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The Role of Working Capital Management in Increasing Profitability (A Study of Fashion Retail Companies Listed on the Indonesia Stock Exchange During and Post Covid-19)

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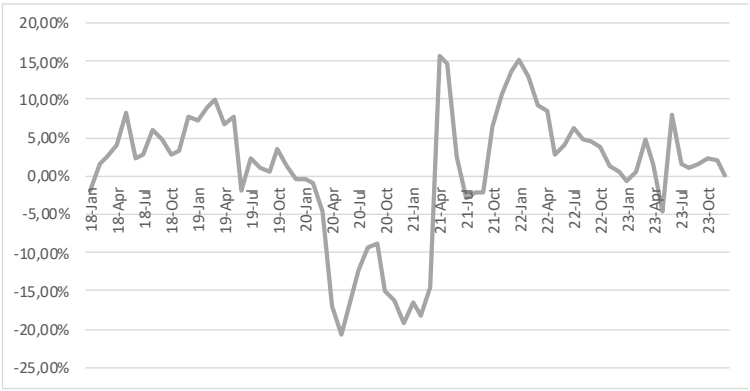
Abstract: Working capital management is a financial management aspect aimed at optimizing current assets and liabilities to enhance profitability with minimal operational costs. This study aims to analyze the impact of working capital management on profitability in four fashion retail companies listed on the Indonesia Stock Exchange. The method used in this study is panel data regression. The results show that Days Sales Inventory (DSI) positively affects the Gross Profit Margin (GPM) but negatively affects the Operating Profit Margin (OPM). Days Sales Outstanding (DSO) has a negative impact on both GPM and OPM, while Days Payable Outstanding (DPO) positively affects OPM but has no significant effect on GPM. Meanwhile, the Cash Conversion Cycle (CCC) negatively impacts GPM and has no significant effect on OPM. These findings provide valuable insights into working capital management to enhance profitability in fashion retail companies.

Keywords: Days Sales Inventory (DSI), Days Sales Outstanding (DSO), Days Payable Outstanding (DPO), Cash Conversion Cycle (CCC), Gross Profit Margin (GPM), Operating Profit Margin (OPM).

INTRODUCTION

Working capital management is a critical aspect of financial management, focusing on optimizing a company's current assets to fund operational activities at minimal costs while maximizing profitability (Brigham & Houston, 2022) and shareholder value (Demiraj et al., 2022; Hogerle et al., 2020; Losbichler & Mahmoodi, 2012). It involves managing current assets and liabilities to ensure the company can meet its short-term obligations and operational funding needs. Effective working capital management measures the amount of money needed to sustain short-term requirements and daily business operations. Key components include cash, receivables, and inventory, which serve distinct purposes and pose varying risks. Allocating these assets efficiently is essential to achieve optimal working capital management—minimizing costs while maximizing profitability (Brigham & Houston, 2022).

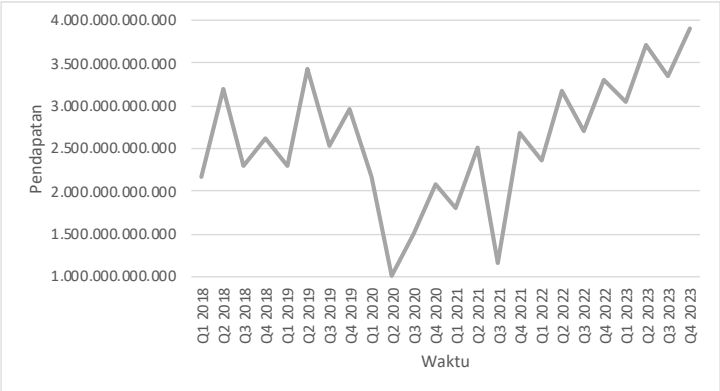
Different industries face unique challenges in managing working capital. For instance, the fashion retail industry must navigate rapidly changing trends and short product life cycles, requiring precise inventory management to capitalize on trends while avoiding unsellable stock. Seasonality further complicates operations, as consumer demand shifts with changing seasons, creating fluctuations in sales. To address these challenges, fashion retail companies must optimize inventory levels and maintain sufficient cash reserves to capitalize on seasonal opportunities. Understocking can lead to missed sales opportunities, while overstocking risks unsold inventory, necessitating price reductions that erode profitability. By leveraging working capital effectively, companies can respond to market dynamics and sustain profitability in this highly volatile sector.



Source: Bank Indonesia

Figure 1. Indonesia's Retail Sales Chart 2018-2023

The year 2020 was challenging for retail companies in Indonesia as it marked the onset of the Covid-19 pandemic. Figure 1 illustrates a significant decline in retail sales in Indonesia compared to previous years. This downturn was driven by lockdown policies and Large-Scale Social Restrictions (PSBB), which required Indonesians to stay home and limit outdoor interactions. These restrictions curtailed household spending, directly impacting the sales of retail companies. The decline is reflected in Figure 2, which shows that the revenues of fashion retail companies experienced a sharp drop during 2020-2021. In the second quarter of 2020, revenues plummeted by up to 70% compared to the same period in 2019.

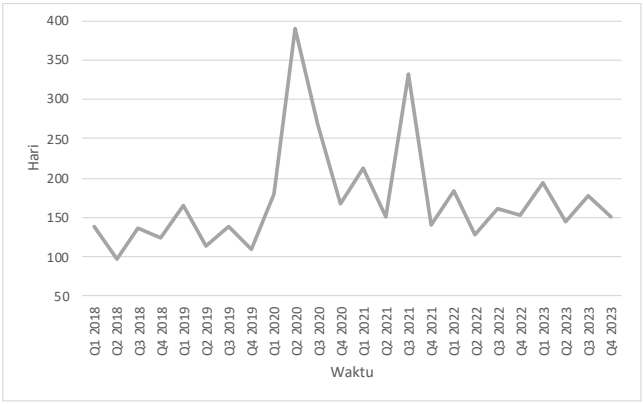


Source: Processed by the author, 2024

Figure 2. Average Revenue of Fashion Retail Companies 2018-2023

The prolonged sales decline posed significant challenges for companies in the fashion retail industry, exacerbated by rapid trend changes, short product life cycles, and seasonal variations. The sales decline triggered by the Covid-19 pandemic became a critical issue for

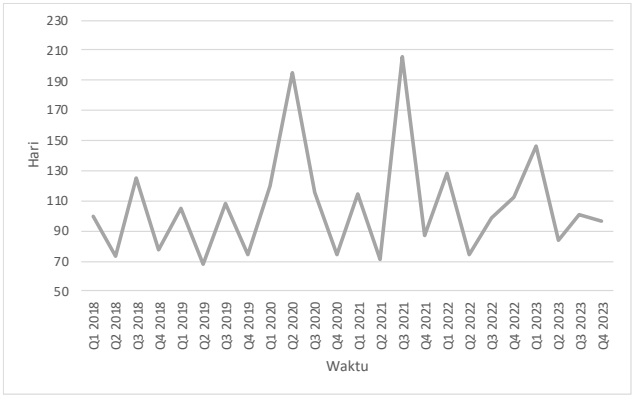
fashion retail businesses. Inventories purchased from suppliers faced significant sales difficulties, rendering sales strategies ineffective due to the loss of customers amid pandemic containment measures. Unsold inventory created profitability risks for companies. To mitigate sustained losses, companies needed to make strategic short-term investment decisions in working capital management to enhance profitability or at least avoid further losses.



