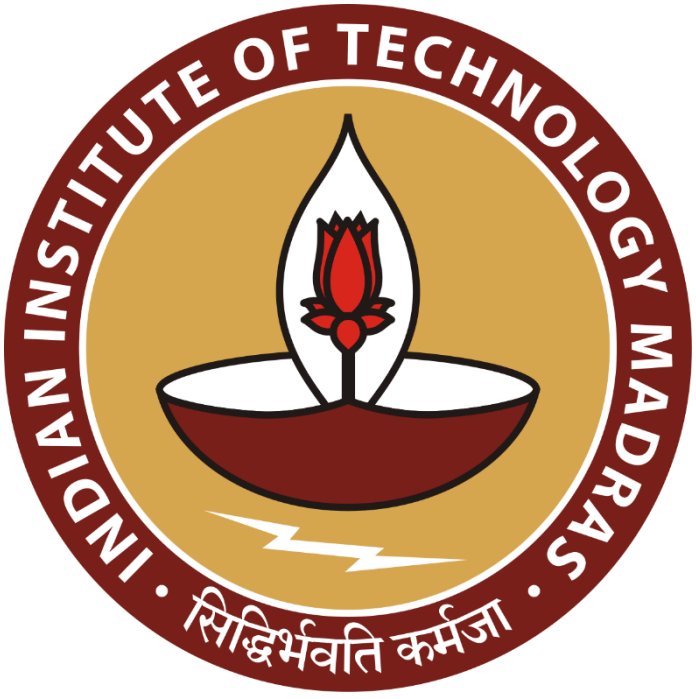
Enhancing Investment Rotation and Credit Cycle Management for Optimal Performance in Consumer Durables Distribution Firm, Anuratna Corporation

Final Submission Report for the BDM Capstone Project

Submitted by:

Name: Bhavya Sharma

Roll number: 21f2000707



IITM Online BS Degree Program,

Indian Institute of Technology, Madras, Chennai

Tamil Nadu, India, 600036

CONTENTS

1 Executive Summary

This report conducts a comprehensive analysis of Anuratna Corporation's investment and credit management strategies, aiming to bolster financial stability and operational efficiency. Through meticulous examination, critical insights have been unearthed to address prevailing challenges and optimize performance.

The report’s evaluation of investment rotation practices has identified areas where current strategies may not be yielding optimal returns. Proposed solution advocates reallocating investments to sectors or assets with greater growth potential and lower risk, aligning with the company's long-term financial objectives.

Furthermore, the scrutiny of credit management processes has shed light on challenges related to extended credit cycles, while an assessment of dealer performance has pinpointed persistent non-payment trends among certain dealers. To effectively address these issues, targeted interventions are recommended such as intensified follow-up procedures, incentives for early payments, and exploration of alternative financing avenues to mitigate cash flow constraints and resolve outstanding debts.

In summary, the findings of this project are aimed at empowering Anuratna Corporation to identify and overcome bottlenecks, thereby facilitating enhanced growth and success in the future, and navigating challenges more effectively.

2 Detailed Explanation of Analysis Process/Method

Anuratna Corporation faces challenges with its investment strategies, leading to suboptimal returns on capital. The current investment approach hampers the firm's ability to generate satisfactory returns while effectively managing risks. This problem impacts the firm's financial performance and long-term sustainability. The firm also grapples with prolonged credit cycles, resulting in cash flow strain and heightened risks of late or non-payments. Extended credit cycles not only impact the firm's liquidity but also undermine its financial stability and operational efficiency. Responding to this problem is crucial for improving cash flow management and mitigating the risk of payment delays.

To address these challenges, the following analysis methods were employed:

A. Payment Receipt Analysis

Explanation of this method:

- Payment receipt analysis is a critical component of credit management, focusing on assessing the timeliness of payment submissions by debtors. It involves examining whether payments were received within a specified period, typically 30 days, and tracking any delays beyond that period.
- The analysis aims to understand the relationship between payment receipt status (Yes/No) and the number of days since the purchase date. By visualizing this relationship, the firm can gain insights into the frequency and severity of payment delays, as well as their impact on financial stability.

Data used in this method:

The data used for payment receipt analysis includes transactional data related to outstanding amounts, payment receipts, and payment delays for each debtor. This data typically spans multiple time periods, allowing for the analysis of payment behavior over time.

Justification for using this method:

- This analysis is crucial for understanding the financial health of the firm and assessing the impact of delayed payments on cash flow and operational efficiency.
- For the problem regarding investment rotation, this analysis helps in analyzing payment receipt status and delays, by which the firm can identify patterns of late payments, assess their financial impact, and implement strategies to mitigate risks.

Charts used for data visualization in this method:

- Bubble Chart: Used to visualize the relationship between payment receipt status and payment delay for all three time periods.
- Box Whisker Plot: Added to display the distribution of payment submission times by debtors, including metrics such as interquartile range (IQR) and medians.

B. Dealer Performance Analysis

Explanation of this method:

- Dealer performance analysis provides a comprehensive overview of each dealer's outstanding amounts and payment details, facilitating effective monitoring and management of dealer relationships.
- By visualizing dealer-specific metrics, including outstanding amounts and cycle in which the payments were fulfilled (if fulfilled), the firm can prioritize actions and improve communication with dealers. This analysis aims to enhance operational efficiency and strengthens dealer relationships, leading to better business outcomes.
- In addition to monitoring payment receipt status and outstanding amounts, the analysis also includes an assessment of which TV and washing machine models are performing well. This additional analysis helps in understanding product demand trends among dealers and identifying opportunities to optimize inventory management and marketing strategies.

Data used in this method:

- The data used for dealer performance analysis includes transactional data specific to each dealer, such as outstanding amounts, payment details, and payment delays.
- It also includes inventory data containing the details of how many and which models of TV and Washing Machines were ordered in a specific year.
  This data is aggregated and analyzed to generate visualizations that highlight dealer performance metrics, facilitating decision-making and follow-up actions.

Justification for using this method:

- By monitoring payment receipt status and outstanding amounts, the firm can prioritize actions and improve communication with dealers.
- This analysis enhances operational efficiency and strengthens dealer relationships, leading to better business outcomes.
- For the Extended Credit Cycle Problem, efficient dealer performance analysis could aid in reducing credit cycles by identifying dealers with frequent late payments and implementing proactive measures to address payment delays, thus enhancing financial stability, and minimizing the risk of late payments.
- Additionally, the analysis of TV and washing machine models' performance provides valuable insights into product demand trends among dealers. This information can be used to optimize inventory management strategies, ensuring adequate stock levels of popular models while minimizing excess inventory of slower-moving products.

