

Factors That Affect Company Profitability in Retail

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This paper presents a critical analysis of factors that influence company profitability in the retail industry. The goal was to present four factors that contribute to financial success in three retail leaders in the United States. Those factors include voluntary employee turnover, employee wages, capital spending, and inventory turnover. The four factors were chosen to have a representative range of employee and financial factors. The methodology used for this research was a regression analysis using R Studio and Excel with extracted data from financial reports of three leading United States retailers. The results of this study were mixed among the four factors. Increased wages did not support lower turnover rates among employees. From a financial perspective, capital expenditure and profitability indicate that spending on long-term assets does not always lead to improved financial performance. This study further supports the need for more research on the factors that support profitability in an ever-changing retail industry.

Data is available on employee productivity across many industries. While it is important to understand what drives productivity, business outcomes must positively correlate with productivity and profits (Taylor & Ömer, 2020). In 2020, the COVID-19 pandemic changed the landscape of how retail businesses perform and how they achieve profits. While the factors in obtaining profitability remained the same for retail businesses, how the problems present themselves has changed post-COVID-19.

Grocery and retail stores are considered staple organizations in most communities. Amid COVID-19, many grocery chains had to change their approach to doing business to stay competitive (Delasay et al., 2022). Omni-Channeling is a form of marketing for organizations and diverse routes for shopping for consumers. This type of marketing gives organizations multiple options to reach potential consumers. The omni-channel approach allows organizations to present goods and services to customers through online and traditional brick-and-mortar stores (Käuferle & Reinartz, 2015). Omni-channeling in retail was present before the COVID-19 pandemic, but retailers selectively used it. The use of omni-channeling sales and marketing has become a primary way of doing business in retail. Profitability is a factor in whether companies choose to use omni-channeling or not. As consumers become more comfortable with technology and using non-traditional methods for shopping, retailers are increasingly inclined to close their smaller stores in favor of omni-channel shopping (Gao et al., 2022). Retail food and clothing were the focus of this paper due to how valuable they are to communities. This paper will address four areas that have garnered attention to retail profitability. The four areas are the relationship between profit and wages, wage increases and lower voluntary employee

turnover, innovation and profitability, and inventory turnover.

Literature Review

Employee Wages and Organizational Profitability

Retail companies were faced with many challenges after the COVID-19 pandemic ended. One challenge facing retail stores was consumption buying, which entailed consumers buying more than they needed to avoid stock-outs. That practice continued after the pandemic to now become something companies need to consider as the practice puts strains on their supply chain (Omar et al., 2021). Just as important has been the shift from traditional shopping to online shopping and e-commerce in general. Before the pandemic, the demographic of shoppers who preferred online shopping was digital natives and women between the ages of 18 and 33 years old (Matyus et al., 2023). The pandemic changed prior practices on what drives profitability, and retail companies now need to dedicate resources to their e-commerce business to stay profitable (Zare & Mahmoudi, 2020).

While it is important to understand the importance of profitability through the eyes of the consumer, since the rise in the minimum wage is post-pandemic, employee wages have become a factor in company profitability. When employees' wages are increased, their productivity levels go up (Coviello et al., 2022). A study on profitability showed that retail store profitability improved by increasing the number of employees (Fisher et al., 2021). There is contradictory literature that shows company profitability increases with technology, showing fewer employees are needed to be more productive. This phenomenon leads lower-wage workers to be less motivated due to fear of losing their jobs (Lordan & Neumark, 2018). Due

to the increases in wages, not all retail businesses can increase the number of employees. Afolabi et al. (2023) showed a correlation between employee satisfaction and motivation. When employees are satisfied, they are motivated to provide increased customer service to consumers, which leads to company profitability.

Companies find creative ways to absorb employee wage increases. When the total is minimal, the wage increase can be absorbed by the consumer with a transfer of the cost from the increase into the product price. The margins in wage increases were so minimal that the company's profitability was not affected (Harasztosi, & Lindner, 2019). How retail stores handle employee wages plays a part in company profitability.

Employee Turnover

Voluntary employee turnover is a factor to consider when addressing a company's profitability. Employee retention varies across industries, but the retail industry tends to have one of the lowest retention rates across all industries (Han et al., 2019; Lazear & McCue, 2018). High turnover in the retail industry can be troublesome because studies show that high turnover rates hurt company profitability (Skelton, et al., 2020). With the relationship between voluntary employee turnover and company profitability, leaders need to determine the factors that contribute to voluntary employee turnover, particularly those related to their industry.

