

Implementation of Knowledge Management to Improve Human Resource Competence in Indonesian Cleaning Service Industry in Digitalization Era (Review Article)

Tri H. Sulistyanto¹, Masyhudzulhak Djamil², Ahmad Hidayat Sutawidjaya³, Ahmad Badawi Saluy⁴
{tri.sulistyanto@gmail.com¹, masydk@gmail.com², suta.phd@gmail.com³, badawi_saluy@yahoo.co.id⁴}

Program Doktor Ilmu Manajemen, Universitas Mercu Buana, Jakarta, Indonesia¹²³⁴

Abstract. The Covid-19 pandemic development currently affects all sectors of life of the world. In Indonesia the impact of the pandemic happens to business world. This article aimed to review the implementation of Knowledge Management to improve human resource competence in Indonesian cleaning service industry in digitalization era. Cleaning services, are the key component of New Public Management as they are believed to lower costs and improve quality. Under an outsourcing contract, the vendor provides cleaning staff (cleaning service employees) and all necessary equipment and supplies to clean the buildings. The author has tabulated the needs for employees from 37 companies that open vacancies for cleaning service employee positions announced on the internet. Among those companies 51% take the minimum education requirements as senior high school (SMA/SMU/SMK/SLTA) and the remaining 49% companies take lower education level. It is still unknown about the role of individual education to knowledge management implementation and how its role to improve human resource competence. It is necessary to do in-depth research on the function of employees' education in knowledge management implementation to improve human resource competence of employees who serve cleaning services both in their own companies and other companies in the digitization era nowadays.

Keywords: Knowledge Management, Human Resource Competence, Cleaning Service Industry

1 Introduction

The Covid-19 pandemic development currently affects all sectors of life from political sector, economic sector to social sector in most parts of the world's population. In Indonesia, as in other countries in the world, the impact of the pandemic happens to business world. To increase company value and business sustainability, companies need to improve the human resources competence in the midst of the Covid-19 pandemic with when to end is unknown. Knowledge Management (KM) has been widely discussed as a research variable in different countries involving subjects from different backgrounds. KM refers to the process of how to improve company performance by designing and implementing tools, processes, systems,

structures, and culture to enhance the idea of creation, sharing, and applying the knowledge [1]. Most Knowledge Management models use four elements of knowledge [2].

Contract employees, especially for cleaning services, are the key component of New Public Management (NPM) as they are believed to lower costs and possibly improve quality. Since the 1980s, NPM has become the dominant paradigm in public service management in the UK, as well as in many other countries. The main feature of NPM is the introduction of competitive strengths to lower costs and improve service quality. Contracting employees refers to public service provision by private service providers, and it is an important element of public service exposure to competition [3]. Under an outsourcing contract, the vendor provides cleaning staff (cleaning service employees) and all necessary equipment and supplies to clean floors, windows, walls, doors, ceilings, utensils, and furniture and to remove trash. The indirect benefits of outsourcing include better opportunities for management to gain experience working with the private sector, and the potential to reduce disease risk by improving hygienic environment [4].

The Nairobi study concluded that there is a strong positive correlation between outsourcing and its service performance which has improved hygiene quality at the University of Nairobi in terms of cost and quality. The implementation of outsourcing has significantly increased the hygiene level in offices, lecture halls as well as lawns and walkways on the main campus of the university. Furthermore, the study has concluded that cleaning costs have also been reduced during outsourcing [5]. In connection with the workforce fulfillment as cleaning service officer (CSO), the authors observed the need for cleaning service from 37 companies as presented in Table 1.

