

# Records Management and Records Manager on the 4.0 Industry in Indonesia

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**Abstract:** The role of the record manager is related to managing organisational information in records as organisational assets. This research uses qualitative methods using case studies of record managers in Indonesia and literature analysis. Industry development 4.0 has an impact on record management in a company. Management records cannot be separated from e-government policies in Indonesia. The manager's record is required to be able to adapt to era 4.0 and collaborate more deeply with all units in the company. The applicative impact of this study is to show the duties and competencies of the manager's record to be able to run a record management automation system. The theoretical impact provides a new understanding in the professional field of a record manager especially in Indonesia to always improve its ability as a professional to follow the development of era 4.0 with issues such as big data, data and cybersecurity, data analysis, Data Management, Knowledge Management, and I.T. infrastructure.

## 1 INTRODUCTION

### 1.1 Information and Record Management in the 4.0 Industry

The industrial era 4.0 has been widely echoed everywhere. There are all kinds of business and service sectors. Records management, as one of the systems in managing information and records in the company, has very clearly also influenced the components of 4.0 industry. Record management must adapt to the flow of 4.0 industry because a record manager, in addition to managing records, also manages data and information. Managing data and information requires information and communication technology to help them.

In the world of industry and business communication technology will make communication entities in Industry 4.0 environment can communicate with each other and utilise data from production owners with all system life cycles between companies and countries without any restrictions. All entities from all production and market networks will also be able to have relevant data. This will be very helpful for all entities, including manufacturers, to be able to work on systems with very modern component features, even in the design and testing stages. The digitalisation of

such industrial production can create new digital market models. Based on data that can be accessed in the cloud, users will be able to predict the cessation of production, several production entities, and others (Zezulka, 2016).

Records management allows users to access data and information that is owned by a company or institution quickly and easily. Information management in 4.0 era in a country is also influenced by the country's policies. The advancement of this information technology has given rise to a term we often hear, e-gov. E-government has the ability to change relations within citizens, business and Government, and can serve a variety of different purposes, including better service delivery to citizens; increased interaction; citizens' empowerment; more efficient government management with less corruption; increased transparency; greater comfort; revenue growth; and cost reduction. The point is that e-gov policies improve services to the community. Even the Malaysian Government, along with other countries, including the U.S., U.K. and Republic of Korea, have experienced a transition from paper-based to electronic (Mokhtar and Yusof, 2016).

Government performance through e-gov certainly needs to be supported by adequate data and information provision and storage mechanisms.

Records Management is the mechanism. Mokhtar and Yusof (2016) further explained that Records Management is very important for the Government at all stages of development carried out, but both the office automation process and the implementation of the Records Management initiative have not yet been given priority. Records Management is a basic component that must not be abandoned to produce successful e-government materialisation because all actions and decision making must be played on Records Management (Mokhtar and Yusof, 2016).

The importance of this decision making is influenced by how company or organisation information can be managed properly through its records management system. Information in essence can be a valuable asset for the company, but many companies do not appreciate and realise this. The use of information, both by individuals in an organisation and/or by a group of people at the middle level, top management and the board, or usage throughout the organisation having a wide-ranging impact throughout the company. Information is intangible strategic assets and therefore internal controls commensurate with information management. In the information technology risk perspective, the value of information can only be determined if the information asset is understood, known, clearly defined (Adesemowo et.al., 2016), correctly identified and assessed, because all related risks must be considered (ISO, 2014).

Records management has an important role to identify, classify and distribute company information assets. Especially in the 4.0 era where data and information are growing and exchanging very quickly. Records management in the 4.0 era certainly requires its own information system, electronic data, and also human resources who are able to understand how the development of records and information management in it.

## 1.2 Who Is Record Manager in Industry 4.0?

Records manager is considered as a kitchen worker who only works in the back of the office. No wonder if we see the records and archive space will be far behind the complex or office building. So there is an assumption that if you want to throw paper into the archives section. This paradigm certainly must be changed. A records manager must be able to show himself, because what he manages is an important item. He manages company assets. Record professionals need to stop closing themselves off

against newcomer in information technology and work together towards the common goal of managing information by encouraging the participation of all stakeholders without restrictions (Haraldsdottir et.al., 2018).

Professional records must be more flexible. Being able to work with various parties in the company is a must-have requirement. No exception with the I.T. division. Professional records work closely with the I.T. division regarding requirements for records management systems, implementing and managing systems, and monitoring their use. Professional records also coordinate access to information on records, both internally and from outside the organisation. They develop records strategies and short-term and long-term storage plans of physical records and digital information, such as e-mail, websites, cloud services, wikis, blogs and social. To do this, they must balance the business requirements of confidentiality, privacy and public access media (Haraldsdottir et.al., 2018).