The retail industry has always faced challenges with voluntary employee turnover, but the COVID-19 pandemic has put even more stress on retail employees. The retail industry has traditionally sought out employees with low skills to go along with low wages, but since the pandemic, there has been an increase in work-related stress due to changing work requirements. The amount of digital interaction and the need for technological competencies have put considerable pressure on retail workers (Roggeveen & Sethuraman, 2020). The frustration retail workers feel in having to learn new technology and having different customer interactions should be watched by business leaders. McCartney et al. (2022) showed a strong relationship between employee job satisfaction and employee motivation that led to job growth. While employee satisfaction has been shown to have a positive effect on voluntary employee turnover, the same cannot be said for the opposite, that profitable firms increase employee satisfaction (Stamolampros et al., 2019). The research shows that the positive outcome starts with the employee.

While research has linked voluntary employee turnover to job satisfaction, there are other factors facing retail companies that affect the overall company performance. An employee's salary has played a significant role in a company's success. While an employee's salary is not the only deciding factor, it is significant enough that leadership should consider salary as a motivator for employees to stay with a company (Habib, et al., 2018). The pandemic and the stress it put on employees forced many companies to raise wages to stay competitive, and because of

that factor, employee salaries remain an important factor. The other factor that emerged as relevant to employee satisfaction at work is hygiene factors. Those are conditions such as understanding cultural differences, emotional intelligence, and overall work conditions (Chiat & Panatik, 2019). While voluntary employee turnover can be mitigated by factors such as salary, hygiene, and employee satisfaction, each business leader needs to determine what focus on employee retention works well for their company.

Capital Spending and Company Profitability

Several financial factors in company profitability play a role in the success of a company. Shareholder value, cash flow, and return on investment (ROI) all play traditional roles. One factor that has come to the forefront of company profitability is capital spending. Since the pandemic, companies are spending capital on infrastructure and other intangible investments to remain relevant (Corrado et al., 2022). Many companies have scaled back on their capital spending in the traditional sense and focused on technological factors such as intellectual property, branding, and innovative processes (Crouzet & Eberly, 2019). Company profits were affected in such a way that it reduced their commitment to sustainable development in their market share (Jones & Comfort, 2020).

Many companies take a different approach to capital allocation. Companies that hold back on capital spending can have a significant impact on cash holdings, thereby increasing shareholder value in those companies (Chireka & Fakoya, 2017). A negative effect of holding capital money to increase shareholder value is the ever-changing technological landscape that business finds themselves going through. With omni-channel marketing, expansion models for retail, and overarching brand awareness due to social media, companies are realizing they need to spend a greater portion of their capital to continue to make profits (Ngari & Kamau, 2022). There is a dilemma for companies on whether they should reinvest profits back into capital expenditure or hold the cash in reserve. The pandemic forced many companies to pull back on capital expenditures, showing the benefits of not spending capital (Tawiah & Keefe, 2024). The decision by retail companies to preserve capital or spend it dilemma that companies have determined by individual situations.

Inventory Turnover

Inventory is essential for a retail business to stay competitive. In times of uncertainty, such as the COVID-19 pandemic, supply chains were challenged in keeping up with consumer demands. The challenge was keeping products on shelves and determining customer demand. Demand uncertainty hurts inventory turnover rates, which can contribute negatively to organizational profitability (Hançerlioğulları et al., 2016). Several factors play a role in the success or failure of a company and its inventory management. Stores that have retail chain affiliation show to have more control over inventory levels and the ability to affect performance levels of the store (Breivik, 2019).

There is a demand for retail supply chains to honor fulfillment agreements. If stock rates are not replaced at the specified rate in the contract, suppliers can demand higher pay. Subsequently, if the supplier cannot keep pace with demand, retailers can receive a discount on negotiated contracts. For inventory levels not to be affected by stock-outs or an overabundance of supply, service level agreements (SLAs) need to be constantly reviewed (Chen, 2018).

Inventory management is often thought of as involving the addition or subtraction of action items to make inventory management profitable for organizations. Some improvements can be made to existing frameworks by implementing internal changes. For example, Gomaa (2025) explored the value of improving processes within the supply chain that include reducing stockouts, inaccurate demand forecasting, and excessive inventory. Through continuous improvement using data-driven decision-making and improving operational effectiveness, inventory management can improve organizational effectiveness.

