



# Analysing equipment needs for hotel laundry business initiation: A case study of teaching factory (*TeFa*) integrated hotel

Milawaty<sup>1\*</sup>, Uystka Hikmatul Kamiliyah NH<sup>2</sup>, Lely Dian Utami<sup>3</sup>, Muhammad Dzulkipli<sup>4</sup>, Safira Salsa Bila Fitrotin Azizah<sup>5</sup>, Asep Samsudin<sup>6</sup>

<sup>1,2,3,4,5,6</sup> Language, Communication, and Tourism Department,  
Politeknik Negeri Jember, Indonesia

\*Corresponding email: [milawaty@polije.ac.id](mailto:milawaty@polije.ac.id)

## Abstract

As a vocational college, Politeknik Negeri Jember (Polije) has developed teaching factories, or *TeFa*, as one manifestation of 'learning by doing' to provide skilled graduates for the industrial world. *TeFa* Integrated Hotel, one of 29 Teaching Factories established by Polije, is gearing up to give the students a small-size hospitality industry simulation. Thus, it intends to improve services by one of which is initiating a hotel laundry business. This research aims to analyse the equipment needed to initiate a laundry business at the *TeFa* Integrated Hotel. This laundry business is essential for the *TeFa* to fulfil the needs of customers and its housekeeping section to suppress the operational costs. This research applied a descriptive-qualitative method by collecting data through in-depth interviews and Focus Group Discussions (FDG). The results showed that to start a laundry business, some equipment must be available, including work equipment such as washing machines, dryers, irons, and ironing boards, as well as consumable equipment such as detergent, softener, bleach, acids, and alkalis. For a small-sized hotel laundry, the work equipment standard that must be met includes the size of the washing machine, which is usually equipped with a drying machine between 8-20 Kg adjusted to the room quota and variety of customers. As equipment is the main supporter in running a business, this research can be impactful in determining the business's success in the future. Additionally, any service improvements made by *TeFa* Integrated Hotel will further support Polije in providing the best graduates to the industry.

**Keywords:** Analysis, Equipment, Integrated Hotel, *TeFa*, Laundry Business



## 1. Introduction

Vocational education is an education that aims to prepare graduates to enter the world of work (Wagiran et al., 2017). Clarke and Winch (2007) emphasize that vocational education is confined to preparing young people and adults for working life. This is supported by Billet (2011) who states that vocational education as education for occupation. Internationally, vocational education is referred to as Technical and Vocational Education and Training (TVET) which concerns on the acquisition of knowledge and skills for the world of work (Wagiran et al., 2017; Gough, 2010). It means that the main purpose of TVET is to prepare next generations to "make a living" by the nearby and distant societies (Thomas, 2005). Hence, TVET is widely seen as having a key role in promoting both economic and socio-economic growth, increasing productivity, empowering citizens, and alleviating poverty (Lucas, 2014). It has become widely recognized that TVET provision is an important, even growing, part of national education systems and any skills development agenda (Wagiran et al., 2017).

Accordingly, in Indonesia's national context, the government is committed to developing and supporting vocational education more. This is because the unemployment rate is increasing nationally. The latest survey by the Central Bureau of Statistics (Idris, 2024). revealed that nearly 10 million Indonesian generation-Z (Gen-Z) aged 15-24 are unemployed or without activities (not in employment, education, and training/NEET). When broken down further, the youngest people who fall into the NEET category are in urban areas, as many as 5.2 million people, and 4.6 million in rural areas. The Minister of Manpower, Ida Fauziyah, revealed that many of them had just graduated from high school and college. This is caused mainly by the lack of synchronisation between education and labour demand. Consequently, vocational education holds the most important role in this case as it has to provide skilled graduates for the industrial world.

Politeknik Negeri Jember or widely known as Polije is one of the vocational colleges in Indonesia that actively evolving. Polije itself implements manufacturer-based learning by establishing 'Teaching Factory or *TeFa*' to improve student competency. As an institution that organizes vocational education within the Ministry of Education and Culture of the Republic of Indonesia, Polije has a role in improving the quality of competency-based education (Kamiliah & Miqawati, 2023). Teaching Factory-based learning is a learning model in vocational higher education that emphasizes academic learning and the development of students' practical competencies and skills.