Table 1. Cleaning Service Staff Recruitment from 37 Companies

No	Company	Sex	Age	Minimum education	Experience
1	PT. Prenacons Indonesia	M/F	Max 35	SMP	Fresh
2	PT. Danadyaksa Global Mandiri	Male	Max 30	SD	Fresh
3	PT. Varash Saddan Nusantara	M/F	20-27	SMA	Fresh
4	CV Asa mandiri	M/F	Max 35	SMP	Fresh
5	Kampus Institut Pesantren Mathali'ul Falah	M/F	Max 25	SLTA	1 Year
6	PT Prenacons Internusa	M/F	Max 35	SMP	Fresh
7	KliknClean	M/F	Max 35	SMP	Fresh
8	RS Mitra Siaga	M/F	Max 25	SMP	Fresh
9	PT. Jasa bersih Indonesia	M/F	-	-	1 Year
10	PT. Paragon Technology	M/F	Max 35	SMA/SMK	Fresh
11	PT Kemilau Karya Persada	M/F	Max 35	SLTP	Fresh
12	Nature Cakes	M/F	Max 25	SMK	Fresh
13	PT Explore Global Solution	M/F	Max 30	SMP	Fresh
14	Brasil	Male	Max 25	-	Fresh
15	Fastech Indonesia	M/F	-	-	-

16	RS Citra Husada	-	Max 28	SMA	Fresh
17	RSUD Taman Sari Jakarta	Female	19-35	SLTA	Fresh
18	RSU Fastabiq Sehat PKU Muhammadiyah	M/F	Max 27	SMU	
19	RS Punten PT Nurma Husada Abadi	M/F	-	SMA/SMK	Fresh
20	RS Rajawali Citra	M/F	Max 35	SMA/SMK	1 Year
21	RSU Siaga Medika	M/F	20-35	SMP	Fresh
22	RS Budi Sehat	Male	Max 35	SMA	Fresh
23	RS Bunda Purwokerto	M/F	-	SMK	Fresh
24	RS Mata Achmad Wardi	-	Max 30	SMA	1 Year
25	Kami Cleaners	M/F	Max 29	-	Fresh
26	RS Usada	Male	-	SMP	Fresh
27	RSU Dadi Keluarga Ciamis	Male	Max 25	SMA	1 Year
28	RSU Royal Prima Marelan	-	-	-	Fresh
29	RS Permata Hati	-	-	-	1 Year
30	RS PKU Muhammadiyah Gombong (SOS Medika)	M/F	Max 27	SMA	Fresh
31	PT Athena Tagaya	M/F	Max 40	SD	Fresh
32	PT Pelindo Daya Sejahtera	M/F	Max 30	SMA	1 Year
33	RS Budi Agung	-	-	SMA	Fresh
34	RS Bhayangkara Palangkaraya	-	-	-	Fresh
35	RS Sehat Bumiayu	-	-	SMA	Fresh
36	RS As-Suyuthiyyah	-	-	SMA	Fresh
37	RS Wawa Husada Kesamben	Male	Max 35	SMA	Fresh

The author has tabulated the needs for cleaning service employees from 37 companies that open vacancies for cleaning service employee positions announced on the internet presented in Table 1. Among those companies, there are 7 companies (19%) do not even include information on educational requirements for cleaning service employee positions, 2 companies (5%) take minimum educational requirements namely Elementary schools (SD), and 9 companies (24%) take junior high school as education requirements (SMP / SLTP), and the remaining 19 companies (51%) take the minimum education requirements as senior high school (SMA/SMU/SMK/SLTA). It is still unknown about the role of individual education to knowledge management implementation and how its role to improve human resource competence.

As property business is developing in Indonesia, the building maintenance covering office rooms and rooms as parts of the building such as bathrooms, halls and others is important and cleaning services is the solution [6]. With more than 14 million employees in Europe, the cleaning service industry is the 3rd largest industry in the European Union. Research shows that the outsourcing cleaning services industry is growing faster than the

overall business economy in the European Union and in Germany [7]. The cleaning service industry is an example of the workforce sector showing the condition which are extremely influenced by the globalization power as an effect of neoliberal policies. The demand to increase cost effectiveness has led to increased competition, outsourcing and subcontracting.

