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Digital Era Challenges and Opportunities of Artificial Intelligence in E-Government and E-Business

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Abstract

The development of the digital era encourages emergence intelligence artificial intelligence (AI) that has open a very big opportunity in improvement e-government and e- business services . In the sector government , intelligence artificial can push improve efficient service to the community with provide automation and analyzing data as well ability taking decision based on data. Services based on this data Not yet covers to throughout the region so that Still need development infrastructure technology that can reach throughout remote parts of Indonesia. Research This use approach studies literature , the author also identified and collected data from various article that examines about digital, AI, E-government and e- business , challenges and opportunities , strengthening infrastructure is also very important For guard personal data security . Author conclude that data security is also one condition For increase sector business that takes advantage of intelligence artificial for safety customer can maximum . Marketing strategy can utilise intelligence artificial with automation its operation so that marketing more effective . even though adoption intelligence artificial Still Lots obstacles , and not yet profitable perpetrator business small medium (SME) thing This happen Because difficulty access technology intelligence artificial . Challenge intelligence artificial , e-government and e- business Policy institutions procurement goods / services government (LKPP) can give solution profitable for SMEs.

Keywords: *digital era , intelligence artificial , e-government and e- business*

INTRODUCTION

The development of the digital era today this , has enter to various sector from agriculture , industry, communication , education and business . The digital era has also bring impact change behavior man For fulfil need life . Influence transformation in the digital era in doing activities and being active No off from digital phenomenon This happen Because with digital makes it easier affairs . The presence of progress technology that can simplify and manage affairs work good in the field agriculture , industry, education , health and business .

Development technology , also has an impact on the world of work agriculture which was originally done manually , replaced with equipment machine that utilizes digital technology , examples field agriculture which was originally all in all done power Lots man moment This has to penetrate with machine Enough one person (Rumahorbo & Dewayanto, 2024) .

Influence and transformation can it is said Enough easy For observed and viewed in the field business , education and also life everyday . Development digital transformation is very fast so need take action with wise , because digital development does not Possible can dammed and must follow its development . The digital era has herding man For make technology leading to intelligence artificial intelligence (AI) elements intelligence artificial This become very important because affect on various aspect especially in the industrial and business sectors , intelligence artificial become matter strategic . Thanks progress digital and computer technology , everything affairs man become more easy and light , long distance become near so that bring impact on the sector business (Anissa Putri et al., 2024).

Artificial intelligence intelligence artificial offer efficiency time as well as own superiority accuracy in management and retrieval decision , so that generation successor need understand about AI to be able to take and utilize opportunities and knowing challenges faced . Intelligence artificial tbh change paradigm fundamental business with utilise digital technology (Dini Ramdhani & Pramono

Pramono, 2024) . Development intelligence artificial This necessary Keep going utilized and conveyed to the next generation successor , so that the next generation We the more smart and capable utilise opportunity technology with wise .

Utilization intelligence artificial , has felt in life man so will bring impact challenges and opportunities , AI must utilized with the best with careful . At least there is three things to do become chance For utilise intelligence artificial namely : (1) to make it easier in research , (2) development material in learning , (3) is assistant in virtual form (Suryokta et al., 2023) . In the field of study intelligence artificial Can utilized For get an idea or idea as well as guide . Field development material learning can in the form of provision of information media that is always *update* or latest . Next in the field virtual assistant for help or guide to compose question as well as answer .

Development business moment this , many utilise digital technology for get greater market opportunities and profits big , thing This can carried out by the perpetrators business with display on media. Example utilization technology like *mobile banking* or ATM around , for make it easier services to the community in services finance .

Development business that takes advantage of technology For increase business *e-commerce* give impact very big opportunity , thing This make it easier promote product by uploading Photo as well as add information complete about promoted products . The development of e - commerce is digital era revolution now this is what is utilized For doing business , digital revolution in the field business This Can call as disruption innovation , development digital and information technology as well as emergence intelligence artificial changes method think and work , way communicate (Rosmayati et al., 2024) .