Certain environmental factors affect inventory management and can create a compounding problem for business leaders when trying to use the factors to improve inventory efficiency. Regional differences, location in urban areas, and population are all factors that can affect operational effectiveness (Breivik et al., 2023). Environmental factors tie closely to internal factors when managing inventories. The ability for management in retail to balance internal factors with external factors is prudent in maximizing inventory.

Inventory turnover can play a major role in the success or failure of an organization, and over the last several decades, organizations have relied on innovation to make inventory turnover efficient. One of the processes for doing that is artificial intelligence (AI). A factor that has separated artificial intelligence from prior innovation. Technology in the past was used to look at past performance to predict an outcome, but organizations are now using AI to predict and plan for outcomes (Amoako et al., 2021). Inventory turnover has multiple parts that organizations must consider when trying to become efficient. Some of the areas include customer service, supply chain, and risk management. The use of AI can improve process flows within those areas by using algorithms that improve and catch problems before they occur (Cao, 2021). Organizations are using a combination of prior innovation with AI.

Data Collection

The data for this research was collected from three leading retailers in the United States. The retailers include Walmart, Target, and Dollar General. The retailer's respective 10-K forms were used from each company's websites, with data points that included the balance sheet, income statement, statement of cash flows, and employee data (Dollar General, n.d.; Target, n.d.; The Wall Street Journal, n.d.; Walmart, n.d.).

Sarkar et al. (2020) pointed out challenges with using only secondary data. The accuracy of the data, how it was

collected, and the tendency of researchers to look for datasets that fit their research question were all concerns. Additionally, researchers should first determine whether the secondary data is appropriate for the research topic. In this research, we chose to use secondary data exclusively. When sourced from an official site such as a company website, it is readily available and highly reliable. In the case of our data, since the organizations are publicly traded, they follow Generally Accepted Accounting Principles (GAAP) for reporting their financial records. The company's data was reliable and, as such, did not require us to use an additional primary source, such as surveys, to validate the data (Jelena et al., 2021).

The timeframe for the gathered data starts in fiscal year 2019 and ends in fiscal year 2024 to compare the pre- and post-COVID-19 results. The key variables were wage increases, which were measured by the sales and general expenses from the income statement. Profitability was measured from the sales revenue section of the income statement (Dollar General, n.d.; Target, n.d.; Walmart, n.d.). , was measured by the number of employees as a percentage of the previous year (MacroTrends, n.d.). Capital expenditure was derived from each retailer's cash flow statements, which the companies listed on the cash flow statement. Long-term assets were derived from each company's net property, plant, and equipment on their assets page on the company's balance sheet (Dollar General, n.d.; Target, n.d.; Walmart, n.d.).

Methodology

Inventory turnover was determined based on the calculation of the cost of goods sold divided by the inventory, both from the balance sheet. The SG&A for Dollar General includes their expenses for wages, but it also includes other expenses such as their light and heat bill. However, this must be done as this is the most reliable way to run a regression, given the data frame. The limitations about employment and employee data stem from the company not releasing the numbers for employment on their website or 10-K form. This data is a rough estimate and will not serve as the true number. However, this number can still serve the purpose of seeing changes based on the increase in employment.

The pre-processing steps involved filtering only the information needed for the regression and hypothesis testing. Using R Studio and Excel, we took the financial statements and put them into Excel so that each category was in its own cell. All the statements were processed and marked with pre-COVID and post-COVID years. The data was then imported into R Studio for further manipulation. This manipulation enables the extraction of information from multiple financial statements and Excel Sheets, combining them into a table for regression. Since we are running a regression and hypothesis test, and the data points are in millions, we kept the data in the same format across all points. All the monetary data points will be in millions. The coding platform R Studio performed the calculations, following the equations where variables are defined and replaced for each analysis.

Correlation analysis will follow this equation:

$$r = \frac{\Sigma(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\Sigma(X_i - \bar{X})^2} \sqrt{\Sigma(Y_i - \bar{Y})^2}}$$

Regression will follow

$$Y = \beta_0 + \beta_1 \cdot X + \epsilon$$

These data points, after gathering, cleaning, and filtering, can serve as input for the tests. The tests ran hypothesis testing and regression analysis to determine the effect of each scenario. This was done by using the t-tests, p-values, correlation, and R-squared. These methods were best used for researching pre-COVID and post-COVID results and implications on their profitability, turnover, and wages. The hypothesis test determined whether the null hypothesis was rejected or not. If the null hypothesis is rejected, then other factors will be used to determine the significance of the correlation. We must be aware of Type 1 and Type 2 errors, which can be present in hypothesis testing. We will present the results for each test in the results section.