Physical or printed records are no longer a top priority for management. Electronic records are of particular concern to be managed properly. These electronic records also bring the supporting systems which also inevitably have to be studied. Professional records are faced with complex responsibilities. To survive with such an environment, records professionals must deal with technological changes, various device orders, service requirements, quality standards, and lawsuits (Haraldsdottir et.al., 2018).

This paper will try to understand how the development of management records and the human resources involved in it, namely the record manager following the development of 4.0 era in the scope of their work, especially in Indonesia.

## 2 MANUSCRIPT PREPARATION

### 2.1 4.0 Industry

The development of industry 4.0 forced the industrial sector to experience a paradigm shift, which would drastically change production in the industry. Traditional activities are centrally controlled and monitored and the process will be replaced by decentralised control, which is built on the ability to independently manage products and work objects that communicate with each other (Guban and Kovacs, 2017). All human activities in the 4.0 era are interrelated by many communication systems today. The most promising technologies are

the Internet of Things (IoT), the Internet of Services (IoS) and the Internet of People (IoP) (Zezulka, 2016).

The term Industry 4.0 gained global recognition from the PWC survey in 2016 by defining three main areas where industry affects the corporate world:

1. Horizontal and vertical value chain integration and digitisation,
2. Digitalisation of products and services,
3. New market models with business models and customer relationships digitally

The essence of the Industry 4.0 concept is the introduction of intelligent systems that are connected to networks, which embody production processes that can regulate themselves: people, machines, equipment and products will communicate with each other (Guban and Kovac, 2017).

## 2.2 Records Management

Records management system is a set of operations and techniques, integrated in general administrative management, based on the analysis of production, processing and value records, the purpose of which is to efficiently and systematically control the creation, receipt, maintenance, use, conservation and disposition or transfer of records. The records management system must guarantee the production of all documentation related to public administration activities. Records management also oversees the process from the creation to the entire life cycle of records, the documentation system in records management combines all the necessary metadata related to the transparency system in force in the organisation to foster public awareness of records (De Mingo, 2018).

The purpose of records management is to regulate the practice of creating and using records in an organisation. Records management also manages policies, establishes responsibilities, establishes guidelines, provides services, designs systems for managing records and incorporates management records into business processes. Records management is an integrated part of organisational functions and processes, therefore practitioners operate at several levels of the organisation to capture organisational memory (Makinen, 2013).

## 2.3 Record Manager

Management records that exist in every organisation need records managers who can provide a rational basis for making decisions about what information

records should be saved and what should be set aside. This is needed to support legal, fiscal, administrative and other needs.

Records manager has an important role in supporting Enterprise Content Management (ECM). Records manager is responsible for managing content-based types, organising content, and virtual folders using metadata records. Records manager is responsible for all information, managing and carrying out content records in a collaborative space. Records managers must be able to provide access to the right content, both in terms of information, format, or location, to the right person at the right time and in the right place. The point is that records managers have a strategic role to develop policies and workflows that automate records management (Franks, 2016)

## 2.4 Electronic Records

It is undeniable that the 4.0 industry development indicator in terms of record management is the emergence of electronic records. Specifically, every e-record that contains administrative actions that affect the rights or personal interests of individuals must be stored in electronic form. In addition, management and storage of e-records must be able to display security measures that guarantee the integrity, authenticity, confidentiality, quality, protection, and conservation of stored records, as well as user identification, user access control and user compliance with guarantees regarding data protection in applicable law (De Mingo, 2018).

From the early 1980s, software applications emerged to help management manager records manage various digital content. Because this application continues to grow in number and level of sophistication, different terms are used to describe these applications. The terms include; Electronic Document Management System (EDMS), Electronic Records Management System (ERMS), Integrated Document and Records Management System (IDRMS), Electronic Document and Archive Management System (EDRMS) and Enterprise Content Management (ECM) systems (Katuu, 2016).

## 3 METHOD

The approach applied by researchers in this study is a qualitative approach with a case study method. Case studies are in-depth investigations of a particular social unit so as to produce a well-organised and complete picture. Its scope can

include whole or only certain segments (Azwar, 2015). In this study, the coverage is the development of records management and professional records managers in Indonesia following 4.0 industry trend.

The subjects of this study were records managers and archivists working in the records and archives unit at Government, private and educational institutions while the object of research was the development of records management, the role of records managers and challenges for their profession in the 4.0 era in Indonesia.