Opportunity *e-commerce* must be managed by the government For promote product domestic and can increase economy perpetrator effort . Intelligence artificial become opportunity , for can remind service government to society . With use technology , government provide more public services fast , responsive for example implementation intelligence artificial in *e-* government created in a way automatic *chatbot* answer complaint public in a way *real time* so that the data reduces burden work on service customers .

Government as holder power manage all over source Power need adapt with development revolution industry 4.0 and the development of society 5.0. revolution *industry* 4.0 leads to development service government through *e-government* so it is very relevant against development with the era of society 5.0 (Sugiono, 2021) . Challenges government moment This is equalization infrastructure technology to all remote areas of Indonesia so that the community can feel impact from industrial revolution .

If the distribution is equal infrastructure even and stable network as well as supported device adequate hard and soft so utilization technology intelligence artificial can utilized by the community . Challenges furthermore is problem data security in very large amount of data , so as not to appear worry regarding personal data is lost or wrong use the party that does not responsible answer .

Government in matter This ministry related obliged protect personal data as well as socialize to the community personal data protection , in the 1945 Constitution article 28 G paragraph (1) states that every citizens have the right on protection self personal , family , honor , dignity and property his/her . Privacy data perpetrator business and society user technology need guarded and guaranteed security by the government . The perpetrators business and society Don't disadvantaged Because data leak data personal as example case a number of year Then there is Tokopedia in 2020 doing violation security that results in personal data Tokopedia customers leak. Next case Bukalapak in 2021 carried out the same thing leaking personal data , then case TokoTaalk 2021 also leaked over 91 million customer (Anggen Suari & Bachelor, 2023) .

Opportunity intelligence artificial in *e-government* potential can increase quality service to the community There is a number of types of e-government that are needed understood by the community namely : (1) website -based e-government , (2) internet-based e-government mobile applications and (3) e-government based on type others .

E- government web based is phenomenon integrated globally and involving governments and countries in the world e- government website, mobile- based e -government is is tool communication as connector service government with public (Fathya, 2016) . The role of government in *e-government* on services System government based on electronic (SPBE) on services service from government center until area including ministries and institutions are required utilize SPBE to be felt benefits to the community especially perpetrator business . Based on survey conducted by the Association United Nations , e-government in 2022 , services to the Indonesian public show improvement from period 2020 to with in 2022 there is improvement significant
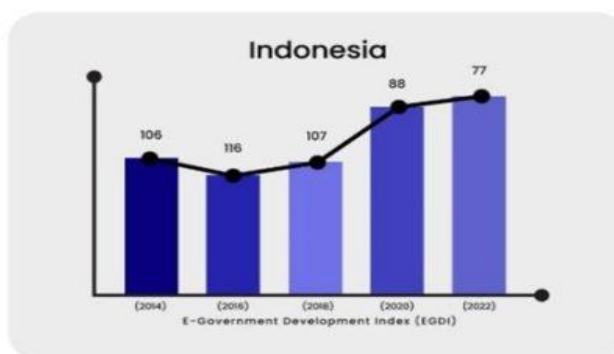
Chart public service results survey conducted by the UN, the increase from 88 to 77 things This show system e-government services in Indonesia are increasingly good . Improvement public services with SPBE application has also been applied in system provider goods , through the Policy Institute procurement goods / services government (LKPP), so that price can controlled by the government as controller unfair competition Healthy between provider goods to be able to increase Power buy product domestically increased .

Theoretical Study

1. Digital era

The digital era is a time where all over or some big society , utilizing system digital technology in fulfil need live . Example need communicate with mobile phone , reading book with *e-books* available on the internet, shopping with use *shopy shop* , shop pedia and others

transformation can realized use technology For increase performance , and service to users for example automation public services that utilize digital technology (Yazid & Karmila, 2024) . The digital era is transformation from manual service becomes automation , for make it easier services and speed up processes and efficiency time . Digital transformation is also becoming means experience Study for public about a more comprehensive service model fast and simple (Harry Golden Hardt S., SIK, 2023) . However government in the digital era needs increase strengthening advanced infrastructure For public data security .

