DIGITAL INTEGRATED DATA SERVICE MODEL FOR BANDUNG CITY SMES USING THE SIRKUIT APPLICATION

Rangga Yudha Handika[1] , Wawan Lulus Setiawan[2]
Universitas Koperasi Indonesia, Bandung, Indonesia
ranggayhandika@gmail.com[1], wawanlulus@ikopin.ac.id[2]

Abstract

Bandung City, Indonesia, holds significant economic potential due to its strategic location as a weekend getaway for local tourists from Jakarta and encompassing numerous microenterprises. This research aims to describe (1) the definition of SME and Micro Enterprise, (2) previous data collecting process, and (3) digital integrated data service model phase. The study employs a qualitative approach with descriptive analysis. Findings indicate that years by years, Bandung have never had a chance to accurately collect all the potential database of SME's, whereas the relevant government agencies could more easily provide substantial support if such data existed. These benefits include improved administrative order, assistance in fulfilling legal requirements, and a means to measure business turnover growth throughout the mentoring process. After go through few surveys and discuccions, Finally Bandung City's Cooperative and SME have decided to Create an integrated model for collecting the SME data digitally throughout an application named SIRKUIT.

Keywords: Application, Data, Integrated, Model, Micro-enterprise, Sirkuit, SME

Abstrak

Kota Bandung, Indonesia, memiliki potensi ekonomi yang signifikan karena lokasinya yang strategis sebagai tempat liburan akhir pekan bagi wisatawan lokal dari Jakarta dan mencakup banyak usaha mikro. Penelitian ini bertujuan untuk mendeskripsikan (1) definisi UKM dan Usaha Mikro, (2) proses pengumpulan data sebelumnya, dan (3) fase model layanan data terpadu digital. Penelitian ini menggunakan pendekatan kualitatif dengan analisis deskriptif. Temuan penelitian menunjukkan bahwa dari tahun ke tahun, Bandung tidak pernah memiliki kesempatan untuk mengumpulkan secara akurat semua basis data UKM potensial, sedangkan instansi pemerintah terkait dapat dengan mudah memberikan dukungan substansial jika data tersebut tersedia. Manfaat ini meliputi peningkatan ketertiban administrasi, bantuan dalam memenuhi persyaratan hukum, dan sarana untuk mengukur pertumbuhan omzet bisnis selama proses pendampingan. Setelah melalui beberapa survei dan diskusi, akhirnya Koperasi dan UKM Kota Bandung memutuskan untuk membuat model terintegrasi untuk mengumpulkan data UKM secara digital melalui aplikasi bernama SIRKUIT.

Kata kunci: Aplikasi, Data, Terintegrasi, Model, Usaha Mikro, Sirkuit, UKM

1. INTRODUCTION

Bandung City is populated by 2.693.500 people according to opendata.bandung.go.id, and there are 11,990 Micro Enterpreneurs that were listed on DiskopUKM Kota Bandung's database. By 2025, all of them were spread into 30 Districts all over Bandung City.

All of the business owner which are listed will be prioritized by DiskopUKM for their participations in any entrepreneur supportbased events, including a chance to be selected for a yearly exclusive mentorship program for a period of 8 months from February to October each year. The Definition of UMKM/SME itself (Micro, Small, and Medium Enterprises) are independent productive businesses, conducted by individuals or business entities, not subsidiaries or branches of companies owned, controlled, or part of Medium Enterprises or Large Enterprises (PP REPUBLIK INDONESIA No.7 Tahun 2021 (Page 26 paragraph 4).

While the criteria for Micro-Enterprises are having annual sales of up to a maximum of Rp2,000,000,000.00, and maximum Rp1,000,000,00 in capital. In this case, the Micro-Enterprise that observed were selected business actors whom located in Bandung City and which their annual sales are limited into that number.

The business owners category divided into 3 major businesses : Food and Beverage, Fashion, and Handicraft. They are now evolving from 'Existence'-phase by validating their ideas and gaining enough customers into 'Survival'-phase' by improving their customer service and focused on their profitability and growth so they can move into the next step.