Source: Processed by the author, 2024

Figure 3. Average Days Sales Inventory (DSI) in Fashion Retail 2018-2023

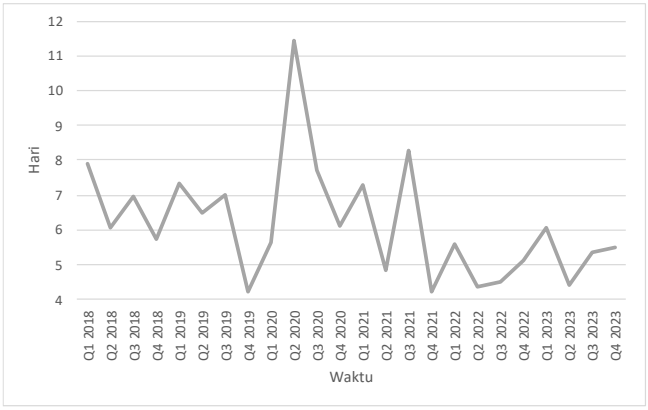
Figure 3. reveals a significant increase in Days Sales Inventory (DSI) during the Covid-19 period (2020-2021). The data shows that the average DSI rose from 124 days in 2018 to 250 days in 2020. This extended time required to sell inventory resulted from two main factors: increased inventory levels and decreased cost of goods sold due to declining sales.



Source: Processed by the author, 2024

Figure 4. Average Days Payable Outstanding (DPO) in Fashion Retail 2018-2023

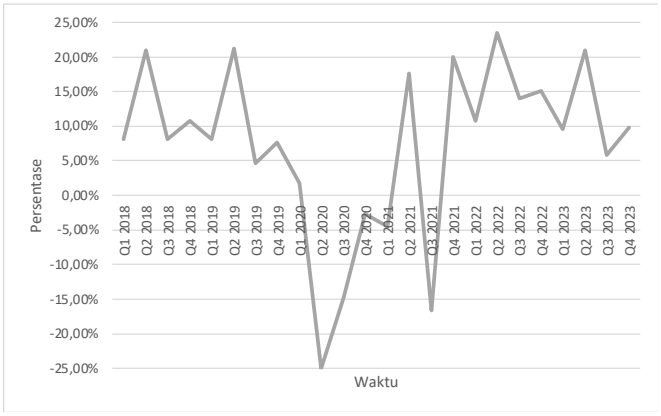
The sales decline also impacted company finances, particularly in settling accounts payable to suppliers. As purchased inventory exceeded sales capacity, companies needed to adjust their payable amounts to match consumer demand optimally. Figure 4 illustrates the increase in DPO among four fashion retail companies during several quarters of 2020-2021.



Source: Processed by the author, 2024

Figure 5 Average Days Sales Outstanding (DSO) in Fashion Retail 2018-2023

The pandemic also affected consumers, who faced uncertainties and opted to withhold spending, reducing purchasing power for non-essential items such as fashion. Figure 5 shows a surge in Days Sales Outstanding (DSO) during 2020-2021, indicating that companies required more time to collect payments from customers. The average DSO rose from 6 days in 2018 to 8 days in 2020, driven by increased receivables and reduced sales.



Source: Processed by the author, 2024

Figure 6 Average Operating Profit Margin (OPM) in Fashion Retail 2018-2023

Figure 6 highlights a steep decline in Operating Profit Margin (OPM) during 2020-2021, with negative OPM values recorded during certain periods. Negative OPM signifies operational losses, where operational expenses exceeded gross profit. Despite a significant drop in sales during the pandemic, fashion retail companies had to maintain operational payments, including salaries, office and store rentals, and other operational costs, leading to higher expenses relative to gross profit.

Excessively high Days Sales Inventory (DSI) presents a significant risk to companies, as it can lead to unsold inventory becoming out of trend, forcing businesses to either sell at reduced prices or face losses. These outcomes can negatively impact gross profit margins and ultimately decrease the Operating Profit Margin (OPM). Similarly, an elevated Days Sales Outstanding (DSO) indicates prolonged collection periods for receivables from customers, which can disrupt cash flow. Extending large amounts of credit during the Covid-19 pandemic posed heightened risks due to widespread financial difficulties among consumers. Moreover, an excessively high Days Payable Outstanding (DPO) can harm relationships with suppliers. Delayed payments are typically unwelcome, potentially jeopardizing future opportunities for favorable terms and further eroding company profitability. Collectively, these factors

underscore the critical role of balanced working capital management in maintaining financial stability and profitability (Alvarez et al., 2021; Amponsah-Kwatiah & Asiamah, 2021).

Research on the relationship between working capital policies and profitability has yielded diverse findings. Several studies have demonstrated a positive correlation between profitability and elements of working capital management such as DSI, DSO, DPO, Cash Conversion Cycle (CCC), Current Ratio (CR), and Firm Size (SIZE). For instance, Alvarez et al. (2021) and Amponsah-Kwatiah & Asiamah (2021) found that profitability improves with optimized working capital management up to a certain level, beyond which the relationship becomes negative (Aktas et al., 2015; Banos-Caballero et al., 2014; Tsuruta, 2018). Conversely, other studies, such as those by Arnaldo et al. (2021) and Aldubhani et al. (2022), revealed a negative relationship between profitability and specific metrics like DSO and CCC, with some positive relationships identified for DSI and DPO. The inconsistencies in findings often stem from differences in sample selection, industry focus, economic conditions, and the study period, illustrating the complex dynamics between working capital and profitability.

This study focuses on the fashion retail industry, one of the sectors most affected by the Covid-19 pandemic, to examine the role of working capital management in enhancing profitability. The analysis divides the research period into three phases: pre-Covid-19 (normal conditions), during Covid-19 (abnormal conditions), and post-Covid-19 (new normal). By examining these distinct periods, the study aims to uncover how fashion retail companies managed their working capital under varying economic scenarios. This approach not only highlights the challenges faced but also provides valuable insights into preparing for potential future pandemics. The findings aim to equip businesses with strategies for more resilient working capital management, ensuring readiness to navigate unpredictable disruptions effectively.

METHODS

The research methodology involves a systematic scientific process to collect and analyze data for further validation. This study employs a causal quantitative method. The quantitative approach utilizes numerical data to identify the relationships and impacts between variables, while the causal approach aims to establish cause-and-effect relationships between independent and dependent variables. The independent variables in this study are working capital management metrics, including Days Sales Inventory (DSI), Days Sales Outstanding (DSO), Days Payable Outstanding (DPO), and the Cash Conversion Cycle (CCC). Meanwhile, the dependent variables are profitability measures, specifically Gross Profit Margin (GPM) and Operating Profit Margin (OPM). GPM is chosen as it reflects a company's ability to generate revenue from operational activities while measuring the efficiency in managing production costs. On the other hand, OPM evaluates overall operational performance by incorporating all operational costs, such as sales, administrative, and general expenses. Since working capital is a crucial source of funding for operational activities, using GPM and OPM as profitability indicators is expected to represent the outcomes of the company's working capital policies effectively. This research investigates the role of working capital management in enhancing the profitability of fashion retail companies listed on the Indonesia Stock Exchange (IDX) across three periods: pre-Covid-19, during Covid-19, and post-Covid-19.

This research utilizes secondary data derived from quarterly financial statements and reports accessed via the official IDX website for the period 2018–2023. The population includes fashion retail companies listed on the IDX during this period. Sample selection was conducted using purposive sampling, considering specific criteria: (1) companies that published audited financial reports from 2018 to 2023 and (2) companies with positive equity throughout the period. Fashion retail companies were categorized under the "Retail Trade" subsector on the IDX website, focusing on businesses dealing with fashion-related products such as apparel, bags, accessories, and footwear. Companies with negative equity were excluded from the

sample, as their liabilities exceeded their total assets, often due to high debt or accumulated losses. Such conditions could distort financial variables, especially DPO, leading to abnormal values that might skew the research results. Based on these criteria, the final sample comprised four companies: Matahari Department Store Tbk (LPPF), MAP Aktif Adiperkasa Tbk (MAPA), Mitra Adiperkasa Tbk (MAPI), and Ramayana Lestari Sentosa Tbk (RALS).

Data for this study were collected through two methods: literature review and documentation. The literature review involved consulting books, journals, and scientific articles relevant to the research topics of working capital management and corporate profitability. The documentation method entailed gathering and analyzing annual reports obtained from the IDX website. The dependent variables in this research are profitability, proxied by GPM and OPM, while the independent variables include working capital management metrics: DSI, DSO, DPO, and CCC. These metrics were selected to evaluate how effectively companies managed their working capital during the specified periods and to determine their impact on profitability. This comprehensive approach ensures that the research findings provide actionable insights into optimizing working capital policies to enhance financial performance.

