



SMART Integrated Leadership (SMILE) for SmartCity

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ARTICLE INFO

Article history:
Received: 12/07/2020
Revised: 22/08/2020
Accepted: 30/09/2020

Keywords:

Smart City, SMART Integrated Leadership (SMILE)

ABSTRACT

The concept of a SmartCity which is becoming a big issue in big cities around the world encourages the active role and participation of the community in city management using a citizen centric approach so that there is a more dynamic and close interaction between citizens and service providers. The aim of implementing a SmartCity is to be able to form and implement a city that is safe, comfortable, controlled and facilitates access for its citizens and strengthens the competitiveness of the city in terms of economy, social and technology. SmartCity must have a strong governance-oriented approach that emphasizes the role of social capital and relationships in urban development. The Smart City concept is no longer limited to ICT diffusion, but looks at people and society's needs. To meet and exceed citizen expectations, city leaders must innovate in core service areas in the application of the SmartCity concept. In order to create innovative, creative and resilient leaders, it is necessary to design a Smart Integrated Leadership (SMILE) to support the success of a SmartCity.

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1. Introduction

The relatively fast population growth in urban areas has caused various typical urban problems, such as a decrease in the quality of public services, reduced availability of residential land, congestion on roads, difficulty in obtaining parking lots, swelling levels of energy consumption, accumulation of garbage, an increase in the crime rate, and problems. other social. These problems will continue to increase as the population increases and all of these problems cannot be resolved quickly and accurately if we still use conventional solutions that are currently used.

Therefore, to solve problems and realize the ideals of a city (safe and comfortable) for its residents, it requires smart and decisive solutions so that problem solving can be carried out faster than the growth of the problem itself. The smart solution here is the application and collaboration of city ecosystems that are included in the Smart City concept. In this smart city solution concept, the government, industry, academia, and the community are involved to make the city better

SmartCity is the development and management of a city by utilizing Information and Communication Technology (ICT) for sensing, understanding, and controlling the various resources in the city more effectively and efficiently to maximize services to its citizens. as well as supporting sustainable development. [1]. The Smart City concept is no longer limited to ICT diffusion, but looks at people and society's needs. To meet and exceed citizen expectations, city leaders must innovate in core service areas in the application of the SmartCity concept. In order to create innovative, creative and resilient leaders, it is necessary to design a Smart Integrated Leadership (SMILE) to support the success of a SmartCity.

2. Literature Review

This research is a research that makes SMART Integrated Leadership (SMILE) for SmartCity. In this study, there are several data collection methods used, namely:

A. SmartCity Concept

According to Suhono (2015), Smart City is the development and management of cities by utilizing Information and Communication Technology (ICT) to more effectively and efficiently connect, monitor and control various resources in the city to maximize services to its citizens and support sustainable development. sustainable or in other words, a city that knows the problems in it (sensing), understands the conditions of the problem (understanding), and can control various existing resources to be used effectively and efficiently with the aim of maximizing services to its citizens ".



Referring to <http://www.smartcityindonesia.org/> a city is said to be smart if the city can know (sensing) the state of the city in it, understand (understand) the situation further and take action (action) on the problem. The purpose of a smart city is to form a city that is safe, comfortable for its citizens and strengthens the competitiveness of the city in terms of the economy. So it can be explained is to support the city in the dimensions of social (security), economy (competitiveness) and environment (comfort). [2].

A smart city is a smart city that uses technology as a reference for making a city smart. So the notion of smart city is a concept of utilizing technology in accordance with each city. Smart city can also be defined as a city planning concept that is integrated in all aspects, both from government, population, health, education and many others by making technological development as one of its tools. Furthermore, the definition of Smart City is a concept of a smart city that helps its people by managing existing resources efficiently and providing accurate information to the community or anticipating unexpected events. SmartCity can be concluded that utilizing information sources and using sophisticated technology to make life easier (<http://www.sekolahkampus.com>).

B. Benefits of SmartCity

One of the most important dimensions of a Smart City is that the city should provide services that use the latest technology, and build smart infrastructure, so that it can provide effective and inexpensive services to all people living in the city. Environmentally friendly, the first thing to do is to create green open space (RTH). Efficient in energy use, public transportation is a necessity and an adequate supply. Applying appropriate technology in line with the addition of infrastructure, applying various kinds of studies that are more efficient, flexible and precise and able to implement the concepts of smart city. Information technology is increasingly becoming the key to the development of a country or city because globalization triggers the exchange of information quickly and accurately so that it can be accessed directly and openly. If information technology does not develop or is stagnant, development will be constrained and cannot compete with other countries. The following are some of the benefits of the SmartCity concept:

- 1) Fixing problems in society.
- 2) Improve public services.
- 3) Creating a better government.
- 4) Educating society.
- 5) Manage city potential and human resource potential.