Table 1 shows that wage increases have a statistically significant negative impact on profitability for Walmart, a significant positive impact for Target, and no significant effect for Dollar General.

For the first test regarding H1 for Dollar General, the p-value shows there is not a statistically significant relationship between profitability and wages paid to the employee. So, we failed to reject the null hypothesis, which shows that there is no quantitative evidence to determine that an increase in wages leads to a profitability increase. The coefficient for wages is 2.45, which indicates that, all else being held constant, there will be an increase of 2.45 in profits for every marginal increase in wages of one dollar. However, due to the p-value showing signs of insignificance, we cannot determine that this was a crucial factor in determining the outcome of profits based on wages.

For H1 regarding Walmart, we rejected the null hypothesis that wage increases positively affect retail company profitability, but in favor of a negative relationship when using the correlation analysis. The variables for this would be wages as the independent variable and Profitability as the dependent variable. This results in the output

Table 1

H1. Wage Increases Positively Affect Retail Organizational Profitability

Company	Correlation	Intercept	P-value	Sample size
Dollar General	0.5217	15032.25	0.3673	6
Walmart	-0.9593	-25490	0.0006597	6
Target	0.9203	-20540.33	0.00978	6

of the correlation coefficient to be -0.9609 , which would be evident for a negative relationship. This implies that as wage expenses increase, profitability decreases at a significant rate. Based on this analysis, it would not be more profitable to pay higher wages if that is the manager's main goal. When using the linear regression results, it shows that the numerical data resulting in a marginal increase of one dollar in wages profitability will decrease by \$5.17. There is a statistically significant p-value. The negative relationship is in line with the correlation analysis.

For Target, we rejected the null hypothesis with the p-value being 0.00978, which is statistically significant. The correlation is strong as well, with the coefficient being 0.9203. Target benefits in their profitability by paying higher wages. This could be due to several factors, such as having an increased client return due to the employees being happier at work, however, there would need to be more data and tests to confirm the different factors. The wages that Target pays increase its profitability, so Target could benefit to a certain point by increasing its wages to its employees.

Table 2 indicates that wage increases do not have a statistically significant effect on reducing employee turnover for Dollar General, Walmart, or Target, as all p-values are above common significance thresholds despite varying correlation directions.

For hypothesis test 2, employee retention was based on voluntary employee turnover growth or decline for the respective companies. Employee retention is the dependent variable. The wages are the independent variable that comes from the SG&A expense.

For hypothesis test 2 for Dollar General, the null hypothesis was rejected because there is a high p-value, which is evident in showing that they are not statistically significant together at 0.1636. The correlation is also positive but weak. The tests for Dollar General showed the correlation, and the p-value showed that we cannot say that the increased wage payment to the employees led to them staying at the company longer year after year.

For Walmart, we failed to reject the null hypothesis that wage increases lead to lower voluntary employee turnover. This is because the p-value is too high to show a statistically significant result. Even though the regression model shows that higher wage expense does lead to a lower turnover rate, we cannot say that we can reject the null hypothesis. This could be due to a lack of exact num-

Table 2

H2. Wage Increases Lead to Lower Turnover

Company	Correlation	Intercept	P-value	Sample size
Dollar General	0.7275	65547.26	0.1636	6
Walmart	-0.7267	-3213000	0.4015	6
Target	0.6227	718600	0.3773	6

bers based on employment data from Walmart. If a manager intends to keep turnover lower and retention higher, then there is no quantifiable reason to do so.

For Target, we rejected the null hypothesis due to the high p-value at 0.3773. The correlation for Target is a weak positive number at 0.6227. Based on the correlation and the p-value, there is no quantitative evidence to say that paying higher wages leads to lower employee retention or turnover.

Table 3 shows that capital spending on long-term assets has a statistically significant positive effect on profitability for Dollar General and Target, despite weak correlations, while Walmart shows no significant relationship.

For hypothesis three, the dependent variable is the long-term assets, which are derived from the respective companies' financial statements on the net plant, property, & equipment. The capital expenditures are listed on their statement of cash flows, and that is the independent variable.

For Dollar General, there is a statistically significant p-value at 0.00395, which shows that the increased capital expenditure when spending on long-term assets leads to an increased profitability growth. However, since the correlation coefficient is very low at 0.1278, that means that that is not the exact reason that profitability grows, and there are other factors affecting the increased profitability. We rejected the null hypothesis due to the p-value, even though there is a low correlation.