This research examines several hypotheses as follows:

H1a: DSI has a negative effect on GPM
H1b: DSI has a negative effect on OPM
H2a: DSO has a negative effect on GPM
H2b: DSO has a negative effect on OPM
H3a: DPO has a positive effect on GPM
H3b: DPO has a positive effect on OPM
H4a: CCC has a negative effect on GPM
H4b: CCC has a positive effect on OPM

RESULTS AND DISCUSSION

The Result of Hypotesis Test

Table 1. Hypothesis Test Result

Variabel	Exp. Sign	Panel A				Panel B			
		Before Pandemic	During Pandemic	After Pandemic	Entire Period	Before Pandemic	During Pandemic	After Pandemic	Entire Period
c	(+)	**1.3816*** **	**0.6508*** **	**0.5545*** **	**0.4075*** **	**1.4782*** **	**1.5954*** **	0.3075	**1.2820*** **
DSI	(-)	**-0.2317*** **	**0.0004** **	0.0288	**0.0559** **	**-0.5593*** **	**-0.4779*** **	-0.0008	**-0.2944*** **
DSO	(-)	-0.0002	**-0.0367** **	-0.0138	**-0.0276*** **	0.0363	**-0.1047***	**-0.1204*** **	**-0.0915*** **
DPO	(+)	**0.0018** **	-0.0340	-0.0330	-0.0278	**0.2764** **	**0.2379** **	0.0337	**0.0990***
CCC	(-)	**0.0014***	**-0.0006*** **	-0.0002	**-0.0004*** **	**0.0019** **	-0.0002	-0.0005	-0.0003
Adj R		91.21%	91.44%	93.14%	84.81%	67.25%	78.45%	68.82%	68.34%
F-test		**46.95*** **	**48.36*** **	**61.20*** **	**76.82*** **	**10.09*** **	**17.12*** **	**10.77*** **	**30.30*** **
Obs		32	32	32	96	32	32	32	96

***p<.01, **p<.05, *p<.1

Table 1 comprises two panels that present regression tests over four periods: pre-pandemic, during the pandemic, post-pandemic, and the entire period. Panel A displays the regression results of the independent variables—Days Sales Inventory (DSI), Days Sales Outstanding (DSO), Days Payable Outstanding (DPO), and Cash Conversion Cycle (CCC)—on the dependent variable Gross Profit Margin (GPM). Meanwhile, Panel B illustrates the

regression outcomes of the same independent variables on the dependent variable Operating Profit Margin (OPM).

The regression analysis of DSI on GPM reveals mixed effects. During the pre-pandemic period, DSI exhibited a negative influence with 1% significance and a coefficient of -0.2317, indicating that a one-day increase in DSI reduces GPM by 0.2317%. However, during the pandemic and the entire period, DSI demonstrated a positive effect with 5% significance, with coefficients of 0.0004 and 0.0559, respectively. This implies that a one-day increase in DSI raises GPM by 0.0004% during the pandemic and by 0.0559% over the entire period. Post-pandemic, DSI had a positive but insignificant impact on GPM, leading to the rejection of hypothesis H1a.

DSI's regression on OPM consistently shows a negative effect with 1% significance across the pre-pandemic, pandemic, and entire periods. The coefficients were -0.5593, -0.4779, and -0.2944, respectively, indicating that a one-day increase in DSI decreases OPM by 0.5593%, 0.4779%, and 0.2944%. Post-pandemic, DSI exhibited a negative yet insignificant effect on OPM, supporting the acceptance of hypothesis H1b.

The analysis of DSO's impact on GPM indicated a significant negative relationship during the pandemic (5% significance, coefficient -0.0367) and the entire period (1% significance, coefficient -0.0276). This suggests that a one-day increase in DSO reduces GPM by 0.0367% during the pandemic and 0.0276% over the entire period. In contrast, DSO's effect was negative but insignificant during the pre-pandemic and post-pandemic periods, leading to the acceptance of hypothesis H2a.

For OPM, DSO showed a significant negative impact across the pandemic, post-pandemic, and entire periods. During the pandemic, the coefficient was -0.1047 with 10% significance, while post-pandemic and entire periods had coefficients of -0.1204 and -0.0915 with 1% significance, respectively. This implies that a one-day increase in DSO decreases OPM by 0.1047%, 0.1204%, and 0.0915%. Pre-pandemic, DSO exhibited a positive but insignificant effect, thus validating hypothesis H2b.

The effect of DPO on GPM was positive and significant (5%) only during the pre-pandemic period, with a coefficient of 0.0018, indicating that a one-day increase in DPO raises GPM by 0.0018%. In other periods, DPO had a negative but insignificant effect, leading to the rejection of hypothesis H3a. Conversely, DPO's impact on OPM was positive and significant across the pre-pandemic, pandemic, and entire periods, with coefficients of 0.2764 (5%), 0.2379 (5%), and 0.0990 (10%), respectively. Post-pandemic, DPO had a positive yet insignificant impact, confirming hypothesis H3b.

CCC's relationship with GPM exhibited a significant negative effect during the pandemic (1%, coefficient -0.0006) and the entire period (1%, coefficient -0.0004), implying that a one-day increase in CCC reduces GPM by 0.0006% and 0.0004%, respectively. In contrast, the pre-pandemic period showed a positive and significant effect (10%, coefficient 0.0014), while the post-pandemic period had a negative but insignificant impact. This supports the acceptance of hypothesis H4a. Regarding OPM, CCC had a positive and significant effect (5%) only during the pre-pandemic period, where a one-day increase in CCC raised OPM by 0.0019%. In other periods, CCC exhibited a negative but insignificant impact, leading to the rejection of hypothesis H4b.

In Panel A of Table 1, the coefficient of determination (R^2) values indicated that the independent variables explained 91.21%, 91.44%, 93.14%, and 84.81% of GPM variations for the pre-pandemic, pandemic, post-pandemic, and entire periods, respectively. All F-test results in Panel A were significant at the 5% level, confirming that DSI, DSO, DPO, and CCC collectively influenced GPM across all periods. Similarly, in Panel B, R^2 values for OPM were 67.25%, 78.45%, 68.82%, and 68.34% for the respective periods. All F-tests in Panel B were also significant at 5%, demonstrating the consistent collective impact of the independent variables on OPM across the examined periods.

The Role of Days Sales Inventory (DSI) on Gross Profit Margin (GPM)

The Days Sales Inventory (DSI) has a varying impact on the Gross Profit Margin (GPM) depending on the analyzed period. Prior to the pandemic, studies indicated that DSI had a significant negative effect on GPM, as noted by Erdian et al. (2022) and Mandipa & Sibindi (2022). In the fashion retail industry, longer inventory turnover times can reduce profitability because outdated or out-of-trend items must be sold at discounted prices, thereby squeezing gross profit margins. Seasonal challenges and rapidly changing trends amplify this risk, making efficient inventory management crucial.

Conversely, during and throughout the pandemic, the impact of DSI on GPM became significantly positive. In this scenario, an increase in DSI was accompanied by a decline in revenue and cost of goods sold, allowing companies to purchase inventory at lower prices from suppliers struggling to move their products. With cheaper procurement costs, even though sales decreased, GPM improved. This finding aligns with studies by Aldubhani et al. (2022) and Amponsah-Kwatiah & Asiamah (2021), which emphasize the importance of inventory management in maintaining profitability under challenging market conditions.

An analysis of DSI and GPM data for LPPF showed significant pattern shifts from pre- to post-pandemic periods. In 2019, LPPF experienced overbuying ahead of the Eid season, leading to a spike in DSI and a decline in GPM. During the pandemic, LPPF's revenue plummeted by 82%, and DSI surged to 577 days. The company responded by reducing selling prices to boost sales, which further compressed GPM. However, as the market began to recover in 2021, DSI significantly decreased, and GPM started to rise as pricing optimization strategies were implemented.