Charts used for data visualization in this method:

- Heatmap with Conditional Formatting: Utilized to visually monitor payment receipt status for each dealer across all three time periods, highlighting dealers with consistent payment delays or non-payments.
- Sunburst Plot: Introduced to display the payment submission patterns of debtors over the years, providing insights into payment behaviour trends.
- Stacked Rose Chart and Stacked Line Chart: Implemented to analyse which models of televisions and washing machines are purchased more, aiding in understanding product demand trends among dealers.

3 Results and Findings

By leveraging payment receipt analysis and dealer performance analysis, the firm can address the challenges posed by suboptimal investment strategies and extended credit cycles. These analyses aim at providing actionable insights and enable the firm to optimize its operations, enhance financial stability, and maximize returns on capital. Upon implementing these analysis methods, the following insights were gleaned:

First few observations from the Payment Receipt Analysis, depicted through Figure 1, provide valuable insights into the payment behaviour of debtors during the April 2022 – October 2022 period. The chart illustrates the relationship between the outstanding amount owed by debtors (y-axis) and the number of days elapsed since the purchase date when payment was received (x-axis).

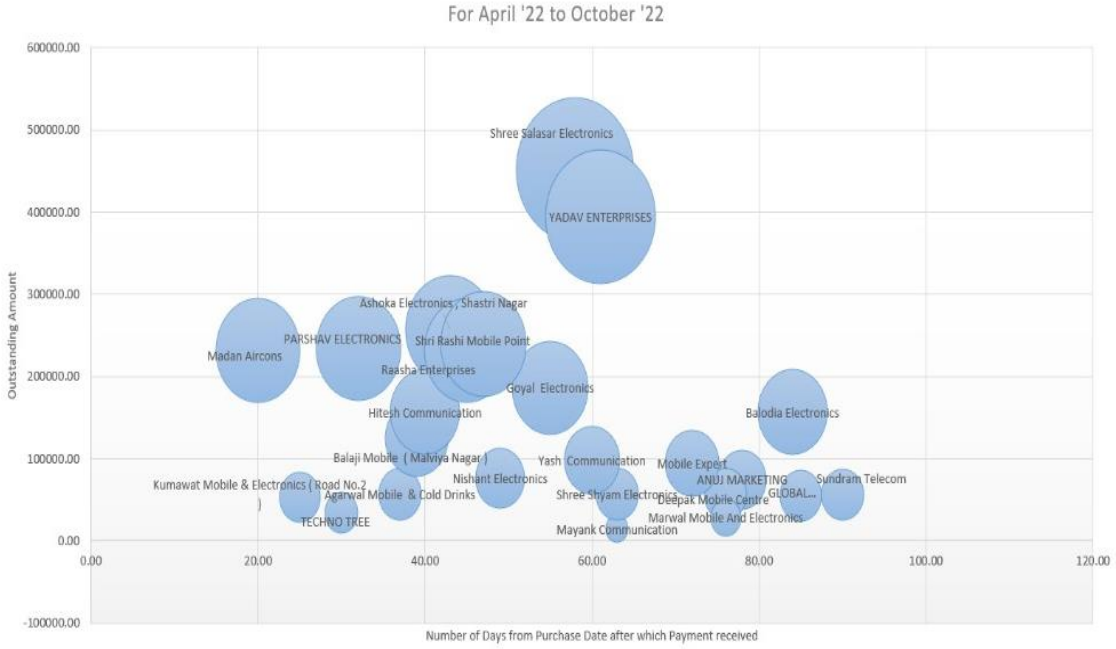
Key observations derived from this analysis are as follows:

1. Payment Submission Rate: Among the 29 dealers included in the analysis, a majority of 24 dealers (82.8%) submitted their due payments within the specified timeframe.

2. Variability in Payment Timelines: There exists a notable variability in the time taken by dealers to submit their payments. This ranges from as short as 20 days, observed in the case of Madan Aircons, to as long as 90 days for Sundram Telecom.

3. Lack of Clear Correlation: Interestingly, the analysis reveals no clear correlation between the payment receipt status and the duration it takes to receive payment.

Figure 1



Similar chart is used for valuable insights into the payment behaviour of debtors during the November 2022 – March 2023 and April 2023 – October 2023 time periods.

Figure 2 offers an insightful depiction of Payment Receipt Statistics during the November 2022 – March 2023 period, presenting the relationship between the outstanding amount owed by debtors (y-axis) and the duration elapsed since the purchase date when payment was received (x-axis).

Key observations gleaned from this analysis are as follows:

1. Decline in Payment Submission Rate: In comparison to the preceding time period, there is a noticeable decrease in the number of dealers submitting their payments. Specifically, out of the 29 dealers included in the analysis, only 16 dealers (55.2%) managed to submit their due payments within the stipulated timeframe.

2. Variability in Payment Timelines: Similar to the previous period, there exists a significant variability in the duration taken by dealers to remit their payments. This ranges from 25 days, observed in the case of Mayank Communications, to the maximum duration of 90 days for Shree Salasar Electronics.

3. Lack of Clear Correlation: Despite the varying timelines for payment receipt, there is no discernible correlation between the payment receipt status and the time taken to receive payment.

