# Advancing the Digital Cities Program in Iligan, Southern Philippines

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**Abstract.** The Digital Cities 2025, intended to enable inclusive growth, has the potential to advance LGUs and MSMEs. This paper assesses the initiatives of the LGU and MSMEs in Iligan City, i.e., among the cities aspiring to be a digital city, as a case. Two studies were consolidated with one employing a desk review on the social media presence of the LGUs and the other a focus group discussion with regional stakeholders to gauge current capacity on the digita lobs PH training program. Results highlight the need to address digital divide through infrastructure and capability building to support attaining the country's Digital Cities Program. Further assessments on digitalization are encouraged to reinforce countryside development.

Keywords: Digital Cities, social media, Government Program

## 1 Introduction

The Digital Cities Program, launched in 2020 from the partnership of IBPAP, DICT, and LPC, intended to enable inclusive growth through the development of hubs for IT-BPM services in locations outside the National Capital Region [1]. Different parameters including talent, infrastructure, cost, and business environment were used to gauge the potential of the location. Local government units (LGUs) and micro, small, and medium-sized enterprises (MSMEs) have a vital role in the Digital Cities Program.

Organizations have utilized social media to reach, update, or form online communities. Similarly, local governments have been found to utilize the different platforms, i.e., Twitter, Facebook, and YouTube, as discussion boards, mechanisms for information sharing, and managing appointments [2]. While such platforms are expected to improve service delivery and public administration, local governments, as highlighted in [3], there is a need to evaluate their social media use and what value such platforms provide the community. Digitalization can be a catalyst for countryside development.

This paper addresses two objectives, and correspondingly the conduct of two studies, with focus on Iligan City as a case. The first objective is to inventory the social media presence of LGUs. The second objective is to develop a capacity development plan on ICT upskilling or reskilling of workforce and promotion of e-commerce for MSME.

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## 2 Social Media Presence of Iligan (study 1)

Social media, in the context of the Philippines, has been used in crisis communication [4], [5], sustainable tourism development [6], public relations [7], and local policy making [8]. Social media platforms, such as Facebook and Twitter, could emerge as a utility to deliver public services as well as, as in [9], enhancing citizen engagement through the online interactive participation of local governments. The 2019 Functional Literacy, Education, and Mass Media Survey showed that a little more than 7 to out of every 10 Filipinos aged between 10 to 64 years old use social media [10].

Several use cases on social media in governments are evident. The current paper inventories the social media presence of local government units (LGUs) in the context of Iligan City, Southern Philippines. Effective information dissemination and increase in the citizen engagement of LGUs are expected to contribute to positive outcomes on public trust from transparency and local development as well.

### 2.1 Methodology

A desk review was conducted to determine the social media presence of the different barangays of Iligan City. Iligan City maintains a Facebook page, LGU Iligan City, where information and updates regarding the city are posted. Data collection was done through Facepager — a web scraping tool that fetches publicly available data from select social media. Posts, date of creation, and engagements over a 4-year period covering from January 1, 2019 to December 31, 2022 were collated. Among 44 barangays, 8 barangays either have Facebook pages which are not accessible or do not have one. Content analysis was also employed to select barangays to draw further insights.

### 2.2 Results and discussions

On active FB pages. Barangays appeared to have started utilizing FB pages in the year 2013 (Fig. 1). An abrupt increase in the number of barangay FB pages created was observed in 2018. In terms of the number of posts, an increasing trend is seen from 2019 leading to 2022. In September 2021, a total of 11 out of the 44 barangays were confirmed to have social media presence through Facebook (Table 1). Around a year later, in October 2022, even more were evident with the addition of 18 barangays.
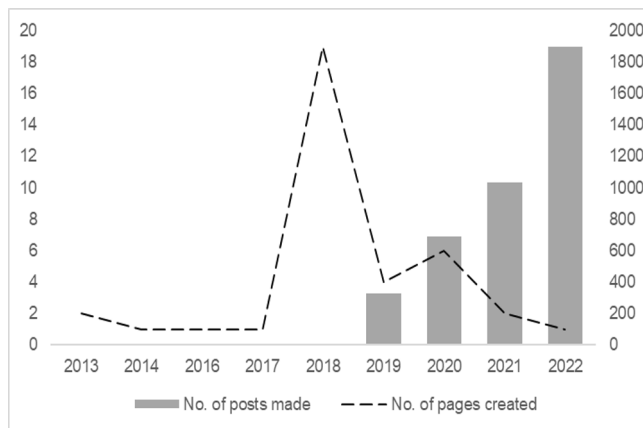