As a result, job descriptions of cleaning service industry have changed the mostly permanent jobs into more flexible and temporary jobs. Flexible management regulations are usually used by employers to minimize costs [8]. Responding to the business environment dynamism and Internet development, companies tend to transform into customer-centered businesses. Both large- and small-scale businesses are reorganizing themselves to adjust the changing needs of today's more active customers and more collaborative engagement with the company. Only a few studies have used the idea of individual absorption capacity as a research variable; therefore, the role of individuals from dimensions such as knowledge acquisition and knowledge transformation is still not widely discussed, both in theory and practice [9].

1.1 Literature Review

One of the very important pillars to consider in knowledge transfer process is employees or people. In the process, organizations explore the knowledge transfer to other places where it is needed in the organization. The knowledge transfer analysis process can reveal its good and bad practices. Knowledge transfer analysis determines how employees can acquire the knowledge they need, and how employees can share the knowledge they have. Knowledge flow analysis must involve people, business processes, and technology. In connection with people, this process needs to explore people's attitudes toward experiences, beliefs, values, and knowledge-sharing skills.

Relation between people and business processes, someone must look at how other people do business in their daily life and the extent to which the identification, creation, storage, sharing and use of knowledge is part of it; policies and practices related to the flow of knowledge such as data and information handling, records management and publication on the internet. Knowledge Management means providing the right knowledge to the right people at the right time, and helping them incentivize them to apply it in a good way in order to improve organizational performance [2].

Facility Management (FM) is the main function in managing demand and fulfillment of services and infrastructure required for the company's core business. Facility Management influences the ability to act proactively and meet all core business requirements and to optimize the cost and performance of assets and services as well. Most of Facility Management-based companies provide facility services under the category of building operation and maintenance and in-house procurement. The core services of the company consist of Cleaning Service (cleaning), Sewerage (waste disposal) Security & Safety, and Electrical System, Parking Management and others [10].

Cleaning service employees on duty in hospitals have a big risk of being exposed to dangerous biological materials (biohazard) or being contacted through disposable medical equipment such as used syringes or used infusion hoses [11]. Doing Various duties as obligations and the workload, cleaning service employees take the risk of the danger and the diseases as the consequences which may affect their safety. Hospital is one of the workplaces where cleaning service employees take risks of potential hazards caused by various factors such as biological, chemical, physical, ergonomic and others that cause occupational diseases and work-related accidents [12].

Table 2. Distribution of Cleaning Service Employees at RSUD in Bekasi Regency 2016

	Number	Percentage
Age of Respondents		
• Adolescent	19	38%
• Adult	31	62%
Education		
• <SMA	18	36%
• SMA	32	64%
Use of Personal safety equipment		
• Complete	33	66%
• Incomplete	17	34%
Working period		
• <1 Year	23	46%
• > 1 Year	27	54%
Knowledge level		
• Sufficient	45	90%
• Insufficient	5	10%
Attitude		
• Positive	30	60%
• Negative	20	40%

The data in Table 2. above shows that 62% of the cleaning service employees are adults and 64%. have education up to high school level. The working period of cleaning service employees who work for more than 1 year is 54% of the total cleaning service employees who work at a hospital in Bekasi. Cleaning service employees who use complete personal safety equipment at work are 66%, and when viewed in the knowledge variable, 90% of respondents have good or sufficient knowledge, while in the attitude variable group 60% of respondents show a positive attitude [13].

It was concluded by the researcher that with education variable it was found that respondents with lower education than SMA (Senior high school) tend to use less complete personal safety equipment than SMA graduates. Employees with less than one year working period tend to be more disciplined in using personal safety equipment than the ones with more than one year working period. Sufficient knowledge and positive attitude are potential to increase the level of cleaning service employees' compliance in using personal safety equipment at work [13].

A research conducted in Jakarta by Melandari & Afifah in 2014 concluded that there was a significant relationship between the knowledge level and the use of personal safety equipment for cleaning service employees at RSPI Sulianto Saroso. The knowledge level of cleaning service employees about personal safety equipment needed on duty is in line with the behavior of using personal safety equipment [11]. This shows that the respondents know and also apply it in their daily work. The higher the knowledge level, the more they understand the importance of using personal safety equipment, the lower the knowledge

level, the less they understand the use of personal safety equipment. High and low knowledge level is also influenced by the characteristics of the respondents [12].

