

# UNVEILING THE EVOLUTION: HOW HISTORY, POLITICS, CULTURE, AND TECHNOLOGY SHAPE ACCOUNTING SYSTEMS FOR SMEs IN INDONESIA

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## ABSTRACT

The historical documentation in Indonesia highlights the significant role of Micro, Small, and Medium Enterprises (MSMEs) in fostering economic development. This project aims to develop an integrated accounting information system application, known as SMESH Platform - Small Medium Enterprise Headquarters, for the Medokan Ayu Village Community Empowerment Institute (LPMK) in Surabaya. LPMK currently accommodates 54 MSMEs. The proposed system incorporates digital marketing functionalities inside the accounting information system. MSMEs frequently encounter challenges related to administrative tasks, leading to a significant allocation of time towards bookkeeping activities. Consequently, this diversion of resources may result in decreased production levels. However, MSMEs can potentially mitigate this issue by prioritising digital marketing efforts, thereby optimising their overall operational efficiency. This study involves conducting practical research on the design of information systems for SMEs using the System Development Life Cycle (SDLC) approach, specifically employing the Waterfall technique. The research encompasses seven stages: planning, analysis, design, development, testing, deployment, and maintenance. The present study focuses on the development of an integrated accounting information system named SMESH (Small Medium Enterprise Headquarters) that incorporates digital marketing strategies.

**Keywords:** *SMEs; Accounting Information Systems; Digital Marketing; Website.*

## 1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play an important role and contribute significantly to the Indonesian economy, often referred to as a cornerstone of the Indonesian economy [1]. According to Ministry of Cooperatives and SMEs data, only 17.25 million MSMEs, or around 26.5%, are connected to the digital ecosystem [2]. The rapid growth of information technology has an effect on MSMEs, causing MSME players to experiment with various available information technologies. MSMEs have

begun to recognise the need to comprehend the digitalisation of technology after the covid outbreak invaded Indonesia [3]. It is hoped that the usage of technology will play an important part in the MSME business process. Technology is crucial to the growth and success of SMEs, and digital transformation enables them to streamline processes, access a larger audience, and boost efficiency [4]. One of the challenges that MSMEs in Indonesia confront as they embrace the Digital Age is locating a suitable digital platform capable of integrating all business activities in accordance

with current developments [5]. Many MSMEs rarely market their products digitally, resulting in the business becoming less exposed to the wider community [6]. Furthermore, many MSMEs still use manual bookkeeping, resulting in low community investment in the development of MSMEs and economic growth in Indonesia [7].

The Medokan Ayu Village Community Empowerment Institute (LPMK), based in one of Surabaya's ecotourism zones on the east coast, manages 54 MSMEs in categories such as food and beverage, handicrafts, hydroponics, mangroves, and tour boat rental services. Even though we now have an all-digital lifestyle, such as interactions on social media, the majority of MSMEs in Indonesia, particularly the 54 MSMEs under LPMK Medokan Ayu, remain indifferent and lack digital literacy, and there are still those who run traditional businesses in development. In comparison to other ASIA countries, the culture of technology literacy in company development in Indonesia for MSMEs is rather slow [8]. At LPMK, 21 MSMEs rely on a digital platform in the form of an Accounting Information System (AIS) to run their businesses, but the present accounting system simply records transactional selling and buying procedures. LPMK has also conducted digital marketing outreach to 54 MSMEs, but they are always constrained by content, copywriting, and posting on each of their social media, all of which are time-consuming. There are various types of social media platforms and marketplaces. Making MSMEs hesitant and having difficulty carrying out digital marketing efforts, which has an influence on the public's lack of understanding about MSMEs and low community investment. Furthermore, as the policyholder, the government has implemented changes such as soft funding assistance for the development of MSMEs through the Ministry of Cooperatives and MSMEs and tax legislation that makes it easier for MSMEs to report [9]. Through the construction of an integrated accounting information system application with a digital marketing system dubbed SMESH - Small Medium Enterprise Headquarters - this study intends to expose the evolution of MSMEs as the key to the rise of MSMEs in Indonesia. The design of this application is expected to be an evolution for the history of MSMEs through the application of simple technology so that a culture of technological literacy for business development can be properly realised, and of course, with government support as a regulator for the progress of MSMEs.