Similarly, MAPA faced a sharp increase in DSI during the pandemic due to lockdowns (PSBB) that closed many stores, resulting in stockpile accumulation. With a 66% revenue decline, the company had to cut prices, putting pressure on GPM. Post-pandemic, aggressive expansion strategies involving new store openings and pricing recovery boosted revenue and GPM, although DSI remained higher than pre-pandemic levels. MAPA leveraged its portfolio of exclusive brands to sustain profit margins amid market growth.

MAPI encountered similar challenges as its subsidiary, MAPA. The rapid opening of stores in 2019 increased inventory and led to a rise in DSI. During the pandemic, sales dropped by 60%, forcing MAPI to lower selling prices, which reduced GPM. After the pandemic, revenue rebounded sharply by 131%, significantly reducing DSI. Adjustments in pricing strategies and improved inventory management restored GPM growth, although DSI levels had not fully returned to pre-pandemic figures.

RALS exhibited similar dynamics. At the start of the pandemic, DSI surged to 269 days due to large pre-pandemic inventory purchases that could not be sold amid declining consumer purchasing power. A 77% revenue drop compelled the company to reduce prices, causing a decline in GPM. However, as the market recovered in 2021, revenue increased by 119%, and the sale of older inventory helped lower DSI, although profit margins on outdated goods remained limited.

In the post-pandemic period, despite stagnant revenue growth, RALS improved GPM through better inventory management. By replacing obsolete stock with new, higher-value products, RALS capitalized on increased selling prices to boost profit margins. However, rising inventory levels without proportional revenue growth continued to drive up DSI, underscoring the importance of strategic inventory management.

Overall, this study confirms that the relationship between DSI and GPM is dynamic and influenced by market conditions. Before the pandemic, longer inventory turnover times typically reduced profitability, whereas during and after the pandemic, opportunities to acquire lower-cost inventory enabled companies to improve GPM despite high DSI. Flexible and responsive inventory management is key to sustaining profitability in the fashion retail industry.

The Role of Days Sales Inventory (DSI) on Operating Profit Margin (OPM)

The analysis of Days Sales Inventory (DSI) on Operating Profit Margin (OPM) reveals significant findings across different periods, highlighting its critical influence on profitability. Regression tests consistently show a negative relationship between DSI and OPM, except in the post-pandemic period where the negative correlation was statistically insignificant (Erdian et al., 2022; Mandipa & Sibindi, 2022). Higher DSI implies inefficient inventory management, which extends the time required to sell inventory (Amponsah-Kwatiah & Asiamah, 2021). Consequently, this delays sales revenue generation while fixed operational costs persist, reducing operating profits and OPM.

During the pandemic, Demiraj et al. (2022) noted that sudden revenue declines contributed to DSI surges. In the retail fashion sector, decreased consumer demand led to reduced revenues while fixed operational costs, including rent and salaries, remained constant. This created a cost-revenue mismatch, resulting in negative operating profits. Operational expenses invested without optimal returns led to greater operational costs than gross profits, exacerbating profit declines and negatively impacting OPM. These dynamics are evident in the trends observed from Q2 2018 to Q2 2023, where fluctuations in sales revenue directly influenced DSI and OPM, especially in pandemic-affected periods.

The performance of LPPF illustrates these effects vividly. Overbuying before the 2019 Eid holiday led to a 17% inventory increase, significantly elevating DSI. Discount strategies to clear stock raised sales volume but caused a disproportionate rise in cost of goods sold, reducing Gross Profit Margin (GPM) and OPM. In Q2 2020, the pandemic severely cut revenue by 82%, and operational costs exceeded revenues despite a 42% cost reduction, producing a negative OPM. By Q2 2021, recovery in consumer spending reduced DSI and improved OPM as revenues grew by 242%. However, post-pandemic periods saw stagnant revenues and rising operational costs due to new store openings, resulting in declining OPM.

MAPA's aggressive expansion strategy also affected its financial metrics. Between Q2 2018 and Q2 2019, the addition of 99 new stores increased inventory by 51%, raising DSI. Although revenue grew by 23%, high inventory levels tempered OPM improvements. In 2020, pandemic-induced store closures caused unsold inventory accumulation, driving DSI up to 424 days. The company attempted to offset this through price reductions, which eroded GPM and led to a negative OPM. In the recovery phase (Q2 2021), a 143% revenue surge lowered DSI significantly, while GPM improved as prices stabilized. Post-pandemic, extensive store openings continued, raising inventory levels, yet revenues grew faster, leading to an OPM rebound.

MAPI followed a similar trajectory to MAPA. In 2019, opening 225 new stores increased inventory and revenue by 18% and 11%, respectively, raising DSI. Despite increased revenues, operational costs from expansion lowered the OPM. During the pandemic, plummeting sales (60%) increased DSI as unsold inventory grew, while reduced GPM from price cuts failed to prevent a negative OPM. Recovery in 2021, with a 131% revenue increase, improved DSI and restored OPM. Post-pandemic, aggressive store expansion drove a 68% revenue increase by Q2 2023, lowering DSI and raising OPM as revenues exceeded operational costs.

RALS experienced unique inventory and profitability challenges. In 2019, flat sales during major shopping seasons decreased inventory by 12%, lowering DSI without affecting OPM significantly. The pandemic in 2020 slashed revenues by 77%, while large pre-pandemic inventory purchases boosted DSI dramatically. Despite efforts to stimulate sales, revenues were insufficient to cover operational expenses, causing a negative OPM. By 2021, market recovery increased revenues by 119%, reducing DSI and lifting OPM. However, post-pandemic revenue stagnation, linked to weakened consumer spending in lower economic segments, limited profitability gains, and rising inventory levels hindered further DSI reductions.

Overall, the correlation between DSI and OPM highlights inventory management's crucial role in profitability, especially during economic disruptions like the COVID-19 pandemic. Efficient inventory strategies directly influence cost structures and operational efficiency. Companies that managed to balance inventory levels with revenue generation achieved more favorable OPM, demonstrating the importance of dynamic inventory policies in mitigating profit risks during market volatility.

The Role of Days Sales Outstanding (DSO) on Gross Profit Margin (GPM)

Days Sales Outstanding (DSO) has shown a significant negative relationship with Gross Profit Margin (GPM) during the pandemic and the entire period, aligning with previous studies by Aldubhani et al. (2022) and Mandipa & Sibindi (2022). A higher DSO prolongs the collection of receivables, impeding cash flow and complicating the payment of short-term liabilities. Consequently, additional expenses and increased cost of goods sold reduce GPM. Data reveals that companies in the fashion retail sector adjusted credit policies to mitigate risks during the pandemic. These adjustments reduced accounts receivable, accelerated cash flow, and improved inventory management to maximize profit margins.

In 2019, LPPF increased receivables by 47% to boost sales, but this lowered GPM due to credit sales raising DSO. During the pandemic, an 82% drop in sales forced LPPF to minimize receivables to mitigate bad debt risks, though it increased DSO. Following market recovery in 2021, stricter credit policies sharply reduced DSO and improved GPM. In 2023, LPPF resumed credit sales, raising DSO, while promotional efforts impacted GPM.

MAPA experienced similar trends. The pandemic caused a 66% revenue decline in 2020, driving up DSO and limiting strategic inventory purchases. As conditions improved in 2021, reduced DSO and faster cash flow enhanced GPM. This consistency persisted through 2023 as policies supported sales growth and inventory rotation to sustain profit margins.

In 2019, MAPI observed that lower DSO accelerated cash flow, improved inventory management, and boosted GPM. However, the pandemic in 2020 led to a 60% revenue drop, raising DSO and decreasing GPM. The 2021 recovery phase saw a 131% revenue surge, reducing DSO and optimizing cash flow, significantly improving GPM. MAPI leveraged post-pandemic economic stability by extending credit terms, enhancing GPM.