**Fig. 1.** Number of FB pages created and posts over the years

**Table 1.** Barangays and social media presence through Facebook

| | Barangay | September 2021 | October 2022 | | Barangay | September 2021 | October 2022 |
|---|---|---|---|---|---|---|---|
| 1 | Abuno | None | Yes* | 23 | Palao | Yes | Yes* |
| 2 | Acmac | Yes | Yes | 24 | Panoroganan | None | None |
| 3 | Bagong Silang | None | Yes | 25 | Poblacion | None | None |
| 4 | Bonbonon | None | Yes | 26 | Puga-an | Yes | None |
| 5 | Bunawan | None | None | 27 | Rogongon | None | Yes* |
| 6 | Buru-un | None | Yes | 28 | San Miguel | None | Yes* |
| 7 | Dalipuga | Yes | Yes | 29 | Sta. Elena | None | None |
| 8 | Del Carmen | None | Yes | 30 | Sta. Filomena | None | Yes |
| 9 | Digkilaan | None | Yes* | 31 | Santiago | Yes | Yes |
| 10 | Ditucalan | None | Yes | 32 | Sto. Rosario | None | None |
| 11 | Dulag | None | None | 33 | San Roque | Yes | Yes |
| 12 | Hinaplanon | None | Yes | 34 | Saray | None | None |
| 13 | Hindang | Yes | Yes | 35 | Suarez | None | Yes |
| 14 | Kabacsanan | None | None | 36 | Tibanga | None | Yes |
| 15 | Kalilangan | None | None | 37 | Tambacan | None | Yes |
| 16 | Kiwalan | Yes | Yes | 38 | Tipanoy | None | None |
| 17 | Lanipao | None | Yes | 39 | Tomas Cabili | None | Yes |
| 18 | Luinab | None | Yes | 40 | Tubod | None | None |
| 19 | Mahayahay | Yes | Yes | 41 | Ubaldo Laya | None | None |
| 20 | Mainit | None | Yes | 42 | Upper Hinaplanon | Yes | Yes |
| 21 | Mandulog | None | None | 43 | Upper Tominobo | None | None |
| 22 | Ma. Cristina | Yes | Yes | 44 | Villa Verde | None | Yes |

Note: *fb account, i.e., not an fb page

Despite the social media presence of LGU Iligan City, barangays have the continued opportunity to utilize social media. Table 2 highlights the top 20 barangays showing the highest number of followers as of March 2023. Majority of these FB pages are managed by Sangguniang Kabataan officials.

**Table 2.** Top 20 barangays with highest number of followers

| | Barangay | No. of followers | | Barangay | No. of followers |
|---|---|---|---|---|---|
| 1 | Kiwalan | 11,000 | 11 | Buruun | 2,600* |
| 2 | Acmac | 6,400 | 12 | Tipanoy | 2,600* |
| 3 | Dalipuga | 4,400* | 13 | Palao | 2,500* |
| 4 | Abuno | 4,000* | 14 | Tibanga | 2,300* |
| 5 | Maria Cristina | 3,400 | 15 | Sta.Filomena | 2,283* |
| 6 | Del Carmen | 3,100 | 16 | Mahayahay | 2,100 |
| 7 | Saray | 3,000* | 17 | Suarez | 2,100 |
| 8 | Villa verde | 3,000* | 18 | Tubod | 2,100* |
| 9 | Tambacan | 2,900* | 19 | Luinab | 2,000* |
| 10 | Upper Hinaplanon | 2,700 | 20 | Ubaldo Laya | 1,900* |

Note: *Sangguniang Kabataan (SK) page

On citizen engagement. The barangays were observed to regularly post information on the barangay's programs, projects, and ordinances. Photographs and posters appear to solicit more shares and reactions compared to shared contents, texts, and videos. Videos are observed to solicit more comments in comparison to the other forms of fb posts, i.e., photograph, poster, shared content, and text. This information can help promote available services and foster transparency. The opportunity to incorporate social media as part of a barangay's strategic communication is present. Barangays can include historical and cultural information to advance citizens' awareness and appreciation of their community's context.

# 3      Capacity development plan and eMSMEs (study 2)

MSMEs are among the country's key economic drivers [11]. Their engagement in e-commerce will further their role in economic growth. The DICT's digitaljobsPH training program is intended to advance ICT-enabled jobs in the country's socio-economically disadvantaged areas. Part of the intent is to support more Filipinos to gain employment through online freelancing and advance the participation of MSMEs in e-commerce.

## 3.1 Methodology

To attain the objective set for this study, a focus group in the form of a regional stakeholder's workshop and survey were conducted. The focus group discussions were guided by questions on gap analysis including (1) what are the existing industries in the city?

how many are MSMEs?; (2) are there enough talents to meet the demands in these industries; (3) what are the reasons for the skills gap in each industry?; and (4) What skills or specializations do the ICT industries in the city need?

A survey questionnaire to gauge the current capacity on the different offerings of the digital jobs PH training program was designed. Of note were six (6) training courses including: (1) digital marketing and e-commerce; (2) social media marketing and advertising; (3) search engine marketing and advertising; (4) SEO content writing; (5) affiliate marketing for beginners; and (6) chatbot e-commerce. Each of the program offerings were placed on a five-point Likert scale with a rating of 1 as "Do not have any interest" to a rating of 5 as "Able to mentor others." The survey yielded 44 usable responses from MSMEs in Iligan City.