Many programs have been carried out by the Government of Indonesia to foster entrepreneurship. But entrepreneurship development is not easy, because new entrepreneurs are faced with the problem of limited access to information sources, technology sources, markets, sources of capital, and others. And by that, a proper data collecting and mentoring programs are needed as a form of environmental support from the government also as a jumpstart of commitment which can decide their growth intention.

In this case DiskopUKM Kota Bandung previously works as a supporter by providing a certain of time-based mentorship and attempt to collect the data from there manually.

2. RESEARCH METHODS

Research conducted was a descriptive analysis of qualitative data to determine information on the interests of seeking a good integrated data service model within a digital application for micro-enterprises, whom are originated from Bandung City and joining the mentoring program from DiskopUKM in 2020.

Started from there, the internal and selective data collecting is growing according to the expanding areas of the mentorship participants : Year 2020 (180 participants data/year), year 2021 (540 participants data/year), year 2022 (690 Participants data/year) year 2023-until now (900 participants data/year).

Qualitative is also a method which is well positioned to aid in public education on crucial social problems, (Biber, 2019).

And to correlate it within the existence of micro-entrepreneurs, qualitative methods offer unique insights into the complexities of organizational life within SMEs, by exploring meanings, relationships, and contextual factors (Cassel and Symon, 2016).

While described that descriptive analysis is a method that used to picture or analyse the result of a research, but are not used to make a furthermore conclusions (Sugiyono, 2019).

The main goal of this descriptive research is to make an abstract, picture, or any factbased, and fact-accurate sistematic descriptions, also characters and intraphenomenon relations.

In order to be proactive and always updated within the latest technology in recording the micro entrepreneurs history through the implementation of accurate database system, (Rogers, 2016) stated that SMEs which develop strong digital capabilities (e.g., data analytics,

digital marketing) can enhance their agility and responsiveness to digital market changes, leading to improved performance.

Research Location

Located at Bandung City, limited into SMEs that are supported by DiskopUKM in previous mentorship program timeline period, from this research begins with a visit to the DiskopUKM office, held a meeting within the Head and also the IT Section of economy development for SMEs. Furthermore, a thorough discussion within the Mentors from all the Districts are also involved in determining the 'data collection factors' which enriched the feature of the future digital solutions regarding the data collecting. Afterwards, socialization events are held in DiskopUKM office and also spreading the news in their website to gather some more attention from the SMEs of Bandung.

Data Source

In the socialization event on 2021, The IT Section of economy development for SMEs asked all the mentors to fill the attendance list and collect all the biodata and business data manually for all of their SME Mentees through a form, and based on the motivation and their willingness to learn continuously for the next 8 months, finally there are 540 selected participants data from that year were inputted on the manual list by the mentors.

Mainly there are 2 types of data that taken during this research, the first one is primary data, or the data which obtained from informants consists of the informant's words and actions. The sampling technique used is the Purposive technique, meaning the key informants are the selected microentrepreneurs in Bandung City.

The second one is secondary data, secondary data for this study were derived from sources external to direct fieldwork, encompassing a comprehensive review of scholarly literature and documentary analysis. Furthermore, archival data from the Mentee in Bandung City were incorporated. The inclusion of the owner as a supplementary informant (Mentor) augmented the data corpus, contributing to a more nuanced and comprehensive analysis.

Also in that opportunity, the Mentor delivered an informational speech regarding the data collecting is a crucial factor in having their businesses listed in the DiskopUKM data base.

Data Collecting Techniques

On field data collecting activities for this research are divided by two techniques, the first one is by observation, since observation method is a method under which data from the field is collected with the help of observation by the observer, or by personally going to the field. (Ogunmefun, 2024). Often this is done with the aid of the five senses.