From an economic point of view, a SmartCity is a city that is supported by a good economy by maximizing the city's resources or potential, including information and communication technology services, governance, and the role of good human resources. From a social perspective, a SmartCity is a city where people have security, convenience and comfort in carrying out social interactions with fellow citizens or with the government. In terms of the environment, a SmartCity provides the opportunity for its people to have a place to live that is livable, healthy, efficient in energy use and energy management with the support of information and communication technology services, management, and the role of good human resources. [2].

C. Dimensions of SmartCity

Cohen (2012) divides smart city into 6 dimensions, namely: (1) Smart economy; (2) Smart mobility; (3) Smart environment; (4) Smart people; (5) Smart living; and (6) Smart governance, where each dimension is further detailed into several indicators as shown in Figure 1. Meanwhile, Djunaedi (2014) adds one more dimension related to smart city, namely smart disaster management related to the location of the Indonesian state in the ring. of fire.



Fig 1. Dimensions of Smart City (Cohen, 2012)



Griffinger et al (2007: 10-14) explain 6 (six) dimensions in the smart city concept as the basis for implementing SmartCity which is then used in calculating the smart city index of 70 (seventy) cities in Europe. The six dimensions and their indicators can be seen in the following figure:

| | |
|---|--|
| SMART ECONOMY (Competitiveness) <ul style="list-style-type: none"> Innovative spirit Entrepreneurship Economic image & trademarks Productivity Flexibility of labour market International embeddedness Ability to transform | SMART PEOPLE (Social and Human Capital) <ul style="list-style-type: none"> Level of qualification Affinity to life long learning Social and ethnic plurality Flexibility Creativity Cosmopolitanism/Open-mindedness Participation in public life |
| SMART GOVERNANCE (Participation) <ul style="list-style-type: none"> Participation in decision-making Public and social services Transparent governance Political strategies & perspectives | SMART MOBILITY (Transport and ICT) <ul style="list-style-type: none"> Local accessibility (Inter-)national accessibility Availability of ICT-infrastructure Sustainable, innovative and safe transport systems |
| SMART ENVIRONMENT (Natural resources) <ul style="list-style-type: none"> Attractivity of natural conditions Pollution Environmental protection Sustainable resource management | SMART LIVING (Quality of life) <ul style="list-style-type: none"> Cultural facilities Health conditions Individual safety Housing quality Education facilities Touristic attractiveness Social cohesion |

Fig 2. Dimensions of Smart City (Griffinger, dkk, 2007)

In 2014, Frost & Sullivan identified 8 main aspects of implementing smart cities, namely smart governance, smart infrastructure, smart technology, smart mobility, smart healthcare, smart energy, smart building, and smart citizens.

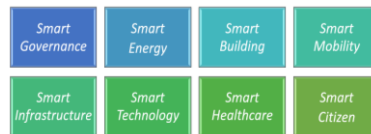


Fig 3. Dimensions of Smart City (<https://exploreselatan.wordpress.com>)

D. Application of SmartCity

The application of the smart city model has now been developed in several countries, namely: [4]

- 1) IBM's Smart City Model, to meet and exceed citizen expectations, city leaders must innovate in core service areas in the application of the smart city concept. These core service areas are: Planning and Management, Human, Infrastructure and Giffinger's Smart City Model.
- 2) The Seoul Smart City model, the target of Seoul Smart City is connectivity, with the hope that the entire city is connected via the internet, so that residents have easy access to city services. Seoul Smart City implementation areas include: ICT Infrastructure, Interates City-Management Framework, Smart User.
- 3) Amsterdam Smart City, Amsterdam develops a smart city to improve city services to the community, as well as improve environmental comfort and ease of work. The implementation areas of Amsterdam Smart City include: Smart Living, Smart Working, Smart Mobility, Smart Facilities, Public Facilities, Open Data.
- 4) Lyon Smart City, Lyon Smart City targets the creation of an environmentally friendly city with good government services. The implementation areas are the environment, network, utilization / use and entry of new technology.
- 5) Quebec Smart City, provides internet access with the following implementations. Snow removal information text message service, Snow removal management project: provides sensors on every snow removal machine, Inter-city Network: connects major cities in the province of Quebec, Mobile homepages, develops mobile versions of city sites, Infrastructure management systems: integrate systems different information to coordinate activities related to infrastructure management, Open data initiatives: create open city data, Online transportation control systems.