RALS, with mostly end-consumer buyers, had a different dynamic. In 2019, a large accounts receivable increase raised DSO but had minimal GPM impact. The pandemic cut revenue by 77%, but reducing receivables by 95% lowered bad debt risk and DSO. Weakened consumer purchasing power further suppressed revenue and GPM.

As the market rebounded in 2021, RALS's revenue rose by 119%, reducing DSO despite higher receivables. Improved cash flow enabled better inventory management, enhancing GPM. Post-pandemic, declining sales in 2023 prompted inventory rotation strategies that maintained profitability through price optimization. Overall, this analysis underscores the importance of DSO management in maintaining cash flow and profitability in the fashion retail sector. Companies adapting credit policies swiftly reduce financial risk and maximize profit margins, particularly in volatile economic conditions.

The Role of Days Sales Outstanding (DSO) on Operating Profit Margin (OPM)

Days Sales Outstanding (DSO) exhibited a significant negative impact on Operating Profit Margin (OPM) during the pandemic, post-pandemic, and throughout the analysis period. This finding aligns with studies by Aldubhani et al. (2022) and Mandipa & Sibindi (2022), which indicate that high DSO reflects inefficient receivables management. This condition prolongs the collection period, restricting cash flow that could otherwise be utilized for bulk inventory procurement at discounted prices or marketing activities. Consequently, gross profit and operating profit decline, ultimately reducing OPM.

According to result, the magnitude of DSO directly influences OPM through the company's revenue. When revenue decreases, DSO tends to rise, leading to a decline in OPM. Aldubhani et al. (2022) suggest that companies require effective receivables control systems to maintain optimal cash flow under varying conditions. This allows firms to allocate cash resources towards operations that enhance revenue, gross profit, and eventually OPM.

The data on LPPF's DSO and OPM from 2018 to 2023 show fluctuating trends. In 2019, accounts receivable increased by 47%, driving up DSO, while sales rose by only 1.75%. LPPF offered discounts through credit sales, which suppressed OPM. In 2020, the pandemic caused an 82% decline in sales and a 66% reduction in receivables, leading to a rise in DSO and negative OPM. However, in 2021, economic recovery and stricter receivables management policies reduced DSO, resulting in a significant OPM improvement.

After the pandemic, LPPF maintained low receivables and increased revenue by 2.7% in 2022. However, in 2023, a 109% increase in credit sales raised DSO, compressing GPM and OPM due to higher discounts. MAPA's performance showed a DSO reduction in 2019, driven by a 23% sales increase and a 41% growth in receivables. The DSO reduction accelerated cash flow, lowered operational costs, and improved OPM.

The 2020 pandemic reduced MAPA's revenue by 66%, increased DSO, and worsened cash flow. OPM deteriorated as limited discounted inventory purchases became a constraint. In 2021, a 143% revenue surge and lower DSO marked recovery. Effective receivables management accelerated cash flow, enabling MAPA to acquire high-margin inventory, contributing to GPM and OPM improvements.

MAPI's data reflects a similar pattern. A slight DSO decrease in 2019 resulted from higher revenue growth than trade receivables. The 2020 pandemic caused a 60% drop in revenue and higher DSO, delaying receivables collection and depressing OPM. Economic revival in 2021 significantly reduced DSO, speeding up cash flow and increasing OPM. Post-pandemic years (2022-2023) showed stability with gradual OPM growth.

RALS maintained smaller receivables compared to its peers. In 2019, despite a slight revenue dip, a significant receivables increase raised DSO without a substantial OPM impact. In 2020, lower DSO due to reduced receivables shielded RALS from major bad debt risks, although OPM remained low amid weakened purchasing power. By 2021, economic improvement boosted cash flow and OPM.

In the post-pandemic period, RALS faced stagnant sales in 2022 and a 14% decline in 2023, while receivables rose sharply. The DSO decrease in 2022 and its rise in 2023 reflected shifts in inventory management strategies. Prioritizing inventory turnover to optimize selling prices led to improved OPM. Overall, the analysis highlights a strong relationship between DSO, cash flow, and corporate profitability.

The Role of Days Payable Outstanding (DPO) on Gross Profit Margin (GPM)

Days Payable Outstanding (DPO) has a significant positive influence on Gross Profit Margin (GPM) before the pandemic, aligning with the studies by Aldubhani et al. (2022) and Erdian et al. (2022). A longer debt repayment period allows companies to use cash for investments or bulk inventory purchases, enabling discounts that reduce unit costs and enhance GPM (Erdian et al., 2022). However, during the pandemic, this positive relationship weakened due to a substantial decline in revenue, deteriorating supplier relationships, and increasing additional costs.

The decrease in DPO for LPPF in 2019 resulted from a 1.75% increase in revenue and a 38% decrease in trade payables. A reduction in net merchandise purchases eliminated purchase discounts, contributing to a lower GPM. In 2020, the pandemic reduced LPPF's revenue by 82%, while trade payables decreased by 59%. The revenue decline outweighed the reduction in debt, raising DPO and affecting the loss of purchase discounts, which decreased GPM.

In 2021, economic recovery boosted LPPF's revenue by 242%, accompanied by a 14% increase in debt. This reduced DPO and improved GPM, as bulk purchasing facilitated significant discounts. Post-pandemic, despite stagnant sales, DPO rose due to changes in average debt. A high DPO served as an interest-free funding source when timely payments were made, contributing to GPM stability.

MAPA exhibited a similar pattern. A 23% rise in revenue and a 95% increase in trade payables in 2019 led to a higher DPO. Greater purchasing volume generated large discounts, enhancing GPM. However, during the pandemic, revenue declined by 66%, and trade payables fell by 20% to avoid overbuying. This extended DPO but led to additional costs and a reduced GPM. In 2021, MAPA's revenue grew by 143%, with a 27% increase in debt, reducing DPO and raising GPM due to continued store expansion. Post-pandemic, MAPA experienced significant increases in revenue and debt in 2023. Larger purchases enabled the company to secure discounts that improved GPM despite high DPO.

MAPI recorded an 11% rise in revenue and a 43% increase in trade payables in 2019, reflecting an aggressive expansion strategy. This expansion boosted inventory levels, allowing the company to obtain discounted prices and improve GPM. However, in 2020, the pandemic reduced revenue by 60%, resulting in store closures and a 10% decline in debt. Although DPO increased, additional costs lowered GPM. The 2021 recovery increased MAPI's revenue by 131%, despite a 6% drop in trade payables. DPO fell, but limited purchasing led to a smaller GPM compared to the pre-pandemic period. Post-pandemic, rising debt and new store openings positively impacted GPM by leveraging volume discounts.

RALS experienced a 0.12% decline in revenue and a 9% reduction in trade payables in 2019, which decreased DPO and led to the loss of discounts, lowering GPM. The 2020 pandemic exacerbated conditions, with a 77% drop in revenue and a 55% decrease in trade payables, increasing DPO. Reduced inventory discounts further weakened GPM. Post-pandemic, although RALS's revenue rose in 2021, store closures continued. Inventory efficiency improved GPM despite lower DPO. From 2022 to 2023, revenue and debt continued to decline, but effective management of high-value inventory maintained GPM growth, even as DPO remained high.

The Role of Days Payable Outstanding (DPO) on Operating Profit Margin (OPM)

Days Payable Outstanding (DPO) demonstrates a significant positive impact on Operating Profit Margin (OPM) across three periods: pre-pandemic, during the pandemic, and overall. This finding aligns with studies by Aldubhani et al. (2022) and Erdian et al. (2022), highlighting that longer DPO allows companies to allocate cash for productive purposes, such as promotional activities, enhancing sales and operational profit. Aldubhani et al. (2022) indicate that before the pandemic, firms benefited from longer DPO to stockpile more inventory, boosting revenue. During the pandemic, extended DPO was used for digital marketing and online sales, which improved OPM despite adverse economic conditions by maintaining liquidity.