For Walmart, we failed to reject the null hypothesis due to the statistically insignificant p-value at 0.3224. Walmart has a negative correlation coefficient of -0.1319, which means that as the capital expenditures on long-term assets increase, there is a decrease in profit. However, due to the high p-value, there is no quantitative evidence to reject the null hypothesis.

For Target, the p-value is low enough at 0.04575 to reject the null hypothesis. The correlation coefficient of 0.35 shows that there is a weak positive correlation. This means that there are underlying factors that may affect the outcome of profitability based on the capital expenditure on long-term assets.

Table 4 indicates that inventory turnover does not have a statistically significant impact on profitability for Dollar General, Walmart, or Target, as all p-values exceed acceptable significance levels despite moderate positive correlations for Dollar General and Target.

Table 3

H3. Company Capital Spending and Long-Term Assets Lead to Profitability

Company	Correlation	Intercept	P-value	Sample size
Dollar General	0.1278	8306.16	0.00395	6
Walmart	-0.1319	103500	0.3224	6
Target	0.35	22100.89	0.04575	6

Table 4

H4. Inventory Turnover Leads to Organizational Profitability

Company	Correlation	Intercept	P-value	Sample size
Dollar General	0.5221	-21452	0.1679	6
Walmart	0.0075	635010	0.8898	6
Target	0.5398	65252	0.1573	6

The profitability, which is derived from the sales/revenue section on their financial statement, was the dependent variable. The inventory turnover, which was calculated from their Inventories and Accounts receivable sections, will be the independent variable.

For Dollar General, we failed to reject the null hypothesis due to the high value of 0.1679. The correlation is a positive moderate number of 0.5221, which means more factors than inventory turnover are affecting profitability as well as their inventory turnover.

For Walmart, we failed to reject the null hypothesis due to the high p-value of 0.8898. There is no correlation between them since the coefficient is 0.0075. Walmart must have a very low turnover ratio, so it does not affect their profitability negatively or positively. However, due to the high p-value, this is not statistically significant enough to be used in a quantitative decision.

For Target, the p-value shows that the data is not statistically significant with a value of 0.1573. The moderate correlation shows that there is a slight correlation between the turnover and the profitability, but not enough to use for a quantitative decision.

Conclusion

The results of this analysis provide valuable insights for managers seeking to understand how factors such as wage increases, employee retention, capital expenditures, and inventory turnover influence company profitability. While some relationships were statistically significant, others were inconclusive due to sample size limitations, balance sheet classification errors, and missing data points. The sample size limitations were due to limited public data on the financials and the wage payout structure for each company. That only allowed for retrieving recent data. The sample size in an ideal scenario would be using all past historical financial data that is accurate and includes SG&A expenses in a defined manner. These factors impact the p-values, making certain interpretations less reliable.

A managerial decision-maker can use these results to guide strategic decision-making regarding wages, staffing, capital investments, and inventory management. Wage increases and profitability: If a company demonstrates a strong positive correlation between wage increases and profitability, as seen in Target, managers should consider higher wages for their employees as an investment to achieve higher profitability returns. However, if

the relationship is negative or insignificant, as in Walmart, raising wages may not yield financial benefits and should be approached cautiously.

Regarding Employee Retention, the findings suggest that wage increases alone do not guarantee lower voluntary employee turnover. Managers might need to incorporate other incentives such as development programs, flexible scheduling, and benefits to retain employees more effectively, that is not just covered by wages (van Zyl & Magau, 2024). For capital expenditure: The mixed results on capital expenditure and profitability indicate that spending on long-term assets does not always lead to improved financial performance. A manager should analyze return on investment metrics before committing to large expenditures based on all the p-values that were too high to be statistically significant. Inventory turnover and sales revenue showed a lack of statistical significance in this area, which suggests that managers should not rely solely on inventory turnover ratios to predict sales performance (Sunaryo & Etty, 2023).

An important factor for many organizations going forward in maintaining the highest level of profitability is going to be their ability to use AI. The use of AI in productivity can enhance personalized customer recommendations, leading to inventory turnover (Zhang & Xiong, 2024). The Use of AI will not only be able to identify inventory management problems using predictive algorithms they will also be able to prevent them. This strategy could lower the p-value to a statistically significant value.