Observed data among others are : the typology of the business, their business time length, their annual and monthly revenues, and their businesses legal aspects fulfillments.
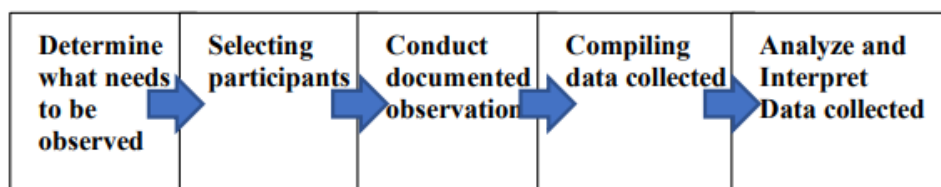

Fig 1. Steps Of Effective Observation Source : Ogunmefun (2024)

And the second techniques is by conducting an interview, The interview method of collecting data involves the presentation of oral-verbal stimuli and replies in terms of oral-verbal responses. (Ogunmefun, 2024).

With this structured interview, each informant is given the same questions, and the data collector records them. In addition, the data collector can use several interviewers by providing training first so that they have the same perception (Sugiyono, 2015).

The structured interview conducted aims to obtain more information at greater depth, including personal information, motivation, and the business owner's commitments during the mentoring period, interview were conducted to 30 business actors with different lengths of operation.
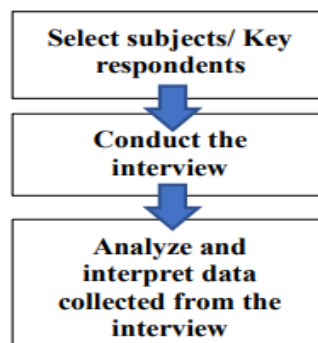

Fig 2. Steps Of Effective Interview Source : Ogunmefun (2024)

Documentations are also crucial in order to add some more information and knowledge that delivered by the Mentor during the socialization event, as for this research, the documentation are the script of interview within the business owners, their archive of legal business documents, the picture of socialization activities including the screenshots of data collecting steps.

Pic 1. Documentation of Data Collection and Mentoring Socialization in Sukajadi District Office, Bandung City. Source : Researcher's Document (2024)

DATA ANALYSIS

Qualitative data analysis was conducted until data saturation was achieved, ensuring a comprehensive understanding of the phenomenon. The analytical process comprised the following activities: Data collection, data reduction, data presentation, conclusion drawing and verification.

3. RESULTS AND DISCUSSION

Researcher find the manual data collecting is less effective since its access are limited to whom had the credentials for the single form submission and updating process, it cannot be accessed by everyone, also less reliable since it's data could be breached by irresponsible parties.

Through the result of the research, finally DiskopUKM decided to launch 'Digital Integrated Data Service Model' in 2021 (browser beta version) called SIRKUIT application. The application is designed to facilitate micro-entrepreneurs and relevant stakeholders in accessing pertinent information regarding the comprehensive profiles of micro-enterprises within the Bandung City region, in one platform.

This integrated data portal was developed through the aggregation of comprehensive micro-enterprise data within Bandung City, utilizing national identification numbers (NIK) as a primary identifier.

Furthermore, the application serves as a valuable resource for micro-entrepreneurs, enabling them to register their businesses at no cost and gain enhanced visibility for potential development opportunities. This includes access to information on business mentoring programs, assistance in fulfilling legal requirements as well as details on various training initiatives, online promotional activities, and exhibition events.

Pic 2. Sign Up Form on Sirkuit Application Source : Sirkuit@bandung.go.id (2025)

The stages of inputting the business owner's data are simple since this application is considerably user friendly, after developed internally, SIRKUIT can be accessed externally by anyone using the web browser. First we need to fill the requirements on the sign up form (Name, ID number, address, education, contact number, and the GPS based coordinate of our business place) then once it's all fulfilled correctly, we finally click the submit button. After the sign up process is done, then we need to enter the apps by filling our credentials on the login page.

