality, while the other half regarded it as "adequate." For the final two items, which focused on perceptions of gender equality, 68.8% of respondents strongly agreed on the importance of gender equality, while 31.1% provided a neutral or moderate response.

These findings suggest that Information Technology has contributed positively to improvements in informational indicators. This conclusion is supported by the study *Menuju Masa Depan yang Berkelanjutan: Mengoptimalkan Media Sosial untuk Meningkatkan Kesadaran SDGs2030* by Thoriq et al. (2024), which also highlights the significant role of Information Technology, particularly social media in enhancing public awareness and empowering communities through informational dimensions that encompass infrastructure, environmental quality, and health-related concerns.

Table 2: Impact of Information Technology with Economic Indicator

Questions Number	*Score 1 (%)*	*Score 2 (%)*	*Score 3 (%)*	*Score 4 (%)*	*Score 5 (%)*
Question 1	6,3	25	6,3	21,9	40,6
Question 2	0	0	6,3	43,8	50

Source: Data Processing Result, 2025

In Section 2 of the questionnaire, which focused on economic indicators, Question 1 addressed respondents' employment status. The results show that 40.6% of respondents are employed full-time, 21.9% are working part-time, 6.3% are actively seeking employment, 25% are currently unemployed, and 6.3% are not seeking employment. These findings indicate that the influence of Information Technology on economic aspects tends to be more positive than negative, particularly in expanding employment opportunities and access to economic resources. This conclusion is supported by Prayoga et al. (2024) in their study *Analisis Perbedaan Pembangunan Teknologi Informasi pada Bidang Ekonomi*, which argues that Information Technology can enhance economic outcomes by enabling individuals to engage in various activities that contribute to economic improvement.

Table 3: Impact of Information Technology with Social and Political Participation Indicator

Question Number	*Score 1 (%)*	*Score 2 (%)*	*Score 3 (%)*	*Score 4 (%)*	*Score 5 (%)*
Question 1	6,3	9,4	25	31,3	28,1
Question 2	3,1	3,1	3,1	15,6	75

Question 3	9,4	0	28,1	37,5	25

Source: Data Processing Result, 2025

The data presented in the table indicate that in Questions 1, 2, and 3, each of which measured respondents' involvement in social activities, both within their household and in governmental or political organizational settings over 50% of participants responded positively (scores 4 and 5). Additionally, 3% to 28% of respondents gave moderately positive responses (score 3), while the remaining participants provided less favorable responses (scores 1 and 2). These findings suggest that the role of Information Technology in enhancing social and political participation remains largely positive. This conclusion is supported by the work of Nuswantoro (2015), who emphasized that the internet facilitates the exchange of ideas, perspectives, and social information. Such information, particularly when related to public issues can influence citizens' attitudes and actions in the political sphere (p. 62). Thus, Information Technology plays a crucial role in strengthening community empowerment within both social and political domains.

Table 4: Impact of Information Technology with Digital Skills and Education Indicators

Questions Number	***Score 1 (%)***	***Score 2 (%)***	***Score 3 (%)***	***Score 4 (%)***	***Score 5 (%)***
Question 1	0	0	0	40,6	59,4
Question 2	3,1	40,6	37,5	12,5	6,3
Question 3	3,1	31,3	43,8	15,6	6,3
Question 4	9,4	43,8	31,3	9,4	6,3
Question 5	0	3,1	18,8	50	28,1
Question 6	0	12,5	40,6	31,3	15,6

Source: Data Processing Result, 2025

The table above presents the results from Section 4 of the questionnaire, which focuses on respondents' digital literacy and the use of gadgets in daily activities. In Question 1, which addressed the frequency of gadget usage, findings indicate that the majority of respondents use gadgets regularly. However, in Questions 2 and 3—regarding the ability to operate word processing and presentation applications—less than 20% of respondents reported having proficient skills. A larger proportion, ranging from 37% to 44%, indicated only basic operational skills, while approximately 3% to 41% reported no ability to use these applications. Question 4, which assessed participation in technology-related training, revealed that fewer than 50% of respondents had ever attended such training, while the majority had rarely or never participated in any formal digital skills development. In contrast, Questions 5 and 6, which explored the use of gadgets for seeking information, showed a strong trend: over 85% of respondents frequently used their devices for accessing information, whereas the rest used them only occasionally.

Overall, these findings suggest that while information technology has had a moderately positive impact on digital skill development and education, there is still considerable room for improvement in terms of maximizing its potential for enhancing human capital. This conclusion aligns with the argument presented by Rini and Sugiharti (2016), who emphasized that human resource development can be advanced through various means, particularly through improved access to education (p. 100).

