Journal of World Future Medicine, Health and Nursing, 1(3) – Sep 2024 225-236

Swot Analysis of Pharmacy Department Development Strategy in X Hospital in East Kalimantan Province

Amalia Yuliasari [1], Annisari Pinasthika [2], Firda Diah Utami [3], Hany Setyo Utami [4], Mira Veranita [5]

[1] *Universitas Adhirajasa Reswara Sanjaya, Indonesia*
[2] *Universitas Adhirajasa Reswara Sanjaya, Indonesia*
[3] *Universitas Adhirajasa Reswara Sanjaya, Indonesia*
[4] *Universitas Adhirajasa Reswara Sanjaya, Indonesia*
[5] *Universitas Adhirajasa Reswara Sanjaya, Indonesia*

Corresponding Author: Hany Setyo Utami, E-mail; utami.hanysetiawan@gmail.com

Article Information:
Received September 10, 2023
Revised September 19, 2023
Accepted September 25, 2023

ABSTRACT

The hospital is an institution that provides health services and is an institution that cannot be separated from the influence of the internal and external environment. The growth and development of the hospital can be influenced by the organizational environment where the hospital is located. Therefore, a hospital management system is needed that considers strategic aspects so that the hospital can adapt and control the factors that influence and continue to change, both internal and external factors. The purpose of this study was to determine the position of the X Hospital Pharmacy Installation in the province of East Kalimantan towards the internal and external environment through a SWOT analysis and identify alternative strategies for development with the SWOT method. Research using a qualitative descriptive design using a questionnaire. Data on the strengths, weaknesses, opportunities, and threats of the Pharmacy Installation were obtained by observation and in-depth interviews. From the SWOT analysis, a SWOT matrix is obtained based on the External Factor Analysis Summary (EFAS) and the Internal Factor Analysis Summary (IFAS). The results of the study show that the Pharmacy Installation of X Hospital is in quadrant two with a diversification strategy to implement its development strategy. The RS X's internal strength factor is 1.11 times greater than its weakness and the results are opportunities that are smaller than the threats.

Keywords: *Management Strategy, Development, SWOT*

Journal Homepage https://journal.ypidathu.or.id/index.php/jnhl

How to cite: Yuliasari, A., Pinasthika, A., Utami, D, F., Utami, S, H., Veranita, M. (2023). Swot Analysis of Pharmacy Department Development Strategy in X Hospital in East Kalimantan Province. *Journal of World Future Medicine, Health and Nursing*, 1(3), 225-236. https://doi.org/10.55849/health.v2i1.549
Published by: Yayasan Pendidikan Islam Daarut Thufulah

INTRODUCTION

Hospitals are health service providers that are influenced by internal and external environments (Zhou dkk., 2020). Hospital growth depends on the organizational environment (Lu dkk., 2020). Hospital management needs strategies to adapt and control the ever-changing internal and external factors.

The Hospital Pharmacy Installation (IFRS) is the only part of the hospital that has full responsibility for the management of pharmaceutical preparations and other health supplies (Li dkk., 2020), so that all drug circulation is under the control of the Hospital Pharmacy Installation (one door system) (Yusmianita, 2005).

The role of pharmacy in management and service aspects is very important and interrelated with the service system in the hospital (MOH, 2016). According to Regulation of the Minister of Health (PMK) number 58 of 2014, Pharmaceutical Service Standards are benchmarks that are used as guidelines for pharmaceutical personnel in organizing pharmaceutical services (Murphy dkk., 2021). Improving the quality of pharmacy in hospitals will ensure patient satisfaction and protection, and create a supportive internal and external environment to achieve the vision and mission of the hospital organization (Li dkk., 2020). A development strategy is important in order to plan the achievement of goals in an effective and efficient manner.

The extent of the role of pharmaceutical installations in the smooth running of health services and as the largest source of income in the hospital, the development strategy of hospital pharmaceutical installations is very necessary in the face of competition with other hospitals (Puri dkk., 2020). Business units must establish a marketing intelligence system to track important trends and developments as well as all opportunities and threats associated with them.

The demands of patients and society for quality pharmaceutical services have resulted in a shift in service paradigm from the old paradigm (drug-oriented) to the new paradigm (patient-oriented) with the philosophy of pharmaceutical services. This is both an opportunity and a challenge for pharmacy to improve its existence. Seeing these conditions, it is time for the pharmacy community to re-evaluate and determine the right strategy in an effort to improve pharmaceutical services in IFRS (Trisnantoro, 2005).