Figure 2

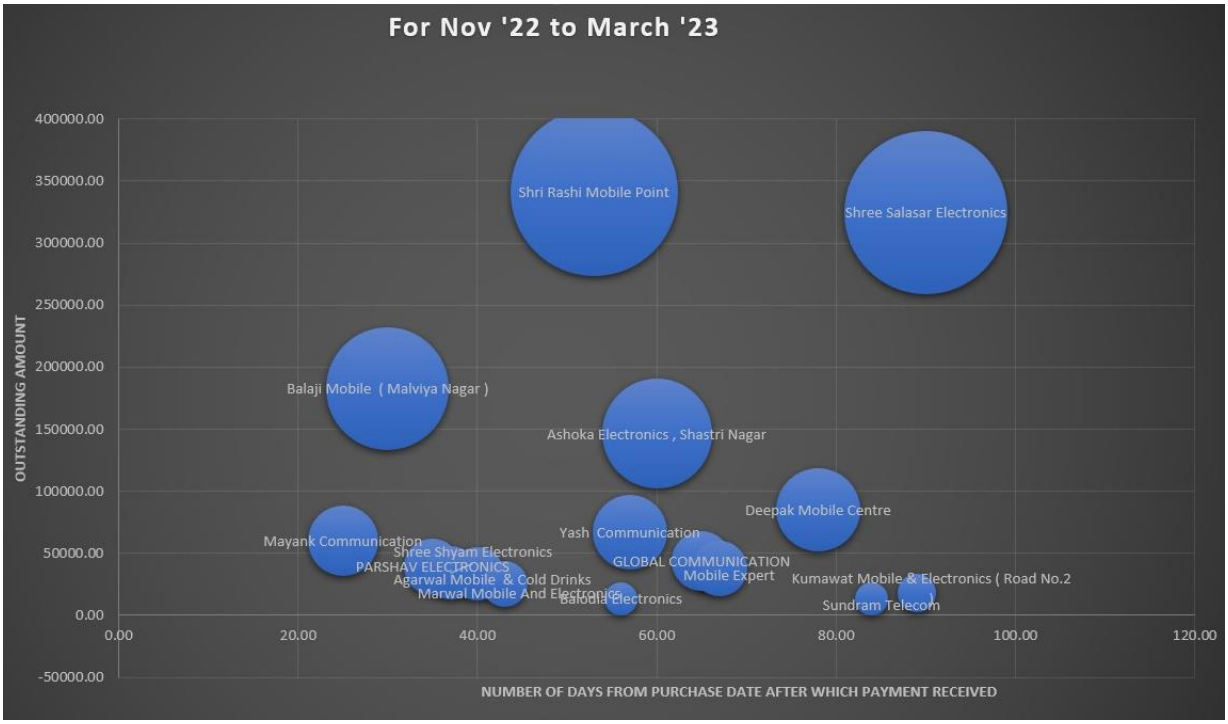


Figure 3 provides a comprehensive visualization of Payment Receipt Statistics spanning the April 2023 – October 2023 timeframe, presenting the relationship between the outstanding amounts owed by debtors (y-axis) and the duration elapsed since the purchase date when payment was received (x-axis).

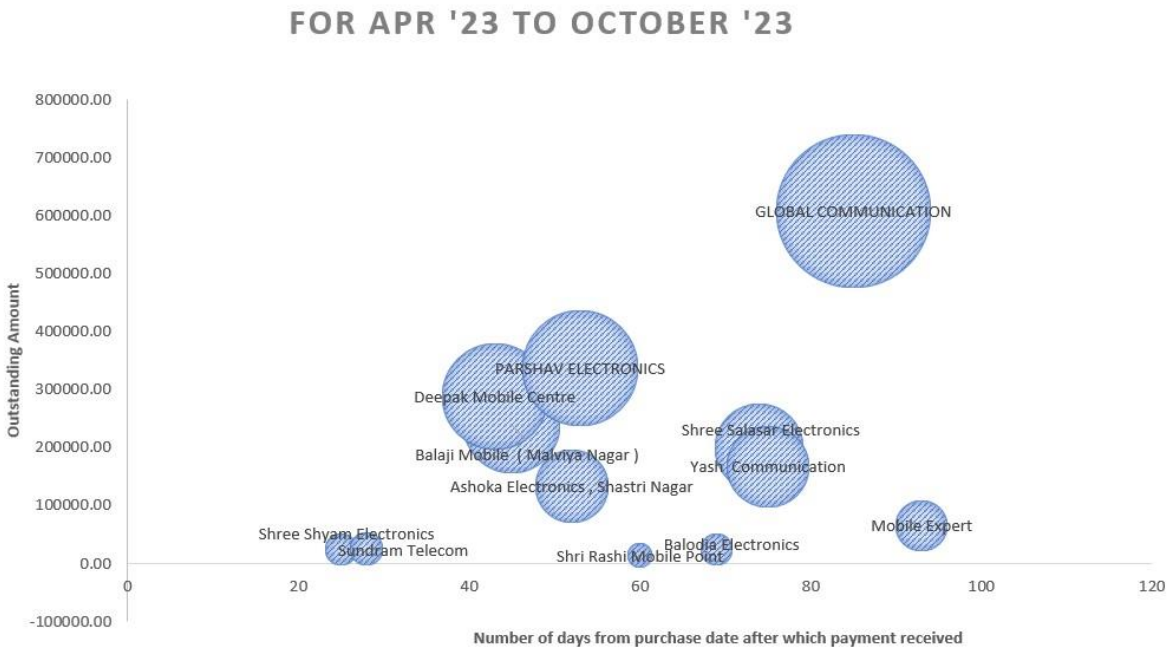
Detailed insights extracted from this analysis include:

1. Decrease in Payment Submission Rate: Compared to the preceding time period, there has been a notable decline in the number of dealers who submitted their payments within the specified timeframe. Specifically, out of the 29 dealers included in the analysis, only 11 dealers (37.9%) managed to fulfil their payment obligations within the defined period.

2. Variation in Payment Timelines: Similar to previous observations, a wide range of durations is evident in the time taken by dealers to remit their payments. This variability ranges from 25 days, observed in the case of Shree Govindam Electronics and Appliances, to the maximum duration of 90 days for Mobile Expert.

3. Lack of Clear Correlation: Despite the diverse timelines for payment receipt, no distinct correlation is observed between the payment receipt status and the time taken to receive payment.

Figure 3



These findings underscore the persistent challenges faced by the firm in managing timely payment submissions from debtors. Addressing these challenges requires proactive measures aimed at incentivizing prompt payments and fostering stronger communication and collaboration with debtors.

The Dealer Performance Heatmap, made using Conditional Formatting in Excel, which is shown in Figure 4, provides a visual representation of individual dealers' payment behaviors across multiple time periods, facilitating the identification of patterns and trends in payment compliance. The heatmap displays the names of sundry debtors/dealers against their payment status for each period mentioned.

Color coding reference for Heatmap:

- Orange cells indicate that the due payment has not been made for that period (which is indicated in the column heading).
- Green cells indicate that the due payment has been paid for that period (which is indicated in the column heading).