## 2. LITERATURE REVIEW

The development of accounting information systems in Indonesia is reflected in the history, politics and culture that have influenced it. Along with the progress of the times, accounting information systems have undergone significant transformation. In the colonial era, Dutch influence brought accounting concepts which were first applied in Indonesia. After independence, a period of political and economic change created the need for accounting information systems that were more modern and suited to national needs. Apart from that, local culture and values also form unique characteristics in the development of this system, such as orientation towards family and sustainability. The ongoing era of digitalisation marks a new phase of development in which information technology is the main driver of change. These factors together create an accounting information system landscape that continues to develop and adapt to the dynamics of Indonesia as a heterogeneous country. The development of AIS, which combines various new technologies, is an important thing at the moment [10], but in the era of digitalisation of society, a simple AIS platform is needed which is able to synergise the existence of social media with artificial intelligence as a marketing channel.

### 2.1 MSMEs in Indonesia

The definition of MSMEs in Indonesia is governed by the Law of the Republic of Indonesia No. 20 of 2008. SMEs are defined and understood differently in different nations. MSMEs in Indonesia are productive enterprises owned by people or business organisations that meet the micro business criteria [11]. MSMEs play an important strategic role in the domestic economy, as evidenced by their vast number of business units, strong employment absorption, and significant contribution to GDP [12]. MSMEs have also demonstrated significant resilience in dealing with prior crises despite the fact that the present COVID-19 issue is putting enormous strain on them. The high resilience of MSMEs has so far served as a cushion for the economy because of their ability to survive periods of pressure and can grow back faster and higher after pressure. [13]

The rapid expansion of the digital economy and finance has resulted in the emergence of numerous digital platforms that provide innovation in the areas of production, consumption, cooperation, and sharing [14]. This digitalisation allows MSMEs to adapt and alter to survive, climb,

and grow taller, accompanied by increased corporatisation, capacity, and funding. The acceleration of digital use in addressing consumption requirements, production operations, and investment transactions is one of the most important lessons from the COVID-19 pandemic [11,13,15].

As a result, using digital platforms can help strengthen MSMEs by boosting their potential to be more productive and innovative, as well as facilitating MSMEs' access to marketplaces, industries, and financial institutions. The relevance of digital accounting and marketing platforms for MSMEs will aid in their rapid development.

### SMEs 5.0

It is envisaged that SME 5.0 technology will improve MSMEs' competitiveness, hence boosting Indonesia's economic growth. SMEs 5.0, unlike previous systems, benefits from Intelligent (smartphones, big data analysis, artificial intelligence, digital strategy, and cloud computing) [16], sustainability (energy saver, supply chain, and corporate social responsibility) [17], and Human-Centered SMEs (UI/UX designed, customer relationships, crowdsourcing, and coaching) [18,19]. There is currently no solution that connects accounting information systems and marketing systems into a single platform to satisfy the needs of MSMEs in the digital economy, a platform capable of integrating PSAK-standard accounting information systems (Statements of Financial Accounting Standards) with digital marketing systems via social media is required.

### 2.2 Accounting Information System

An accounting information system (AIS) refers to a system that processes accounting data. It involves the coordination of individuals, tools, and methods within a structured organisational framework. The primary objective of an AIS is to generate structured financial accounting information and management accounting information [20].

AIS empower MSMEs to enhance the efficiency and accuracy of their financial management processes. MSMEs can mitigate the occurrence of human errors and minimise the potential for miscalculations by implementing automation in their accounting procedures. This entails automating many tasks, including recording transactions, payroll management, and expense tracking [21]. Moreover, AIS facilitates the seamless generation of essential financial reports by

MSME proprietors. These reports serve the goal of strategic planning, monitoring, and reporting to relevant stakeholders, including banks, investors, and governmental entities. This facilitates MSMEs in making decisions that are better informed and executed promptly [22].

The Accounting Information System (AIS) also facilitates enhanced accessibility to pertinent and current information [23]. The use of AIS enables MSMEs to effectively track and evaluate their company performance in real-time, encompassing crucial aspects such as sales, costs, and profits. This information has the potential to aid MSME owners in the identification of business trends and opportunities, as well as in the implementation of appropriate corrective measures, if deemed required. AIS can provide valuable assistance to MSMEs in enhancing their inventory management processes. By leveraging AIS, MSMEs can optimise their inventory management practices, mitigating the risks associated with stock inaccuracies and shortages. This, in turn, safeguards the smooth functioning of business operations and prevents potential disruptions. In general, the implementation of an AIS facilitates the enhancement of financial management and operational processes for MSMEs, hence establishing a robust framework for sustained growth and achievement [24].