In this study, researchers will use several data collection techniques, namely by interviewing four informants from the Indonesian national archives, records and archives unit of ministries, private organisations and educational institutions. Furthermore, analysing documents regarding the development of the records and archiving system both conventionally and electronically in Indonesia.

## 4 RESULT AND DISCUSSION

### 4.1 Record Management in Industry 4.0 in Indonesia

Talking about record management in 4.0 era in Indonesia will be very related to the policy of the Government itself. The policy is e-government. Since 2003 the Indonesian Government through Minister of Communication and Informatics Decree No. 47 / A / KEP / M.KOMINFO / 12/2003 Regarding General Guidelines for the Implementation of Education and Technical Information and Communication Technology Training in Supporting E-Government and Presidential Instruction No. 3 of 2003 concerning National Policies and Strategies for E-Government Development has shown its seriousness to launch the program. The goal of this e-government policy is a government system based on communication technology (Yunita and Aprianto, 2018). Through this system government services to the public can be done quickly and easily. The most basic system is to create a government official website. This website will contain information about the structure, government activities, and self-service. For example, the Indonesian Ministry of Law and Human Rights through the website of the Directorate General of Immigration contains information on activities, services, and products produced by the ministry and the director general. One of the services most widely used by the people is of course the making of a

passport. In addition to providing information and services through the website, the Director General of Immigration also launched a mobile application to online queue of passport services.

The implementation of the e-gov system certainly impacts the records management sector in every organisation. Website-based services certainly require the data held by the organisation to be collected and presented electronically and automatically. A fundamental consideration of empowering industry 4.0 is the automation of all business processes (Telukdarie et.al. 2018). Records management based on 4.0 industry it means storing records, managing and presenting them in an automated electronic way too. Electronic records storage means the digitisation records that was originally in the form of hardcopy printed into electronic form. The electronic records are then managed and presented using a system. Then electronic records management systems emerged in several organisations.

For example, the National Archives of the Republic of Indonesia (ANRI) created several electronic records management systems such as *Sistem Informasi Kearsipan Dinamis* (SIKD) for internal management within government agencies. In addition, ANRI also created a *Sistem Informasi Kearsipan Nasional* (SIKN) and the *Jaringan Informasi Kearsipan Nasional* (JIKN) which can be accessed online with a cloud storage system. Some ministries also have their own records systems such as the Ministry of Health with system namely *Electronic Filing System* (EFS), State-Owned Enterprises (SOEs) such as the Indonesian Railways (KAI) which has a Rail Document System (RDS) and Bank Indonesia which has a Bank Indonesia Records Management System (BI-RMS).

Industry 4.0 components on the system records owned by the institutions above can be seen from the cloud service system and machine to machine that has been implemented. For example in application systems such as SIKN and BI-RMS that can be accessed online. Some organisations have even made a mobile version of their records system (Bank Indonesia) to make it more flexible and easier to reach its users.

Electronic records systems owned by these organisations do not fully meet the standards of the Electronic Document and Records Management System (EDRMS) even for the Electronic Document Management System (EDMS), some are still not. However, the steps taken by this organisation are appreciated because it shows awareness of the components of era 4.0, especially in 2018 Indonesia

through the Ministry of Industry who has designed Making Indonesia 4.0 as a unified road map to discuss strategic strategies for 4.0 industry era (Kemenperin, 2018). The fundamental characteristic of the 4.0 era in the records system is the organising records with computer-based and online access and services through the internet. That citizen-centered services, and of course all government businesses, produce record creation. The Australian Government is increasingly moving towards digital information and governance to do business and is committed to the use of digital technology as a driving force for increasing productivity. Changes in records management that are increasingly digitalised not only have an impact on the working model but also on the resources that manage it, the records manager.

#### **4.2 Record Manager Role in Industry 4.0 in Indonesia**

System and application records that have emerged, both electronic or just automation, make the role of record manager in the 4.0 era also to be improved. These systems must be run with the knowledge capabilities possessed by archivists or records managers regarding adequate hardware and software. The basic capabilities of the ms office and database are certainly a must-have for this profession. These basic abilities are combined with record manager and archivist that familiar in running an electronic application. Determination of menus, display features, basic functions of an archiving system feature is an absolute skill that must be possessed. Especially if records professional have the ability to manipulate the back end of the system.