Additionally, *TeFa* is also a learning concept oriented towards production and business to answer the challenges of industrial development (Mudhoep et al., 2021). Thus, in this *TeFa*-based learning, students are required to work in teams to solve problems in the industry according to their field of study or field of expertise. Furthermore, students will be guided by experienced instructors and mentors who provide feedback and support



---

during the learning process (Dzul kifli et al., 2024). Given that the Teaching Factory is a learning concept in an authentic atmosphere, it can bridge the competency gap between industry needs and knowledge obtained in educational institutions (Muhitasari & Purnami, 2018).

Currently, Polije has at least 29 teaching factories. Some of them are already running, yet some others are still in the form of pilot projects. The *TeFa* Integrated Hotel is one of the Teaching Factories that is projected as a continuation and development of the currently established integrated hotel laboratory. This laboratory and projected *TeFa* is managed under the auspices of Polije's Department of Language, Communication, and Tourism. The integrated hotel laboratory itself has been established since 2020 and operated until this day. This laboratory supports teaching and learning activities at the polytechnic, especially those related to the hotel and tourism industry. Furthermore, this projected *TeFa* Integrated Hotel is also a forum for developing research and community service as well as improving the study program curricula at the Department of Language, Communication, and Tourism.

Referring to the utilities of the *TeFa*, it must be equipped with adequate facilities to support academic activities. Currently, the Integrated Hotel laboratory building consists of three separate houses with a homestay atmosphere, thus it is often referred to as Mini Hotel. Of the three buildings, only two are open for the public, each of which has main facilities including 1 bedroom (a queen-size bed) with one bathroom, one living room that can be used as a meeting room, and also a kitchen. Additionally, there are other supporting facilities such as Smart TV, AC, Dispenser, Cutleries, storage in each room (wardrobe in the bedroom and cupboard in the living room), and cooking equipment. With this facility, the Integrated Hotel laboratory has been operating to serve guests from both internal and external Polije, with certain rates charged according to the needs of each guest.

Although it has been equipped with some facilities, the laboratory still requires further development since it is projected to be a *TeFa*. Moreover currently, Polije is one of the educational institutions with the status of Public Service Agency (BLU). BLU is a status of a government institution formed to provide services to the community in the form of providing goods and services that are sold without prioritizing profit and carried out based on the principles of efficiency and productivity (Government Regulation Number 23 of 2005 concerning Management of Public Service Agencies, 2005). Furthermore, the management model of BLU provides flexibility to implement healthy business practices in improving services to the community to advance general welfare and national education (Rambe et al., 2023). Having this new status as a BLU institution, Polije is consequently urged to serve the public by establishing some business ventures through all its Teaching Factories, including the projected *TeFa* Integrated Hotel.



Considering the urgency to establish a business venture, it is needed to conduct needs analysis in the *TeFa*. The projected *TeFa* Integrated Hotel has identified and found at least 15 needs required. Based on this needs analysis, one of the business ventures that can be developed is a laundry business. In today's practical society, laundry business experiences a vast popularity due to its practical and affordable nature. As people get busier and want to save time, they often rely on the practicality of third-party laundries to do their daily laundry. With prices that are affordable to the middle class, business laundry is becoming more common and accessible. Therefore, this business line is in high demand and has a wide opportunity to grow. Thus, establishing a laundry business is a significant opportunity for the *TeFa* Integrated Hotel to develop further. Moreover, this business can serve as an additional facility for the hotel guests/ customers and reduce the hotel revenue leakage (Suryawardani, 2017). This leakage happened due to the use of a third-party laundry venture by the hotel's housekeeping section to wash the hotel's bedding and room supplies. This often resulted in overspending. Therefore, the existence of a laundry business managed directly by the hotel may reduce the expenses spent by the housekeeping section while maximizing the service provided to the customers.

Since the *TeFa* is operated by implementing hotel standards, the laundry business suited to be established by the *TeFa* Integrated Hotel is a hotel laundry business. Hotel laundry business is different to the common/ household laundry business as it implements different standard and uses better equipment. Therefore, the first thing to do to establish this business is conducting a needs analysis, especially on the equipment used. It is crucial since it determines the quality of the cleanliness. Cleanliness is the core of a laundry business; thus equipment analysis must be done mindfully. By this way, this research is considered important to be conducted in order to find out and analyse the equipment needed to establish a hotel laundry business at the *TeFa* Integrated Hotel Polije.