The purpose of this study was to determine the position of the pharmaceutical installation of Hospital X against the internal and external environment with SWOT analysis, and identify alternative strategies for development with the SWOT analysis method.

THEORETICAL FOUNDATION

SWOT analysis involves identifying factors of various aspects in a structured manner in order to formulate company strategy. This approach focuses on maximizing the potential of strengths and opportunities, while simultaneously reducing the impact of weaknesses and threats.

The strategic factor matrix is created at the data collection, classification and pre-analysis stage. At this stage, the data can be grouped into two, namely internal and

external data using an external strategy factor matrix and an internal strategy factor matrix. The Head of Pharmacy Installation must complete the analysis of internal and external strategic factors.

The SWOT matrix illustrates how the company's external opportunities and threats can be matched with its strengths and weaknesses. This matrix can produce four possible strategic alternatives.

RESEARCH METHODOLOGY

Research Type and Design

This type of research is descriptive qualitative to explore the internal and external environment of Hospital X Pharmacy Installation in East Kalimantan Province with SWOT analysis.

Population and Sample

Population. The population in this study were all patients or families of patients who had received or who used inpatient and outpatient services and all staff employees at the pharmaceutical installation of hospital X in Kalimantan.

Sample. The research sample was all pharmaceutical installation staff employees consisting of 8 pharmacists and 15 pharmaceutical technicians,

Data collection tools were unstructured observation guidelines, structured interviews, in-depth interviews and questionnaires.

Data Analysis. Data analysis was carried out by analyzing the vision and mission of hospital X in Kalimantan, internal environmental factors and the external environment of the pharmaceutical installation of hospital x in Kalimantan in relation to the strategies carried out in independent health services, strategic issues that develop in the pharmaceutical installation services of hospital X in Kalimantan which are considered to affect service performance based on the results and evaluation matrix of internal environmental factors, then determining quadrants based on the results of weighting and rating in the evaluation matrix of external environmental factors and evaluation matrix of internal environmental factors. Of the four quadrants, each quadrant has alternative strategies, namely quadrant I (aggressive strategy), quadrant II (diversification strategy) quadrant III (turn-around strategy), and quadrant IV (defensive strategy). After that, the SWOT matrix (Strengths, Weaknesses, Opportunities, and Threats) is compiled and determines alternative strategies based on SWOT analysis that will be applied at the X Hospital Pharmacy Installation in Kalimantan according to the quadrant location obtained.

RESULT AND DISCUSSION

SWOT Analysis

Strengths.

The Pharmacy Installation of Hospital X in East Kalimantan Province has several advantages, such as the existence of implemented Service Operational Standards, effective communication between pharmacists and other health workers, support from

the Hospital director for the pharmaceutical installation, and the authority of the head of the Pharmacy Installation in pharmaceutical service activities, drug information services and counseling, the availability of 14 clinic poles with specialists in each of them and the very strategic location of Hospital X.

Weaknesses. The Pharmacy Installation of RS X East Kalimantan Province also has weaknesses, namely that the service evaluation system, facilities and infrastructure have not been implemented properly, there is no one-stop pharmacy, SIMRS is not optimal, the location of the depot is not strategic, lack of communication between employees and also employees with patients.

Table I. Results of Strengths and Weaknesses of Pharmacy Installation of X Hospital, East Kalimantan Province

No.	STRENGTHS	**Weight**	**Rating**	**Score**
1.	Existence of Service Operational Standards	0,056	3	0,168
2.	Pharmacy is able to carry out pharmaceutical activities	0,056	3	0,296
3.	There is support from the hospital director for	0,074	4	0,296
4.	Pharmacy installation	0,056	3	0,168
5.	The authority of the head of IFRS in pharmaceutical service activities	0,074	4	0,296
6.	Drug Information and Counseling Services	0,074	4	0,296
7.	Availability of 14 polyclinics with specialist doctors in each polyclinic.	0,074	4	0,296
	specialists in each clinic			**1,816**

No.	WEAKNESSES	**Weight**	**Rating**	**Scor**
1.	The service evaluation system has not been well implemented	0,037	2	0,074
2.	Facilities and infrastructure that are not yet optimal	0,056	3	0,168
3.	There is no one-stop pharmacy	0,056	3	0,168
4.	SIMRS that has not been optimally used	0,037	2	0,074
5.	Depot location that is not strategic	0,056	2	0,074
6.	Lack of communication between IFRS employees and patients, as well as with other health workers	0,056	2	0,074
7.	Lack of pharmaceutical personnel, especially pharmacists in the inpatient installation	0,056	2	0,074
	Total			**0,706**

