

The Correlation Between Push to Open Latch Feature with Hygiene

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ABSTRACT

The world seemed to stop when it was hit by a fairly deadly disease outbreak in early 2020. All areas of life are adversely affected, including the industrial and office sectors. Many office owners have closed their businesses as the effect of the economic system being disrupted by this pandemic. When the world community began to adjust to the existence of this pandemic in the end, a new problem emerged, namely 'how to maintain oneself and hygiene when you're in a public area?' One of the public areas most visited by the population is offices, many of whom spend almost 9 hours in average per day in the office, so it is not surprising that many office workers are now going to be very careful when working. The way to maintain personal hygiene in offices and other public areas is to reduce contact with public objects. As in the case of an office filled with shared furnitures, a push to open latch can be installed on the furniture door to reduce contact with our fingers. Thus, in this journal, we will discuss how to apply push to open latch to furniture and what impact it has in improving body hygiene, especially human's hands as one of the most commonly used body propulsion tools. Kilmer's designing process is the main method used in this journal, in addition to collecting and analyzing existing theories and facts. The writer hopes that this journal can help readers who are interested in using push to open latch.

Keywords: *pandemic, offices, hygiene, office furnitures, push to open latch.*

1. INTRODUCTION

In this modern era, there are many people who work as office employees. However, since the outbreak of the COVID-19 pandemic that hit the world in early 2020, many office owners have instructed their employees to work from home. As of a survey done in April 2020, the number of employees instructed to work at home reached approximately 1,350,000 people [5].

Apart from having an impact on employees' slowing work rate in Indonesia, this pandemic also affects people's way of thinking or the so-called mindset, especially regarding matters related to hygiene. As many as 64.7% of Indonesians consider COVID-19 as a threat [10]. For having that kind of mindset, it is common for people nowadays to go with various hygiene tools in their bags, to prevent the spread of viruses and bacteria. When someone is going somewhere either near or far, the first thing someone does after this pandemic case breaks out is to clean the media where they sit and put things. Due to the emergence of a new habit ("cleaning things"), furniture designers see this as an opportunity to give users a feeling of security by producing designs that minimize touch contact through various features.

One feature that can minimize the touch contact is the open push latch, which is usually installed in the storage section

of a furniture. In this journal writing opportunity, we will discuss the relationship between push to open latch and hygiene.

1.1. Related Works

These following parts are going to pinpoint the main topics gathered from several sources during the research.

1.1.1. Health and Hygiene

Health and hygiene has always been one of the big causes of living as a social being. In order to live a healthy life, one must maintain their body hygiene and conditions well, especially during this pandemic era. One of the most used body parts in our lives is the hands. We use our hands to grab things, to press the keys on our keyboard, to shake hands with others, and much more. Thus, it only makes sense to say our hands contain a lot of bacterias and viruses. It was over 150 years ago when Ignaz Semmelweiss demonstrated the importance and effectiveness of hand washing [4]. The practise of the appropriate way of doing hand washing with soap is a good defense against bacterias and viruses that can't be seen by our eyes, and probably cohabitating itself in every inch of our skin. According to a journal about "Global Variation in Hand Hygiene Practices

Among Adolescents: The Role of Family and School-Level Factors" by *Dr. Yaqoot Fatima* [4], only 1 (one) in 3 (three) per group of adolescents practise the right way of washing their hands using soap and water.

Judging by how simple and takes less than 1 (one) minute to wash our hands properly [13], the amount of people that practise the inappropriate way of hand washing is such a devastating fact. The awareness of washing hands properly increased during the appearance of COVID-19, and although equipped with hand sanitizer which contains alcohol that claims can kill bacteria and viruses, it is still more recommended to wash your hands using soap and water [12]. Hence, people should start practising the appropriate way of washing hands to help maintain self-hygiene.

