

## **BAB 6**

### **KESIMPULAN DAN SARAN**

#### **6.1 Kesimpulan**

Microsoft Power BI yang digunakan dalam penelitian ini adalah versi gratis sehingga belum mendukung *sharing dataset*, *report* dan *dashboard*. Untuk mengatasi hal tersebut dilakukan pemetaan sumber *dataset* secara manual pada masing-masing komputer. *Dataset* yang disimpan dalam kapasitas bersama di layanan Power BI juga memiliki batas ukuran 1 GB.

Dari hasil analisis yang telah dilakukan dalam penelitian ini maka dapat disimpulkan bahwa penggunaan BI dalam mengambil keputusan dapat penurunan waktu proses sebesar 54,67%, dari 3,42 jam menjadi 1,55 jam. Dalam sistem *replenishment* ini juga dikembangkan visualisasi yang menarik sehingga pengambil keputusan dapat secara efektif dalam mengambil keputusan dan tindakan.

#### **6.2 Saran**

Saran yang diusulkan dalam penelitian ini adalah dengan melakukan pengembangan pada penelitian selanjutnya dengan melakukan identifikasi pada *user interface* yang terdapat pada inventori material lainnya, sebab karakteristik inventori memiliki perbedaan masing-masing. Dari perbedaan-perbedaan inilah nantinya penelitian selanjutnya dapat melakukan pengembangan model lain yang sesuai dengan inventori yang memiliki kesamaan persamaan proses.

## DAFTAR PUSTAKA

- Afandi, A., Farida, I.N., Mahdiyah, U. (2022, July 23). Penerapan algoritma Apriori dan model Moving Average untuk prediksi stok barang. *Prosiding Seminar Nasional Inovasi Teknologi Universitas PGRI Kediri*, 6(2), 421-426. <https://doi.org/10.29407/inotek.v6i2.2624>
- Afikah, P., Avorizano, A., Afandi, I.R., Hasan, F.N. (2022). Implementasi business intelligence untuk menganalisis data kasus virus Corona di Indonesia menggunakan platform Tableau. *Jurnal Pseudocode*, 9(1), 25-32. <https://doi.org/10.33369/pseudocode.9.1.25-32>
- Ahmadi, M., Jafarzadeh-Ghouschi, S., Taghizadeh, R., Sharifi, A. (2019). Presentation of a new hybrid approach for forecasting economic growth using artificial intelligence approaches. *Neural Computing and Application*, 31, 8661–8680. <https://doi.org/10.1007/s00521-019-04417-0>
- Akbar, R., Oktaviani, R., Tamimi, S., Shavira, S., Rahmadani, T.W. (2017). Implementasi business intelligence untuk menentukan tingkat kepopuleran jurusan pada universitas. *Jurnal Ilmiah Informatika*, 2(2), 135-138. <https://doi.org/10.35316/jimi.v2i2.465>
- Albara, A., Al-Khowarizmi, A-K., Pradesyah, R. (2021). Power Business Intelligence in the data science visualization process to forecast CPO prices. *International Journal of Science, Technology & Management*, 2(6), 2198-2208. <https://doi.org/10.46729/ijstm.v2i6.403>
- Al-Khowarizmi, A-K., Nasution, I.R., Lubis, M., Lubis, A.R. (2020). The effect of a SECoS in crude palm oil forecasting to improve business intelligence. *Bulletin of Electrical Engineering and Informatics*, 9(4), 1604-1611. <https://doi.org/10.11591/eei.v9i4.2388>.
- Badan Pengkajian dan Penerapan Teknologi (2020), Pedoman dan Penanganan dan Penyimpanan Biodiesel dan Campuran Biodiesel (B30), Direktorat Bioenergi, Direktorat Jendral Energi Baru, terbarukan dan konversi energi, Kementerian Energi dan Sumber Daya Mineral.
- Becker, L.T., Gould, E.M. (2019). Microsoft Power BI: extending Excel to manipulate, analyze, and visualize diverse data. *Serial Review*, 1-5. <https://doi.org/10.1080/00987913.2019.1644891>