Table II. Results of Opportunities and Threats of Pharmacy Installation of Hospital X of East Kalimantan Province

No.	OPPORTUNITIES	**Weight**	**Rating**	**Skor**
1.	High awareness and demand	0,066	4	0,264
2.	Residents of the surrounding area for health	0,050	3	0,150
3.	Customer demand for service	0,066	4	0,264
4.	drug information	0,066	4	0,264
5.	Customer demands for speed	0,066	4	0,264
	Total			**1,206**

No.	THREAT	**Weight**	**Rating**	**Skor**
1.	Increasing number of private hospitals and clinics	0,050	3	0,150
2.	Employee job satisfaction	0,033	2	0,066
3.	Employee quality in competition	0,033	2	0,066
4.	Customer demands for visite opportunities for hospitalized patients equally	0,050	3	0,150
5.	Customer / DPJP demands for	0,050	3	0,150
6.	completeness of medicine	0,050	3	0,150
7.	IFRS staff are less accustomed to recording activities and making complete reports	0,033	2	0,066
	Keeping up with the development of digital transformation			**1,476**

Opportunities. Opportunities owned by the Pharmacy Installation of RS X of East Kalimantan Province are the high awareness and demands of the population for health, customer demands for drug information services, customer demands for speed and accuracy of service, support from the district health office and cooperation with BPJS.

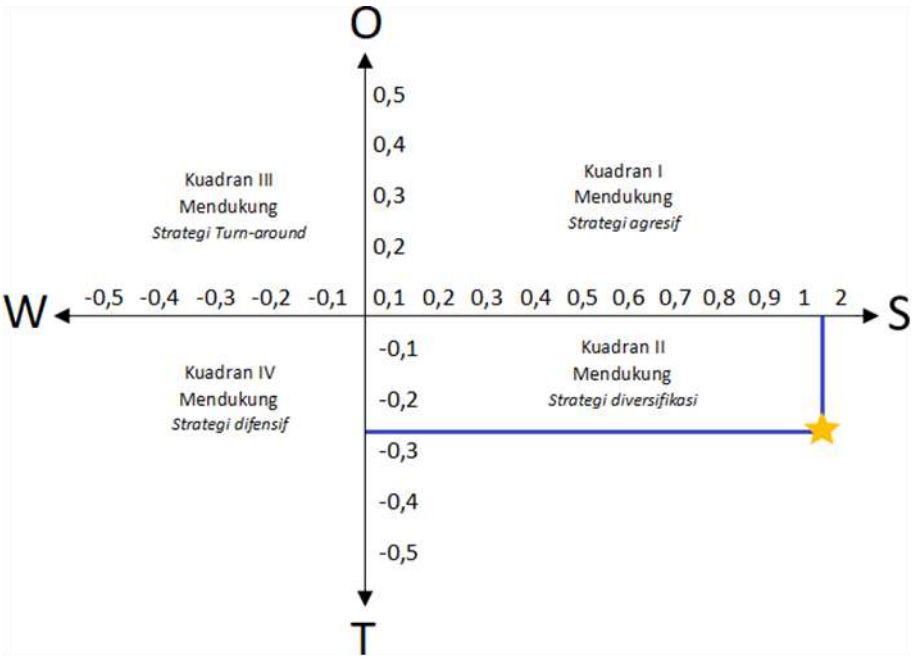
Threats. The current inhibiting factors are the development of private hospitals and clinics, competition with other IFRS, the quality of IFRS employees, employee job satisfaction, customer demands for visite opportunities for patients, customer demands for drug completeness, following the development of science and technology in the era of globalization, IFRS staff who are less accustomed to recording activities and making complete reports.

SWOT Analysis Results

The analysis of strengths and weaknesses in the pharmaceutical installation of RS X East Kalimantan Province resulted in a positive number of 1.11. These results indicate that the strengths of IFRS X East Kalimantan Province (1.816) are greater than its weaknesses (0.706). Analysis of the threats and opportunities of IFRS X East Kalimantan Province resulted in a figure of -0.27. This result shows that the opportunity of IFRS X East Kalimantan Province (1,206) is less than the threat (1,476).