The methodology used in this study is correlation analysis and regression modeling, which can be replicated and modified for future assessments. Managers and business leaders can run similar analyses annually or quarterly to track how business decisions impact key financial outcomes over a set period. Some improvements to the datasets and regression tests could be made by expanding the dataset by including additional financial metrics, employee engagement surveys, or external economic indicators. One could also improve accuracy by using internal company data rather than relying on external financial reports, which may contain aggregated or estimated figures. An internal member doing this would have more exact financial labeling and less of broad categories to choose from. By continuously refining the model with better data and more granular insights, managers can enhance decision-making processes and reduce uncertainty in business strategy.

Limitations

While this analysis provides useful insights, some limitations could affect the accuracy of the results. This research relied on secondary, record-based data. The data was used because it was information that the organizations used to report their finances. A more accurate approach could have been to use primary surveys to see if that data converged with the secondary data. The sample size was limited to the analysis due to the small number

of companies over a specific timeframe. The three companies were chosen due to being well-known public companies located in the same industry. If done again, then increase the sample size to include most companies located in the retail industry. A larger dataset with more companies and a longer historical range would improve reliability. It would also give the analysis more data to refine the process and cancel any unneeded regression tests. The financial statement labeling was limited to the study, as there were many accounting categories, such as SG&A expenses, that often combine multiple cost components, such as wages, utilities, salaries, etc., making it difficult to isolate the precise impact of wage expenses. The limitations during the gathering of the data include faulty categorical names and limited access to employee data. The categories for the accounting sheets are not very precise. This could have caused issues with the regression since the data might not be truly representative of the proper category.

There are employee data limitations, as some companies do not publicly disclose detailed employment figures, requiring estimates that may introduce bias or miscalculations into the results. The data was consistently gathered from the same source to try and mitigate miscalculations and bias. The impact on p-values leads to these limitations, contributing to higher p-values, reducing the likelihood of detecting statistically significant relationships. This means that while some variables may appear unrelated, a more precise dataset with the limitations being mitigated might reveal stronger connections. To address these limitations and enhance the reliability of results, future studies should utilize in-house financial and employee data to eliminate reliance on broad accounting categories and miscalculations. Increase the sample size by analyzing a larger set of companies. Perform additional checks, such as time-series analysis and alternative regression models, to validate findings and lower the p-value. By refining the methodology and expanding the dataset, future analyses could yield more precise, actionable insights for business leaders navigating complex financial and operational decisions.

References

- Afolabi, J. O. A., Olatoye, F. O., Eboigbe, E. O., Abdul, A. A., & Daraojimba, H. O. (2023). Revolutionizing retail: HR tactics for improved employee and customer engagement. *International Journal of Applied Research in Social Sciences*, 5 (10), 487-514. <https://doi.org/10.51594/ijarss.v5i10.635>
- Amoako, G., Omari, P., Kumi, D. K., George, C. A., & Asamoah, G. (2021). Conceptual framework-artificial intelligence and better entrepreneurial decision-making: The influence of customer preference, industry benchmark, and employee involvement in an emerging market. *Journal of Risk and Financial Management*, 14(12), 604–623. <https://doi.org/10.3390/jrfm14120604>
- Breivik, J. (2019). Retail chain affiliation and time trend effects on inventory turnover in Norwegian SMEs. *Cogent Business & Management*, 6(1), 1604932. <https://doi.org/10.1080/23311975.2019.1604932>