3. Research Methodology

A. Research Object

The object of research was conducted at the SMART Integrated Leadership (SMILE) with an evaluation service in the SmartCity.



B. Research Methods

The method used in the Smart Integrated Leadership (SMILE) Study begins with a literature study to determine indicators regarding Smart City Readiness. Collecting data and information related to Smart Integrated Leadership (SMILE) in the success of a Smart City can be done by conducting literature studies from studies that have been carried out by policy and legislative studies, as well as other supporting information relevant to SmartCity. In this study, the analysis used is to identify the role of leadership in policy making, program planning and activities to make the SmartCity concept a success.

4. Results and Discussion

A. Smart Integrated Leadership (SMILE)

Smart Integrated Leadership (SMILE) is the concept of implementing intelligent integrated leadership that is innovative in implementing strategic policies to realize the vision of a world city with services for a smart city, what is needed in policy implementation, namely integrity, motivation, ability, understanding, experiential knowledge, honesty. , obedience, determination and intellectuality (local wisdom).

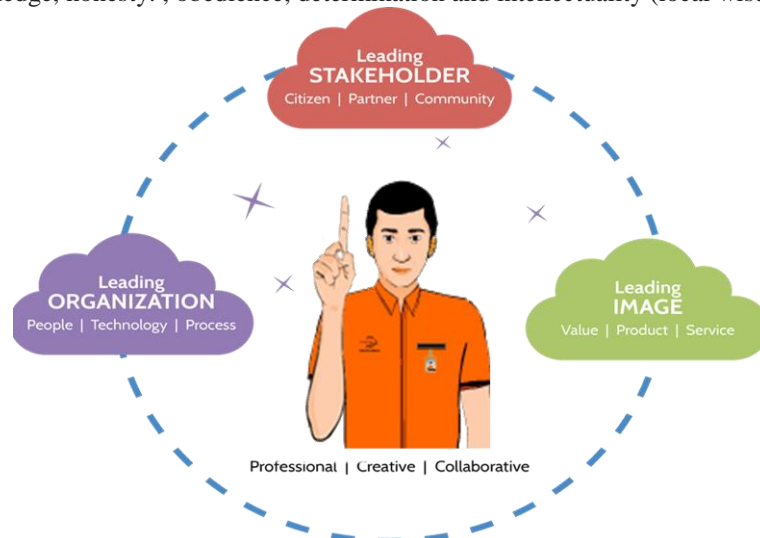


Fig 4. Smart Integrated Leadership Components

The components above consist of 3 phases as follows.

1) Smart Leading Stakeholders

The intelligent ability to lead people to become a community, friends and a larger scope such as a city.

2) Smart Leading Organization

Intelligent ability to lead an organization whose business processes are integrated with technology.

3) Smart Leading Image

Intelligent ability to lead to produce value-added products or results for the benefit of society.

This component will run successfully if the existing leaders have professionalism, creativity and collaborate attitudes to create a SmartCity.

B. SMART Integrated Leadership (SMILE) Model

The development of the SMILE model for Smart City development can be described in the process below.