1.1.2. Hygiene and Office Environment Affects Our Psychological State

The second topic is about how hygiene can affect our everyday life, especially office life in this case. Most common health case nowadays is the COVID-19 case. As we all know, COVID-19 viruses can get inside our body in many ways, one of them is through surfaces of things that have been contaminated by the virus when touching their eyes, nose or mouth without cleaning their hands [3]. Thus, people start sharing the importance of keeping our body parts that are often used and exposed to things to be extra clean and healthy (in order to prevent themselves easily affected). But, people tend to forget the importance of keeping one's mind healthy too.

It is often to find an infodemic following pandemic causes. According *Dong and Bouey* [2], infodemic is the amount of (mostly false and unreliable) information on social media that causes psychological influence on many people. For instance, many Indonesian citizens find Corona disease is nothing to be afraid of, while the others trust the realness of it and take the fear of catching the disease to another whole level. The second condition is what leads to epidemic psychology.

In accordance with Strong's words [2], 1 (one) of the subtopic of epidemic psychology is epidemic nature. This epidemic nature resulting in fear and suspicion of others, affect morality, and effecting massive changes in people's behavior, both individually and in groups/communities in the face of disease epidemics, which is already happening. As in office life, many interior designers strive to make a change to match up with the current situation which requires extra care and cleanliness, with the hope to ease negative epidemic nature thoughts of workers. Even before the pandemic breaks out, space cleanliness maintenance has the biggest influence on office workers' comfort [11]. Therefore, it only makes sense in order to have a healthy mind, body, and hygiene working environment by making the necessary changes [9].

1.1.3. Types of Push Open Latch

Manufacturers provide more than 1 (one) type of push open latch with simple shapes to make it easy to use and install. Based on a catalogue of push open latch from Hettich [6], there are 3 (three) types of push open latch mostly used. The said 3 types can be distinguished based on the material used and the shape. Materials mostly used in making this type of latch are plastics and iron, both accompanied by either screws or a magnet plate to attach them to the body of the furniture. Meanwhile for the shapes, they are mostly found in a pipe-like or rectangular shape.

1.2. Our Contribution

This paper and or journal written with expectations to bring the idea of using push open latch as a tool in furniture to help increase a healthier and cleaner environment by reducing the contact point between user and the thing (in this case is furniture) more popular to the general public. The other purpose of this paper and our journal is to tell the general public how easy and inexpensive it is to install a push to open latch to their furniture system. By sharing this tool called 'push open latch' to the public, it is expected to be able to decrease spreading viruses and bacterias as one of the main concern during this era of living, thus resulting in a more healthy life and even preventing anxiety also uneasy behaviour regarding the idea of living in a mid-health crisis.

1.3. Paper Structure

The paper and writing structure used in this specific journal can be categorized into 6 (six) parts or sections. The abstract serves as the first part as well as the opening of this journal, followed by a distinctive part to write all about the emergence of this problem in the first place, facts, and more statements related to the topic.

Upon the second part of the structure, the methods used during the progress of the research are explained. This part can also be divided into a more small-section (subsections), depending on how many methods are used. Result and discussion is the next part of the paper, filled with paragraphs about the data and information collected during the research, and the outcome of the problem of the topic. The main part of the structure then will be closed by conclusion from the writer and the other parties involved in the preparation of this journal. Acknowledgements (optional) is used in this journal, followed by the series of references used.

2. METHODS

2.1. Data Collection

The researches applied to this journal are literature related to hygiene theories, its changes during the pandemic, and

the use of push to open latch. In addition to collecting literature data, results containing information about the project implementation site were also collected via the internet.

The purpose of carrying out this research is to assist other designers and other general readers in identifying ways to reduce physical contact with shared furniture that is commonly found in public areas.

2.2. Study Based on Kilmer Designing Process

Rosemary Kilmer together with W. Ottie Kilmer through her book entitled Designing Interiors [8], released their own stages of designing. This stage is one of the stages that is often used by other designers, including the on-going project behind this journal.