## 2. Literature review

### 2.1 Concept and role of laundry equipment in the hospitality industry

Laundry has a fairly important role in the hospitality industry. Laundry is a part of the hotel housekeeping section that has a role in washing all materials or clothing (Alfanti & Mansur, 2023). Nevertheless, laundry is not only washing dirty clothes, but also cleaning, drying, and caring for clothes (Dzul kifli et al., 2024). It is also responsible for cleaning and caring for linen and ensuring sufficient linen supplies for the housekeeping section (Wijoyo, 2023). Laundry service is an important component affecting the quality of service and guest satisfaction. Efficient laundry equipment increases productivity and reduces operational costs and environmental impacts. Sophisticated and appropriate laundry equipment can increase the speed of the washing, drying, and ironing processes, thus better meeting guest needs. In general, laundry equipment can be divided into two,



namely work equipment and consumable equipment (Alfanti & Mansur, 2023). Work equipment such as machines include washing machines, dryers, irons, and others. Consumable equipment such as detergent, softener, etc. Hence, by knowing the main role of laundry equipment, the importance of its needs analysis in establishing a hotel laundry business can be better realized, and more attention should be paid to its identifying process.

## **2.2 Laundry equipment needs in the context of vocational education**

*TeFa* (Teaching Factory) is a vocational education method that integrates theory and industry practice. Learning with the *TeFa* model is designed to reflect real industrial conditions (Amar et al., 2016). The learning process is carried out as similar as possible to the industrial world so that students have soft skills and hard skills. To support the *TeFa*-based learning process, adequate facilities and infrastructure are needed. Therefore, the availability of adequate equipment plays an important role in preparing students to face real industry challenges. As the *TeFa* Integrated Hotel, it is important to assess the need for laundry equipment so that students can gain relevant practical experience. The establishment of a proper hotel laundry business at the *TeFa* Integrated Hotel through the equipment needs analysis can provide more facility to the students of Polije in portraying one of the most demanded public business ventures in today's society and for them to have a better practical understanding on the business before legally joining the industrial world.

## **2.3 Laundry equipment needs analysis**

Analysis of laundry equipment needs involves several aspects, including capacity, energy efficiency, and the latest technology. The needs analysis must consider factors such as the place and equipment used for laundry needs. This is to ensure that the equipment used can meet operational standards without experiencing damage or decreasing the quality of service. The place and equipment needed for laundry are not only washing machines, but also dryers, steam irons, ironing boards, special drying areas, and others (Dzulkifli et al., 2024). In identifying the equipment needed for the hotel laundry business, standards and specifications of the equipment are crucial since it determines the effectiveness and the results of the work. Thus, to obtain the most fitted equipment for the establishment of a laundry business at the *TeFa* Integrated Hotel, careful consideration by inviting some experts is required. This will help to validate the standard of a hotel laundry and avoid operational errors with the right specifications for the equipment.

## **2.4 Types of laundry equipment commonly used**

Laundry equipment consists of various types, including washing machines, dryers, and irons. The types of laundry equipment can generally be divided into 2, namely work equipment such as machines/laundry equipment and consumables/linen supplies (Alfanti & Mansur, 2023). Examples of work equipment such as washing machines, dryers, irons,



ironing boards, and so on. Modern washing machines offer features such as automatic temperature settings and adjustable wash cycles, which are important for handling various types of fabrics. Dryers also play a crucial role in reducing drying time and increasing operational efficiency. The equipment must be maintained regularly so that it can improve the effectiveness of teaching and learning. In analysing the equipment needed to establish a hotel laundry business at the *TeFa* Integrated Hotel, it is required to identify the types of equipment, which one is included in the work equipment and which one is included in the consumable equipment. Therefore, a complete and proper equipment can be provided.

### 2.5 Latest trends and technologies in laundry equipment

Technological innovations in laundry equipment, such as washing machines with IoT (Internet of Things) technology, are becoming the latest trend. This technology allows remote monitoring and control of equipment, which can increase operational efficiency and simplify the maintenance process (Mahmud, 2024). These technological advances can facilitate remote monitoring and control. Hence, sophisticated technology leads to the convenience of any working activities, especially in some certain levels of business. This modern technology must be considered in identifying the equipment needed for the hotel laundry business at the *TeFa* Integrated Hotel, especially the washing and drying machines. It is for the reason that the newest technology will give maximum support in the business operational and the effectiveness of the cost. This will also tackle the operational cost leakage occurred in the housekeeping section of the *TeFa* Integrated Hotel.

