

CHAPTER I

PRELIMINARY

1.1 Research Background

The aesthetic medicine industry is a growing clinical subspecialty that focuses on altering cosmetic appearance using a minimally invasive cosmetic procedure that includes surgical and non-surgical processes (Grand View Research, 2020). Medical aesthetic services usually involve high-technology skincare that represents a combination of health and beauty services. Aesthetic medicine uses advanced technologies to provide a medically based procedure designed to produce significant cosmetic enhancements.

The introduction of highly effective and minimally invasive techniques has led to an increase in aesthetic medicine consumers. Traditionally, key clients of the industry were people aged 30-65, who were actively fighting against the signs of aging, e.g., fine lines, skin deterioration, and age spots (Pwc, 2019). Nowadays, however, the younger generation has started using aesthetic medical treatment proactively.

The medical aesthetic industry has shown tremendous growth over the past decade, with non-invasive treatments growing in popularity. More and more medical practitioners are entering this market with medical aesthetic clinics, offering non-invasive rejuvenation and anti-aging treatments (Swanepoel, 2017). The possibility of finding antiaging treatments is at the forefront of dermatological research and the cosmetic industry. Individuals' sense of self-identity and physical appearance cannot be separated (Ahmed et al., 2020). Thus, self-esteem and self-consistency are the two basic self-concept motives that determine consumers' attitudes towards cosmetics along with other personal care products and services (Dai and Pelton 2018). Many individuals rely on regular beauty treatments to boost self-esteem, and body confidence and reduce stress. This has been noted for nail, hair, and facial treatments (Back & Chang, 2012;

Paulson, 2008), together with non-surgical and surgical aesthetic procedures (Pikoos, et. al., 2020).

The development of the aesthetic industry in Indonesia is constantly changing every year with new trends. The awareness of skin health and the desire to have an ideal face contour increase self-esteem and social acceptance in society, which ultimately affects the desires and demands, which eventually become a trend. The minimally invasive treatment procedures are becoming a trend in the aesthetic industry that is in great demand by the public today. This trend is continually increasing because the procedure has minimal pain and a short recovery period.

According to the Aesthetic Outlook (2018), there are four facial types for the "Reshape Lifting Contouring". The first type, Positive Aging, is the type of person who wants to overcome the problem of aging, which will give a younger look, especially to overcome the loss of Volume on the face, eliminate wrinkles or tighten the skin. The second type is transformation, which is the type of person who wants to perfect their face shape, such as slimming and lifting. The third type is Beautification, where the person wants to enhance their look, and the face shape is more proportional. Finally, the fourth type is Correction, which gives a more symmetrical effect on their face.

Top Global Consumer Trends 2019 (Angus & Westbrook, 2019) traditionally reflect the most essential aspects that determine behaviors in modern society. The ones below are highlighted: 1. rejection of age; 2. interest in natural cosmetics; 3. conscious consumption and vegetarianism; 4. digital communications; 5. imaginary expertise (Such ideas as "all of us are experts and it is impossible to hide information from the consumer" often reveal how much people rely on their own opinion and knowledge when choosing goods and services); 6. growing importance of personal time; 7. increasing interest in self-care with costly healthcare playing the leading part and aesthetic medicine being responsible for a significant share of those costs; 8. an increasing number of

people living alone. These trends highlight an increased value of anti-aging procedures, including purely medical and aesthetic medical treatments and the use of natural cosmetics. In addition, consumers are becoming increasingly focused on themselves; they pay attention to their well-being and are willing to invest substantial resources into youth, beauty, and health maintenance. In all respects, the trends mentioned above are characteristic of millennials and Generation Z consumers.

According to Jack Mussry (2018) in the Aesthetic Outlook Conference, there are two things that the aesthetic industry players must do, namely, increase the attraction and curiosity in the society with two approaches human-centric and digitalization. The human-centric approach is carried out to focus on humans, while in this era, digitalization must be one of the approaches for the aesthetic industry players to win the market.