Figure 4

Dealer Name	Payment received for Apr 22- Oct 22(Yes/No)	Payment received for Nov 22- March 23(Yes/No)	Payment received for Apr 23 - Oct 23 (Yes/No)
Agarwal Mobile & Cold Drinks	Yes	Yes	No
ANUJ MARKETING	Yes	No	No
Ashoka Electronics , Shastri Nagar	Yes	Yes	Yes
Balaji Mobile (Malviya Nagar)	Yes	Yes	Yes
Balodia Electronics	Yes	Yes	Yes
Deepanshi Electronics	No	No	No
Deepak Mobile Centre	Yes	Yes	Yes
GLOBAL COMMUNICATION	Yes	Yes	Yes
Goyal Electronics	Yes	No	No
Hitesh Communication	Yes	No	No
Jai Shree Shyam	No	No	No
Kumawat Mobile & Electronics (Road No.2)	Yes	Yes	No
Madan Aircons	Yes	No	No
Marwal Mobile And Electronics	Yes	Yes	No
Mayank Communication	Yes	Yes	No
Mobile Expert	Yes	Yes	Yes
Nishant Electronics	Yes	No	No
PARSHAV ELECTRONICS	Yes	Yes	Yes
Raasha Enterprises	Yes	No	No
Radhika Air & Vision	No	No	No
Riddhi Siddhi Enterprises	No	No	No
Shree Salasar Electronics	Yes	Yes	Yes
Shree Shyam Electronics	Yes	Yes	No
Shri Govindam Electronics And Appliances	No	No	No
Shri Rashi Mobile Point	Yes	Yes	Yes
Sundram Telecom	Yes	Yes	Yes
TECHNO TREE	Yes	No	No
YADAV ENTERPRISES	Yes	No	No
Yash Communication	Yes	Yes	Yes

Based on the insights derived from the Dealer Performance Heatmap, several noteworthy observations can be made regarding the payment behaviours of individual dealers across different time periods:

1. Number of Non-Payers in Each Time Period:
    - There are 5 dealers with payment still due for April 2022 – October 2022 period.
    - There are 13 dealers with payment still due for November 2022 – March 2023 period.
    - There are 18 dealers with payment still due for April 2023 – October 2023 period.

2. Persistent Non-Payment Records:

    - Jai Shree Shyam, Radhika Air and Vision, Ridhi Sidhi Enterprises, and Shri Govindam Electronics and Appliances exhibit a consistent pattern of non-payment across all analysed time periods.

3. Two-Time Period Non-Payers:
    - Anuj Marketing, Goyal Electronics, Hitesh Communication, Madan Aircons, Mobile Expert, Raasha Enterprises, Techno Enterprises, and Yadav Enterprises demonstrate a concerning trend of non-payment, spanning the last two consecutive time periods.
4. Outstanding Payments in the Latest Time Period:
    - Agarwal Mobile and Cold Drinks, along with Shree Shyam Electronics, still have pending outstanding payments for the period spanning April '23 to October '23.
    - Despite progress or changes in payment behaviours over previous periods, these dealers have yet to fulfil their financial obligations for the most recent timeframe, warranting focused attention to resolve outstanding debts and prevent further delays.
5. Overall Non-Payment Trends:
    - Notably, a significant portion of the dealers, comprising 18 out of 29 (approximately 62%), have recorded outstanding payments across the analysed time periods.

Now that we have thoroughly examined the dealers who have not fulfilled their payment obligations, it is imperative to shift our focus towards discerning patterns and insights within the group of dealers who have successfully made their payments. By analyzing their payment behaviors and compliance, we can uncover valuable insights that may contribute to refining credit management strategies and fostering stronger dealer relationships.

For this analysis, Sunburst charts were employed, with Credit Cycles serving as the primary category. The details regarding the Sunburst charts are as follows:

- Within each cycle, the secondary category comprised the names of dealers who made payments, while the value represented the number of days taken by each dealer to settle their dues after placing the order.
- Each Sunburst chart corresponds to a specific time period, delineating the payment patterns across different credit cycles.
- The Credit Cycles are categorized as follows:
    (1) Cycle 1 spans the initial 30 days from the order date.
    (2) Cycle 2 extends beyond 30 days but is limited to 60 days (31-60 days from the order date).
    (3) Cycle 3 encompasses the period exceeding Cycle 2 (61-90 days).
    (4) The final category (>90 days) denotes the duration surpassing 90 days from the order date.
- Alongside the dealer names, the respective number of days taken for payment is indicated on the chart, providing a comprehensive visualization of payment timelines across various credit cycles.

The Sunburst Chart depicted in Figure 5 below, illustrates payment patterns for the period spanning April 2022 to October 2022.

Figure 5

For April 2022 - October 2022

Here, Green color-coded sections indicate Dealers who fulfilled their payments within the first Credit Cycle, Yellow color-coded sections indicate Dealers who fulfilled their payments in the second Credit Cycle and Red color-coded sections indicate Dealers who fulfilled their payments in the third Credit Cycle.

Inferences that can be made from Figure 5 are:

- Only a small subset of dealers i.e. 3 out of 24 managed to submit their payments within the 30-day window i.e. within Credit Cycle 1.
- Most dealers (21 out of 24) required more than 30 days to fulfill their payment obligations.
- 11 dealers fulfilled their payments in Credit Cycle 2 while 10 dealers fulfilled their payments in Credit Cycle 3.

Similarly, the Sunburst Charts illustrating payment patterns for the period spanning November 2022 to March 2023 and April 2023 to October 2023 are as follows in Figure 6 and Figure 7 respectively, along with the observations made from those charts.

Here, Green color-coded sections indicate Dealers who fulfilled their payments within the first Credit Cycle, Yellow color-coded sections indicate Dealers who fulfilled their payments in the second Credit Cycle and Red color-coded sections indicate Dealers who fulfilled their payments in the third Credit Cycle.

Figure 6

For November 2022 - March 2023

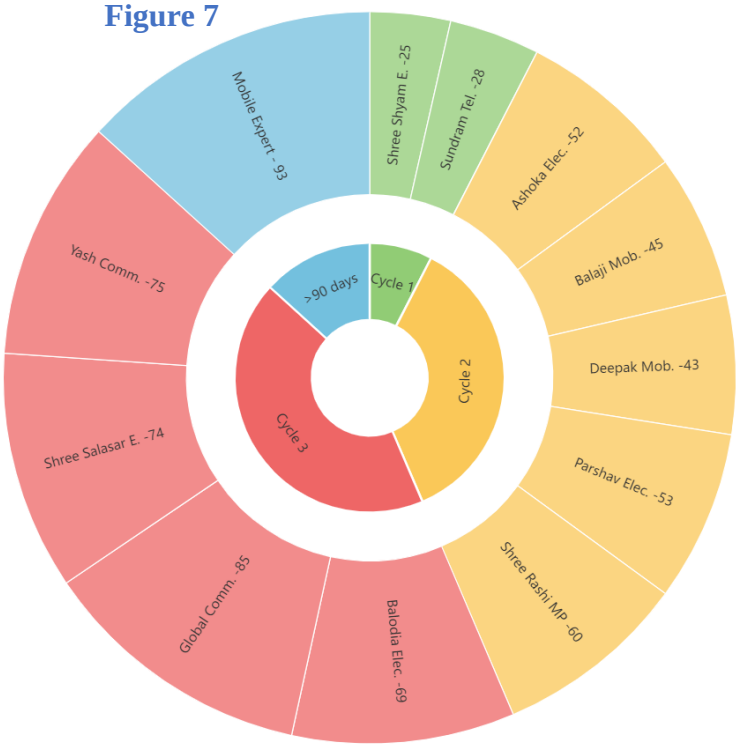
Inferences that can be made from Figure 6 are:

- Only 2 out of 16 Dealers submitted their payments within the first Credit Cycle.
- Most dealers (14 out of 16) required more than 30 days to fulfill their payment obligations.
- 8 dealers fulfilled their payments in Credit Cycle 2 while 6 dealers fulfilled their payments in Credit Cycle 3.