2. Challenges and Opportunities .

Implementation intelligence artificial in improvement public services , has to penetrate to various form service both implemented by the government , institutional ministries and the private sector For increase public trust . Use technology intelligence AI -made in all field is challenge through guarantee personal data security (Anggen Suari & Sarjana, 2023) . If data security can be guaranteed , then opportunity For get trust society . Trust society is very important Because as user public services provided government , ministries and institutions as well as private . Changes in society 5.0 form media services , as response service to the community For increase economy (Dini Ramdhani & Pramono Pramono, 2024) .

3. Intelligence Artificial

Intelligence artificial is science , which studies How a computer tools can do work human , intelligence artificial can contribute various discipline knowledge knowledge example knowledge philosophy , mathematics , economics However all science that is made is based on machine (Tulungen et al., 2022) . HA Simson (1987) intelligence artificial is application , computer programmed instructions for operate work and stabilization decision human . Is part from branch knowledge computer , which developed a system or tuned machine can imitate like ability human . Intelligence artificial can also think , learn understand as well as can decide However still different with method think about it human . Intelligence artificial utilise theory algorithm For respond information and systems will to give prediction . So that intelligence artificial is also implemented with robot form that can imitate voice human . Intelligence artificial is also effort build innovative public services (Daraba et al., 2023) .

4. E-government implementation ,

Government is government that serves the public, because form service made with utilization technology information , which can serve in real time (continuously) continuously) without mix hand

power man so become e-government (Asiva Noor Rachmayani, 2015) . The results of a survey conducted by the United Nations Nation Nation about service towards the public, the Indonesian government is ranked 77th in the world This show that government Serious increase state management with good . Kusnadi & Maruf (2017) e- Government is service technology information adopted by the government For improvement services to the community . E-government in the country parts of the world are experiencing progress , potential This development can push public as citizens participate participation and interaction with state officials , through taking decision policy . Participation citizens play a role active in transparency , eradication corruption and accountability government . E-government will increase service a clean , transparent government that will impact on increasing economy public (Yazid & Karmila, 2024) .

5. **E-business**

E- business is internet network and technology information utilized For interest Obrien, (2003). E - business is activity sell give goods , with utilise technology For serve customers , from see bar until with transactions and receipts goods that have been purchased with through transaction electronics . E- business platform in digital form that presents between advance between provider goods / services with customer as well as suppliers , more specifically happen chain suppliers , actors business that utilizes technology (Irawan et al., 2022) . Success of e- business determined by several factors and the readiness of electronic data in each country as the following : (1) infrastructure strong internet network , capability public own equipment electronic such as computers and installation wifi For access network , (2) environment business , must also become things to consider to all countries with notice market competition , security , politics and competitiveness par , (3) educational environment , educational level , ability literacy and innovation of the country that utilizes technology For increase business for society , (4) enforcement factors law guarantee protection network internet access and convenience get licensing perpetrator business , (5) Vision and policies government , which is the determining factor strategy develop digital services , e-government initiatives and procurement goods service online which is controlled by LKPP.

The five factors of e- business , have eye chain suppliers who have changed in a way drastic with emergence internet network and technology information .

METHOD

Study This with method studies literature , is method or method collect data with look for as well as read sources reading like articles , journals and books that explain with the foundation theoretical . Literature study according to Sugiyono (2018) is to study theoretical and other existing references the hook with mark culture and rules that develop in a given situation social media being researched .

RESULTS AND DISCUSSION

In the digital era , it has present various a very significant transformation in various sector , no except sector government (e- government) and (e- business) and intelligence artificial (Suryokta et al., 2023) . In the e-government sector, it provides a very big and strategic opportunity , for increase public service . Intelligence artificial can help sector government , in analyze data in a very large and complicated number .

Intelligence artificial is also capable predict public needs , with more services fast and precise through system automatically , the e-digital constraint is Not yet awakening infrastructure that has not been equitable and security of personal data Still in doubt (Anggen Suari & Sarjana, 2023) . The digital era can become road new for e- business , with develop a better marketing strategy effective . Entrepreneurs can utilise intelligence artificial with analyze consumer For can increase supply and distribution goods , and efficiency operational can monitored with details. Which becomes obstacles and challenges implementation intelligence artificial is adoption technology for no need small medium enterprises (SMEs) that do not own source Power man competent field technology as well as access to intelligence more artificial advanced (Rosmayati et al., 2024) .