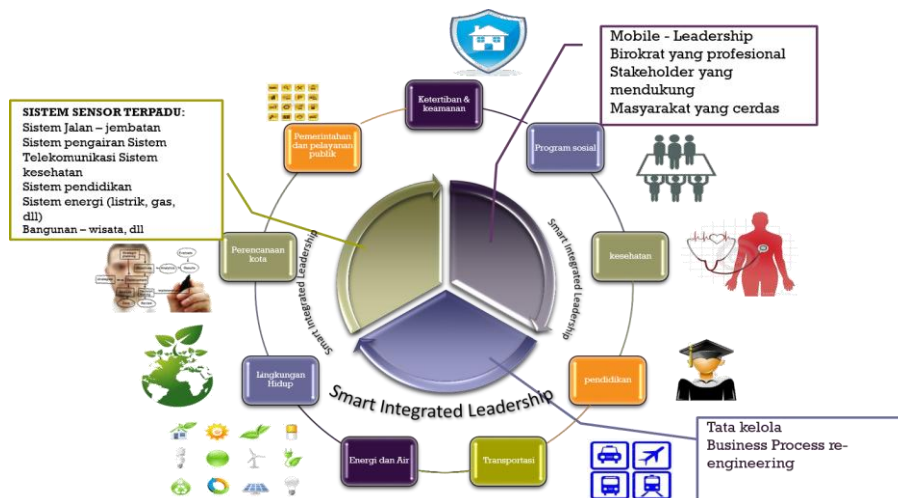


Fig 5. Smart Integrated Leadership Model

The image model of the Smart Integrated Leadership Model explains that the important role of SMILE in the process of developing a Smart City at each cycle and stage requires intelligent leadership in connecting the interests of society, technology and the environment so that it can create a smart, advanced and quality city.

- 1) **Smart People**
Utilization of IT to human quality in terms of knowledge and skills.
- 2) **Smart Governance**
The government's ability to manage and control the use of IT in the context of developing and implementing smartcity.
- 3) **Smart Infrastructure, Technology and Environment**
Infrastructure development is realized through strengthening the urban infrastructure planning system, developing river flow, improving the quality and quantity of clean water. Smart environment means an environment that can provide comfort, sustainability of resources, physical beauty and non-physical, visual or not.

C. Implementation of SMART Integrated Leadership (SMILE)

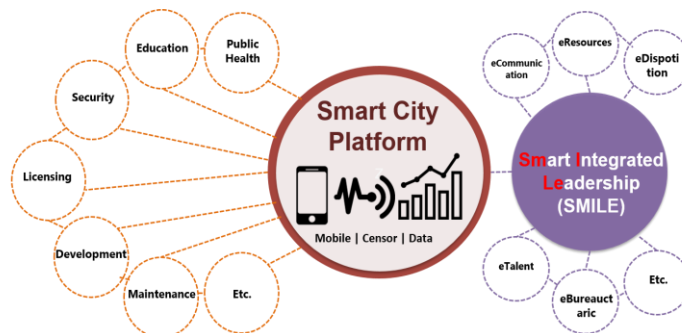


Fig 6. Implementation of Smart Integrated Leadership

The implementation of Smart Integrated Leadership (SMILE) in Smart City is an integrated approach which is expected to make decisions by leaders based on real data in the field and based on comprehensive observations and analysis so that the policies implemented will be right on target. With the existence of this SMILE, in the future the decision-making process will be faster in the development of SmartCity, the creation of intelligent leadership that is born not by chance or being chosen but since the beginning of one's birth, SMILE can detect a person's great potential to become a leader and contribute to the progress of the country, especially SmartCity. That way, SMILE is a solution to accelerate the development of a better and higher quality SmartCity from time to time.



5. Conclusions

Based on the results of the previous discussion, several important points can be concluded as follows: Smart Integrated Leadership (SMILE) can determine the success of a SmartCity, Equitable Development of Human Resource Development. Development of regional potential, Building a Leadership Ecosystem that is interconnected (integrated), mutually secured and exchanges data in a professional manner, Further research must be carried out so that this thinking can be developed even better.

