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JURNAL PENELITIAN POS DAN INFORMATIKA (JPPI) JPPI is first issued in 2011, with two editions per year, every September and December. This journal aims to broaden and increade knowledge of and serves as a platform for exchanging ideas for researchers,academics and practitioners, especially in the fields of posts, broadcasting, telecommunications and informatics.Articles published in the journal are those of academic papers, research reports, surveys,research briefing, thesis, secondary data analysis, ideas, theoretical conceptual reviews, and methodological in the field which are original and has never been published in other media..

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FOREWORD FROM EDITOR-IN-CHIEF

This year's first issue of Volume 10 is the JPPI's first step in embarking on the international journal ecosystem, as part of its efforts to build a quality and reputable journal in the international scientific community. The next step of our journey would be to fulfill all indicators of the global indexed journal criteria. In the midst of the discourse of merging all Indonesian institutions' research and development centers into the National Research and Innovation Agency, we remain committed to continuing to promote the Ministry of Communications and Informatics' image, especially in scientific publications at the national level. The fact that the JPPI is still ranked 2nd in the Sinta Index will continue to drive us to penetrate the highest caste of Indexation of scientific publications in Indonesia.

In this issue, JPPI returns with 6 high quality papers, starting with the *first* paper entitled Information Technology Enables Extended Organization in the Integrated Trade Licencing System written by **Anggi Permata Dewi, M. Rizki Pohan, Sutia Handayani, Rani Khairunnisa, Muhammad Rifki Shihab**. This paper shows writers' finding that that trade licenses can only be issued if the value given by the extended organization is sent to ITLS with the assistance of information technology (IT). This study is expected to be a lesson learned of extended organization concept in government agencies. The second paper, written by **Bandhi Ashari** with tittle **Information Security Governance and Management Capability Assessment: A Lesson Learned from Directorate General of Taxes**. This paper describes and shows the overall Directorate General of Tax's (DGT's) information security governance and management capability at a level of well-defined. Almost all of ISGM building blocks have been established properly into their tailor-made policies and standards, allowing the DGT's ISGM to contribute to the business as shown in several DGT's programs. The tittle of third paper is **Data Governance Maturity Level at the National Archives of the Republic of Indonesia** written by **Sari Agustin Wulandari, Yova Ruldeviyani, Viktor Suwiyanto, Wahid Nurfiantara, M. Alam Pasirulloh, Mohamad Yusup Dias.** This study is expected to be beneficial for The National Archives of the Republic of Indonesia (ANRI) to make improvements corresponding to the recommendations thus the implementation of ANRI's national data archival can be improved.

The fourth paper is Analysis of the Needs Of ICT Ecosystems to Support The Acceleration of Internet Fixed Broadband Penetration with case: Bogor, Sumedang, Bangli, and Karangasem by **Agung Rahmat Dwiardi**. The paper show that the internet utilization by the public (households, businesses) is mostly for communication and entertainment, so that the cellular internet is considered adequate for public's internet need. The fifth paper written by **Nomarhinta Solihah and Muhammad Imam Nashiruddin**, entitled Development of Multicast Service Standardization Regulation for the XG-PON OLT Equipment. The test results indicate that the tested OLT XG-PON device shows suitability between IGMP message format version 2 with the RFC 2236 standard and IGMP version 3 with the RFC 3376 Standard. The last paper is written by Pajar Pahrudin, entitled Cybercrime In The Context of Cellular Telephone Scams.

The study showed that the criminal act of scams committed online was in principle similar to that of conventional fraud, the only difference being the means of action, namely using an electronic system, namely computers, the internet, or cellular telecommunication devices

We are pleased to present these inventions and innovations in this edition. We hope that our journey to internationalize the JPPI, which began in this edition, can materialize as we aspire to. We invite congregation readers to enjoy selected and high-quality articles in this issue.

Jakarta, September 2020

Editor-in-Chief

Lembar Abstrak

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Anggi Permata Dewi, M. Rizki Pohan, Sutia Handayani, Rani Khairunnisa, Muhammad Rifki Shihab

Information Technology Enables Extended Organization in The Intergrated Trade Licensing System

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 1-14

ABSTRACT

In order to improve the business climate, the Indonesian government focuses on carrying out a fundamental reform program. One part of the program is issuing online business licenses. As a form of compliance, the Ministry of Trade (MoT) needs to implement the Integrated Trade Licensing System (ITLS), where the system's values will be made possible through a collaboration between government agencies. This condition illustrates a self-organizing network of organizations where each agency will be able to contribute its values and result in a new set of values. This concept is aligned with the extended organization. This paper aims to examine how ITLS can successfully work through government agencies' collaboration in an extended organization. The research methodology used a qualitative approach by collecting data through documentation study, observation, and interviews. The study found that trade licenses can only be issued if the value given by the extended organization is sent to ITLS with the assistance of information technology (IT). This research is expected to be a lesson learned of extended organization concept in government agencies.

Keywords: extended organization, trade licensing system, ministry of trade, integration

Bandhi Ashari

Information Security Governance and Management Capability Assessment: A Lesson Learned from Directorate General of Taxes

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 15-26

ABSTRACT

Information has a pivotal role in improving business operation and serving decision-making process. The emergence of e-commerce and e-government require more frequent data exchanges, including sensitive data. This study will focus on the Directorate General of Tax's (DGT) effort in planning and building the ability to enforce IT governance, especially those related to information security. In addition, this research can be used as a basis for their continuous improvement. We used the ISGM capability model to combine COBIT 5 and ISO 27001 as an approach to measure the capability of organizations in governing and manage their information security. We found that the overall DGT's information security governance and management capability is at a level of well-defined. Almost all of ISGM building blocks have been established properly into their tailor-made policies and standards. As a consequence, DGT's ISGM could contribute to the business as shown in several DGT's programs. However, in order to acquire an optimum value from ISGM implementation, DGT needs to improve its capability level, particularly in relation to some organizational aspects such as alignment with business strategies and resource management.