## 3. Method

This research applied a descriptive-qualitative method. This method was used since this research intends to examine the factual conditions (laundry equipment needed) of the research object. As stated by Moloeng (2018) qualitative research intends to understand phenomena about a participant's condition, such as behaviour, perceptions, motivations, actions, and others. Meanwhile, a descriptive approach was taken to create a systematic, factual, and complete understanding of the facts, properties, and relationships between the phenomena under investigation (Nazir, 2014). Hence, by applying the descriptive-qualitative method, it is expected that comprehensive research results will be obtained.

This research was conducted from June until August 2024. The object of the research is the *TeFa* Integrated Hotel, under the supervision of the Department of Language, Communication, and Tourism, Politeknik Negeri Jember (Polije). This *TeFa* is developed from the Integrated Hotel laboratory that has been established since 2020. It owns three buildings with two active guesthouses (Hotel 1 and 2) each facilitated with one bedroom plus a lavatory, kitchen, living room, and Smart TV. The *TeFa* Integrated Hotel receives guests from within Polije including its employees, employee families, students, and student families, as well as guests from outside the institution. The *TeFa* is now open to



---

the public and bookings can be made online via Instagram with the commercial name 'Edusip Hotel'.

This *TeFa* is organized by the management of the Integrated Hotel laboratory, including the Head of the laboratory, one coordinator, and two laboratory assistants. The data was collected through in-depth interview and Focus Group Discussion (FDG). In-depth interview was conducted on June 10<sup>th</sup>, 2024, with the *TeFa* management for at least one hour at the Hotel 1. It was intended to get a deep understanding regarding the need to establish a hotel laundry business and identify the most necessary items required by the management. After realizing the actual need of the *TeFa*, an FGD with experts was conducted to obtain more knowledge on laundry business and the kind of equipment needed. The FGD method was used for the management and all parties involved to get a close engagement, thus increasing effectiveness in obtaining the information required. The FGD was conducted on August 7<sup>th</sup>, 2024, at the Hotel 1 by inviting two experts of hotel and laundry businesses. The first expert is the Director of PT. Global Spirit Persada as well as a hotel consultant with 12 years experiences. The second one is from Roesiana Laundry Jember, a private laundry business focused on household, hotel, and hospital laundry services established almost for 10 years. The analysis data was performed through several stages, including identification (collecting data), verification (validating the data), analysis (interpreting the data), and then conclusion drawing.

## 4. Findings and discussion

### 4.1 Findings

In establishing a laundry business at the *TeFa* Integrated Hotel, the first thing that needs to be done is an analysis of the equipment needed to carry out business activities. This needs analysis must be performed carefully and without error considering that the lack of equipment will cause business activities not to run as it should. This has an impact on customer losses and a bad image of the laundry business established. For this reason, this equipment needs analysis is conducted thoroughly by involving various parties, including hotel management and business practitioners as experts.

The equipment needs analysis began with an in-depth interview with the management of the *TeFa* Integrated Hotel. The interview was conducted on June 10, 2024 at the Hotel 1. The interview started with a discussion related to the needs of the laundry business at the *TeFa* Integrated Hotel. The head of the laboratory explained that the initial idea for establishing a laundry business began with the change in status of Polije, from a Work Unit Institution into a Public Service Agency or BLU, especially since it is currently in the process of becoming a PTNBH (State University with Legal Entity). This change in status requires all units under the auspices of Polije to support the institution in carrying out its obligations as a BLU agency. BLU is a status of a government institution formed to provide services to the community in the form of providing goods and services



---

that are sold without prioritizing profit and carried out based on the principles of efficiency and productivity (Government Regulation Number 23 of 2005 concerning Management of Public Service Agencies, 2005). For this reason, the establishment of public services in the form of business ventures within the Polije environment is one of the demands of BLU.

Furthermore, the head of the laboratory explained that for the *TeFa* Integrated Hotel with hospitality as its main business, in addition to providing accommodation facilities, meeting packages, and so on, one thing that can be done is to establish a hotel laundry business. The establishment of this business is not without other considerations, considering that the *TeFa* itself has problems in terms of washing linen (bed sheets, towels, tablecloths, etc.) which still uses third parties and costs quite a lot. Moreover, the absence of laundry services for hotel consumers has made this hotel laundry business being initiated by the management for good.