LPPF in 2019 recorded a 1.75% revenue increase and a 38% drop in trade payables, reducing DPO. Reduced merchandise purchases led to the loss of supplier discounts, decreasing Gross Profit Margin (GPM) and OPM. In 2020, revenue plummeted 82%, and trade payables decreased 59%, resulting in higher DPO due to a smaller decline in payables relative to revenue, negatively affecting OPM. In 2021, a 242% revenue surge and a 14% rise in trade payables lowered DPO, while large inventory purchases secured discounts, improving GPM and OPM. Post-pandemic, elevated DPO remained beneficial for operations, enhancing OPM as long as payments remained timely.

MAPA reported a 23% revenue increase and a 95% surge in trade payables in 2019, driven by store expansion, raising DPO. Bulk purchases earned discounts, boosting GPM and OPM. In 2020, sales dropped 66%, extending DPO as liquidity needs postponed payments,

which elevated borrowing costs and reduced profitability. In 2021, MAPA's revenue climbed 143%, and trade payables rose 27%, reducing DPO. Increased inventory purchases lowered procurement costs, enhancing GPM and OPM. Post-pandemic, sustained revenue growth and increased payables further boosted profit margins.

In 2019, MAPI's revenue grew 11%, and trade payables increased 43% due to store expansion. Bulk purchases earned discounts, raising GPM and OPM. The 2020 pandemic cut revenue by 60%, prolonging DPO as firms prioritized liquidity management. MAPI's 2021 revenue rose 131%, but trade payables dropped 6%. Limited inventory purchases reduced discount benefits, keeping GPM and OPM lower than pre-pandemic levels. Post-pandemic, store expansions spurred revenue and trade payables growth, boosting profitability.

RALS experienced a decline in revenue and trade payables in 2019, lowering DPO. Reduced purchasing eliminated discounts, decreasing GPM and OPM. In 2020, the pandemic slashed revenue by 77%, triggering store closures and a steep DPO rise, reducing profit margins. Post-pandemic, RALS's revenue fell further, accompanied by a consistent decline in trade payables. Inventory efficiency improved GPM and OPM despite higher DPO, demonstrating effective debt management to sustain profitability amidst challenging market conditions.

The Role of Cash Conversion Cycle (CCC) on Gross Profit Margin (GPM)

The Cash Conversion Cycle (CCC) plays a significant role in influencing Gross Profit Margin (GPM), exhibiting a negative relationship during the pandemic period and across the entire observation timeframe. This finding aligns with prior research by Aldubhani et al. (2022) and Mandipa & Sibindi (2022), who also reported a negative effect of CCC on GPM. According to Amponsah-Kwatiah & Asiamah (2021), a prolonged CCC indicates inefficiencies caused by delayed receivable collections, excessive inventory, or premature debt repayments. A longer CCC reduces the firm's cash flow efficiency as more time is required to manage cash operations. Conversely, a shorter CCC signifies effective management of inventory, receivables, and payables, reducing the risk of outdated inventory that may lead to price drops. Efficient inventory management mitigates the need for large-scale promotions or discounts, stabilizing prices and ultimately supporting a higher GPM.

Before the pandemic, however, CCC demonstrated a positive impact on GPM. This positive relationship arose due to more consistent demand patterns, enabling companies to increase inventory levels without adverse financial consequences. Bulk purchases before the pandemic often provided companies with supplier discounts, thereby enhancing GPM.

The pre-pandemic years (2018 and 2019) saw rising CCC values driven by increased DSI and DSO alongside decreased DPO, boosting GPM. Stable and growing sales during these years encouraged higher inventory investments and lenient receivable terms to attract more customers. In contrast, during the pandemic, financial constraints among consumers reduced fashion product demand, causing a dramatic sales decline. Consequently, CCC and its components—DSI, DSO, and DPO—increased significantly. Companies responded by lowering prices to maintain revenue, which reduced GPM. Post-pandemic recovery marked by improving CCC metrics, increased purchasing power, and renewed interest in fashion products allowed firms to raise GPM and regain profitability.

LPPF reported a significant increase in CCC occurred in 2019 due to rising DSI and declining DPO, driven by higher inventory levels and reduced trade payables. Elevated DSI reflected stock accumulation, while diminished DPO reduced access to supplier discounts. These conditions elevated product costs and lowered GPM. In 2020, the pandemic-induced revenue drop of 82% further extended CCC. Each working capital ratio (DSI, DSO, and DPO) surged, signaling inefficient cash management and contributing to reduced GPM. Recovery began in 2021 as CCC improved due to enhanced revenue performance (a 242% increase) and better inventory, receivable, and payable management. Faster DSI turnover allowed for high-

margin inventory, while favorable DPO terms strengthened supplier relationships, enhancing GPM. Post-pandemic, CCC remained below pre-pandemic levels due to refined inventory policies that prioritized high-value stock, boosting both DSI and DPO. These strategies reduced old stock while leveraging new inventory with better sales potential, positively affecting GPM.

MAPA's CCC surged in 2019 due to elevated DSI and DPO as the company expanded its store network, increasing inventory needs and trade payables. Bulk inventory purchases provided cost-saving opportunities, enhancing GPM. However, in 2020, the pandemic's 66% revenue contraction extended all working capital ratios, driving CCC higher. Despite price reductions to stimulate sales, extended payment terms and store closures further deteriorated GPM. A recovery phase from 2021 to 2023 saw revenue growth and declining CCC as MAPA resumed expansion. The resulting inventory demand supported supplier discount opportunities, which lifted GPM.

MAPI exhibited a similar trajectory, where CCC increased in 2019 due to heightened DSI and DPO. Its focus on store expansion mirrored MAPA's, enhancing inventory needs and trade payables while benefiting from supplier discounts that boosted GPM. The 2020 pandemic-driven sales decline (60%) led to severe CCC inefficiencies as DSI, DSO, and DPO surged. Lower prices and prolonged trade credit terms strained profitability, reducing GPM. Subsequent improvements from 2021 to 2023 lowered CCC, aligning with increased revenue and new store openings. However, GPM gains were tempered by a diversified brand portfolio.

Lastly, RALS's CCC rise in 2019 resulted from lower DPO due to reduced trade payables, diminishing supplier discounts and cutting GPM. The pandemic's 77% revenue decline forced store closures, elevated CCC, and increased inventory inefficiency. Restricted purchasing minimized stock risks but sacrificed discount opportunities, reducing GPM. In contrast, post-pandemic years saw moderate CCC gains with rising DSI and improving inventory turnover. RALS leveraged market-aligned stock replacements, stabilizing GPM growth across 2021 to 2023.

The Role of Cash Conversion Cycle (CCC) on Operating Profit Margin (OPM)

The Cash Conversion Cycle (CCC) showed a significant positive impact on the Operating Profit Margin (OPM) variable only before the pandemic. This finding supports previous studies by Erdian et al. (2022) and Fejzullahu & Govori (2021), which found that CCC has a positive effect on profitability. A larger CCC indicates that the company understands market trends well, allowing it to maintain or even increase its inventory levels. In the pre-pandemic period, sales conditions were generally much better compared to during the pandemic, and companies focused on expanding inventory to meet consumer demand while providing more lenient loan terms to consumers, leading to an increase in sales. The rise in both inventory and receivables caused a higher CCC, but the increased sales were able to improve the OPM.

Erdian et al. (2022) further revealed that companies can enhance their revenues by extending the duration of the Cash Conversion Cycle (CCC). A longer CCC suggests that the company can offer more lenient credit policies to customers, which in turn encourages consumer purchases. Higher revenues result in greater operating profits, ultimately boosting the Operating Profit Margin (OPM).