## 3.2 Results and Discussions

### 3.2.1 *Perspective of the city's stakeholders*

**Table 3.** Takeaways from the regional stakeholder's workshop

| Key themes and actionable items |
|---|
| Theme 1: Policy<br>1.1. Policy for local freelance industry<br>1.2. Marked improvement in the Cities and Municipalities Competitiveness Index rank through improved data collection |
| Theme 2: Infrastructure<br>2.1. Co-working spaces<br>2.2. IT park in the city<br>2.3. Improved infrastructure for connectivity |
| Theme 3: Education<br>3.1. Consider ladderized programs<br>3.2. Revisiting of ICT curricula<br>3.3. Road to 10,000 jobs |
| Theme 4: Niche<br>4.1. Platform for services/tourism<br>4.2. Cater digital nomads |

The regional stakeholders' workshop, conducted on October 26, 2022, was participated by representatives from the Local Government Unit of Iligan City, the local Tourism Office, and regional offices of national government agencies including Department of Education, Department of Information and Communication Technology, Department of Labor and Technology, and Technical Education and Skills Development Authority. Representatives from local technical vocational institutions, private higher education institutions, and local BPO companies were also in attendance.

Four themes or priority areas - policy, infrastructure, education, and niche - emerged from the workshop (Table 3). Policy relates to the concern on providing city ordinances, aligned with the national mandates, to support online freelancers. The competitiveness of Iligan City, particularly, in terms of ICT ecosystem and ICT-enabled services was recognized as an important area for improvement. That concern also extends to streamlining the processes and data governance of the city and its attached local government units.

Ensuring that network connectivity can cater the needs of the stakeholders is among the concerns relating to infrastructure. The development of an IT park will advance the city's aspiration to advance Digital Cities 2025 initiative. Further, improving network connectivity might help ease the seemingly apparent digital divide in the city as proxied by social media presence of its different locales (related to Study 1).

### 3.2.2   Perspective of MSME stakeholders

The survey yielded 44 usable responses from individuals involved in MSMEs in Iligan City. Majority of the respondents are into both buy and sell through e-commerce (Table 4).

**Table 4.** Involvement in respondents in e-commerce (N= 44)

| Involvement in e-Commerce | Count (%) |
|---|---|
| Buyer | 12 (27%) |
| Seller | 12 (27%) |
| Both (buyer and seller) | 20 (46%) |

**Table 5.** Self-reported assessment of current capacity in digitaljobsPH training program

| Assessment of current capacity (N=44) | 1 Do not have any interest | 2 Have interest | 3 Have skill and knowledge | 4 Able to utilize for daily work | 5 Able to mentor others |
|---|---|---|---|---|---|
| Digital marketing | 2 (5%) | 10 (23%) | 15 (34%) | 12 (27%) | 5 (11%) |
| Social media marketing and advertising | 1 (2%) | 9 (20%) | 15 (34%) | 12 (27%) | 7 (16%) |
| Search engine marketing and advertising | 4 (9%) | 16 (36%) | 12 (27%) | 10 (23%) | 2 (5%) |
| SEO content writing | 6 (14%) | 14 (32%) | 10 (23%) | 11 (25%) | 3 (7%) |
| Affiliate marketing | 8 (18%) | 10 (23%) | 14 (32%) | 10 (23%) | 2 (5%) |
| Chatbot e-commerce | 6 (14%) | 14 (32%) | 13 (30%) | 7 (16%) | 4 (9%) |

Social media marketing and advertising had the greatest number of respondents able to utilize daily or mentor others (Table 5). Chatbot e-commerce, on the other hand, the least. The results suggest that there is considerable interest for training on search engine marketing and advertising, SEO content writing, and chatbot e-commerce. Common reasons for survey respondents' disinterest in the various digitaljobsPH training options include computer

illiteracy and lack of time. There are, however, respondents interested in getting involved in e-commerce through improving not only their computer literacy but their business literacy as well.

# 4  Conclusions

The current paper intends to assess the progress of the LGU and MSMEs, focusing on Iligan City as a case, on the Digital Cities Program. Two studies were collated including (i) the social media presence of LGUs; and (ii) ICT capacity development plan and promotion of e-commerce. Social media has been an essential tool for local government units for disseminating information to a wider audience. It allows barangay to engage with their community and respond to citizen inquiries. Through social media, barangays can post updates, announcements, and events. Engagement of constituents show varying responses to the content type of social media posts. Further studies are directed to explore the barriers and challenges of LGUs' social media use.

Addressing the city's digital divide - infrastructure and capability building - with more resolve will support attaining the country's Digital Cities Program. Further assessments on the MSMEs are encouraged to overcome the number of survey respondents as a limitation.

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