From the results of the calculation of the difference, the position of the Pharmacy Installation of Hospital X of East Kalimantan Province can be determined as follows:

Figure I. Diagram of SWOT Analysis of Pharmacy Installation of Hospital X of East Kalimantan Province



From the SWOT analysis above, the following can be seen, namely:

- The Internal Strength Factor of RS X in East Kalimantan is 1.11 times greater than its weaknesses with the greatest strength being the support of the Hospital Director, the pharmacy installation is able to provide drug services and counseling, the strategic location of the hospital and the availability of 14 polyclinics with specialists in each clinic. While the biggest weakness is inadequate facilities and infrastructure and pharmaceutical services are not yet through one door.

- External evaluation of the X Hospital factor in East Kalimantan found that the opportunities were smaller than the threats where the biggest opportunities available included the high awareness of the surrounding area towards health, demands regarding the speed and accuracy of pharmaceutical services, and cooperation with BPJS. Where the biggest threats include the increase in hospitals and clinics around RS X, the lack of recording and reporting in IF RS and DPJP demands for drug completeness.

- Based on the SWOT analysis of the X Hospital Pharmacy Installation, the position of this installation is in quadrant 2 where the strategy that can be carried out is

to diversify the program that has been carried out by planning strategies in the S-O; S-T; W-O; W-T aspects.

Table III. SWOT Analysis Matrix of Pharmacy Installation of X Hospital, East Kalimantan Province

Internal factors **External factors**	**Strength (S)** - Standard Operating Procedure - Ability to carry out pharmaceutical activities - Support from the Hospital Director and the authority of the head of IFRS in pharmaceutical service activities - Drug Information and Counseling Services - The location of the hospital is very strategic, coupled with the availability of 14 polyclinics with specialist doctors	**Weaknesses (W)** - The service evaluation system has not been implemented properly - Facilities and infrastructure that are not yet optimal - There is no one-stop pharmacy - SIMRS that has not been optimized. - Depot location that is not strategic - Lack of communication between IFRS employees and patients, as well as with other health workers - Lack of pharmaceutical personnel, especially Pharmacists in the Inpatient installation
Opportunity (O) - High awareness and demands of the surrounding population for health - Customer demand for drug information services - Customer demands for speed and accuracy of pharmaceutical services in hospitals - Support from the local District Health Office - The hospital has collaborated with BPJS	**S-O Strategy** - Improve the ability to carry out pharmaceutical activities - Addition of supporting facilities for the implementation of pharmaceutical services - The need for the Hospital Director's policy to implement a one-stop system - Improve the quality and quantity of human resources - Benchmark with superior IF hospitals	**W-O Strategy** - Adding facilities related to the digitization of pharmaceutical services to support drug services at IF RS X - Improve customer satisfaction-oriented services - Addition of administrative personnel who manage the management information system in the X Hospital Pharmacy installation
Threats (T) - Increasing number of private hospitals and clinics - Employee job satisfaction - Employee quality in competition - Customer demands on visit time for hospitalized patients - Customer / DPJP demands for drug completeness - Hospital IF staff are not accustomed to recording	**S-T strategy** - Director needs to be appointed to improve IF hospital services - Improving employee performance by developing employee abilities through education and training - Carry out a direct patient visite work program that is inpatient - The need to improve the quality and quantity of human resources IF RS	**W-T Strategy** - Addition of Information Technology Facilities and transformation towards digitalization of administration and management systems for Pharmaceutical installations - Improvement of Facilities and Infrastructure in the Pharmaceutical Installation so as to create effectiveness and efficiency in drug management

activities and making complete reports - Keeping up with the development of digital transformation related to pharmacy services	- Need to implement a one-door system related to drug procurement in the Hospital Pharmacy Installation	- The need for evaluation of pharmacy work in meeting competition - Organizing training for clinical pharmacy

Hospital X in East Kalimantan has 160 beds, 8 pharmacists and 15 Pharmaceutical Technicians. The staff at the Pharmacy Installation is divided into 3, namely for outpatient pharmacies, upper building inpatient depots, lower building inpatient depots. The number of pharmaceutical personnel for the outpatient pharmacy consists of 4 pharmacists and 8 pharmaceutical technicians, while the inpatient depot consists of 2 pharmacists and 7 pharmaceutical technicians.