Keywords : information, security, maturity, capability, ISM, ISGM

Sari Agustin Wulandari, Yova Ruldeviyani, Viktor Suwiyanto, Wahid Nurfiantara, M. Alam Pasirulloh, Mohamad Yusup Dias

Data Governance Maturity Level at the National Archives of the Republic of Indonesia

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 27-40

ABSTRACT

The National Archives of the Republic of Indonesia (ANRI) as an institution mandated to carry out state duty in the field of archives has a vision as a pillar of good governance and the nation's collective memory. To implement it, a grand design of the archival system is arranged. That is closely related to data governance

implementation. Therefore, it is necessary for ANRI to identify the maturity level of the data governance function which had been held. An assessment on the grand design was done by referring to the Stanford Data Governance Model. The result showed that data governance is still at an initial level. The foundational aspects are on an average of 1.2 (out of…..) which contains awareness, formalization, and metadata. While on project aspects are on average of 1.5 consisting of stewardship, data quality, and master data. In total, ANRI stands at the level of 1.35. ANRI needs to make improvements for data management planning activities referring to the Data Management Body of Knowledge (DMBOK) with a focus on people, policies, and capabilities dimensions in all aspects. This research is expected to be beneficial for ANRI to make improvements corresponding to the recommendations thus the implementation of ANRI's national data archival can be improved.

Keywords: Data Governance, Maturity Level, Stanford Data Governance, DMBOK, National Archives

Agung Rahmat Dwiardi

Analysis of the Needs Of ICT Ecosystems To Support The Acceleration Of Internet Fixed Broadband Penetration (case: Bogor, Sumedang, Bangli, and Karangasem)

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 41- 58

ABSTRACT

This study is conducted to see the potential demand with the characteristics of the campus environment, industrial environment, and tourism environment on internet fixed broadband use, where the objective of this survey is limited to households, individuals and businesses. Analysis is carried out in a descriptive manner based on the results of qualitative discussions by experts which is reinforced by the findings of the survey results. The survey results show that the internet utilization by the public (households, businesses) is mostly for communication and entertainment, so that the cellular internet is considered adequate for public's internet need. This is relevant to the public's opinion that 87.9% of the internet needs are met when using cellular phone. There are 3 (three) perceptible reasons of why respondents choose not to subscribe to Fixed broadband internet, namely: 1) There is no necessity for subscription, 2) Lack of Knowledge/Information related to Broadband Fixed internet, and 3) Expensive Prices. The potential demand for each characteristic is always there, however, the most dominant one comes from the businesses, such as cafes/eateries, food stores, gift shops, photocopying businesses, vehicle rental services, travel businesses, etc.

Keywords : Internet, Fixed broadband, Width

Pajar Pahrudin

Nomarhinta Solihah, Muhammad Imam Nashiruddin

Development of Multicast Service Standardization Regulation for the XG-PON OLT Equipment

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 59-72

ABSTRACT

The deployment of Fiber-To-The-x (FTTx) technology is developing rapidly in various regions of Indonesia. One of the most implemented technologies is the XG-Passive Optical Network (XG-PON). It offers high-speed internet access of 10 Gbps downstream/upstream directions and is able to pass numerous services at once, such as data, voice, to video multicast (IPTV) services. However, the technical requirements standardization regulation for multicast services in Indonesia does not include this new technology. Therefore, a reference test must be done to update the current regulation. In this study, the testing of Optical Line Termination (OLT) devices is conducted by using five kinds of scenarios; the ability to pass IGMP version 2, then followed by passing IGMP version 3, afterward to assist IGMP Snooping, subsequently supporting the IGMP proxy, and lastly the capacity in moving several IGMP multicasts groups. The test results indicate that the tested OLT XG-PON device shows suitability between IGMP message format version 2 with the RFC 2236 standard and IGMP version 3 with the RFC 3376 Standard. Whereas in IGMP proxy testing traffic, the IP address source of the OLT equipment is 0.0.0.0, which complies with the RFC 4541 standard for the Reporting proxy process. The OLT XG-PON device tested was also capable of passing 1,024 IGMP multicast groups within the addresses range from 239.1.1.1 to 239.1.5.1.

Keywords: Multicast service, XG-PON, OLT, Standardization Regulation, Telecommunication Management

Cybercrime in the Context of Cellular Telephone Scams

Jurnal Penelitian Pos dan Informatika Vol. 10 No. 1, Page 73-85

ABSTRACT

Technological advancement comes with both positive and negative impacts to the society, including the cybercrime. The main problems discussed in this study is regulation of criminal acts of scams committed through electronic media, particularly SMS, as well as the efforts to handle such crime in accordance with applicable legal provisions, both based on the Criminal Code and based on Law Number 11 of 2008 on Electronic Information and Transactions that has been amended by Law no. 19 of 2016. This study applies the Normative Legal Research method. The results showed that the criminal act of scams committed online was in principle similar to that of conventional fraud, the only difference being the means of action, namely using an electronic system, namely computers, the internet, or cellular telecommunication devices. Based on the prevailing legal provisions, online fraud can be treated similar to that conventional offenses stipulated in the Criminal Code (KUHP), so that the case handling process is also based both on the Criminal Code and Electronic Information and Transactions law.

Keywords: Scams SMS, Handphone