Shown below, in Figure 7, Green color-coded sections indicate Dealers who fulfilled their payments within the first Credit Cycle, Yellow color-coded sections indicate Dealers who fulfilled their payments in the second Credit Cycle, Red color-coded sections indicate Dealers who fulfilled their payments in the third Credit Cycle and Blue color-coded sections indicate Dealers who took more than 90 days to fulfil their payments.

Figure 7

For April 2023 - October 2023



Inferences that can be made from Figure 7 are:

- Only 2 out of 12 Dealers submitted their payments within the first Credit Cycle.
- 5 out of 12 Dealers submitted their payments in Credit Cycle 2.
- 4 out 0f 12 Dealers submitted their payments in Credit Cycle 3.
- 1 out of 12 Dealers took more than 90 days to submit their payment.

The patterns observed in Dealer Performance Analysis through Sunburst Charst are as follows:

- When it came to submitting payment in Credit Cycle 1, for period spanning from April 2022 to October 2022, only 12.5% of dealers submitted their payment. While for November 2022 to March 2023 and April 2023 to October 2023, 12.5% and 16.6% of dealers submitted their payments, respectively.
- Now 45.8% of dealers in April 2022-October 2022, 50% of dealers in November 2022-March 2023 and 41.6% of dealers in April 2023-October 2023 submitted their payments in Credit Cycle 2.
- While, 41.6% of dealers in April 2022-October 2022, 37.5% of dealers in November 2022-March 2023 and 33.3% of dealers in April 2023-October 2023 submitted their payments in Credit Cycle 3.

  These observations show that very small portion of dealers submitted their payments within first Credit Cycle. Majority of dealers submitted their payments in the second Credit Cycle, while the next majority of dealers submitted their payments in the third Credit Cycle.

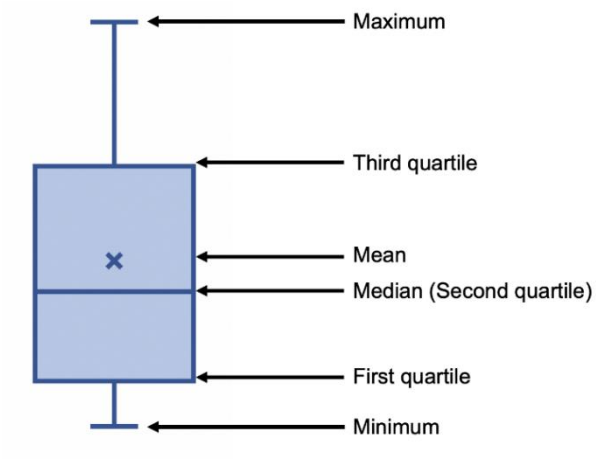
To gain deeper insights into the trends and summary statistics regarding Outstanding Payments and the Time taken to submit due payments, the Box and Whisker Plot, illustrated in Figure 9, has been utilized.

This plot represents the number of days a dealer takes to submit their payment on the y-axis, with the year depicted on the x-axis. Each box plot is color-coded to represent different time periods:

- the green box plot represents the period from April 2022 to October 2022,
- the blue box plot represents the period from November 2022 to March 2023, and
- the yellow box plot represents the period from April 2023 to October 2023.

The box and whisker plot provides a visual representation of the distribution and summary statistics of a dataset. Here's what each component of the plot depicts in terms of summary statistics (refer the figure below, Figure 8, for visual depiction):

Figure 8



Box:

- The box represents the interquartile range (IQR), which contains the middle 50% of the data.
- The bottom edge of the box indicates the first quartile (Q1), representing the 25th percentile of the data.
- The top edge of the box indicates the third quartile (Q3), representing the 75th percentile of the data.
- The length of the box (Q3 - Q1) illustrates the spread of the middle 50% of the data.

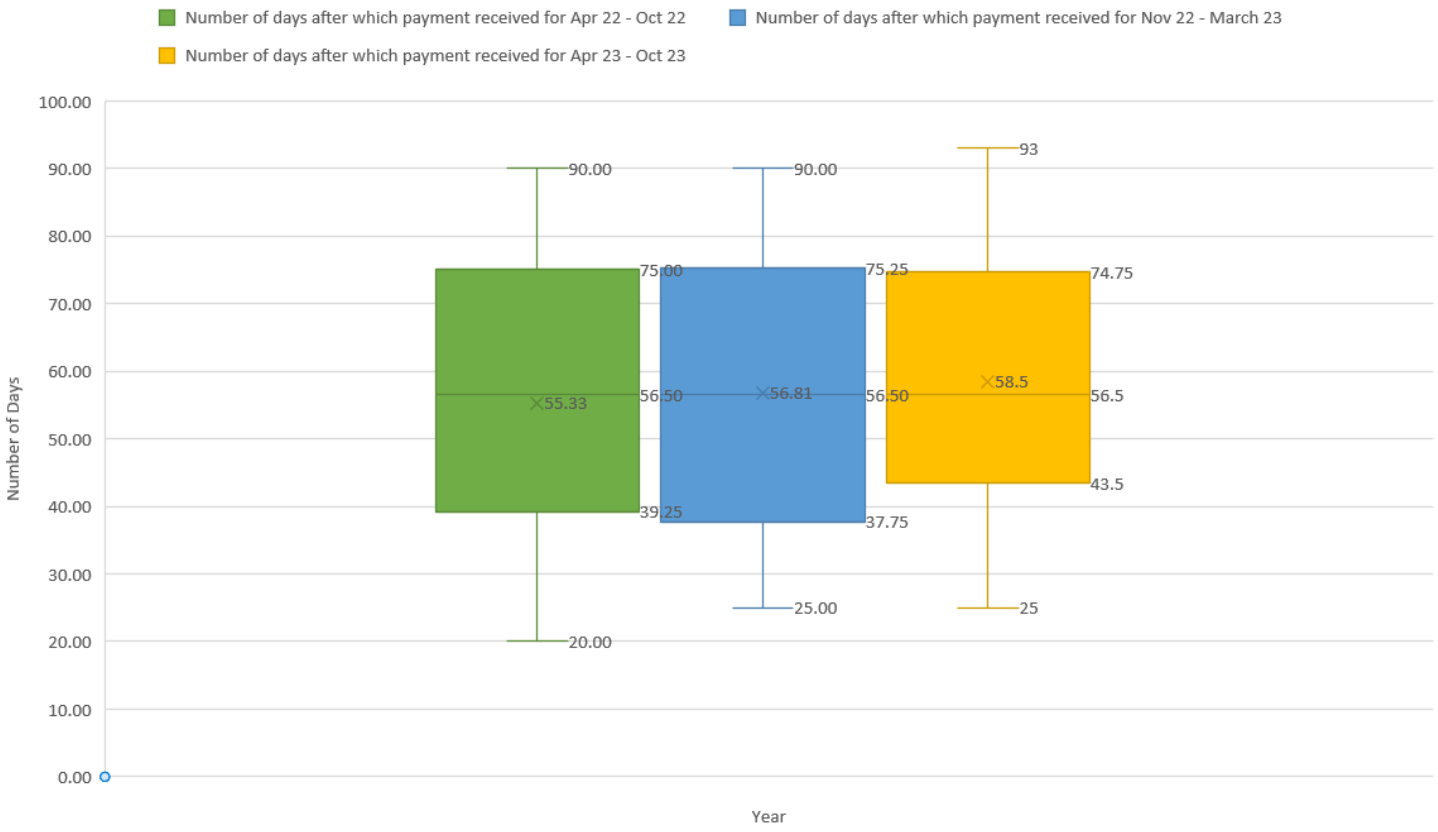
Whiskers:

- The whiskers extend from the edges of the box to the minimum and maximum values of the data, excluding outliers.
- The length of the whiskers provides information about the variability or spread of the entire dataset.

Outliers:

- Individual data points that fall outside the whiskers are considered outliers and are plotted separately.
- Outliers may indicate unusual or extreme values in the dataset.

Figure 9



From the Box and Whisker Plot, we can infer that:

1. <u>April 2022 - October 2022 Period</u>:
    - The first quartile (Q1) is 39.25, indicating that 25% of the dealers took fewer than 39.25 days to submit their payments.
    - The median (Q2) is 56.50, suggesting that 50% of the dealers submitted their payments within approximately 56.50 days.
    - The third quartile (Q3) is 75, signifying that 75% of the dealers took fewer than 75 days to submit their payments.
    - The minimum value is 20 days, and the maximum value is 90 days, showing the range of payment submission times within this period.
2. <u>November 2022 - March 2023 Period</u>:
    - Q1 is 37.75, indicating that 25% of the dealers took fewer than 37.75 days to submit their payments.
    - Q2 remains the same at 56.50, suggesting that the median payment submission time is consistent across different periods.
    - Q3 is 75.25, signifying that 75% of the dealers took fewer than 75.25 days to submit their payments.

- The minimum value is 25 days, and the maximum value is 90 days, similar to the previous period.

3. April 2023 - October 2023 Period:
    - Q1 is 43.5, indicating that 25% of the dealers took fewer than 43.5 days to submit their payments.
    - Q2 remains the same at 56.5, consistent with the median payment submission time observed in other periods.
    - Q3 is 74.75, signifying that 75% of the dealers took fewer than 74.75 days to submit their payments.
    - The minimum value is 25 days, and the maximum value is 93 days, showing variations in payment submission times compared to previous periods.

Now, let's delve into an analysis focused on assessing the performance of TV and washing machine models. This evaluation serves as a crucial assessment to gauge the effectiveness of these products among dealers, aiding in discerning demand trends and pinpointing avenues for enhancing inventory management and refining marketing strategies.

For this assessment, two stacked rose charts have been employed. One chart illustrates the performance of TV models, while the other delineates the performance of Washing Machine models. These charts provide a visual representation of the relative performance of each model within their respective categories, offering insights into product popularity and market demand dynamics. Figure 10 depicts the stacked rose chart for TV models while Figure 12 depicts the stacked rose chart for Washing Machine models.

In each stacked rose chart depicting model popularity and demand, each model is represented by a triangular segment, with the area of each triangle corresponding to the number of units ordered for that particular model in a given year. The chart utilizes three different colors to distinguish between the years 2021, 2022, and 2023, providing a clear visual representation of the ordering trends over time. The yellow color segment depicts the number of units ordered (of that particular model) in 2023, red color segment depicts the number of units ordered (of that particular model) in 2022, and the brown color segment depicts the number of units ordered (of that particular model) in 2021.

Figure 10

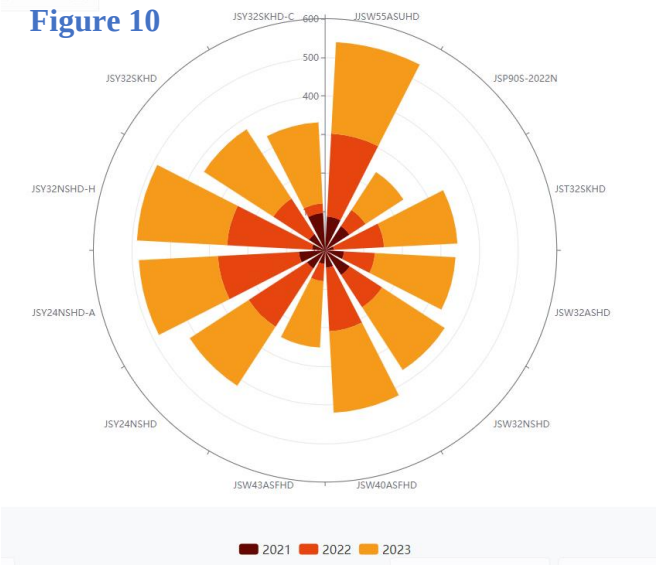


Figure 11

	A	B	C	D
1		2021	2022	2023
2	JJSW55ASUHD	88	215	237
3	JSP90S-2022N	75	50	117
4	JST32SKHD	23	130	190
5	JSW32ASHD	49	80	209
6	JSW32NSHD	76	100	193
7	JSW40ASFHD	45	165	211
8	JSW43ASFHD	35	45	172
9	JSY24NSHD	56	180	182
10	JSY24NSHD-A	68	210	205
11	JSY32NSHD-H	34	220	234
12	JSY32SKHD	50	110	214
13	JSY32SKHD-C	97	25	210
14				