According to the regulation of the minister of health no 72 of 2016 concerning pharmaceutical service standards in hospitals, ideally 1 pharmacist is responsible for 30 beds for inpatients, and 1 pharmacist is responsible for 50 outpatients. For 160 beds, the Inpatient Installation should have at least 5 pharmacists. Likewise, employee training at the X Hospital Pharmacy Installation is still lacking.

In research conducted by Septiyana (2017), in the internal condition of the strengths of the Pharmacy Installation of Dr. Harjono Ponorogo Hospital, namely showing experienced and skilled human resources and providing services in the form of sms for patients to facilitate communication between patients, the factors that become weaknesses of the Pharmacy Installation of RS X include communication between patients and pharmaceutical employees which is still quite low.

Organization Capital which shows culture, leadership, teamwork, and alignment that still have to be improved at IF RS X. Efforts that can be made to improve organization capital are by attending training related to organization capital and by increasing interaction and communication in more depth between employees in the organization (Satibi et al., 2011).

In research conducted by Ardiyani (2020) at the Datoe Binangkang Hospital Pharmacy Installation, the one-door policy was categorized as an opportunity. This illustrates how important the one-door policy is for improving service quality. This is also related to increasing hospital revenue and the overall welfare of hospital employees. In addition, the one-door policy can also reduce the risk of unwanted errors because with this policy, the process of monitoring and controlling drugs will be easier.

The existing database in IF RS X in 2022 includes a database of drug prices, drug sales, drug inventory, stock cards, receipts, mutations, and prescription recaps. However, the database is still in manual form and has not been integrated into a hospital information system that can be accessed by all units that need it according to their respective access rights. The database that does not yet exist and is needed is a database of drug expiration dates and drug dosages. The existing communication network in IF RS X has only been via telephone and Handy Talky.

The digital transformation of the management information system at IF RS X is categorized as a threat. Development must be carried out to improve the efficiency and effectiveness of pharmaceutical services at the hospital.

The. The development of management information systems in the health sector is very important to support the creation of a health care system that meets consumer expectations because technology continues to develop (Mercer, 2001).

CONCLUSION

Based on the SWOT analysis of the internal and external conditions of Hospital Pharmacy Installation X in Kalimantan, the position of Hospital Pharmacy Installation X in Kalimantan is obtained in quadrant II. This shows that the X Hospital Pharmacy Installation in Kalimantan is in a diversified position which means that it has great strengths and small opportunities to suppress weaknesses and threats. The development strategy carried out at the X Hospital Pharmacy Installation in Kalimantan is that the X Hospital Pharmacy Installation in Kalimantan should increase the IFRS budget to support more optimal services, facilities as support in service activities and management of pharmaceutical installations, developing human resources both in quantity and quality, conducting research or comparative studies with other superior hospital pharmaceutical installations, and improving pharmaceutical services that focus on customer satisfaction.

REFERENCES

Li, Z., Ge, J., Yang, M., Feng, J., Qiao, M., Jiang, R., Bi, J., Zhan, G., Xu, X., Wang, L., Zhou, Q., Zhou, C., Pan, Y., Liu, S., Zhang, H., Yang, J., Zhu, B., Hu, Y., Hashimoto, K., … Yang, C. (2020). Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control. *Brain, Behavior, and Immunity*, *88*, 916–919. https://doi.org/10.1016/j.bbi.2020.03.007

Lu, W., Wang, H., Lin, Y., & Li, L. (2020). Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study. *Psychiatry Research*, *288*, 112936. https://doi.org/10.1016/j.psychres.2020.112936

Murphy, J., Vallières, F., Bentall, R. P., Shevlin, M., McBride, O., Hartman, T. K., McKay, R., Bennett, K., Mason, L., Gibson-Miller, J., Levita, L., Martinez, A. P., Stocks, T. V. A., Karatzias, T., & Hyland, P. (2021). Psychological characteristics associated with COVID-19 vaccine hesitancy and resistance in Ireland and the United Kingdom. *Nature Communications*, *12*(1), 29. https://doi.org/10.1038/s41467-020-20226-9

Puri, N., Coomes, E. A., Haghbayan, H., & Gunaratne, K. (2020). Social media and vaccine hesitancy: New updates for the era of COVID-19 and globalized infectious diseases. *Human Vaccines & Immunotherapeutics*, *16*(11), 2586–2593. https://doi.org/10.1080/21645515.2020.1780846