Intelligence made in the digital era push Very big opportunity , for progress perpetrator effort , but in need strengthening infrastructure , internet networks and appropriate regulations and improve will read digital field in order to be able to face problems that arise .

Challenges and Opportunities . technology digital era information , has opportunities and offers opportunity but also face challenge with implementation intelligence made in sectors e- government and e- business . E-digital can increase accessibility (Suryokta et al., 2023) .

In the sector government or e-government, intelligence artificial can analyze more data complex and very large data , as well as can help taking decision based on existing data Enough accurate . E-digital also provides speed service to the community in a way *real time* (Suryokta et al., 2023) . Intelligence artificial can push innovation , for create opportunity whisper new with utilise technology For increase Power compete .

Intelligence artificial also not off from challenges in the digital era, namely development infrastructure that has not been come closer and reach out the entire territory of the country, so become gap for as public difficulty access technology intelligence artificial . Limitations access This impact on business small medium (SME). In addition difficulty access for SMEs it is also a problem personal data security become work house in need become attention special . Low motivation read for society is also an obstacle which ultimately hinder For ability reception technology optimally . If the challenges and opportunities can completed so can determine e-digital can utilized For interest man in a way maximum

***E-government* implementation ,** is draft digital services that utilize sophistication technology and information in order to increase effective service . Efficient and transparent as well as easy accessibility . Intelligence artificial can become solution government For increase fast , accurate and *responsive* service to all over inhabitant community . Service sector government or *e-government* own room sufficient scope broad and mutual related (Asiva Noor Rachmayani, 2015) . Gubta , Dasgupta, et al (2008) explained that technology and information in government can increase performance employees . *E-government* is innovation , intelligence artificial that changes system service government public from manual to digital services for efficient time (Sugiono, 2021) .

e- government more effective , for answer challenge birth industrial revolution 4.0 and society 5.0 which require sector government increase service based on technology information.lots researcher implement sophistication technology with revolution industry 4.0 in the e-government sector (Sugiono, 2021) .

E-business Business processes in traditional times , are carried out with system swap exchange goods just For fulfil need life . Business traditional run with system economy family , business traditional without There is management Because only For fulfil life (Irawan et al., 2022) . XU and Gao (2021) that e- business is use technology communication , which is connected with deep internet network activity buy and sell goods For serve customer as well as collaborate with business people who interact with each other communicate and transact . E- business is innovation , from business models traditional managed with management For develop business For look for profit No just sufficient need life . *E- business* adopt technology information , for increase market share , distribution goods , marketing products and supplies goods until with transaction finance utilization technology e- business information .

CONCLUSION

The development of the digital era has change order service government to society For fulfil need life and service convenience . The digital era has push public demand service all- round government fast and responsive to all affairs . The digital era has adopted government For increase a service called e-government that can Work in a way *real time* for increase performance without mix hand human . Based on results survey conducted union nation Indonesia is ranked 77th out of 193 countries in the world This show seriousness government in manage the country and serve public .

With utilise intelligence artificial intelligence that can process big data and take decision in a way appropriate version intelligence artificial . The challenges of e-government infrastructure that has not been even and guaranteed personal data security become constraints . Therefore That government need to uphold Constitution number 27 of 2022 concerning misused personal data use by others to look for profit .

Opportunity intelligence artificial, on sector government , to become a system of government based on electronics (SPBE) is organizing service governance in society based on technology . SPBE is expected can increase service procurement goods and services government so that can increase economy society . Improvement service sector government *E-government* related with e - business that utilizes intelligence artificial will increase supply goods , distribution and maximizing strategy marketing as well as promotion in a way maximum . The obstacles felt by SMEs can overcome with development strong and supported infrastructure technology advanced For secure personal data protection so that No cause concerns in society .

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