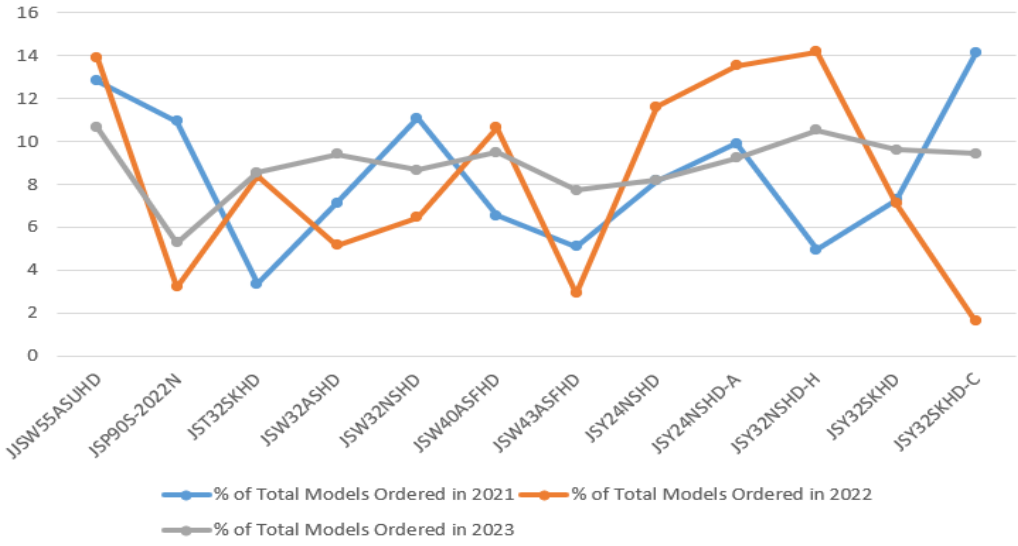
Figure 10 depicts the stacked rose chart for TV models. Figure 11 depicts the dataset used for Figure 10. Column A contains the names of TV Models the firm stocks in inventory for dealer purchase and Column B,C and D contains the number of units ordered in year 2021, 2022, and 2023 respectively.Figure 12 depicts the percentage of each model ordered out of total models in a particular year.Figure 13 depicts the trend observed in Figure 12 data in a Stacked Line Chart, with y-axis depicting the number of units of models ordered and x-axis depicting the names of the models.

Figure 12

	A	B	C	D
1	TV Model Name	% of Total Models Ordered in 2021	% of Total Models Ordered in 2022	% of Total Models Ordered in 2023
2	JJSW55ASUHD	12.82	13.87	10.65
3	JSP90S-2022N	10.93	3.22	5.26
4	JST32SKHD	3.35	8.38	8.54
5	JSW32ASHD	7.14	5.16	9.39
6	JSW32NSHD	11.07	6.45	8.67
7	JSW40ASFHD	6.55	10.64	9.48
8	JSW43ASFHD	5.1	2.9	7.73
9	JSY24NSHD	8.16	11.61	8.18
10	JSY24NSHD-A	9.91	13.54	9.21
11	JSY32NSHD-H	4.95	14.19	10.52
12	JSY32SKHD	7.28	7.09	9.62
13	JSY32SKHD-C	14.13	1.61	9.44

From the figures (10,11,12,13), we can infer trends and changes in the popularity of TV models over the three years (2021, 2022, and 2023). Some observations include:

Figure 13



1. Model Stability: Some models, such as JJSW55ASUHD and JSW32NSHD, maintain relatively consistent percentages across the three years, indicating stability in demand or market appeal.
2. Emerging Trends: Certain models exhibit increasing percentages over the years, suggesting growing popularity or market penetration. For example, JSY32NSHD-H shows a notable increase from 2021 to 2022 and further growth in 2023, indicating an emerging trend or heightened consumer interest in this model.
3. Declining Trends: Conversely, some models experience decreases in percentages over the years, indicating potential declines in popularity or market saturation. An example is JSP90S-2022N, which shows a significant decrease in percentage from 2021 to 2022 before a slight increase in 2023.

Figure 14 depicts the stacked rose chart for Washing Machine models. Figure 15 depicts the dataset used for Figure 14. Column A contains the names of Washing Machine Models the firm stocks in inventory for dealer purchase and Column B,C and D contains the number of units ordered in year 2021, 2022, and 2023 respectively.Figure 16 depicts the percentage of each model ordered out of total models in a particular year. Figure 17 depicts the trend observed in Figure 16 data in a Stacked Line Chart, with y-axis depicting the number of units of models ordered and x-axis depicting the names of the models.

Figure 14

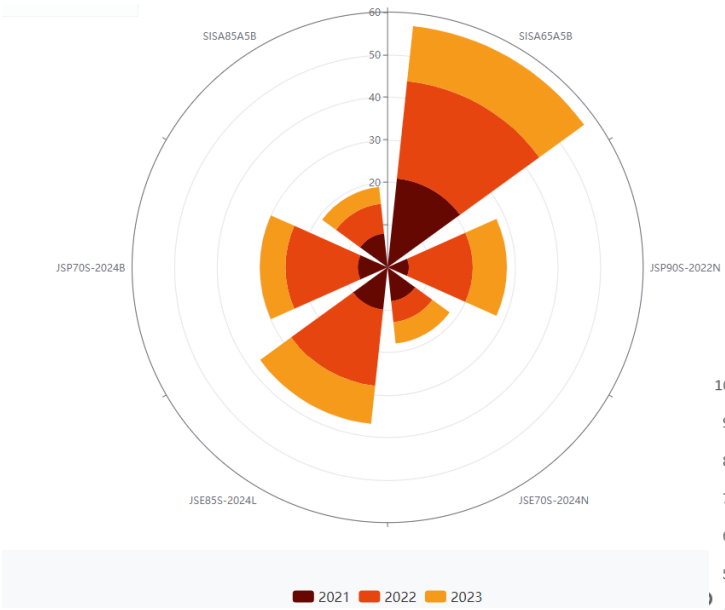


Figure 16

	A	B	C	D
1	WM Model Name	% of Total Models Ordered in 2021	% of Total Models Ordered in 2022	% of Total Models Ordered in 2023
2	SISA65A5B	35.59	27.05	28.88
3	JSP90S-2022N	8.47	17.64	17.77
4	JSE70S-2024N	13.55	5.88	11.11
5	JSE85S-2024L	16.94	21.17	20
6	JSP70S-2024B	11.86	20	13.33
7	SISA85A5B	13.5	8.23	8.88