Table 3. Knowledge Level Analysis of Cleaning Service Employees at the Bangli General Hospital in 2019

Knowledge Level Category	Number	Percentage (%)
• Sufficient	23	63.9%
• Less Sufficient	2	5.6%
• Insufficient	11	30.5%
Level of Compliance		
• High	26	72.2%
• Low	10	27.8%

A study conducted in Bali and published in 2020 shows that there are 30.5% of cleaning service employees who have insufficient knowledge. This group of cleaning service employees only 'know how' but do not understand about personal safety equipment and the risks of their work environment including the dangers. Generally, the knowledge level of cleaning service employees is good. There is a significant relationship between the level of knowledge and compliance of Cleaning Service Employees [12].

Table 3. Cleaning service employee data at X Kudus Hospital

Variable	Category	Number	%
Knowledge level	Insufficient	7	58,3%
	Sufficient	5	41,7%
Attitude	Negative	4	33,3%
	Positive	8	66,7%
Facilities Availability	Insufficient	0	0%
	Sufficient	12	100%
Practice	Insufficient	7	58,3%
	Sufficient	5	41,7%

Research conducted in Central Java with respondents of all employees who served in the cleaning service section of a hospital in Kudus City, Central Java. There are 12 cleaning service employees as research subjects, 58.3% have insufficient knowledge level as shown in Table 3. More than half are in insufficient knowledge category. Furthermore, positive attitude is shown by Table 3 for 66.7%. The results of data processing show that there is a significant relationship between the knowledge level and the practice of cleaning service employees. In the relationship between the attitude and practice of cleaning service employees, there is no significant relationship between the attitudes and practice of cleaning service employees [14].

Outsourcing is a common way to restructure organizations. It takes effort to design and implement a successful outsourcing relationship. In literature, the necessity of constant communication in developing partnerships and relationships has been demonstrated. In particular, outsourcing and supplier management represent important tasks that must be in accordance with the company's strategic goals [15]. Training, workshop, and rewards should be applied to achieve high level performance of hospital workforce [16].

2 Research Method

In this paper, the author focuses on one of the services provided by facility management, who work in the cleaning service section. We have limited our review on a cleaning service industry in Indonesia who posted an open vacancy for cleaning service employee positions announced on the internet in 2019.

3 Results and Discussion

The knowledge of employees at companies engaged in the cleaning service industry has been studied by several researchers as previously discussed. Some of the researchers mentioned in this paper decided to focus on studying the relationship between knowledge and employee safety. So far, the author has not found previous research that discusses the function of knowledge management in this relationship and its impacts on the knowledge and skills of employees who join cleaning service company.

Outsourcing involves workforces from companies outside the organization to provide non-core services, which were previously carried out by staff or employees within the organization [17]. In Indonesia, as well as in several countries in the world, there are companies engaged in the cleaning service industry. Works related to cleaning services can be done as part of job descriptions managed by the company itself, even though there are enough cleaning service providers to have their cleaning service employees hired. Offices, shopping centers, apartments, restaurants, and hospitals can hire these ready-to-use employees to keep work spaces clean while companies can carry out their daily activities focusing on their core business.

4 Conclusions

From several studies that the author has presented above, it can be concluded that it is necessary to do deep research on the function of employees' education in knowledge management implementation to improve human resource competence of employees who serve cleaning services both in their own companies and other companies in the digitization era nowadays.

References

- [1] Noe, "Employee training and development," McGraw Hill Education, vol. ISBN: 978-0078112850, p. 554, 2017.
- [2] O. Serrat, "KnowledgeSolutions: Tools, Methods, and Approaches to Drive Organizational Performance," Asian Development Bank Mandaluyong Philippines, Vols. ISBN 978-981-10-0983-9, 2017.
- [3] S. Elkomy, G. Cookson and S. Jones, "Cheap and Dirty: The Effect of Contracting Out Cleaning on Efficiency and Effectiveness," *Public Administration Review*, Vol. 79, Iss. 2, pp. 193–202, 2019.
- [4] J. Cali, . H. A. Cogswell, M. Buzwani, E. Ohadi and C. Avila, "Cost-benefit analysis of outsourcing cleaning services at Mahalapye hospital, Botswana," *Journal of Hospital Administration*. Vol. 5, No. 1. <http://www.sciedupress.com/jha>, 2016.