Pic 3. Log In Page on Sirkuit Application Source : Sirkuit@bandung.go.id (2025)

Once the business owner logged in to the application, then the final stage is to fill detailed form and submit few pictures of their ID Card (Bandung City), NPWP, the owner's picture, and their product's picture.
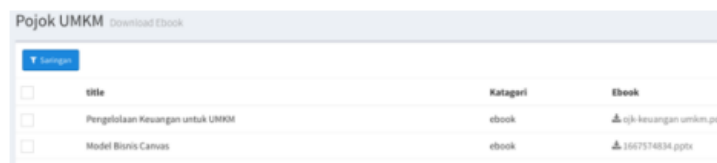
Pic 4. Pojok UMKM Page on Sirkuit Application Source : Sirkuit@bandung.go.id (2025)

Once submitted, then we could access all the information regarding all the supporting activities from DiskopUKM Bandung City, such as the mentoring program, packaging training, legal aspect training, financial and digital marketing training, and we could go to Pojok UMKM menu to download the training pdf files, among them are how to prepare financial report and business model canvas.

After the selected business owners had their own Sirkuit account, not only they finally eligible to access their integrated business data base and update it through time, they also can participate in many micro-enterprise programs conducted exclusively by DiskopUKM, in hope that they will be growing their business afterwards.

4. CONCLUSION

This research gives rise to conclusions as follows : (1) Sirkuit application has become a solution in order to administrate MicroEnterprises in Bandung City through a single portal digital data collecting process. (2) Sirkuit application is an efficient tools in order to enhance selected SME operational capabilities through provided mentoring and training programs also tiered legal aspects fulfilments. (3) Sirkuit application is an user friendly digital application that can help many SMEs to positively contributing to their overall development, especially being identified as an official business owner in Bandung City.

Hopefully in the future, all the aspects for data collecting become fully automated application (and not browser based). Specifically on the data update approval/update verification process (by now the approval is still done by manual process by the administrator) and all the supporting activities by DiskopUKM and training modules are accessible from Sirkuit within a prior notifications direct to the business owner's phone, all meant to achieve the bigger picture : increasing the awareness of Micro-Enterprises business owner in Bandung City of the importance of digital integrated data base.

REFERENCES

Biber, S.H. 2019. Taking Public Action on Private Troubles: The Power of Hybrid Methodology Mixed Methods Research in the Public Sphere. https://journals.sagepub.com/doi/abs/10.117 7/1077800419857755.

Churcill, N.C., Lewis.,V.L. The 5 Stages of Small Business Growth. Harvard Business Review https://hbr.org/1983/05/the-fivestages-of-small-business-growth. Firmansyah, R. 2019. Perubahan Sosial Ekonomi Pekerja Sentra Industri Batik di Desa Kunir Kidul Kecamatan Kunir Kabupaten Lumajang. pp. 168-173.

Symon, G., Cassell, C., Johnson, P. 2016. Evaluative Practices in Qualitative Management Research: A Critical Review.

Kadar, B. 2016. Education Supported by SME, SME Supported by Education. https://www.academia.edu/89472652/Educat ion_Supported_by_SME_vs_SME_Supporte d_by_Education.

Napitupulu, S., Saiful, S. 2022. SME Mentoring as a Vital Role for Empowerment: A Case Study in DKI Jakarta. pp.356-359.

Ogunmefun, O. 2024. Methods of Data Collection. https://www.academia.edu/121560052/Meth ods_of_Data_Collection pp.1-10.

PERATURAN PEMERINTAH REPUBLIK INDONESIA NOMOR 7 TAHUN 2021 (Page 26 paragraph 4).

Purnamawati, Ami. 2022. Bimbingan Teknik Kepemimpinan Agile Bagi Mahasiswa Papua Calon Wirausaha. pp. 255-262.

Roger. D.L. 2016. The Digital Transformation Playbook. New York: Columbia University Press.

Setiawan, W.L., Fahmi, I. 2020. Business incubator supporting diffusion of innovation, entrepreneurship development and job creation. pp. 242-247.

Sugiyono. 2019. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung : Alphabet.