Technological developments in aesthetic medicine, including ones to improve looks and body image, make this sphere more attractive for the younger generation. As millennials and Generation Z representatives foresee the adverse effects of aging, they are prepared to undergo aesthetic medical treatment for preventive purposes. Frequently dissatisfied with their appearance, they eagerly choose facial and body improvement medical procedures, viewing them as a sort of "beauty tuning". An attractive appearance gives them a feeling of success and guarantees professional and personal development (Musatova et al., 2020).

As technology advances, digital transformation is being implemented in a variety of ways. The goal of the digital transformation strategy is to develop the ability to fully exploit the potential of new technologies and their immediate impact and innovative potential in the future (Bones, 2016). Furthermore, technological advancements in aesthetic medicine devices will increase their adoption rate worldwide. The growing awareness amongst individuals regarding their appearance is another major factor driving the growth of the industry.

The COVID- 19 pandemic has changed the delivery of medical and surgical services globally. Subsequently, the network of aesthetic plastic surgery

consultants in the Cosmetic Surgery Governance Forum (CSGF) performed a survey in assessing the impact on the aesthetic plastic surgeons due to the Covid-19 pandemic and their practice in the U.K., and the results show that reportedly, 66% experienced a psychological impact, 50-55% of the surgeons consider offering a non-invasive treatment as soon as the aesthetic clinic was open, and 100% of the respondents reported a significant financial impact (Joji et al., 2021). The Covid-19 crisis introduces a distinctive opportunity to surround the positive changes adopted during the pandemic, such as increased efficiency, productivity, and the better use of telemedicine.

The surgical and non-surgical procedures developments will lure the developments in the growth of the aesthetic medicine market. The convenience of technologically advanced aesthetic devices is predicted to increase its product adoption due to its resourcefulness, and effectiveness, and offers minimally invasive treatments. Additionally, market players focusing on R&D investments will lead to aesthetic medicine innovations, thereby supplementing the industry demand. However, the high cost of the device and rigorous regulatory setups may hinder market growth.

1.2 Industry Characteristic

Skincare refers to the implementation of enhancing appearance and skin condition with the application of a wide range of skin products. The public interest in skincare and beauty product increases every year. As a result, the number of players in the industry continues to grow. According to Indonesia's skincare product market analysis, the market size was priced at 9,758 million USD in 2019, and the number is predicted to increase to 14,716 million USD by 2027, indicating a CAGR of 7.5% from 2021 to 2027 (Kadam, 2020).

The aesthetic industry is also one of Indonesia's fastest-growing industrial sectors and has constantly recorded double-digit growth in recent years. In addition, this industry has been named a priority and strategic industry by the

government because it employs no less than 75,000 direct workers and 600,000 indirect workers (Rahayu, 2017). Hence, the demand for aesthetic medicine is anticipated in the aesthetic industry's working-class population over the forecasted period.

The global market value for aesthetic medicine was estimated at \$ 52.5 billion in 2018, with an ever-growing average trend of 8.9% till 2026 (PwC, 2019). The transformation in consumer behavior is stimulated by the fact that the young tend to compare themselves with celebrities. The study by Awasthi, A. K. & Choraria, S. (2015) showed that although customers might demonstrate imitation behavior, they find it crucial to select celebrities according to characteristics that match their personalities.

According to the results of the Seery study (2016), 91% of women aged 18-24 and 90% of women aged 25-35 noted that they were dissatisfied with something in their appearance. However, 63% of the former and 67% of the latter demonstrated willingness to visit a spa clinic or undergo an aesthetic medical treatment or plastic surgery. This percentage was higher than in any other age group of respondents. These results imply that young consumers (primarily female) have quite a few reasons to turn to aesthetic medicine. Therefore, one of the leading research tasks in aesthetic medicine is to identify consumers' potential goals and motives and their desired outcomes.

Based on the Grand View Research on the Aesthetic Medicine Market Size, Share, and Trend Analysis Report, the aesthetic medicine market is expected to reach USD 103.4 billion by 2026 globally, presenting a CAGR of 8.9% during the forecast period. The demand market drivers are the aging population, discretionary income, and recognition of the efficacy of aesthetic treatments.