Of course this is a challenge as well as its own problems in Indonesia. Most archival systems in Indonesia, especially in Government, still rely on conventional procedures with reference to life cycle records. Records managers and archivists lack the basic skills and competencies that enable them to handle records in an electronic environment. There is a serious technophobia problem in most offices in Africa especially among older employees. Due to inadequate skills in information technology, many traditional librarians, records managers, and archivists are very conservative and have a phobia with computers. This might be due to the generation gap between new and old professionals who consider computers as a threat to the status of their expertise (Asogwa, 2012). It is also not much different from Indonesia where there are still many professional records and archivists who are still

stuttering with the devices and technology systems that manage records and archives. Records that are created are not actually from electronics but rather conventional printed ones which are converted to electronics. To digitise printed material records to be electronic, only a few institutions do it. Even though the digitising work also requires its own expertise.

This 4.0 era will certainly emphasise the role of records manager that is so important in a company. Records manager as a manager of corporate information has a role as a manager of company assets. These assets in the 4.0 era were managed and accessed electronically with system records owned by each of these companies. Therefore, the ability of information technology from a records manager must be automatically improved so that important issues in the 4.0 era can be faced and even utilised by the records manager to improve performance in digital records management systems.

#### **4.3 The Record Manager Challenging in Indonesia**

Some data has been collected from the results of interview records managers and archivists from various types of institutions ranging from Government, private, and education. From these data there are several things that must be faced by a professional record or records manager in dealing with this 4.0 era. As a start in facing this era, the mastery of I.T., especially software related to data and information management, is an ability that must be possessed by professional records. Then followed by semantic web capabilities, data analysis, data presentation, digital repackaging of information and information literacy. Records manager is also required to follow developments that occur related to the world of information.

The challenges faced by records managers and professionals are inseparable from the e-gov program and also the management of records that have used their own application system. There are several issues surrounding information technology and 4.0 era in the field of records management, the first is big data. The data contained in the record management with information technology makes big data stick out as an issue that must be known even mastered by a record manager. Actually raw data in the company can be analysed into structured data by the records manager as the manager. Hence the records manager is required to be able to analyse and present data for the achievement of company goals, this will also relate to data and content management and knowledge management.

Second, namely access rights and security. Data and information theft that is increasingly prevalent along with the development of the 4.0 era threatens important data and information managed by records managers. This is of course also related to the right of access to these important data. The record manager must establish policies and mechanisms for leveling access rights on certain publicly accessible data such as public information and classification of records with a degree of confidentiality. Who can access, with whose permission, and to what extent these records can be accessed. Access rights and security records involve other issues in the 4.0 era, namely the cloud services storage system and the system in cyber security.

Third is the challenge of records managers to be able to understand the business model of records management in the 4.0 era which relies heavily on information technology. In industry 4.0, a record manager must take on a role not only as an executor but also as a role in program planning and policy. Although many people use machines to carry out the work, this role will not be replaced because the nature of the machine is to facilitate plans, programs and policies that have been made. Associated with the managerial ability of a records manager including risk management and investment in I.T. Records managers at a university were included in the senior management team to help them address their information management needs. Their position is in line with university officials such as the Dean, Deputy Dean, Assistant Dean, and General Secretary, Chief of Administrative Staff and Assistant Registrar (Postgraduate Studies). Records managers from the organisation itself will be more motivated, and better to develop through understanding the culture of the organisation and participating in achieving common goals. As part of the team, rather than outside consultants, internal records managers are in a position to develop horizontal relationships that will encourage trust and sharing (Bowkwe & Villamizar, 2017).

## 5 CONCLUSIONS

The development of technology in Indonesia is now quite a lot that can be utilised by various industrial sectors, including management records. Several Government and private institutions have carried out automated records management and digitisation. Forward-thinking organisations will realise the data and information on their records in physical and digital form has an asset value for the organisation.

There are fundamental things that still need to be improved in Indonesia so that records management and records managers can go hand in hand with the development of industry 4.0. What needs to be improved is the competence of records and archive managers. No less important is the mindset of the role of records manager in managing organisational or institutional data is very important, the awareness of stakeholders who underestimate the data and information generated in transactions or daily operations must also be grown. If the record manager does not understand well a business process in this 4.0 era and cannot follow its development closely, the records manager is prepared that competent in their profession taken by the scientific field and other professions that require records for their business interests.

The main issues in the 4.0 era such as big data, data and cyber security, data analysis, Business Analysis, Data Management, Data Modeling, Knowledge Management, and I.T. infrastructure have become home tasks for professional records and records managers. Records managers in cooperation with the world of education must also conduct studies, discussions and training related to these issues to always be awake and develop in response to conditions that occur in their realm of work. Records managers and archivists can no longer just sit and carry out their daily routines but need to improve competence in managing data and information on records that might have become increasingly unstructured in the 4.0 era.

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