- Better Buys (2021). History of business intelligence. <https://www.betterbuys.com/bi/history-of-business-intelligence/>
- Bertsimas, D., Kallus, N., & Hussain, A. (2016). Inventory management in the era of big data. *Production and Operations Management*, 25(12), 2006–2009. [https://doi.org/10.1111/poms.2\\_12637](https://doi.org/10.1111/poms.2_12637)
- Bhargava, M.G., Kiran, K.T.P.S, Rao, D.R. (2018). Analysis and design of visualization of educational institution database using Power BI tool. *Global Journal of Computer Science and Technology*, 18(4), 1–8.
- Bokde, N.D., Yaseen, Z.M., Andersen, G.B. (2020). ForecastTB - an R package as a test-bench for time series forecasting-application of wind speed and solar radiation modeling. *Energies*, 13(10), 2578. <https://doi.org/10.3390/en13102578>
- da Silva, D.M.C., Pereira, P., Amaro, A.C.S. (2020, October 16-17). Logistic performance & dashboards: a flexible Power BI solution. *Proceedings of the 20th Conferência da Associação Portuguesa de Sistemas de Informação 2020*.
- Da, Z., Engelberg, J., Gao, P. (2011). In search of attention. *The Journal of Finance*, 66(5), 1461–1499. <https://doi.org/10.1111/j.1540-6261.2011.01679.x>
- Datapine (2019). *Introduction to the basic business intelligence concepts*. <https://www.datapine.com/>
- David, F.R. (2013). *Strategic management: Concepts and cases* (14<sup>th</sup> edition). Prentice Hall, Inc.
- Dindarloo, S. R., Irdemoosa, E. S. (2016). Determinants of fuel consumption in mining trucks. *Energy*, 112, 232-240. <https://doi.org/10.1016/j.energy.2016.06.085>.
- Fatima, A., Linnes, C. (2019). The current status of business intelligence: a systematic literature review. *American Journal of Information Technology*, 9(1), 1-21.
- Fedushko, S., Ustyianovych, T., Gregus, M. (2020). Real-time high-load infrastructure transaction status output prediction using operational intelligence and big data technologies. *Electronics*, 9(4), 668. <https://doi.org/10.3390/electronics9040668>
- Galli, L., Levato, T., Schoen, F. (2021). Prescriptive analytics for inventory management in health care. *Journal of the Operational Research Society*, 72(10), 2211-2224. <https://doi.org/10.1080/01605682.2020.1776167>

- Goel, S., Hofman, J.M., Lahaie, S., Pennock, D.M., Watts, D.J. (2010). Predicting consumer behavior with web search. *Proceedings of the National Academy of Sciences of the United States of America*, 107(41), 17486–17490. <https://doi.org/10.1073/pnas.1005962107>
- Gruhl, D., Chavet, L., Gibson, D., Meyer, J., Pattanayak, P., Tomkins, A., Zien, J. (2004). How to build a WebFountain: an architecture for very large-scale text analytics. *IBM Systems Journal*, 43(1), 64–77. <https://doi.org/10.1147/sj.431.0064>
- Gruhl, D., Guha, R., Kumar, R., Novak, J., Tomkins, A. (2005, August 21). The predictive power of online chatter. *Proceedings of the 11th ACM SIGKDD International Conference on Knowledge Discovery in Data Mining*, 78–87. <https://doi.org/10.1145/1081870.1081883>
- Hanke, J.E., Arthur, G.R. 1998. *Business forecasting* (6th ed). New Jersey: Prentice Hall
- Heizer, J., Render, B. (2015). *Manajemen operasi: manajemen keberlangsungan dan rantai pasokan*. Jakarta: Salemba Empat.
- Holt, C.C., Modigliani, F., Simon, H. (1955). A linear decision rule for production and employment scheduling. *Management Science*, 2(1), 1–30.
- Jiang, L., Naumann, F. Holistic primary key and foreign key detection. *Journal of Intelligence Information System* 54, 439–461 (2020). <https://doi.org/10.1007/s10844-019-00562-z>
- Kallus, N. (2014, April 7). Predicting crowd behavior with big public data. *Proceedings of the 23rd International Conference on World Wide Web (WWW)*, 625–630. <https://doi.org/10.1145/2567948.2579233>
- Khalwadekar, R., Gogate, U. (2022, December 2-3). Quantitative and causal analysis of techniques of Microsoft Power BI file optimisation. *The 5th International Conference on Advances in Science and Technology (ICAST)*, Mumbai, India. <https://doi.org/10.1109/ICAST55766.2022.10039578>
- Kongprasert, N., Garrett, T., Saengphueng, S. (2021). Lean inventory management of an industrial tool distributor in Thailand using data visualization tool. *Scientific Journals of Poznan University of Technology series of Organization Management*, 84, 111-123. <https://doi.org/10.21008/j.0239-9415.2021.084.07>