The next is related to the initial steps needed in establishing a hotel laundry business. The head of the laboratory stated that they need to map out the needs first, starting from the needs of equipment, place, human resources, and other supporting facilities. Regarding the need for laundry equipment, currently, the management has already provided one household washing machine with two cylinder and top-loading specifications. Furthermore, the head of the laboratory said:

*“So it’s just limited to the washing machine. We don’t have an ironing board specifically for laundry yet. We also don’t have a special iron (that is attached/steam). (For washing machines) usually the ones with dryers, if the ones we buy are regular washing machines for home use, but for running a business, they’re not like that. The washing machine and the dryer are separated in different machines. So it’s really dry.”*

Based on the above information, the main equipment needed for a laundry business at the *TeFa* Integrated Hotel is a washing machine and a dryer with specifications according to hotel laundry standards. In addition to the standard hotel washing machine, other equipment needed is an ironing board or special laundry ironing board. This ironing board is usually also equipped with a laundry iron connected to a steam pipe. Moreover, there are supporting needs such as a laundry room and a special drying area, because linen such as bed sheets are mostly white and if dried in direct sunlight, they will eventually turn yellow.

Aside from interviews with the management of the *TeFa* Integrated Hotel, in order to obtain more complete and valid data regarding the equipment needs for hotel laundry businesses, a Focus Group Discussion (FGD) was also conducted with several practitioners as experts. The research team brought in two practitioners from the hotel and laundry business. The first practitioner is the Director of PT. Global Spirit Persada, a hotel business consulting company, as well as a former manager of E-Bizz Hotel Jember





who has been involved in the hotel world for approximately 12 years. The second practitioner is from Roesiana Laundry Jember, a hotel and hospital laundry business that has been established for almost 10 years. This FGD was held on August 7, 2024 at the Hotel 1.

Through the presentation of the two practitioners in this FGD activity, several important points were obtained regarding the preparation and needs of the hotel laundry business. Based on the results of the discussion with the hotel consultant, the hotel laundry has a 5B cleanliness standard that must be met, including: No Dirt, No Stain, No Fungus, No Virus & Bacteria, and No Smell. Therefore, the tools used in the washing to ironing process must be really considered. For the standard equipment needs for the laundry business itself, it consists of at least a washing machine, Drying tumbler, and Smoothing Machine. For the smoothing machine, it consists of several types, including: 1) Electric Iron (Regular Iron); 2) Garment Press (Currently known as 1 set of steam irons for smooth collars, long shirt wrists, shoulders and bottom pants); and 3) Body Former (A machine used to smooth suits etc.). Other tools that can be added according to operational needs are Flat Work Ironer/*mangler* (Machine for pressing sheet-shaped materials, such as sheets, Table cloth, napkins, etc.); Spotting Board Machine (Machine for removing stains before washing), referring to a machine that works using steam, suction (vacuum) and spraying air (Compressor); Polimark Machine (Tool for marking); and Dry Cleaning Machine (Machine for washing special clothes that cannot be washed with ordinary water).

Beside the laundry tools, other things that must be provided and given attention are including water and laundry chemicals including detergent, softener, bleach, alkalis and acids. Water used for hotel laundry must fulfil the following requirements has a neutral Ph of 7, clear, colourless, odourless, and does not contain iron and sulphur. In addition, there are three types of water that can be used according to the needs, including cold water (normal), warm water (around 40°C), and hot water (around 60°C - 90°C). For detergent, it must be used liquid detergent. To support the work of the detergent, alkalis can accelerate the release and dissolution of dirt / stains. It can facilitate the dissolution of dirt consisting of fat, oil and neutralize acidic dirt. For stubborn dirt especially for white fabric, some bleach can be added. It also can perform as a disinfectant which sterilize the linen supplies. Additional acids can be utilized to neutralize chlorine; thus the white fabric will not turn yellow if stored for a long time. The finally is softener that functions as a smoother and colour enhancer using modern washing materials and techniques.

The second practitioner from Roesiana Laundry also explained that the minimum equipment used includes a washing machine, dryer, and smoothing/ironing machine. For washing machines, it can be provided according to the needs because washing machines have various sizes ranging from the smallest for home laundry businesses, around 8 kg to 20 kg. While for larger businesses such as for hospital laundry needs, it can be up to 50 - 100 kg, which is owned by Roesiana Laundry. It is also important to pay attention to the



chemicals used for cleaning where domestic and foreign quality have differences. This type of chemical itself consists of detergents to fragrances which if you want to get maximum cleaning, you need at least five types of chemicals. However, this is adjusted to the operational load.