6. References

- [1] <http://www.sccic.id/research/smart-city/> diakses tanggal 17 April 2018
- [2] <http://bappeda.jogjaprov.go.id/berita/detail/54-smart-city-peluang-dan-tantangan-untuk-yogyakarta-berbudaya> diakses tanggal 18 April 2018
- [3] <https://exploreselatan.wordpress.com/2016/12/11/sekilas-smart-city/> diakses tanggal 17 April 2018
- [4] <https://diskominfo.tasikmalayakota.go.id/2018/01/30/smart-city/> diakses tanggal 18 April 2018
- [5] Ramli, Muhammad. 2017. *Kepemimpinan Inovatif dalam Implementasi Kebijakan Strategis Pemerintah Kota Makassar*, Jurnal Politik Profetik, Vol. 5 No.2.
- [6] Sedarmayanti, 2003, *Good Governance (Kepemerintahan Yang Baik) Dalam Rangka* 184
- [7] Otonomi Daerah, *Upaya Membangun Organisasi Efektif dan Efisien Melalui Restrukturisasi dan Pemberdayaan*, CV. Mandar Maju, Bandung.
- [8] Siagian, S.P., 2004, *Manajemen Sumber Daya Manusia, Bumi Aksara*, Jakarta:2006, Organisasi, Kepemimpinan dan Perilaku Administrasi, PT. Gunung Agung, Jakarta.
- [9] Wahyusumidsjo, 2003, *Kepemimpinan dan Motivasi*, Graha Indonesia, Jakarta
- [10] Wibawa, 2011, *Kepemimpinan Transaksional dan Transformasional*, Jurnal Ekonomi Bisnis, Th. 16, No. 2, Juli 2011 138.
- [11] Widodo, J., 2001, *Good Governance : Telaah dari Dimensi Akuntabilitas dan Kontrol Birokrasi pada Era Desentralisasi dan Otonomi Daerah*, Insan Cendekia, Surabaya
- [12] Widiyanto, Septian Rheno. (2020). Algoritma B217AN menggunakan Metode Spread Spectrum Berbasis PCMK/PCMB. Seminar Nasional Teknik Elektro, Prosiding SNTTE Vol 5, No. 2.
- [13] Widiyanto, Septian Rheno. Desain Algoritma Steganografi dengan Metode Spread Spectrum Berbasis PCMK (Permutasi Chaotic Multiptaran Mengecil dan Membesar) Yang Tahan Terhadap Gangguan. Prodi Teknologi Rekayasa Perangkat Lunak Politeknik Enjering Indorama Kembang Kuning Ubrug Jatiluhur, Purwakarta. pISSN : 2407 – 184 e ISSN : 2460 –8416, 2018.
- [14] Widiyanto, Septian Rheno. (2018). Desain dan Analisa Algoritma Steganografi dengan Metode Spread Spectrum Berbasis PCMK (Permutasi Chaotic Multiputaran Mengecil dan Membesar) Menggunakan Matlab. Jurnal Elektra. Vol. 3 No. 1. ISSN:2503-0221.
- [15] Widiyanto, Septian Rheno. (2017). Algoritma Steganografi dengan Metode Spread Spectrum Berbasis PCMK. Jurnal Multinetics. Vol 3. No.2. <https://doi.org/10.32722/multinetics.Vol3.No.2.2017.pp.32-37>.
- [16] Gunadi, Faustina & Widiyanto, Septian Rheno (2020). Perbandingan Data Warehouse Cloud Computing Menggunakan Konvensional Kriptografi. Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 69-73. ISBN: 978-602-52720-7-3.
- [17] Widiyanto, Septian Rheno & Azzam, Abdullah Izzudin (2018). Analisis Upaya Peretasan Web Application Firewall dan Notifikasi Serangan Menggunakan Bot Telegram pada Layanan Web Server. Jurnal Elektra. Vol. 3, No.2, Juli 2018. Hal. 19-28. ISSN: 2503-0221.
- [18] Widiyanto, Septian Rheno & Waluyo, Sabar Yoyok (2015). Analisis Serangan SQL Injection pada Server Universitas Nasional. Seminar Nasional Teknik Informatika dan Komputer, JTIC PNJ. Hal. 226-229. ISSN: 2460-9951.
- [19] Widiyanto, Septian Rheno. (2015). Perancangan Jaringan WLAN di PT. Gemopia Jewellery Indonesia. Jurnal Multinetics. Vol.1, No. 2. <https://doi.org/10.32722/multinetics.Vol1.No.2.2015.pp.50-53>.
- [20] Aditya, Adhisyanda M & Mulyana, Dicky R & Widiyanto, Septian Rheno (2020). Penggabungan Teknologi Untuk Analisa Data Berbasis Data Science. Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 51-56. ISBN: 978-602-52720-7-3.
- [21] Utami, Amalia & Pratama, Bayu & Widiyanto, Septian. (2020). DATA MART DESIGN IN BKPP BANDUNG USING FROM ENTERPRISE MODELS TO DIMENSIONAL MODELS METHOD. JITK (Jurnal Ilmu Pengetahuan dan Teknologi Komputer). 5. 279-284. 10.33480/jitk.v5i2.1219.
- [22] Gunadi, Faustina & Widiyanto, Septian Rheno. (2020). Efektifitas Pelaporan Pajak Online di Indonesia Berbasis Cobit 5.0 pada Domain MEA (Monitor, Evaluate, Assess). Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 82-85. ISBN: 978-602-52720-7-3.
- [23] Widiyanto, Septian Rheno. (2020). Algoritma B217AN Menggunakan Metode Spread Spectrum Berbasis PCMK/PCMB. Seminar Nasional Teknik Elektro Politeknik Negeri Jakarta. Depok. Vol 5. Issue 2. Page 216-223. ISSN : 2580- 1988.