Zhou, S.-J., Zhang, L.-G., Wang, L.-L., Guo, Z.-C., Wang, J.-Q., Chen, J.-C., Liu, M., Chen, X., & Chen, J.-X. (2020). Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of

COVID-19. *European Child & Adolescent Psychiatry*, *29*(6), 749–758. https://doi.org/10.1007/s00787-020-01541-4

Adams, J. G., & Walls, R. M. (2020). Supporting the Health Care Workforce During the COVID-19 Global Epidemic. *JAMA*, *323*(15), 1439. https://doi.org/10.1001/jama.2020.3972

Al-Ansi, A., Olya, H. G. T., & Han, H. (2019). Effect of general risk on trust, satisfaction, and recommendation intention for halal food. *International Journal of Hospitality Management*, *83*, 210–219. https://doi.org/10.1016/j.ijhm.2018.10.017

Alatab, S., Sepanlou, S. G., Ikuta, K., Vahedi, H., Bisignano, C., Safiri, S., Sadeghi, A., Nixon, M. R., Abdoli, A., Abolhassani, H., Alipour, V., Almadi, M. A. H., Almasi-Hashiani, A., Anushiravani, A., Arabloo, J., Atique, S., Awasthi, A., Badawi, A., Baig, A. A. A., … Naghavi, M. (2020). The global, regional, and national burden of inflammatory bowel disease in 195 countries and territories, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. *The Lancet Gastroenterology & Hepatology*, *5*(1), 17–30. https://doi.org/10.1016/S2468-1253(19)30333-4

Alola, U. V., Olugbade, O. A., Avci, T., & Öztüren, A. (2019). Customer incivility and employees' outcomes in the hotel: Testing the mediating role of emotional exhaustion. *Tourism Management Perspectives*, *29*, 9–17. https://doi.org/10.1016/j.tmp.2018.10.004

Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. (2019). Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, *44*, 38–52. https://doi.org/10.1016/j.ijinfomgt.2018.09.002

Bojanic, D. C., & Warnick, R. B. (2020). The Relationship between a Country's Level of Tourism and Environmental Performance. *Journal of Travel Research*, *59*(2), 220–230. https://doi.org/10.1177/0047287519827394

Carr, A. C., & Rowe, S. (2020). The Emerging Role of Vitamin C in the Prevention and Treatment of COVID-19. *Nutrients*, *12*(11), 3286. https://doi.org/10.3390/nu12113286

Egan, B. M., Kjeldsen, S. E., Grassi, G., Esler, M., & Mancia, G. (2019). The global burden of hypertension exceeds 1.4 billion people: Should a systolic blood pressure target below 130 become the universal standard? *Journal of Hypertension*, *37*(6), 1148–1153. https://doi.org/10.1097/HJH.0000000000002021

Groopman, E. E., Marasa, M., Cameron-Christie, S., Petrovski, S., Aggarwal, V. S., Milo-Rasouly, H., Li, Y., Zhang, J., Nestor, J., Krithivasan, P., Lam, W. Y., Mitrotti, A., Piva, S., Kil, B. H., Chatterjee, D., Reingold, R., Bradbury, D., DiVecchia, M., Snyder, H., … Gharavi, A. G. (2019). Diagnostic Utility of Exome Sequencing for Kidney Disease. *New England Journal of Medicine*, *380*(2), 142–151. https://doi.org/10.1056/NEJMoa1806891

Guan, W., Ni, Z., Hu, Y., Liang, W., Ou, C., He, J., Liu, L., Shan, H., Lei, C., Hui, D. S. C., Du, B., Li, L., Zeng, G., Yuen, K.-Y., Chen, R., Tang, C., Wang, T., Chen, P., Xiang, J., … Zhong, N. (2020). Clinical Characteristics of Coronavirus Disease 2019 in China. *New England Journal of Medicine*, *382*(18), 1708–1720. https://doi.org/10.1056/NEJMoa2002032

Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., … Cao, B. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, *395*(10223), 497–506. https://doi.org/10.1016/S0140-6736(20)30183-5

Hult, G. T. M., Sharma, P. N., Morgeson, F. V., & Zhang, Y. (2019). Antecedents and Consequences of Customer Satisfaction: Do They Differ Across Online and Offline Purchases? *Journal of Retailing*, *95*(1), 10–23. https://doi.org/10.1016/j.jretai.2018.10.003