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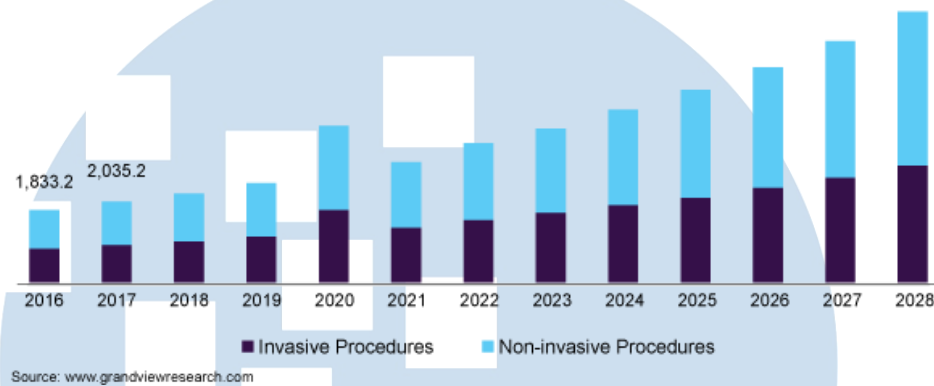


Figure 1.1 Aesthetic Medicine Market Size

Source: Grandview Research, 2019

The facial aesthetic medicine market accounted for a revenue share of 44% in 2019 and will show the same trend all through the forecast period. Demand for rhinoplasty, eyelid surgery, and other facial procedures has increased due to aesthetic medicine's growing influence in the past few years.

For example, according to the American Society of Plastic Surgeons, more than 13,058 blepharoplasties (eyelids reconstruction surgery) procedures and nearly 50,471 nose reconstruction surgery procedures were performed in women between 30-39 years of age in 2018. Increasing the adoption of such aesthetic medicine procedures will fuel the future growth of the industry. As a result, the industry share of aesthetic medicine is expected to witness over 11% CAGR from 2020 to 2026.

In the Asia Pacific, the aesthetic medicine market is projected to witness the highest CAGR of 10.9% during the forecast period. The region is supported by countries such as China, India, and South Korea. The availability of technologically advanced products, growing focus on physical appearance, and South Korea is considered a center for cosmetic surgery are key factors driving the region's market.

The Indonesian aesthetic industry holds the third-largest market in Asia. Indonesia is an attractive market for the aesthetic industry players due to its high spending on treatments and cosmetic products (Medina Project Director of P.T. Indonesia Trade Exposition, 2017).

The Association of Indonesian Cosmetics Companies Association (PPAK Indonesia) stated an increase of 7% of the sales value of Indonesian cosmetics products in 2021 compared to the 2020 sales from 6.95 million USD to 7.45 million USD (Ayu, 2021). Thus, the development of the cosmetic industry has a good development trend. Moreover, the National Agency of Food and Drug Control (*Badan Pengawas Obat dan Makanan*) noted that 185,290 cosmetic products were distributed in the country. The cosmetic industry is divided into cosmetics, consisting of a make-up base, and treatments consisting of personal care and skin care.

The COVID-19 epidemic had a huge impact on the aesthetic medicine business. The market was initially harmed by social alienation and a substantial drop in consumer income levels. As a result of the fall in product demand, limited operations, temporary closures of beauty centers, and disruptions in the manufacturing and supply chain, the market experienced a period of short-term negative growth. Furthermore, social distancing policies have self-quarantined the public and influenced many elements of life, which could affect an individual's interest in medical aesthetics both negatively and positively.

Financial, health-related, or societal factors are all possible negative influences. Increased time at home would have an influence on an increased time on social media, seeing self in the mirror more often, weight gain, seeing self on video conferencing, opinions of others in the household, change in social support systems such as the desire to look better post-Covid-19, desire to pamper self post-Covid-19, change in relationship status, or financial improvements, could all be positive influences (stimulus check for those who have not lost income). These elements may contribute differentially over time as the pandemic progresses,

forming the curve of increasing public interest in aesthetic operations (Akash et al., 2021).