- [24] Wahono, Prio & Mugia, Dekky & Rachman, Budi & Widiyanto, Septian Rheno. (2020). Integrasi Data Kontak HP Berbasis Kartu SIM Menggunakan Aplikasi atau Platform Lain. Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 44-50. ISBN: 978-602-52720.-7-3.
- [25] Mahardi, Sandi & Kuncoro, Adi M & Widiyanto, Septian Rheno. Integrasi Data Sektoral Pemerintah. (2020). Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 615-617. ISBN: 978-602-52720.-7-3.
- [26] Abdullah, Thoip & Qidri, Sulhan & Nuryadi, Wadi & Widiyanto, Septian Rheno. (2020) Failover Cluster Nodes and ISCSI Storage Area Network on virtualization Windows Server 2016. JOIN (Jurnal Online Informatika) Volume 5 No.1. Juni 2020: 89-96. DOI: 10.15575/join.v5iL.564. p-ISSN: 2528-1682. E-issn: 2527-9165.
- [27] Gunadi, Faustina & Widiyanto, Septian Rheno. (2020). Evaluasi Kualitas Pelaporan Manajemen pada Sistem Epicor Perusahaan Manufaktur Berbasis McCall. Jurnal Multinetics. Vol 6. No.1. pg.21-31. <https://doi.org/10.32722/multinetics.vol6i.2765>.
- [28] Tohirin & Widiyanto, Septian Rheno. (2020). Peran Trello dalam Adopsi Agile Scrum pada Pengembangan Sistem Informasi Kesehatan. Jurnal Multinetics. Vol 6. No.1. pg.32-39. <https://doi.org/10.32722/multinetics.vol6i.2765>.
- [29] Tohirin & Utami, Farida S & Widiyanto, Septian Rheno & Mauludyansah Al Widhy. (2020). Implementasi DevOps pada Pengembangan Aplikasi e-Skrining Covid-19. Jurnal Multinetics. Vol 6. No.1. pg.32-39. <https://doi.org/10.32722/multinetics.vol6i.2764>.
- [30] Sinambela, Y., Herman, S., Takwim, A., & Widiyanto, S. (2020). A STUDY OF COMPARING CONCEPTUAL AND PERFORMANCE OF K-MEANS AND FUZZY C MEANS ALGORITHMS (CLUSTERING METHOD OF DATA MINING) OF CONSUMER SEGMENTATION. Jurnal Riset Informatika, 2(2), 49-54. <https://doi.org/10.34288/jri.v2i2.116>.
- [31] Gondewa, Tutu & Utami, Farida S & Widiyanto, Septian Rheno. (2020). Evaluasi Kualitas Sistem Informasi Manajemen Rumah Sakit Menggunakan Metode McCall pada RSUD Dr. Slamet Garut. Jurnal Kurawal. Vol 3 No 1 (2020): Jurnal Kurawal Volume 3, Nomor 1, Maret 2020.
- [32] Tohirin & Mauludyansah Al Widhy & Setyawan, Endra S & Widiyanto, Septian Rheno. (2019). Analisis Kualitas dan Penerapan Software Quality assurance pada Situs Web e-Clinic Menggunakan Model ISO/IEC 9126. Jurnal Multinetics. Vol 6. No.1. pg.107-113. <https://doi.org/10.32722/multinetics.v5i2>.
- [33] Hamdallah, Farhan & Wijaya, Alex Lim & Widiyanto, Septian Rheno. (2020). Sistem Manajemen Basis Data pada Sistem Perpustakaan (Studi Kasus : SMK Al-Wafa). Seminar Nasional Teknologi Komputer & Sains (SAINTEKS). Hal. 30-32. ISBN: 978-602-52720.-7-3.
- [34] Widiyanto, Septian Rheno. (2017). Rancang Bangun Aplikasi Telemedika untuk Pasien Diabetes Berbasis Platform iOS. Jurnal Elektra. Vol. 2 No. 2. pg.65-73. ISSN:2503-0221.