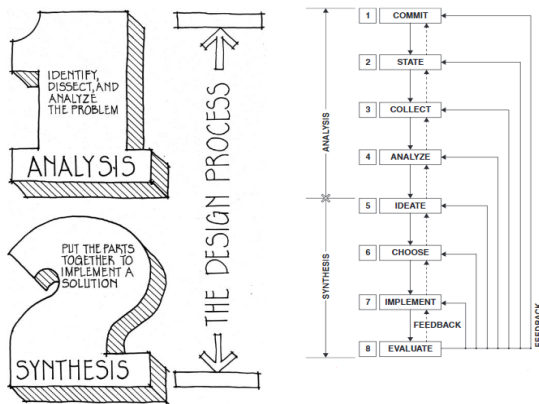


Figure 1 Kilmer Designing Process (Source: e-PDF Designing Interiors 2nd Edition)

2.2.1 Analysis

- a. Promise to carry out (commit), the stage where the designer recognizes and understands the project they have accepted, also ready to carry it through the end. Its application to the design behind this journal is to understand the importance of hygiene and maintaining health in everyday life.
- b. State, the stage where a designer emphasizes the existing problems and then looks for a solution. From the awareness of the issue of hygiene and health, a problem regarding how to produce an environment or circumstances that can support these 2 issues arise within designing a furniture.

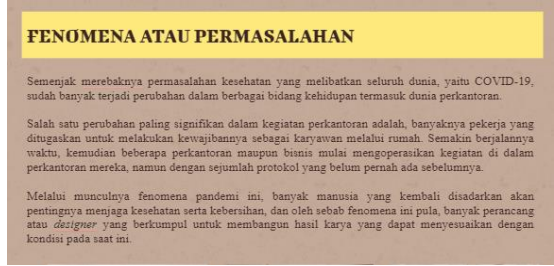


Figure 2 Stating Problem (Source: Personal Data)

- c. Accumulate or collect, the stage where the designer begins to collect information that is important and related to the project. After the initial step of determining and committing to 1 (one) project, then various surveys and observations can be carried out in the field.



Figure 3 Collecting Data and Information (Source: Personal Data)

- d. Analyse, the last stage of analysis, where after collecting information, the designer sorts out the important and the unimportant ones to be discussed in more depth.

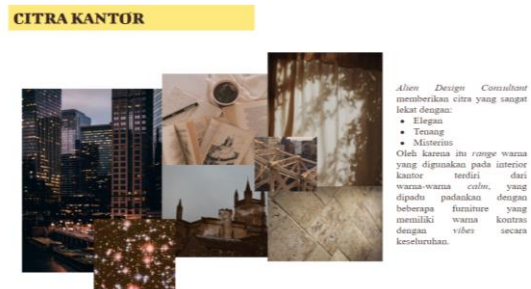


Figure 4 Analysing Data and Information (Source Personal Data)

2.2.2. Synthesis



Figure 5 Synthesis (Source: Personal Data)

- a. Generating ideas (ideate), at this stage the designer begins to think and express the ideas they have through various sketches. Rooted from the existing problem statement, the designer can put forward ideas that are able to solve the problem, in this particular case is, the use of an open to push latch to improve the hygiene of objects (furniture) and various other components.

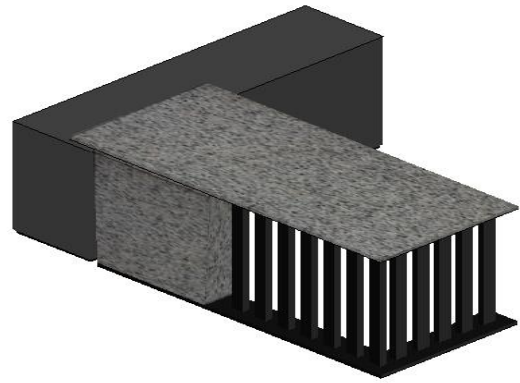


Figure 6 Generating Idea (Source: Personal Data)

- b. Selecting or choosing, the next step for a designer to do is choosing the best one from the many ideas that have been generated.