In 2019, LPPF reported an increase in Cash Conversion Cycle (CCC) caused by an increase in Days Sales Inventory (DSI) and a decrease in Days Payable Outstanding (DPO), where the increase in DSI occurred due to inventory accumulation, while the decrease in DPO occurred due to a decrease in debt resulting in the loss of discounts from suppliers. This condition caused the accumulation of old stock which lowered the selling price, while the decrease in DPO increased the cost of capital per product, so that the Gross Profit Margin (GPM) and Operating Profit Margin (OPM) decreased. In 2020, during the pandemic, CCC increased sharply due to an increase in the three working capital ratios along with an 82%

decrease in revenue, which helped manage inventory, accounts payable, and accounts payable, causing a decrease in GPM and negative OPM because operating costs exceeded revenue. In 2021, CCC decreased again along with a 242% increase in revenue, driven by improvements in inventory, accounts payable, and accounts payable management, where fast DSI allowed focus on high-value products and fast DPO maintained good relationships with suppliers and obtained discount prices, increasing GPM and OPM. Post-pandemic, CCC decreased compared to the pre- and post-pandemic periods, with an increase in DSI and DPO reflecting the strategy of replacing old stock with new high-value products, which had a positive impact on GPM and drove an increase in OPM.

For the company MAPA, an increase in CCC in 2019 was also linked to higher DSI and DPO, as MAPA focused on expanding its store network, which raised its inventory requirements. This expansion allowed MAPA to secure inventory discounts from suppliers, ultimately increasing the GPM and OPM. In 2020, the CCC surged due to increased DSI, DSO, and DPO, resulting from a 66% drop in revenue. Despite a significant decline in sales, MAPA had to extend payment terms and reduce inventory purchases due to store closures. This situation led to a sharp decline in GPM and a negative OPM, driven by high operational costs.

From 2021 through 2023, MAPA saw an increase in revenue, which led to a decrease in CCC. The company utilized this improved situation to continue expanding its store network. The significant demand for inventory to supply the new stores also led to an increase in trade payables. Buying larger quantities of inventory allowed MAPA to obtain supplier discounts, positively influencing GPM. Meanwhile, the expansion strategy resulted in higher revenue, which boosted OPM.

Similarly, MAPI experienced increased CCC in 2019 due to higher DSI and DPO, caused by the company's focus on expanding its stores, which also led to greater inventory needs. As with MAPA, MAPI's inventory purchases allowed it to gain discounts from suppliers, resulting in improved GPM and OPM. In 2020, MAPI saw a 60% decrease in sales due to the pandemic, causing a rise in DSI, DSO, and DPO, which in turn raised the CCC. Despite efforts to maintain sales, the company had to reduce its prices to drive purchases, leading to a significant drop in GPM and a negative OPM.

From 2021 to 2023, MAPI's revenue rebounded, and the CCC decreased due to improvements in DSI, DSO, and DPO. The company took advantage of the recovery by continuing to expand its store network, which significantly increased the demand for inventory. This led to higher trade payables, but the bulk purchases allowed MAPI to benefit from discounts. This strategy, along with a broader brand portfolio, resulted in improved GPM and OPM, though the increase in GPM was not as large as that observed in MAPA.

RALS experienced an increase in CCC in 2019 due to a reduction in DPO, indicating a decrease in trade payables. This decrease signified a drop in inventory purchases from suppliers, causing the company to miss out on supplier discounts, which negatively affected GPM and OPM. In 2020, the company's revenue dropped by 77%, leading to store closures and reduced inventory needs. The decline in sales also led to a rise in DSI, DSO, and DPO, resulting in an increase in CCC. The company's efforts to push sales through price reductions also led to a decrease in GPM and a negative OPM, as operational costs exceeded revenue. From 2021 to 2023, RALS saw improvements in both its inventory management and sales strategy. The company replaced old inventory with new products that better met market demand, boosting both GPM and OPM. Despite challenges in the retail environment, RALS managed to maintain a consistent improvement in profitability during this period.

CONCLUSION

The analysis reveals that working capital management metrics significantly influence Gross Profit Margin (GPM) and Operating Profit Margin (OPM) across different periods, particularly before, during, and after the pandemic.

1. The effects of Days Sales Inventory (DSI) varied over the time periods under investigation. Prior to the pandemic, DSI significantly impacted gross profit margin (GPM) since businesses had to sell inventory fast to keep it from going out of style. GPM decreased as a result of price reductions brought on by unsold merchandise. DSI had a noteworthy favourable impact on GPM during the pandemic. As a result of suppliers offering discounts to promote sales and companies becoming pickier about their inventory purchases, GPM improved and costs decreased. Following the epidemic, DSI had a somewhat favourable impact on GPM. Discounts were given for larger purchases, however there was insufficient statistical support for this claim.
2. There were also variations in the effects of Days Sales Outstanding (DSO). Prior to the pandemic, DSO's slower cash flow from postponed receivables had a negative but negligible impact on GPM. DSO significantly impacted GPM during the pandemic as a result of clients experiencing financial difficulties, which raised the possibility of uncollectable receivables. Profitability and sales declined as a result. Although businesses enhanced their receivable procedures to lower risks, DSO continued to have a negative, negligible impact on GPM after the pandemic. However, there was not enough data to statistically corroborate the effect.
3. Results on Days Payable Outstanding (DPO) were not quite consistent. Prior to the pandemic, extended DPO significantly improved GPM by enabling businesses to use cash for larger transactions, which reduced inventory costs. DPO had a negligible negative impact on GPM during the pandemic since extended payment terms ran the risk of damaging supplier relationships. Since shorter payment intervals increased supplier trust and can lead to better buying terms, DPO had a negative but negligible impact on GPM after the epidemic. But there wasn't enough evidence to prove statistical significance.
4. The impacts of the Cash Conversion Cycle (CCC) varied by time. Prior to the pandemic, CCC significantly improved GPM due to steady demand and improved inventory control. Due to slower cash flow and diminished liquidity brought on by declining revenues, CCC had a severe negative impact on GPM during the pandemic. Although there was still no statistical data to support its impact, CCC had a negative and negligible impact on GPM after the pandemic since quicker cash conversion helped lower the danger of outdated inventory.
5. Operating Profit Margin (OPM) was continuously impacted negatively by DSI. Ineffective inventory control led to prolonged DSI both before and during the epidemic, which decreased operational effectiveness and profitability. Although there was inadequate statistical proof, DSI had a negative, negligible impact on OPM after the pandemic because quicker inventory turnover periods enabled businesses to produce better operating profits.
6. The impact of DSO on OPM changed throughout time. Prior to the pandemic, longer DSO attracted clients by providing longer payment terms, which had a favourable but negligible impact on OPM. DSO had a major detrimental impact on OPM both during and after the pandemic because of lower revenues and increased risks of uncollectable receivables, which affected operational profitability.
7. The majority of DPO's effects on OPM were favourable. Longer DPO enabled businesses to keep cash on hand for operational needs both before and throughout the pandemic, increasing OPM and profitability. Following the pandemic, DPO had a somewhat beneficial impact on OPM as businesses started expanding and raising accounts payable to meet their increased inventory requirements. But statistical proof was still insufficient to prove significance.
8. The impact of the CCC on OPM varied throughout time. A longer CCC had a major positive impact prior to the pandemic since businesses kept larger inventory levels to

satisfy steady demand, which increased operating profits. Because longer cash cycles caused financial strain and higher operating costs, CCC had a negative but negligible impact on OPM both during and after the pandemic. Although the data supporting its impact was statistically weak, faster cash conversion after the pandemic produced more steady cash flows to support operational demands.

REFERENCES

Afza, T., & Sajid Nazir, M. (2007). Is it Better to be Aggressive or Conservative in Managing Working Capital? Journal of Quality and Technology Management, 3(2), 11–21.

Akgün, A. İ., & Memiş Karataş, A. (2021). Investigating the relationship between working capital management and business performance: Evidence from the 2008 financial crisis of EU-28. International Journal of Managerial Finance, 17(4), 545–567. https://doi.org/10.1108/IJMF-08-2019-0294

Akoto, K. (2013). Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms. Journal of Economics and International Finance, 5(9), 373–379. https://doi.org/10.5897/JEIF2013.0539

Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. Journal of Corporate Finance, 30, 98–113. https://doi.org/10.1016/j.jcorpfin.2014.12.008

Alarussi, A. S., & Alhaderi, S. M. (2018). Factors affecting profitability in Malaysia. Journal of Economic Studies, 45(3), 442–458. https://doi.org/10.1108/JES-05-2017-0124

Aldubhani, M. A. Q., Wang, J., Gong, T., & Maudhah, R. A. (2022). Impact of working capital management on profitability: Evidence from listed companies in Qatar. Journal of Money and Business, 2(1), 70–81. https://doi.org/10.1108/JMB-08-2021-0032

Alvarez, T., Sensini, L., & Varquez, M. (2021). Working Capital Management and Profitability: Evidence from an Emergent Economy. International Journal of Advances in Management and Economics, 11(1), 32–39.