- [5] M. M. Nyokabi, "The Effects Of Outsourcing On The Cost And Performance Of Noncore Organizational Functions: A Case Study Of Cleaning Services At The University Of Nairobi.," Doctoral dissertation, University Of Nairobi, 2016.
- [6] L. V. Limantoro and R. H. Mustamu, "Analisis Strategi Bersaing Pada Perusahaan Jasa Kebersihan," AGORA Vol. 6, No. 2, (2018) 1-7, 2018.
- [7] A. Redlein and E. Stopajnik, "The Outsourced Facility Service Industry in Austria and its Neighbouring Countries and the Impact of Digitalisation on it," *Journal for Facility Management*, 1(16), 2018.
- [8] N. Ollus, "Forced Flexibility and Exploitation: Experiences of Migrant Workers in the Cleaning Industry," *Nordic journal of working life studies* Volume 6 Number 1 March, 2016.
- [9] W. Munyanyi and D. Poee, "Examining the role of knowledge management and technology operating capabilities in the development of customer-centric organisational systems," *Acta Commercii - Independent Research Journal in the Management Sciences*. ISSN: (Online) 1684-1999, (Print) 2413-1903, 2019.
- [10] A. Redlein and L. Grasl, "Facility Services: Impact of new technologies," *Journal for Facility Management*, 1(17), 2019.
- [11] Y. Melandari and E. Afifah, "Hubungan Tingkat Pengetahuan Dengan Kepatuhan Menggunakan Alat Pelindung Diri Pada Cleaning Service," Fakultas Ilmu Keperawatan, Universitas Indonesia, Depok, 2014.
- [12] N. M. Warmuni and N. K. Rusminingsih, "Hubungan Tingkat Pengetahuan Dengan Kepatuhan Pemakaian Alat Pelindung Diri Petugas Cleaning Service Di Rumah Sakit Umum Bangli Tahun 2019," *Jurnal Kesehatan Lingkungan* Vol.10 No. 1 Mei 2020:24-31, 2020.
- [13] F. and M. Zulyanda, "Analisis Penggunaan Alat Pelindung Diri Dalam Penanganan Sampah Medis Pada Petugas Cleaning Service Di Rsud Kabupaten Bekasi Tahun 2016," *JURNAL KESEHATAN* Vol 12 No 1. E-ISSN : 2622-7363, 2019.
- [14] R. D. Yulianti, Y. H. Darundiati and H. L. Dangiran, "The Assosiation Between The Level Of Knowledge, Attitudes, And Availability Of Facilities With The Practice Of Nurses And Cleaning Services Hospitalization Unit In Medical Waste Management X Kudus Hospital," *JURNAL KESEHATAN MASYARAKAT (e-Journal)* Volume 5, Nomor 5, Oktober 2017 (ISSN: 2356-3346). <http://ejournal3.undip.ac.id/index.php/jkm>, 2017.
- [15] P. Kess, M. Torkko and K. Phusavat, "Knowledge transfer for effective outsourcing relationships.," 29th International Conference on Information Technology Interfaces (pp. 69-74). IEEE., 2017.
- [16] E. P. Mahadewi, A. Heryana and S. Kuswanti, "Kepuasan Layanan Pasien JKN Berhubungan Dengan Kinerja Petugas Kesehatan," *Forum Ilmiah*, vol. 19, no. 2, 2019.
- [17] P. N. Mujasi and Z. Z. Nkosi, "A Comparative Analysis of the Costs and Benefits of Outsourcing Vs. Insourcing Cleaning Services in a Rural Hospital in Uganda," *The Open Pharmacoeconomics & Health Economics Journal* , 2018, 06, 9-20, 2018.