Additionally, both washing machines, dryers, irons, and ironing boards used must be at least standard with special specifications for laundry businesses. Related to this, for the purchase of laundry operational equipment, the Roesiana practitioner suggests purchasing equipment at a special shop that provides laundry equipment. This will reduce the extra effort for purchasing equipment and increase the effectiveness of purchasing equipment needs. Moreover, shops with laundry specifications can provide advice according to operational costs and budgeting. This can also provide an overview for prospective laundry entrepreneurs regarding the operational processes carried out, so that targeted equipment purchases can be made.

## 4.2 Discussion

From the data collection through in-depth interviews and FGDs above, it can be known that in starting a hotel laundry business, some standardized equipment is needed. The equipment mentioned by both experts are identified as work equipment and consumable equipment. According to Alfanti & Mansur (2023), generally, laundry equipment can be divided into two, including work equipment and consumable equipment. Work equipment are the tools/ machines used to do the washing, drying, smoothing, and even packing. It is the main supports in operating the laundry business and determines the quality of the results, such as the work timing, neatness, and preservation of the clothes/ linen. These tools include the washing machines, dryers, irons, and ironing boards. Meanwhile, the consumable equipment are the liquid and chemicals used to remove the dirt and sterilize the fabrics, such as detergent, softener, bleach, acids, and alkalis. This equipment determines the cleanliness, smoothness, Odor, and colour preservation. Therefore, in establishing a hotel laundry business at the *TeFa* Integrated Hotel, both work equipment and consumable equipment must be well provided by the management.

Analysis of laundry equipment needs involves several aspects, including capacity, energy efficiency, and the latest technology (Dzulrifli et al., 2024). Thus, after identifying the equipment needed especially the work equipment, its specifications must be taken into consideration. For the washing machine, it must be different from a home washing machine used for household activities, where the washing and drying tubs are in the same machine. A washing machine for a hotel laundry differentiates between a washing machine and a dryer where both are separated. This is because the quality of the laundry produced is more optimal than a home machine. The laundry produced is cleaner and more hygienic and drying can be done optimally as well. Indeed, the difference in this machine not only affects the quality of the laundry, but also the effectiveness of the work, where hotel linen has a large and thick size, thus it requires a larger washing machine



---

space. The referred washing machine is the type of modern washing machine. Modern washing machines additionally offer features such as automatic temperature settings and adjustable wash cycles, which are important for handling various types of fabrics.

Dryers also play a crucial role in reducing drying time and increasing operational efficiency. A dryer is a device designed to remove moisture from clothes after washing. Typically, these machines utilize heat and air circulation to evaporate water from clothes. The process makes the clothes dry and ready to use. There are several types of laundry dryers that are commonly found, including gas laundry dryers, electric dryers, and many more. It should be noted that clothes dryers have various features that can be customized according to type and needs. In fact, some laundry dryers are equipped with temperature and drying time settings according to user preferences (Smartlink, 2023). For laundry irons, it usually uses steam irons with different tube sizes. However, considering that the hotel's operations are still at the mini hotel level, the ironing equipment still needs to be adjusted to the needs, whether it is necessary to use a steam iron or can use a standard household iron. The equipment must be maintained regularly so that it can improve the effectiveness of the work.

By looking at the size of business operational of the *TeFa* Integrated Hotel, adjustments are made to the type of consumer targeted by the *TeFa*'s hotel laundry business and the operational load that will be carried out based on hotel activities. *Edusip* Hotel owned by the *TeFa* Integrated Hotel is currently classified into mini hotel standard with 3 buildings, of which only two guesthouses are active and each has one bedroom. Thus, the laundry needs of hotel consumers are not yet very urgent. However, the need for washing linen including bed sheets, towels, tablecloths, etc. requires the existence of its own laundry business, thus there is no revenue leakage and to maximize hotel income. Additionally, the target consumers are not only hotel users, but also the general public around the campus.

Based on the findings and analysis, the work equipment needed by the *TeFa* Integrated Hotel are a washing machine, dryer, and smoothing/ironing machine with ironing board and other supporting tools according to the type of consumer and operational load. For hotel laundry business, the standard work equipment needed is a large size and separate tubs of washing machine and dryer. It is recommended to use a steam iron to ensure the smoothness and neatness of the folds of clothes, yet it must consider the operational size of the laundry business. In addition, there is a vacuum and wrapper for packaging.