Jung, S.-Y., Choi, J. C., You, S.-H., & Kim, W.-Y. (2020). Association of Renin-angiotensin-aldosterone System Inhibitors With Coronavirus Disease 2019 (COVID-19)- Related Outcomes in Korea: A Nationwide Population-based Cohort Study. *Clinical Infectious Diseases*, *71*(16), 2121–2128. https://doi.org/10.1093/cid/ciaa624

Korfiatis, N., Stamolampros, P., Kourouthanassis, P., & Sagiadinos, V. (2019). Measuring service quality from unstructured data: A topic modeling application on airline passengers' online reviews. *Expert Systems with Applications*, *116*, 472–486. https://doi.org/10.1016/j.eswa.2018.09.037

Kumar, V., Rajan, B., Gupta, S., & Pozza, I. D. (2019). Customer engagement in service. *Journal of the Academy of Marketing Science*, *47*(1), 138–160. https://doi.org/10.1007/s11747-017-0565-2

Li, F., Lu, H., Hou, M., Cui, K., & Darbandi, M. (2021). Customer satisfaction with bank services: The role of cloud services, security, e-learning and service quality. *Technology in Society*, *64*, 101487. https://doi.org/10.1016/j.techsoc.2020.101487

Liang, W., Liang, H., Ou, L., Chen, B., Chen, A., Li, C., Li, Y., Guan, W., Sang, L., Lu, J., Xu, Y., Chen, G., Guo, H., Guo, J., Chen, Z., Zhao, Y., Li, S., Zhang, N., Zhong, N., … for the China Medical Treatment Expert Group for COVID-19. (2020). Development and Validation of a Clinical Risk Score to Predict the Occurrence of Critical Illness in Hospitalized Patients With COVID-19. *JAMA Internal Medicine*, *180*(8), 1081. https://doi.org/10.1001/jamainternmed.2020.2033

Lippi, G., Wong, J., & Henry, B. M. (2020). Hypertension and its severity or mortality in Coronavirus Disease 2019 (COVID-19): A pooled analysis. *Polish Archives of Internal Medicine*. https://doi.org/10.20452/pamw.15272

Pfefferbaum, B., & North, C. S. (2020). Mental Health and the Covid-19 Pandemic. *New England Journal of Medicine*, *383*(6), 510–512. https://doi.org/10.1056/NEJMp2008017

Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., Kontopantelis, E., Webb, R., Wessely, S., McManus, S., & Abel, K. M. (2020). Mental health before and during the COVID-19 pandemic: A longitudinal probability sample survey of the UK population. *The Lancet Psychiatry*, *7*(10), 883–892. https://doi.org/10.1016/S2215-0366(20)30308-4

Piva, S., Filippini, M., Turla, F., Cattaneo, S., Margola, A., De Fulviis, S., Nardiello, I., Beretta, A., Ferrari, L., Trotta, R., Erbici, G., Focà, E., Castelli, F., Rasulo, F., Lanspa, M. J., & Latronico, N. (2020). Clinical presentation and initial management critically ill patients with severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2) infection in Brescia, Italy. *Journal of Critical Care*, *58*, 29–33. https://doi.org/10.1016/j.jcrc.2020.04.004

Ren, L.-L., Wang, Y.-M., Wu, Z.-Q., Xiang, Z.-C., Guo, L., Xu, T., Jiang, Y.-Z., Xiong, Y., Li, Y.-J., Li, X.-W., Li, H., Fan, G.-H., Gu, X.-Y., Xiao, Y., Gao, H., Xu, J.-Y., Yang, F., Wang, X.-M., Wu, C., … Wang, J.-W. (2020). Identification of a novel coronavirus causing severe pneumonia in human: A descriptive study. *Chinese Medical Journal*, *133*(9), 1015–1024. https://doi.org/10.1097/CM9.0000000000000722

Saha, V., Mani, V., & Goyal, P. (2020). Emerging trends in the literature of value co-creation: A bibliometric analysis. *Benchmarking: An International Journal*, *27*(3), 981–1002. https://doi.org/10.1108/BIJ-07-2019-0342

Slivnick, J., & Lampert, B. C. (2019). Hypertension and Heart Failure. *Heart Failure Clinics*, *15*(4), 531–541. https://doi.org/10.1016/j.hfc.2019.06.007

Yao, H., Chen, J.-H., & Xu, Y.-F. (2020). Patients with mental health disorders in the COVID-19 epidemic. *The Lancet Psychiatry*, *7*(4), e21. https://doi.org/10.1016/S2215-0366(20)30090-0