### 2.3 Digital Marketing

The utilisation of social media platforms for digital marketing presents significant advantages for MSMEs. Social media platforms offer MSMEs a viable means to cultivate and extend their audience reach. Due to the expanding demographic of social media users, MSMEs are afforded the opportunity to effectively engage with prospective clients on a worldwide scale without substantial financial commitments to conventional advertising methods [25]. By presenting captivating and pertinent material, micro, small, and medium enterprise's MSMEs have the ability to cultivate a devoted online community, foster more intimate engagements with clientele, and fortify their brand perception (Mihardjo & Sasmoko, 2020).

In addition, the utilisation of social media platforms for marketing purposes enables MSMEs to effectively and evaluate the effectiveness of their campaigns. The social media platform offers analytics tools enabling MSMEs to monitor and analyse the interactions, reactions, and conversions associated with each post or advertisement. Based on this information, MSMEs can get insights into the effectiveness of their marketing strategy, hence

facilitating the creation of more impactful campaigns in subsequent endeavours [27]. Furthermore, digital marketing offers the advantage of customisation, targeting certain audiences based on demographic characteristics, interests, and behavioural patterns [28]. This ensures that each monetary investment yields the most favourable outcomes. Marketing through social media offers MSMEs the potential to establish a robust digital footprint, foster closer engagement with clients, and enhance sales conversions [29].

### 3. RESEARCH METHOD

#### 3.1 Website

The website is a compilation of multiple web pages containing digital content such as photos, text, audio, music, and animations accessed through an internet connection. Web-based applications refer to software programs that can be conveniently accessed through a web browser, providing an active connection to either the internet or an intranet network [30]. This application is a software program that utilises various computer languages, including HTML, JavaScript, CSS, and other programming languages. There are numerous additional benefits associated with web-based applications. Firstly, they offer expedited updates. Secondly, they eliminate the requirement for installation. Thirdly, they provide flexibility across different operating systems. Lastly, they are compatible with multiple platforms [31].

#### 3.2 System Development Life Cycle

The problem-solving strategy employed is the System Development Life Cycle (SDLC) approach, specifically utilising the waterfall method [14]. This process encompasses seven distinct stages. The initial stage is planning. During this phase, interviews will be conducted with 54 Micro, Small, and Medium Enterprises (MSMEs) affiliated with the Local Platform for Micro, Small, and Medium Enterprises (LPMK). The purpose of these interviews is to identify and understand the challenges and requirements associated with platform development [32]. During this phase, the outputs include implementation schedules, cost management, resource needs, and implementation procedures within business operations. The second phase, referred to as analysis, holds significant importance regarding the involvement of LPMK and 54 MSMEs as partners, particularly concerning the initial stages of product development. The output produced at this step comprises the preliminary data regarding the clustering outcomes and the attributes of MSMEs. These findings will

then be translated into the SMESH Platform, which serves as the headquarters for Small and Medium Enterprises.

*Figure 1. MSME clustering*

Design is the third component of SMESH for MSMEs, which serves as an obligatory platform for addressing technological advancements in the realm of business. This platform offers a range of amenities that aid in facilitating the operations of MSMEs. The transaction facilities encompass sales and purchase capabilities that are linked to smartlink e-commerce. Additionally, there are cash/bank facilities that are connected to Qris and smartlink e-banking. The tax facilities are automatically updated following the business tax regulations in Indonesia. Furthermore, the digital strategy facilities are exceptional as they integrate various social media platforms owned by the organisation.

*Figure 2. SMESH platform design based on SMEs*

The fourth stage of the development process is centred on coding, with a primary emphasis on adhering to the requirements of the PHP programming language. The current stage involves the generation of computer code and databases for the development of the SMESH platform, based on a compilation of plans, problem identification documents, and product design specifications. The fifth phase involves testing and evaluating the SMESH platform with 54 micro, small, and medium enterprises (MSMEs) under the LPMK program. This phase includes conducting testing and simulations to assess the platform's performance. The sixth phase is the deployment stage, where MSMEs implement and utilise the platform. This phase also includes training MSMEs and conducting periodic evaluations to ensure the platform's sustainability. The final phase is maintenance, which involves establishing a helpdesk to address any issues or problems encountered by users. Efforts are made to find appropriate solutions to maintain the platform's functionality.