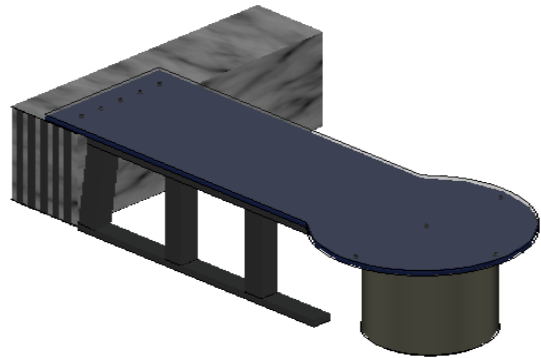


Figure 7 Choosing the Best Idea (Source: Personal Data)

- c. Implementing, this stage is the stage where the designer takes on to the action of their thoughts or ideas to make it into reality.
- d. Evaluate, after going through the implementation process, the next and final process is to re-discuss with various parties involved regarding the resulting design.

3. RESULT AND DISCUSSION

According to a research conducted by *Mohammad Anantya Risanji* and *Raflis* in their journal entitled “Analisis Faktor Pemeliharaan Bangunan Gedung Terhadap Kenyamanan Pekerja Kantoran” (Analysis of Building Maintenance Factors for the Comfort of Office Workers) [11], there is a section that discusses the cleanliness of office furniture. The results show that maintaining the cleanliness of the office space is the most important variable that affects employee work comfort. In more detail, maintaining the cleanliness of

furniture is included in the 5 (five) major variables that affect the level of comfort.

Meanwhile, in the journal entitled “Memahami Pandemi Covid-19 dalam Perspektif Psikologi Sosial” (Understanding the COVID-19 Pandemic in the Perspective of Social Psychology) by *Ivan Muhammad Agung* [2], it was explained that one of the impacts of this pandemic had an effect on a person's mindset or psychological state, both in small and large amounts. One of the topics discussed in this pandemic psychology study, plays on emotional changes such as fear, anxiety, and excessive worry. The statement from before is considered a true fact, seeing the occurrence of panic buying, especially regarding hygiene items (hand sanitizer, wet wipes, and so on).

Various efforts have been made by humans living in this pandemic era to reduce physical contact with other humans and objects around them, furniture is definitely not an exception from this occurring anxiety. When we are going outside we can always meet a person, in certain time intervals, will clean the palm and fingers of their hands, also the furniture that they want to use in the hope of reducing the number of bacteria or viruses present. It is a common thing to see nowadays.

As a medium that can reduce the amount of bacterias and viruses on the palm of hands (as one of the body's most frequently used propulsion tools) also the surface of the furniture while maintaining the effectiveness of the furniture, push to open latch can be used which is proven to have an effect in reducing issues caused by the hygiene and health. Push to open is described as a system that has a working concept resembling a ballpoint, as in a stationery. By utilizing the movement of the spring inside, push open latch is able to simplify the movement of a person while opening a door [7] (usually a cabinet).

Parts of push to open latch [6]:

Type 1

This type uses materials such as iron and magnets throughout its structure.

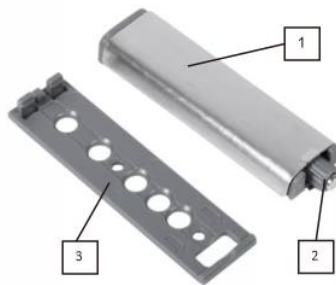


Figure 8 Push to Open Latch Type 1
(Source: Lazada)

1. Main body;
2. Pointer with spring system;
3. Magnetic plate;
4. Screw.

Type 2

The type that is often found next is, the push to open latch which uses plastics as the main material.