Therefore, the research team saw that for the hotel laundry business, *TeFa* Integrated Hotel can provide work equipment with the following details: 1) For washing machines and dryers, each single cylinder (one cylinder) with a minimum size of 8 kg - maximum 20 kg, front or top loading type; 2) For the smoother, a standard home iron can be used, not necessarily steam, but with better quality (can be seen from the price); 3) The ironing board can be purchased or made, and the size can be adjusted to the laundry room space



---

with a minimum size of 120 cm (P) x 80 cm (L); and 4) wrapping can be done by providing a manual press machine. For consumable equipment, there is no special recommendation. However, it is suggested to by the consumable equipment at a special shop that provides laundry equipment. It has better quality and is non-destructive to the machines.

Hence, in the hospitality world, laundry is an important aspect. Good quality laundry service is an important factor in providing a satisfying stay experience for guests (Alfianti & Mansur, 2023). Laundry is not just washing dirty clothes, but also involves the process of cleaning, handling, and caring for hotel guests' clothes carefully and professionally. Laundry is also a form of excellent service for guests (Hakim, 2024). Thus, the presence of this hotel laundry business is crucial not just for the *TeFa* Integrated Hotel, but also for Polije itself since it provides the students with more facility. This business can help them to realize the most demanded public business in today's society and learn it in more practical way before joining the industrial world.

## 5. Conclusion

The purpose of this research is to analyse the equipment needed to establish a laundry business at the *TeFa* Integrated Hotel Polije. From the discussion above, it is known that two types of equipment must be provided to start the business, including work equipment such as washing machines, drying machines, irons, and ironing boards, as well as consumable equipment such as detergent, softener, bleach, acids, and alkalis. For the hotel laundry established by the *TeFa* Integrated Hotel, some standards especially for work equipment must be met, such as the size of both the washing machine and drying machine between 8-20 Kg adjusted to the room quota and variety of customers, a regular electronic iron with higher quality, an ironing board with a standard size of a household laundry business that can be purchased or made with the size adjusted to the laundry room space, as well as manual pressing machine for wrapping.

This research is intended to be the basis in establishing a proper hotel laundry business at the *TeFa* Integrated Hotel. However, this research is limited to the equipment needs analysis for hotel laundry business. In the future, other needs analysis requires to be conducted related to the human resources and laundry space room. Those two things are crucial in running the laundry business at *TeFa* which still lacks competent laundry staff and business space, especially the drying space. Hence, through the establishment of this *TeFa*'s hotel laundry business, it is hoped that the efficiency of its housekeeping operational costs can be achieved, and the customer service can be improved. Moreover, it can support Polije as a BLU agency through the existence of a business venture. For the students, this additional business venture established at the *TeFa* Integrated Hotel can help them to enrich their insight on some aspects that must be met especially in the hospitality industry. The finally, hopefully, every effort to complete the learning facility



in vocational education can assist the students to acquire important skills needed as the graduates and increase their readiness to face the industrial world ahead

## Acknowledgement

The research was funded by the Research and Community Service Centre (P3M) of Politeknik Negeri Jember in 2024. The authors gratefully acknowledge the support and funding that have made this publication possible.