#### 3.3 Ideology Behind Application

Upon the initial execution of the program, the user must engage in the registration process, whereby they are required to duly fill out the registration form in order to acquire the necessary access privileges. Subsequently, the Local Public Management Office (LPMK) will undertake the

responsibility of verifying the aforementioned registration. Once the verification process is completed, micro, small, and medium enterprises (MSMEs) are able to submit their items or services to the e-commerce start page, categorised according to their respective business sectors. Each micro, small, and medium enterprise (MSME) that completes the registration process will be provided with an individualised digital accounting and marketing information system.

*Figure 3. Client-server architecture*

#### 4. RESULTS AND ANALYSIS

The SMESH application is founded upon a client-server architecture. The client-server model is a system that facilitates the exchange of information between clients and servers by enabling them to execute respective functions. This feature enables concurrent access to a shared database by numerous users, facilitating the storage of a substantial amount of data. After completing the interface design and coding stages, the SMESH application is now prepared for implementation through its publication on the website. The initial phase in this implementation process involves directing all Micro, Small, and Medium Enterprises (MSMEs) affiliated with the Local Micro, Small, and Medium Enterprises Agency (LPMK) to register their businesses on the SMESH platform. Subsequently, the LPMK undertakes the verification process for these registrations. All micro, small, and medium enterprises (MSMEs) who have completed the registration process are eligible to submit their products and services, which will subsequently be listed on the e-commerce platform of the Local Product Marketing Center (LPMK).

The SMESH platform expeditiously produces AIS and Digital Marketing for MSMEs that have undergone verification by LPMK. All transactions conducted via the LPMK e-commerce platform will be recorded in the UMKM financial records. In this scenario, it can be observed that e-commerce offered by LPMK serves not only as a platform for sales but also as a valuable tool for assisting MSMEs in their bookkeeping processes.

Furthermore, the digital marketing integrated within the SMESH platform encompasses the aspect of establishing connectivity with various social media platforms. The SMESH platform, which is owned by Micro, Small, and Medium Enterprises (MSMEs), serves as a

promotional tool by facilitating social media connectivity. Its primary function is not limited to content posting but focuses on measuring social media usage's efficacy. The social media platforms that can be integrated with the SMESH platform include TikTok and Instagram, which are widely utilised by a significant number of people in Indonesia.

Integrating AI technology within the SMESH platform facilitates the content creation process for MSMEs, enabling them to distribute their material directly on social media platforms more easily. MSMEs have the ability to develop content timetables and content planners in order to assess the outcomes of their social media efforts.

##### 4.1 Report

Reports are crucial in documenting work outcomes and facilitating subsequent analysis and evaluation of materials. Each micro, small, and medium enterprise (MSME) will receive a report directly from the SMESH platform, allowing them to download and obtain a tangible copy. The above image depicts the report management functionality within the SMESH platform.

*Figure 4. Analysis report AIS*

*Figure 5. Analysis report social media*

##### 4.2 LPMK relationship with MSMEs

The Local Product Development and Marketing Agency (LPMK) is a governmental organisation facilitating the growth of 54 MSMEs in the Medokan Ayu Mangrove tourist region. LPMK is completely accountable for ensuring these MSME ventures' long-term viability and continuity. The implementation of LPMK was conducted on 50 of the 54 MSMEs who were asked to participate. According to the findings of the conducted implementation evaluation, it was observed that 90% of MSMEs, specifically 45 of them, reported a favourable experience in terms of operating the SMESH platform. Conversely, a minority of 10% (5 MSMEs) encountered challenges in utilising the platform. Concerning usability, adopting the SMESH platform resulted in a 100% advantage for all 50 MSMEs. A total of 50 MSMEs have reported significant time and effort savings concerning their bookkeeping and marketing activities and improved ease in monitoring and reporting.

#### 5. CONCLUSION

The problem in the development of AIS in

Indonesia is not only acceptance, but more so with the rise of social media users. So the integration of AIS with social media can be a solution to raise the level of MSMEs. The SMESH platform is a technological solution that facilitates the integration of accounting information systems with digital marketing in the context of e-commerce enterprises [33]. Including digital finance and tax reporting capabilities can alleviate administrative burdens for MSMEs, enabling them to redirect their attention towards sales and product innovation [5].