Table 5: Impact of Information Technology with Organizational and Institutional Indicators Indicators

Questions Number	***Score 1 (%)***	***Score 2 (%)***	***Score 3 (%)***	***Score 4 (%)***	***Score 5 (%)***
Question 1	0	3,1	12,5	43,8	40,6
Question 2	0	0	21,9	50	28,1

Source: Data Processing Result, 2025

The table above presents respondents' answers to Question 1, which examines their involvement in decision-making within community activities. The data reveal that 40.6% of respondents reported always being involved, 43.8% stated they were often involved, 12.5% indicated occasional involvement, and only 3.1% reported rare involvement. Question 2 assessed perceptions of Information Technology (IT) as a tool to support community activities. The results show that 21.9% of respondents considered IT to be moderately sufficient, 50% perceived it as adequate, and 28.1% felt it was highly adequate in supporting their community activities. These findings suggest that the organizational and institutional aspects of Information Technology positively contribute to the economic empowerment of the poor by facilitating community participation and collaboration.

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This conclusion is supported by Maryati and Siregar (2022), who emphasized that technology, when utilized as a medium of communication, serves as a platform for exchanging information, ideas, and problem-solving, as well as for fostering cooperation among community members (p. 3621).

Table 6: Impact of Information Technology with Social and Cultural Development Indicators

Questions Number	*Score 1 (%)*	*Score 2 (%)*	*Score 3 (%)*	*Score 4 (%)*	*Score 5 (%)*
Question 1	0	0	31,3	40,6	28,1
Question 2	0	0	34,4	34,4	31,3
Question 3	0	0	25	50	25
Question 4	0	0	6,3	68,8	25

Source: Data Processing Result, 2025

The results from this section indicate that Information Technology (IT) plays a significant role in supporting social and cultural development among low-income communities. In Question 1, which addressed access to healthcare information, nearly 70% of respondents (scores 4 and 5) reported having good access to health-related information, while 31.3% considered their access to be adequate. Questions 2 and 3 explored the role of IT in facilitating learning and participation in local cultural activities. Over 65% of respondents agreed that IT helped them engage with local culture, whereas 25% to 34% expressed neutral responses. Finally, in the last question concerning the influence of IT on interest in visiting local attractions, more than 90% of respondents affirmed that IT positively affected their interest, with only 6.3% remaining neutral. These findings suggest that IT contributes positively to economic empowerment through enhanced social and cultural participation. This conclusion aligns with the findings of Dyah et al. (2023), who emphasize that IT plays a critical role in poverty reduction by driving economic growth, creating employment opportunities, and increasing productivity.

Conclusions

Based on the findings and analysis, it can be concluded that Information Technology (IT) has had a broadly positive impact on the economic empowerment of the poor in the Pleburan 1st Neighborhood / 1st Hamlet, Semarang City. This is reflected across all key indicators examined in the study.

In terms of informational indicators, IT contributed positively to improvements in infrastructure, environmental quality, and awareness of gender equality. For economic indicators, the data suggest that IT has supported the reduction of unemployment and provided opportunities to increase household income, as perceived by the residents.

With regard to social and political participation, IT has facilitated greater involvement in both community and governance-related activities, enabling residents to engage more effectively in collective decision-making processes. In the area of digital skills and education, IT was found to aid respondents in accessing learning resources, job opportunities, and relevant information, even though the level of skill in operating specific applications remained limited for some.

Furthermore, IT has had a positive influence on organizational and institutional indicators, as shown by its adequacy in supporting community initiatives and collective action. Lastly, social and cultural development indicators also reflected favorable outcomes, with IT encouraging engagement in cultural activities and enhancing interest in local tourism and heritage.

In summary, the integration and utilization of Information Technology have shown a strong potential to empower low-income communities across multiple dimensions. However, for these benefits to be fully realized and sustained, further efforts in improving digital literacy, expanding access to training, and enhancing supporting infrastructure are essential.

Advices

Although Information Technology (IT) has demonstrated a positive impact on the economic empowerment of the poor in the Pleburan area of Semarang City, further efforts are necessary to enhance its effectiveness. It is recommended that the local community take a more proactive role in developing their digital competencies. Despite the fact that many residents have had access to gadgets since before 2020, a significant portion of the

population still lacks the ability to operate essential digital applications that are increasingly vital for education and employment in the digital era.

Improving digital literacy and promoting continuous learning in the use of IT tools can contribute to reducing unemployment and, consequently, alleviating poverty. Therefore, local stakeholders including government institutions, educational organizations, and community leaders should collaborate to provide accessible training programs, workshops, and digital infrastructure to support the sustainable empowerment of the community.

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