Figure 17

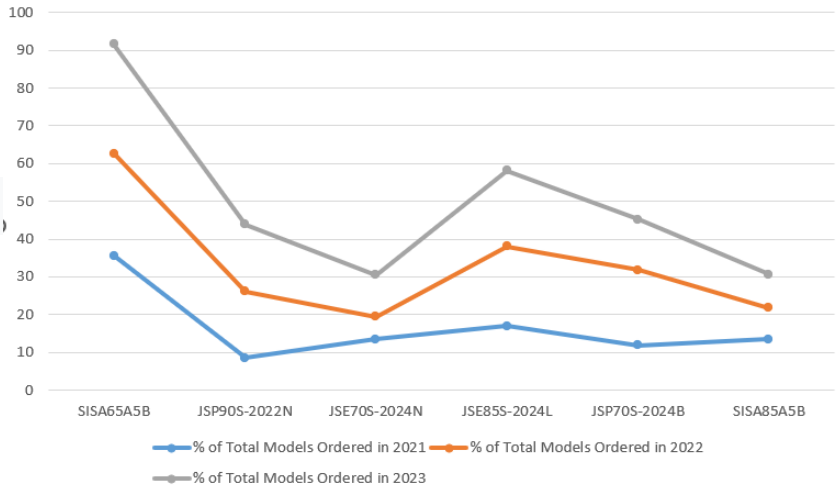


Figure 15

	A	B	C	D
1		2021	2022	2023
2	SISA65A5B	21	23	13
3	JSP90S-2022N	5	15	8
4	JSE70S-2024N	8	5	5
5	JSE85S-2024L	10	18	9
6	JSP70S-2024B	7	17	6
7	SISA85A5B	8	7	4
8				

From the figures (14,15,16,17), we can infer trends and changes in the popularity of Washing Machine models over the three years (2021, 2022, and 2023). Some observations include:

1. Model Stability: Certain models, such as SISA65A5B and JSE85S-2024L, maintain relatively consistent percentages across the three years. This stability suggests sustained demand or market appeal for these models over time.
2. Fluctuations in Preferences: Some models exhibit fluctuations in percentages across the years. For instance, JSP90S-2022N shows a notable increase in percentage from 2021 to 2022 before stabilizing in 2023. Conversely, JSP70S-2024B experiences a decrease in percentage from 2021 to 2022 before a slight increase in 2023.

3. Emerging Trends: The percentage of JSE70S-2024N increases from 2021 to 2023, indicating a potential emerging trend or growing consumer interest in this model over time.

In summary, the findings from the payment receipt analysis, dealer performance assessment, which included product demand trends too, offer valuable insights. These insights pave the way for interpreting results and formulating actionable recommendations to enhance operational efficiency and drive growth at the firm.

4 Interpretation of Results and Recommendation

The interpretation of results are as follows:

Payment Submission Rate:

- The analysis reveals a decreasing trend in payment submission rates over the observed periods. In April 2022-October 2022, 82.8% of dealers submitted payments, which decreased to 55.2% in November 2022-March 2023, and further dropped to 37.9% in April 2023-October 2023.

Variability in Payment Timelines:

- Despite the variability in payment timelines, no clear correlation was observed between payment receipt status and the duration taken to receive payment. However, it was observed that most of the dealers submitted their payments in second credit cycle throughout all three time periods.

Quartile Analysis:

- Quartile analysis indicates a consistent median payment submission time across different periods, with variability in the lower and upper quartiles.

Number of Non-Payers and Persistent Non-Payment Records:

- A significant portion of dealers exhibits a consistent pattern of non-payment, with some dealers demonstrating non-payment across consecutive time periods.

Outstanding Payments and Overall Non-Payment Trends:

- A considerable number of dealers have recorded outstanding payments across all analyzed time periods.

Model Demand Interpretation:

- Model Stability: TV Models like JJSW55ASUHD and JSW32NSHD and Washing Machine models like SISA65A5B and JSE85S-2024L demonstrate consistent demand over the years, indicating stable market appeal.
- Emerging Trends: TV Models such as JSY32NSHD-H and Washing Machine models like JSE70S-2024N show increasing popularity over the years, suggesting emerging trends or heightened consumer interest.

- Declining Trends: TV Models like JSP90S-2022N experience a decrease in popularity, indicating potential declines in market demand or saturation.
- Preference Fluctuations: Fluctuations in preferences, as observed with Washing Machine models like JSP90S-2022N and JSP70S-2024B, warrant periodic reassessment of investment strategies to adapt to changing market dynamics.

The interpretations drawn from the analysis pave the way for the following recommendations and suggestions:

- Implement targeted measures to address outstanding debts, including intensified follow-up procedures and collaboration with debtors to establish feasible repayment plans. This involves implementing stricter credit policies with clear terms and conditions for payment deadlines.
- To incentivize timely payments, a penalty of 9% should be applied if the debtor fails to settle dues within the first credit cycle. Additionally, offering a 3% discount for payments made within the first credit cycle can further encourage prompt settlements. This strategy capitalizes on the observed trend of most debtors paying in the second credit cycle, providing added motivation for timely payments while rewarding adherence to payment deadlines with a discount. The rationale behind this penalty and discount offer are:
  The 9% penalty aligns with industry norms, reflecting typical costs of delayed payments and serving as a deterrent.
  - It strikes a balance between incentivizing prompt payments and covering costs without being overly burdensome.
  - Even within a 30-day cycle, a 3% discount remains valuable, differentiating credit terms and attracting debtors.
  - The penalty ensures the firm recoups opportunity costs and compensates for financial risks, reinforcing the importance of timely payments.
  - Gradually increasing penalties with each cycle aligns with behavioural economics, motivating debtors to prioritize payments to avoid higher costs over time.
- Explore alternative financing options such as invoice financing or factoring to mitigate the impact of prolonged credit cycles on cash flow.
- Continue allocating resources to TV and Washing Machine models which show rising consistent demand to capitalize on their sustained popularity and ensure consistent revenue streams.
- Consider reallocating investments to the emerging models which have an increasing popularity (or higher growth potential and lower risk) to promote and expand their availability and capture growing market demand and capitalize on emerging trends to mitigate the impact of declining trends and maintain overall profitability.

In conclusion, this report addressed bottlenecks in Anuratna Corporation's investment rotation and credit management practices, offering actionable recommendations. Notably, the analysis could not unearth any significant pricing strategy to tackle market competition, as the company (here, SANSUI) sets its model prices autonomously. I trust that the findings and recommendations presented herein will serve as invaluable assets in making informed decisions that propel the firm towards sustained success and prosperity.