The emergence of the SMESH platform technology has significantly advanced the MSME company sector [34]. Historically, MSMEs faced the task of bookkeeping after concluding their daily sales activities and closing their shops. However, this practice has transformed, and MSMEs no longer find it necessary to engage in such bookkeeping activities [35]. The increasing recognition of the government's involvement in fostering the sustainability of MSMEs through measures such as regulatory frameworks and the provision of soft loans signifies a significant advancement with promising implications for the future [36]. The proliferation of business software and government-sponsored training programs has facilitated the enhancement of digital literacy among MSMEs. There is an expectation that the development of MSMEs in Indonesia, with the aim of enhancing MSMEs competitiveness, will enable them to expand their presence in the global arena and maybe attain the status of unicorns or even decacorns.

This research is only limited to developing AIS as a bookkeeping system that integrates with social media as a marketing system, made simple so that it is easy to understand by MSMEs who are just starting a business. For further research, you can include investment facilities so that if there are consumers who are interested in opening a business, they can contact them directly, as well as online coaching facilities so they can always motivate and direct the business in the future. Designing AIS integrated with social media impacts the operational performance of 54 MSMEs under the auspices of LPMK. Besides that, regular posting on social media makes their products/services better known.

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Appendix

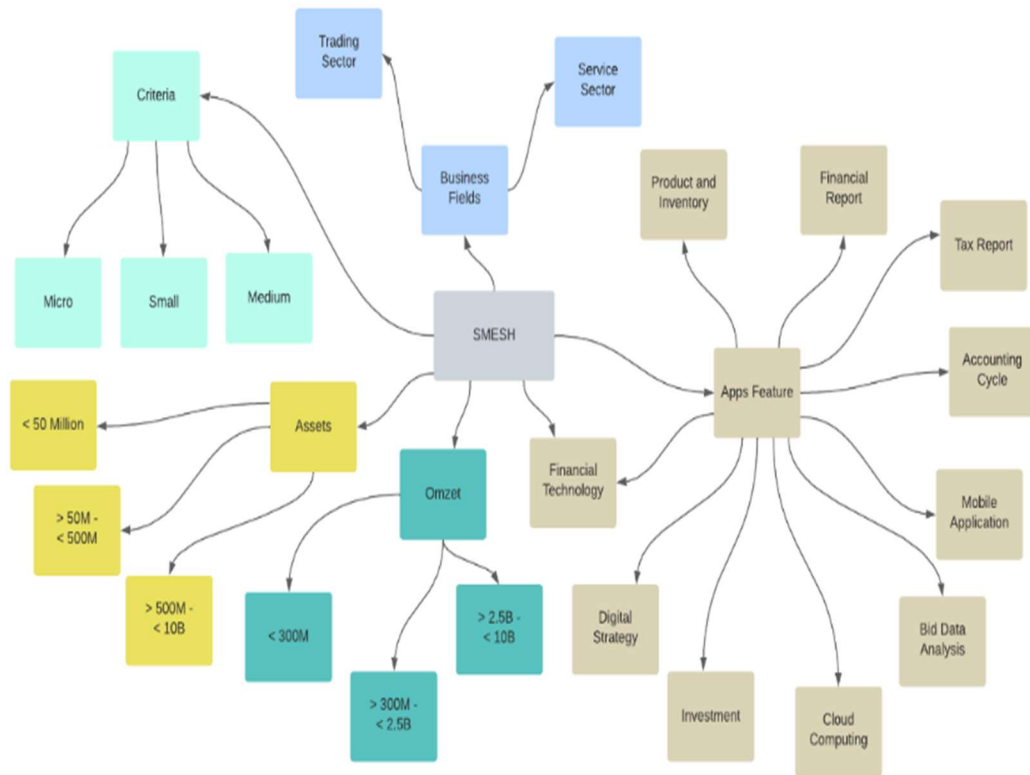


Figure 1. MSME Clustering



Figure 2. SMESH Platform Design Based On Smes 5.0

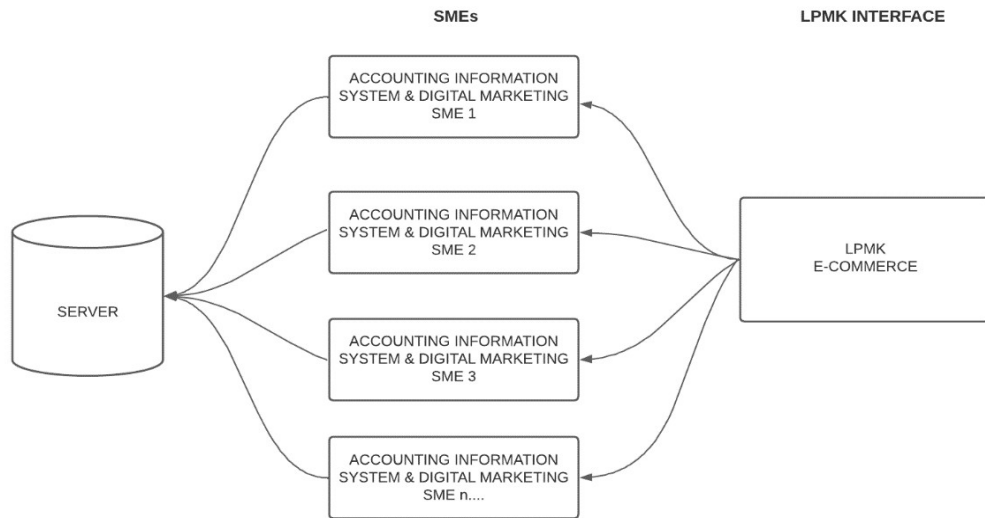


Figure 3. Client-Server Architecture

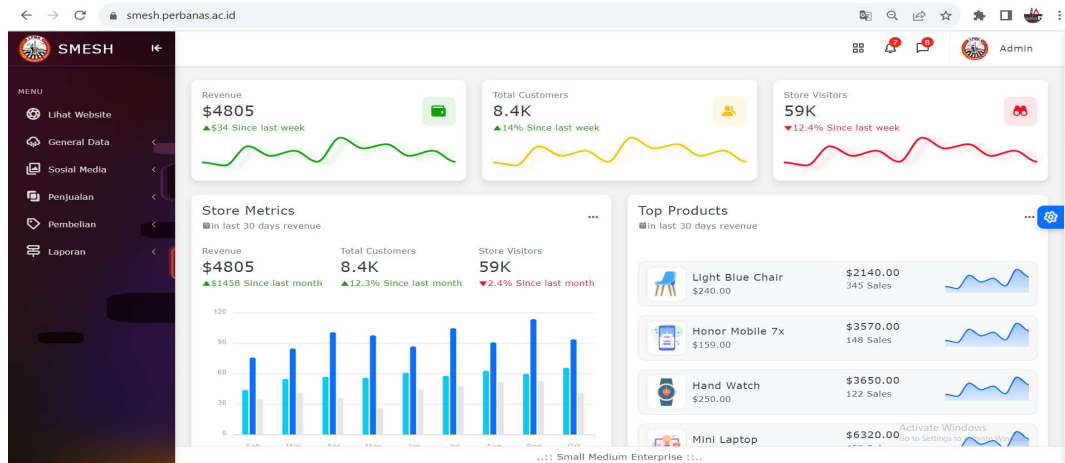


Figure 4. Analysis Report AIS

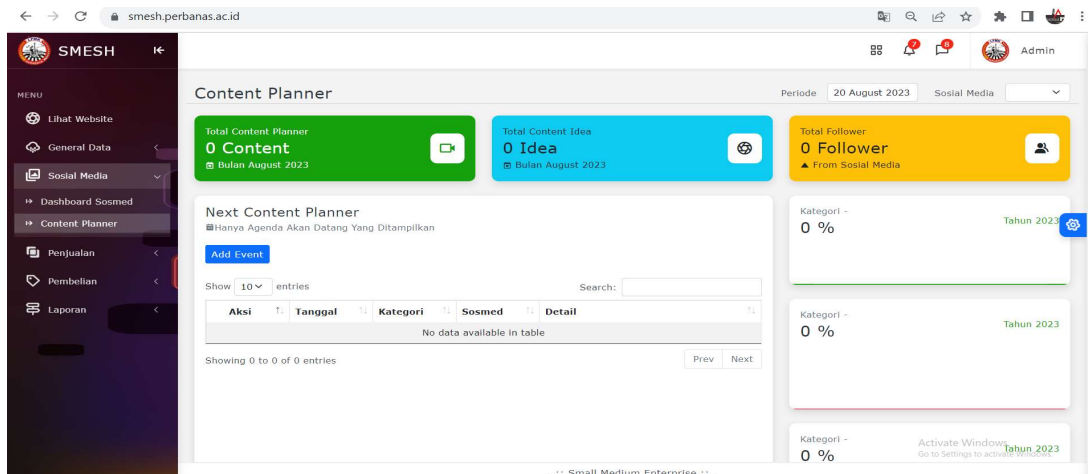


Figure 5. Analysis Report Social Media