## References

- Alfanti, R. H. D., & Mansur, A. (2023). *Peran Laundry Section dan Room Boy Hotel*. Badan Penerbit Stiepari Press, 2(1). <https://badanpenerbit.stiepari.org/index.php/stieparipress/article/view/167>
- Amar, A. F., Hidayat, D., & Suherman, A. (2016). Penerapan Model Pembelajaran Teaching Factory 6 Langkah (Model Tf-6M) Untuk Meningkatkan Motivasi Berprestasi Siswa Di Smk. *Journal of Mechanical Engineering Education*, 2(2), 189. <https://doi.org/10.17509/jmee.v2i2.1479>
- Billet. S. (2011). *Vocational Education Purposes, Traditions and Prospects*. London: Springer Science+Business Media.
- Clarke, L & Winch, C. (2007). *Vocational Education: International Approacher, Development, and System*. New York: 270 Madesun Avenue.
- Dzulkifli, M., Milawaty, M., Kamiliyah NH, U. H., & Utami, L. D. (2024). Rintisan Usaha Jasa Penatu (Laundry) di TEFA Perhotelan Terpadu Politeknik Negeri Jember. *PEKAT: Jurnal Pengabdian Kepada Masyarakat*, 3(2), 66–76. <https://doi.org/https://doi.org/10.37148/pekat.v3i2.42>
- Government Regulation Number 23 of 2005 Concerning Management of Public Service Agencies, 46 (2005).
- Gough, S. (2010). *Technical and Vocational Education and Learning: An Investment-based Approach*. Great Britain: the MPG Books Group, Bodmin and King's Lynn.
- Hakim, M. M. N. L. (2022). Upaya Laundry Attendant Dalam Menangani Pakaian Yang Tertukar Di Beverly Hotel Batam. *Jurnal Script*, 17(1978), 1–7.
- Idris, M. (2024). Nyaris 10 Juta Gen Z Pengangguran, Ternyata Ini Akar Masalahnya. <https://money.kompas.com/read/2024/05/24/193945726/nyaris-10-juta-gen-z-pengangguran-ternyata-ini-akar-masalahnya>.
- Kamiliyah NH, U. H., & Miqawati, A. H. (2023). Needs Analysis of Tourism Destination Study Program as a New Study Program at Politeknik Negeri Jember. *Journal of Language, Communication, and Tourism*, 2(1), 1–6. <https://doi.org/10.25047/jlct.v2i1.4429>
- Lucas, B. (2014, May). Vocational pedagogy. *In What it is, why it matters, and what we can do about it*. Background note for UNESCO-UNEVOC e-forum.
- Moleong, L. J. (2018). *Metodologi penelitian kualitatif*. PT Remaja Rosdakarya.
- Mudhoep, D. I., Linawati, & Saputra, O. (2021). Kombinasi Protokol Routing OSPF dan BGP dengan VRRP, HSRP, dan GLBP. *Jurnal Nasional Teknik Elektro Dan Teknologi Informasi*, 10(1). <https://doi.org/10.22146/jnteti.v10i1.942>



- 
- Muhtasari, R., & Purnami, A. S. (2018). Manajemen Pembelajaran Teaching Factory dalam Mewujudkan Jiwa Kewirausahaan pada Siswa. *Media Manajemen Pendidikan*, 4(2), 194–202. <https://doi.org/10.30738/mmp.v4i2.8206>
- Mahmud, Nurhaliza S. (2024). Revolusi Internet of Things (IoT) dalam Arsitektur: Menghubungkan Bangunan dengan Dunia Digital. *WriteBox*, 1(3). <https://writebox.cloud/index.php/wb/article/view/166>
- Nazir. (2014). *Metode Penelitian*. Ghalia Indonesia.
- Rambe, S., Dasopang, E. P., Ariadin, I., & Pahutar, M. (2023). Badan Layanan Umum (BLU) Pada Bidang Pendidikan. *Jurnal Pendidikan Dan Konseling*, 5(1), 5555–5564. <https://doi.org/https://doi.org/10.31004/jpdk.v5i1.11958>
- Smartlink. (2023). Mesin Pengereng Laundry: Definisi, Cara Kerja, dan Rekomendasi Terbaiknya. <https://smartlink.id/tips-bisnis/mesin-pengereng-laundry>.
- Suryawardani, I. (2017). *How to Calculate Tourism Leakage Using Micro Analysis Approach*. [https://www.academia.edu/download/56351681/Buku\\_Jerman-How\\_to\\_Calculate\\_Tourism\\_Leakage-cetak\\_di\\_Bali.pdf](https://www.academia.edu/download/56351681/Buku_Jerman-How_to_Calculate_Tourism_Leakage-cetak_di_Bali.pdf)
- Thomas, R.M. (2005). Education from an International Perspective. *Encyclopedia of Education and Human Development* (pp.611-648). New York: M.E. Sharpe, Inc.
- Wagiran, et al. (2017). Vocational Education Development Framework in 21st Century. *Proceedings of the 1st International Conference on Technology and Vocational Teachers (ICTVT 2017)*. Atlantis Press. [https://www.researchgate.net/publication/320470092\\_Vocational\\_Education\\_Development\\_Framework\\_in\\_21st\\_Century/fulltext/59e74e854585152d5f04dbb3/Vocational-Education-Development-Framework-in-21st-Century.pdf](https://www.researchgate.net/publication/320470092_Vocational_Education_Development_Framework_in_21st_Century/fulltext/59e74e854585152d5f04dbb3/Vocational-Education-Development-Framework-in-21st-Century.pdf)
- Wijoyo, T. A. (2023). Operasional Departemen Housekeeping Di Dalam Hotel. Badan Penerbit Stiepari Press, 2(1), 1–92. <https://badanpenerbit.stiepari.org/index.php/stieparipress/article/view/149>