- Breivik, J., Larsen, N. M., Thyholdt, S. B., & Myrland, Ø. (2023). Measuring inventory turnover efficiency using stochastic frontier analysis: Building materials and hardware retail chains in Norway. *International Journal of Systems Science: Operations & Logistics*, 10(1), 1–20. <https://doi.org/10.1080/23302674.2021.1964635>
- Cao, L. (2021). Artificial intelligence in retail: applications and value creation logics. [Artificial intelligence in retail] *International Journal of Retail & Distribution Management*, 49(7), 958–976. <https://doi.org/10.1108/IJRDM-09-2020-0350>
- Chireka, T., & Fakoya, M. B. (2017). The determinants of corporate cash holdings levels: Evidence from selected South African retail firms. *Investment Management and Financial Innovations*, 14(2), 79–93. [http://dx.doi.org/10.21511/imfi.14\(2\).2017.08](http://dx.doi.org/10.21511/imfi.14(2).2017.08)
- Chiat, L. C., & Panatik, S. A. (2019). Perceptions of employee turnover intention by Herzberg's motivation-hygiene theory: A systematic literature review. *Journal of Research in Psychology*, 1(2), 10–15. <https://doi.org/10.31580/jrp.v1i2.949>
- Chen, C.-M. (Jimmy). (2018). A review and analysis of service-level agreements and chargebacks in the retail industry. [Service level agreements and chargebacks] *International Journal of Logistics Management*, 29(4), 1325–1345. <https://doi.org/10.1108/IJLM-09-2016-0205>
- Corrado, C., Haskel, J., Jona-Lasinio, C., & Iommi, M. (2022). Intangible capital and modern economies. *Journal of Economic Perspectives*, 36(3), 3–28. <https://doi.org/10.1257/jep.36.3.3>
- Coviello, D., Deserranno, E., & Persico, N. (2022). Minimum wage and individual worker productivity: Evidence from a large US retailer. *Journal of Political Economy*, 130(9), 2315–2360. <https://doi.org/10.1086/720397>
- Crouzet, N., & Eberly, J. C. (2019). *Understanding weak capital investment: The role of market concentration and intangibles* (Working Paper No. w25869). National Bureau of Economic Research. <https://doi.org/10.3386/w25869>
- Delasay, M., Jain, A., & Kumar, S. (2022). Impacts of the COVID-19 pandemic on grocery retail operations: An analytical model. *Production and Operations Management*, 31(5), 2237–2255. <https://doi.org/10.1111/poms.13717>
- Dollar General Corporation. (n.d.). SEC filings. [dataset]. Retrieved 5 March 2025. <https://investor.dollargeneral.com/websites/dollargeneral/English/3100/us-sec-filings.html>
- Fisher, M., Gallino, S., & Netessine, S. (2021). Setting retail staffing levels: A methodology validated with implementation. *Manufacturing & Service Operations Management*, 23(6), 1562–1579. <https://doi.org/10.1287/msom.2020.0917>
- Gao, F., Agrawal, V. V., & Cui, S. (2022). The effect of multi-channel and omnichannel retailing on physical stores. *Management Science*, 68(2), 809–826. <https://doi.org/10.1287/mnsc.2021.3968>
- Gomaa, A. H. (2025). Enhancing efficiency and effectiveness in MRO inventory management using lean six sigma. *IUP Journal of Operations Management*, 24(1), 19–55. <https://doi.org/10.71329/IUPJOM/2025.24.1.19-55>
- Habib, A., Sheikh, M. H., & Nabi, N. (2018). Employee turnover & its impact on apparel industry in Bangladesh: A case study of Mondol Group. *Human Resource Management Research*, 8(3), 63–68. <https://doi.org/10.5923/j.hrmr.20180803.03>
- Han, M., Håkansson, J., & Lundmark, M. (2019). Intra-urban location of stores and labour turnover in retail. *The International Review of Retail, Distribution & Consumer Research*, 29(4), 359–375. <https://doi.org/10.1080/09593969.2019.1591480>
- Hançerlioğulları, G., Şen, A., & Aktunç, E. A. (2016). Demand uncertainty and inventory turnover performance. *International Journal of Physical Distribution & Logistics Management*, 46(6), 681–708. <https://doi.org/10.1108/IJPDLM-12-2014-0303>
- Harasztsi, P., & Lindner, A. (2019). Who pays for the minimum wage? *American Economic Review*, 109(8), 2693–2727. <https://doi.org/10.1257/aer.20171445>
- Jelena, C., Nell, P. C., & Sebastian, R. B. (2021). The declining share of primary data and the neglect of the individual level in international business research. *Journal of International Business Studies*, 52(7), 1365–1374. <https://doi.org/10.1057/s41267-021-00451-0>
- Jones, P., & Comfort, D. (2020). A commentary on the COVID-19 crisis, sustainability and the service industries. *Journal of Public Affairs*, 20(4), e2164. <https://doi.org/10.1002/pa.2164>
- Käufferle, M., & Reinartz, W. (2015). Distributing through multiple channels in industrial wholesaling: How many and how much? *Journal of the Academy of Marketing Science*, 43(6), 746–767. <https://doi.org/10.1007/s11747-014-0406-5>
- Lazear, E. P., & McCue, K. (2018). *What causes labor turnover to vary?* (Working Paper No. w24873). National Bureau of Economic Research. <https://www.nber.org/papers/w24873>
- Lordan, G., & Neumark, D. (2018). People versus machines: The impact of minimum wages on automatable jobs. *Labour Economics*, 52, 40–53. <https://doi.org/10.1016/j.labeco.2018.03.006>
- Macrotrends. (n.d.). *Dollar General, Target, and Walmart number of employees 2010–2024*. [dataset]. Retrieved 5 March 2025. <https://www.macrotrends.net/stocks/charts/DG/dollar-general/number-of-employees>
- Matyus, J. M., Mergenthal, B. T., Gonzalez, Z., & Bilodeau, T. (2023). Determinants to consumers' shopping preferences. *Journal of Behavioral and Applied Management*, 23(3), 117–124. <https://doi.org/10.21818/001c.90583>
- McCartney, G., Chi In, C. L., & Pinto, J. S. D. A. F. (2022). COVID-19 impact on hospitality retail employees' turnover intentions. *International Journal of Contemporary Hospitality Management*, 34(6), 2092–2112. <https://doi.org/10.1108/IJCHM-08-2021-1053>
- Ngari, A. R., & Kamau, C. G. (2022). The effect of working capital management cycle on profitability of retail supermarkets in Mombasa, Kenya: A case study of Binathan House-hold Supermarket in Mombasa City. *Asian Journal of Economics, Business and Accounting*, 22(14), 54–70. <https://doi.org/10.9734/AJEBA/2022/v22i1430623>
- Omar, N. A., Nazri, M. A., Ali, M. H., & Alam, S. S. (2021). The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety.