However, one of the key reasons limiting the global aesthetic medicine market's growth is a strict regulatory framework to assure product safety and efficacy. Furthermore, the shortage of experienced experts needed to execute surgical and minimally invasive treatments, combined with rising overall treatment costs, is projected to stymie market expansion in the future years.

1.3 The General Context of Digital Transformation

Digital transformation is a profound alteration of the activities, business, and organizational processes to fully exploit opportunities from the combination of digital technologies. The acceleration impact the organization in the current problems and future shifts (Perkin and Abraham 2017, Higher Education Policy Institute, 2017).

Over time, the utilization of technology significantly increased. It requires all human resources to continue learning and understanding to increase knowledge about technology in keeping pace with telecommunications' development. Digital transformation simplifies processes and shortens the time spent in banking, news media, manufacturing, logistics, health, and education. Therefore, to improve the industrial competitiveness of the company, digital transformation is needed.

The proposed digital transformation project is to implement an Electronic Document Management System (EDMS) to advance the document management process and advance the company's internal quality operation to be more efficient and effective. This is to accommodate the adequate data storing and management process that has been inputted manually for each patient. In addition, the proposed system will be synchronized within the company, thus the authorized management and healthcare teams can access them.

The implementation of this project will be collaborated with the I.T. department to design the system's roadmap. EDMS is part of the Enterprise Content Management (ECM). The practice of ECM will manage the storage content, effective classification, and retrieval, archiving and disposition policies, mitigating legal and compliance risk, reducing paper usage, and more (Pelz-Sharpe et al., 2009).

1.4 Opportunities and Benefits of Digital Transformation

The implementation of a digital transformation project will bring opportunities and benefits to the company. The primary goal of the digital transformation project is to build a web-based management program that both external and internal users can use. But before creating the desired web-based management, the company needs to optimize its internal operational effectiveness that could ensure a continuous improvement as well as to boost the ecosystem of the company. The automated workflow will help in:

- a) Users can access complete, up-to-date documents linked to work orders and other business procedures through EDMS.
- b) To prevent users from working on inaccurate or outdated versions of documents, provide document version control and content management.
- c) Reduce information duplication and data redundancy. There is no need to make multiple copies of a document because the original can be found in multiple folders by just "clicking" on it.
- d) Improve sharing and dissemination of information through job identification amongst the users
- e) The digitized documents will be written in the same template and format that could be understood easier thus promoting time savings in making decisions while reducing the possibility of human error due to misunderstanding
- f) EDMS is set to control the approval and distribution tasks in the document life cycle. The workflow is based on rules that will transmit a job

electronically with a document or some documents to the desktop of the professionals.

- g) The digitalization of patients' records will help the doctors access patients' records remotely, so they can study the patient's case and access it whenever they're available.
- h) Enhances quick decision-making process since information can be retrieved faster regardless of the geographical location of the user.
- i) The digitalization will increase customer satisfaction during their visit to a different branch without bringing any medical history records.
- j) The implementation of EDMS will prevent document mishandling issues such as:
 - a. Reduces the risk of loss and errors. Using workflow management, the document will be connected to the database, resulting in user accountability and traceability for error checking and clarification.
 - b. Maintains data and metadata reliability, integrity, and consistency in a single system.
 - c. Reliable backup information
- k) EDMS is also beneficial to support cost savings in terms of labor costs:
 - a. Process cycle cost, and
 - b. Time-to-market cost, resulting in time-saving.
 - c. The cost-effectiveness, punctuality, and integrity of the entire project are all dependent on good management.
 - d. Having a regular database will help the company view and re-utilize data for further processing to obtain the information to support future decision-making.
- l) Decision-making is indeed made more accurate because EDMS is based on better record-keeping practice (Downing, 2006).