Amponsah-Kwatiah, K., & Asiamah, M. (2021). Working capital management and profitability of listed manufacturing firms in Ghana. International Journal of Productivity and Performance Management, 70(7), 1751–1771. https://doi.org/10.1108/IJPPM-02-2020-0043

Ang, S.-K., Hong, J., Koh, A., Brigham, E. F., & Ehrhardt, M. C. (2021). Financial management: Theory and practice (2nd edition. An Asia edition). Cengage Learning Asia Pte Ltd.

Arnaldo, A., Novak, B., Roscigno, R., & Zhang, W. (2021). Working Capital Management and Profitability: Empirical Evidence. International Journal of Business Management and Economic Research, 12(2), 1911–1917.

Azzeddine, B., & Ibrahim, B. (2021). The Effect of Working Capital Management on Firms' :Performance Evidence from Algerian Listed Firms. Dirassat Journal Economic Issue, 12(2), 381–397. https://doi.org/10.34118/djei.v12i2.1401

Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2014). Working capital management, corporate performance, and financial constraints. Journal of Business Research, 67(3), 332–338. https://doi.org/10.1016/j.jbusres.2013.01.016

Brigham, E. F., & Ehrhardt, M. C. (2020). Financial management: Theory & practice (16e ed.). Cengage.

Brigham, E. F., & Houston, J. F. (2022). Fundamentals of financial management (16e ed.). Cengage.

Dash, S. R., Sethi, M., & Swain, R. K. (2023). Financial condition, working capital policy and profitability: Evidence from Indian companies. Journal of Indian Business Research, 15(3), 318–355. https://doi.org/10.1108/JIBR-12-2020-0378

Deloof, M. (2003). Does Working Capital Management Affect Profitability of Belgian Firms? Journal of Business Finance & Accounting, 30(3–4), 573–588. https://doi.org/10.1111/1468-5957.00008

Demiraj, R., Dsouza, S., & Abiad, M. (2022). Working Capital Management Impact on Profitability: Pre-Pandemic and Pandemic Evidence from the European Automotive Industry. Risks, 10(12), 236. https://doi.org/10.3390/risks10120236

Erdian, R., Siregar, H., & Indrawan, D. (2022). Pengaruh Manajemen Modal Kerja Terhadap Profitabilitas Perusahaan Ritel Indonesia: Peran Moderasi Makroekonomi. Jurnal Aplikasi Bisnis Dan Manajemen. https://doi.org/10.17358/jabm.8.2.620

Fejzullahu, A., & Govori, F. (2021). Working capital management and profitability of manufacturing companies in Kosovo. Management, 26(2), 277–294. https://doi.org/10.30924/mjcmi.26.2.16

Ghozali, I. (2018). Aplikasi Analisis Multivariate Dengan Program IBM SPSS 25 (9th ed.). Badan Penerbit Universitas Diponegoro.

Högerle, B., Charifzadeh, M., Ferencz, M., & Kostin, K. (2020). The development of working capital management and its impact on profitability and shareholder value: Evidence from Germany. Strategic Management, 25(2), 27–39. https://doi.org/10.5937/StraMan2002027H

Howorth, C., & Westhead, P. (2003). The focus of working capital management in UK small firms. Management Accounting Research, 14(2), 94–111. https://doi.org/10.1016/S1044-5005(03)00022-2

Juan García-Teruel, P., & Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. International Journal of Managerial Finance, 3(2), 164–177. https://doi.org/10.1108/17439130710738718

Le, B. (2019). Working capital management and firm's valuation, profitability and risk: Evidence from a developing market. International Journal of Managerial Finance, 15(2), 191–204. https://doi.org/10.1108/IJMF-01-2018-0012

Losbichler, H., & Mahmoodi, F. (2012). Why working capital should matter to you. Reed Business Information, 16(6), 26–33.

Mandipa, G., & Sibindi, A. B. (2022). Financial Performance and Working Capital Management Practices in the Retail Sector: Empirical Evidence from South Africa. Risks, 10(3), 63. https://doi.org/10.3390/risks10030063

Musa Tsagem, M., Aripin, N., & Ishak, R. (2015). Impact of Working Capital Management, Ownership Structure and Board Size on the Profitability of Small and Medium-Sized Entities in Nigeria. International Journal of Economics and Financial Issues, 5, 77–83.

Pestonji, C., & Wichitsathian, S. (2019). The Impacts of Working Capital Policy on Firms' Performances: An Empirical Study on Thai Listed Companies in Production Sector. In W. A. Barnett & B. S. Sergi (Eds.), International Symposia in Economic Theory and Econometrics (Vol. 26, pp. 39–51). Emerald Publishing Limited. https://doi.org/10.1108/S1571-038620190000026003

Phuong, N. T. T., & Hung, D. N. (2020). Impact of working capital management on firm profitability: Empirical study in Vietnam. Accounting, 259–266. https://doi.org/10.5267/j.ac.2020.3.001

Prasad, P., Sivasankaran, N., Paul, S., & Kannadhasan, M. (2019). Measuring impact of working capital efficiency on financial performance of a firm: An alternative approach. Journal of Indian Business Research, 11(1), 75–94. https://doi.org/10.1108/JIBR-02-2018-0056

Pratap Singh, H., & Kumar, S. (2014). Working capital management: A literature review and research agenda. Qualitative Research in Financial Markets, 6(2), 173–197. https://doi.org/10.1108/QRFM-04-2013-0010

Raheman, A., & Nasr, M. (2007). Working capital management and profitability–case of Pakistani firms. Nternational Review of Business Research Papers, 3(1), 279–300.

Rey-Ares, L., Fernández-López, S., & Rodeiro-Pazos, D. (2021). Impact of working capital management on profitability for Spanish fish canning companies. Marine Policy, 130, 104583. https://doi.org/10.1016/j.marpol.2021.104583

Sajid Nazir, M., & Afza, T. (2009). Impact of Aggressive Working Capital Management Policy on Firms' Profitability. The IUP Journal of Applied Finance, 15(8), 19–30.

Soda, M. Z., Hassan Makhlouf, M., Oroud, Y., & Al Omari, R. (2022). Is firms' profitability affected by working capital management? A novel market-based evidence in Jordan. Cogent Business & Management, 9(1), 2049671. https://doi.org/10.1080/23311975.2022.2049671

Stanić, M., Cita, M., & Šulentić, M. S. (2023). The Influence of Working Capital Management on the Profitability of Manufacturing Enterprises—The Case of Croatia. South East European Journal of Economics and Business, 18(2), 126–139. https://doi.org/10.2478/jeb-2023-0023

Talonpoika, A.-M., Kärri, T., Pirttilä, M., & Monto, S. (2016). Defined strategies for financial working capital management. International Journal of Managerial Finance, 12(3), 277–294. https://doi.org/10.1108/IJMF-11-2014-0178

Tamulevičienė, D. (2016). Methodology of complex analysis of companies' profitability. Entrepreneurship and Sustainability Issues, 4(1), 53–63. https://doi.org/10.9770/jesi.2016.4.1(5)

Tsuruta, D. (2018). Do Working Capital Strategies Matter? Evidence from Small Business Data in Japan. Asia-Pacific Journal of Financial Studies, 47(6), 824–857. https://doi.org/10.1111/ajfs.12239

Valaskova, K., Kliestik, T., & Gajdosikova, D. (2021). Distinctive determinants of financial indebtedness: Evidence from Slovak and Czech enterprises. Equilibrium. Quarterly Journal of Economics and Economic Policy, 16(3), 639–659. https://doi.org/10.24136/eq.2021.023.