- Journal of Retailing and Consumer Services*, 62, 102600. <https://doi.org/10.1016/j.jretconser.2021.102600>
- Roggeveen, A. L., & Sethuraman, R. (2020). How the COVID-19 pandemic may change the world of retailing. *Journal of Retailing*, 96(2), 169–171. <https://doi.org/10.1016/j.jretai.2020.04.002>.
- Sarkar, S., Ghosh, K., & Petter, S. (2020). Using secondary data to tell a new story: A cautionary tale in health information technology research. *Communications of the Association for Information Systems*, 47, 95–112. <https://doi.org/10.17705/1CAIS.04705>
- Skelton, A. R., Nattress, D., & Dwyer, R. J. (2020). Predicting manufacturing employee turnover intentions. *Journal of Economics, Finance and Administrative Science*, 25(49), 101–117. <https://www.emerald.com/insight/content/doi/10.1108/jefas-07-2018-0069/full/html>
- Stamolampros, P., Korfiatis, N., Chalvatzis, K., & Buhalis, D. (2019). Job satisfaction and employee turnover determinants in high-contact services: Insights from employees' online reviews. *Tourism Management*, 75, 130–147. <https://doi.org/10.1016/j.tourman.2019.04.030>
- Sunaryo, D., & Etty, P. L. (2023). Effect of cash, receivables, and inventory turnover on net profit margin (NPM) in food & beverage subsector manufacturing companies. *Studies in Business and Economics*, 18(1), 298–313. <https://doi.org/10.2478/sbe-2023-0016>
- Target Corporation. (n.d.). *Annual reports and archive*. [dataset]. Retrieved 5 March 2025. <https://corporate.target.com/investors/annual/annual-reports-and-archive>
- Tawiah, B., & Keefe, O. C. (2024). Cash holdings and corporate investment: Evidence from COVID-19. *Review of Corporate Finance*, 4(3/4), 263–291. <http://dx.doi.org/10.1561/114.000000055>
- Taylor, L., & Ömer, Ö. (2020). Where do profits and jobs come from? Employment and distribution in the US economy. *Review of Social Economy*, 78(1), 98–117. <https://doi.org/10.1080/00346764.2019.1672883>
- The Wall Street Journal. (n.d.). *Markets*. [dataset]. Retrieved 5 March 2025. <https://www.wsj.com/market-data/quotes/DG/financials/annual/balance-sheet>
- van Zyl, G., & Magau, M. D. (2024). Employee productivity spillovers generated by incentive schemes. *SA Journal of Human Resource Management*, 22, a2240. <https://doi.org/10.4102/sajhrm.v22i0.2240>
- Walmart Inc. (n.d.). SEC filings. [dataset]. Retrieved 5 March 2025. <https://stock.walmart.com/sec-filings/all-sec-filings>
- Zare, M., & Mahmoudi, R. (2020). The effects of the online customer experience on customer loyalty in e-retailers. *International Journal of Advanced Engineering, Management and Science*, 6(5), 208–214.
- Zhang, Q., & Xiong, Y. (2024). Harnessing AI potential in E-Commerce: Improving user engagement and sales through deep learning-based product recommendations. *Current Psychology*, 43(38), 30379–30401. <https://doi.org/10.1007/s12144-024-06649-3>

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