- m) Supports clinician in the actionable recommendations as one of the clinical decision-making processes (Kawamoto, et. al., 2005):
- n) Using an electronic document management system will eliminate printouts and manual processes, which will be beneficial for the environment.
- o) Improve working process and forms publication, an easier search of patient's record, higher employee turnover or productivity.
- p) Provide better security measures in confidential medical record document processing procedures while delivering accountability and transparency.
- q) EDMS can identify the type of document created by an organization, the template used to how the status of the document is in accordance with the regulations and guidelines owned by the company.
- r) EDMS can operate with applications designed and developed for use by organizations moving the traditional system to be more organized and saving costs from implementing electronic systems
- s) Could be a competitive advantage over competitors. Using an Information system (IS) can automate processes making them efficient and reducing costs.
- t) Operating costs can be reduced by replacing the storage used for storing documents with a head office since the company is currently renting a space for its head office.
- u) The automated system could lessen the company's operating costs since the company will not be needing that much manpower in document control, thus, would reduce the cost of labor.

- v) Delivering a monetary return on the investment made in the system's implementation. Further potential "linked" software that the company might implement could benefit from EDMS.
- w) The optimized patient scheduling would help the company to increase its revenue since some of the customers ended up not getting their treatment or canceling appointments due to the long waiting time.
- x) The optimized patient scheduling will also support the physical distancing protocol due to the small waiting space in the company.
- y) Decreases customer's waiting time because of the optimization of the document registration lead time.

The benefits stated above could lead to more opportunities that the company has not discovered.

1.5 Threats and Challenges of Digital Transformation

The retention of the stakeholder will be a threat and challenge in implementing this digital transformation project. Researchers must be able to provide an understanding of the purpose and objectives of the project. Some studies have pointed to a range of reasons that inhibit EDMS adoption, including computer illiteracy, a negative attitude toward technology, insufficient ICT infrastructure, poor change management, and low staff confidence in utilizing the system.

However, Kaupa, S. & Chisa, K. (2020) reveals that the primary causes leading to the failure in the system implementation are resistance among employees, inadequate training offered to employees, lack of management support and poorly designed user interfaces and control, and a lack of discipline in the filing of documents or the processes in place to guarantee that they are preserved securely (Grange, M., & Scott, M., 2010). Proper staff training on IT skills in order to implement the new service is critical. The lack of training skills has a

significant impact on EDMS failure rates. According to Abdulkadhim, H, et al., (2015), Individual training is essential for the effectiveness of an EDMS. Additionally, staff training courses could be undertaken to improve their awareness of how to deal positively with the EDMS.

To implement digital transformation in the aesthetics industry, professional management is needed. If the employees do not want to learn the system and are unwilling to adjust, then the change will not happen and will waste the existing program, the invested funds, and the system will return to the way it was.

Interdepartmental collaboration is needed to implement the transformational project with the I.T. department and the Finance, Document Management Control, Accounting Department, and the Quality Control Department. However, miscommunications often occurred in the interdepartmental collaboration. Hence, good communication and transparency are highly needed to run this project.

According to Abdulkadhim, H, et al., (2015), A solid financial foundation is regarded as a critical component of EDMS implementation. The EDMS initiative will require significant funding to establish and train people. Although the initial phase of EDMS does not require a large sum of money yet; however, it will require more costs in the later phases. The EDMS program was implemented successfully since over 80% of the funding was allocated to staff training. Before the implementation stages begin, however, the expenditures for each EDMS implementation must be settled upon by the political and technical stakeholders.

Organizations can outline their aims and justify their use of EDMS with the help of a clear business plan and vision. An EDMS project should not be conducted without a clear information strategy and a set of linked (financed) plans. In other words, There would be no agreement from management, the board, or the staff until they have a clear knowledge of the organization's strategy and

how the EDMS system fits into that vision. (Abdulkadhim, H, et al., 2015). The lack of resources is likely to occur since the company is still growing to optimize the transformation process. Therefore, the company will need to enhance the productivity, expertise, and creativity in each department.

ICT infrastructure is a key necessity that constitutes the core of EDMS, making it a critical aspect. The application server, data and content management tools, application development tools, operating systems, and hardware should all be included in this factor. Furthermore, technical expertise is regarded as one of the most critical success elements in the installation of an EDMS.

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