- Kurniawan, D., Saputra, A., Sanjaya, M.R., Yamani, Z. (2021). Extending the understanding of business intelligence and its applications in startups. *Atlantis Highlights in Engineering*, 7, 550-556. <https://doi.org/10.2991/ahe.k.210205.092>
- Limp, P. (2021). *History of business intelligence*. <https://www.toptal.com/project-managers/it/history-of-business-intelligence>. Accessed: 25-05-2021.
- Maricar, M.A. (2019). Analisa perbandingan nilai akurasi moving average dan exponential smoothing untuk sistem peramalan pendapatan pada perusahaan XYZ. *Jurnal Sistem dan Informatika*, 13(2), 36-45.
- Mazraati, M. (2010). World aviation fuel demand outlook. *OPEC Energy Review*, 34, 42-72. <https://doi.org/10.1111/j.1753-0237.2010.00174.x>
- Pavkov, S., Pošćić, P., Jakšić, D. (2016). Business intelligence systems yesterday, today and tomorrow - an overview. *Zbornik Veleučilišta u Rijeci*, 4(1), 97-108.
- Punia, S., Singh, S.P., Madaan, J.K. (2020). From predictive to prescriptive analytics: A data-driven multi-item newsvendor model. *Decision Support Systems*, 136, 113340.
- Purba, M.A.B., Lase, K., Sembiring, A.I.S., Panjaitan, L.M., Putra, A.Z. (2021). Implementation of SECOS Algorithm in forecasting gold prices to improve business intelligence using MSE accuracy value measurement. *Jurnal Mantik*, 5(2), 1259-1265.
- Richardson, J., Schlegel, K., Sallam, R., Kronz, A., & Sun, J. (2021). *Magic quadrant for analytics and business intelligence platforms*. Gartner. <https://www.gartner.com/doc/reprints?id=1-1Y7VEZB3&ct=200128&st=sb>. Di Akses 30 Juli 2023.
- Salvadorinho, J., Teixeira, L., Santos, B.S. (2020). Storytelling with data in the context of Industry 4.0: a Power BI-based case study on the shop floor. *Lecture Notes in Computer Science*, 12427. [https://doi.org/10.1007/978-3-030-60152-2\\_48](https://doi.org/10.1007/978-3-030-60152-2_48)
- Soeffker, N., Ulmer, M.W., Mattfeld, D.C. (2022). Stochastic dynamic vehicle routing in the light of prescriptive analytics: A review. *European Journal of Operational Research*, 298, 801-820. <https://doi.org/10.1016/j.ejor.2021.07.014>
- Taylor, S.J., & Letham, B. (2018). Forecasting at scale. *The American Statistician*, 72(1), 37-45. <https://doi.org/10.1080/00031305.2017.1380080>

Venture Harbor (2023). *Best analytics and business intelligence platforms*.

<https://www.ventureharbour.com/best-analytics-business-intelligence-platforms/>. Di akses pada 30 Juli 2023

Merriam-Webster (2023). <https://www.merriam-webster.com/dictionary/optimization>. Di akses pada 30 Juli 2023

Wilson, J. H., Keating, B., & Solutions, Inc., J. G. (2002). *Business forecasting with accompanying Excel-Based Forecast Xtm Software*. New York: McGraw Hill