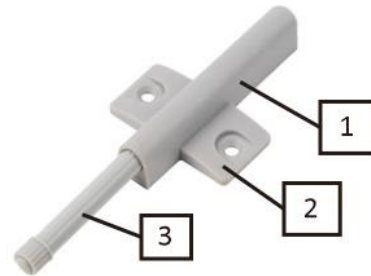


Figure 9 Push to Open Latch Type 2
(Source: Screwfix)

1. Main body;
2. Latch for the screws;
3. Pointer with spring system.

Type 3

This type of push to open latch is installed inside the furniture material (usually wood) as shown in **Figure 10**.

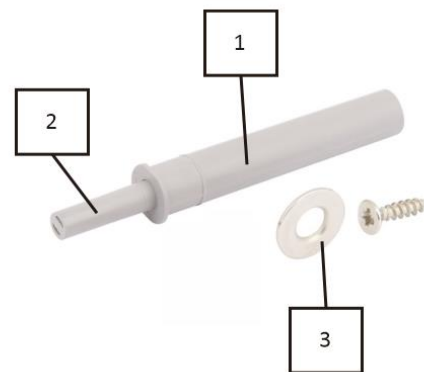


Figure 10 Push to Open Latch Type 3
(Source: Builder Discount Warehouse)



Figure 11 The Installation of Push to Open Latch Type 3 (Source: Screwfix)

1. Main body;
2. Pointer with spring system;
3. Rubber attached on the end of the pointer.

To maximize the maintenance of hygiene aspects, especially in office furniture that is often used for shared purposes, in addition to considering the materials used to cover the furniture or finishing materials, other small but crucial things are also considered, such as the use of push to open latch on cabinet doors or storage drawers. A furniture that has a storage function can use a push to open latch with a magnetic plate shown in **Figure 8** from the result and discussion part.

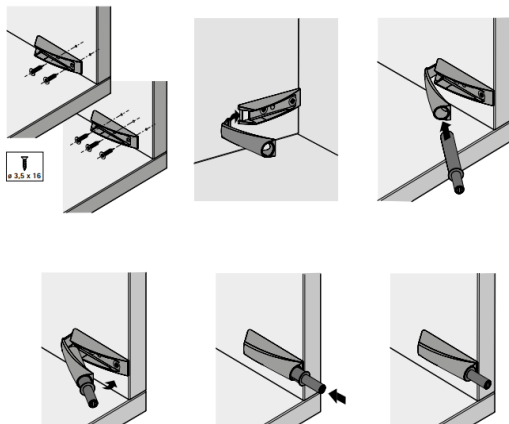


Figure 12 Illustration of Installation Push to Open Latch (Source: Hettich)



Figure 13 Push to Open (Source: Hettich)



Figure 14 Push to Open with Magnet (Source: IKEA Utrusta)

4. CONCLUSION

As a result of the widespread health problems that have hit the world since the beginning of 2020, there have been many changes in our daily lives, including office life. The world community seems to be increasingly aware of how important it is to maintain personal hygiene and their surroundings in order to maintain a healthy body condition. One of the things highlighted by various people, especially in this case concerning office employees, is the application of office furniture that is easy to clean or that can be used with minimal contact. In connection with the second point, the use of push to open latch was sparked as a medium that was able to realize the minimal contact.

Other things that can support maintaining hygiene and cleanliness in the use of furniture after the push to open latch feature installed are [1]:

1. It has an easy way of working (can be executed by simply pressing the surface of the furniture that has been installed with the system) and the depth can be adjusted;
2. It only takes 1 or 2 fingers to operate the push to open latch;
3. Can shorten the duration of contact between the surface of the furniture with the fingers which are the main means of movement in this case;
4. Can be combined with various type of hinges, for example combining it with a soft-close type hinge so the door of a furniture can close itself slowly;
5. Easy to install;
6. Improve safety in use, an event that often occurs like a child bumping their head into the door's handle won't happen with the use of push to open latch

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