

A chatGPT model, in the banking industry, risk management-account receivable

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ABSTRACT-- Artificial intelligence (AI) is being used more and more by banking Professionals to assist in making decisions about banking and services. The most recent development in this area is ChatGPT, a decision-support tool created by a group of AI researchers. The technology is meant to offer bank Mangers real-time, individualised decision on various banking factors and available services. Financial firms are driven by the need to satisfy heightened regulatory standards for capital reserve and risk measurement. A chatGPT model, can make decision For an individual who works in accounts receivable. His role is to ensure that their company receives payments for the goods and services it provides and must record these transactions appropriately. This paper we study only on risk management using chatGPT for accounts receivable, i.e the researcch focus on a large bank with a chatGPT that permits assessment of the risk of loan beneficiaries failing to pay.

Keywords-- risk management, accounts receivable, chatGPT, banking, artificial Intelligence, decision support model.

I. INTRODUCTION

In order to implement the practice of risk management into your company or organization to limit your exposure to the risks of loss resulting from the various risk factors present in any engineering disciplines, including electrical, software, computer, environmental, mechanical, biotech, and even packaging, you need a decision support system.

Risk management is given top emphasis by Bank rules. Risk is the possibility that a financial loss, expense, or loss associated with a transaction or activity of a bank could result in a reduction in economic advantage. The establishment and operation of a sufficient and efficient internal audit, internal control, and risk management system is

required for the banks to monitor and control the risks to which they are exposed. This system must be compatible with their operations and structure in light of changing conditions, cover all branches and departments, and report to the board of directors within the confines of the guidelines set for them.

Financial risk is associated with accounts receivable, which has become even more crucial since 2008 due to scams and market disruptions that occurred around 2000. Even in volatile marketplaces, businesses can turn a profit with effective risk management. Financial companies want to follow new rules that demand better ways to measure risks. As per the research made there are number of statistical modeling approaches proved for Risk Management and capital reserves.

A systematic, integrated method to controlling all risks that an organisation faces is handled by enterprise risk management (ERM) [1]. Risk is not always a negative thing because businesses are there to handle it when it pertains to their area of expertise, and ensure a way to guard against risks that they are less prepared to tackle.

Businesses are there to effectively manage certain risks, and uncertainty offers them chances to do so. ERM aims to offer tools for identifying and reducing risks throughout corporate operations. Financial risk has been reduced using techniques like derivatives and hedges. As loss-prevention and control systems became more widely used, it became clear that many different types of risk could be avoided or have their effects lessened. This realisation led to expanded perspectives on risk management[2].

Insurance has developed to address a variety of risks., both internal and external, including fraud, accidents, human error, and natural disasters.

II. WHY ACTIONABLE INTELLIGENCE IS THE ANSWER

OpenAI developed the strong artificial intelligence bot ChatGPT. After forming an artificial intelligence research non-profit organisation in 2015, the organisation was launched to the public on November 30, 2022 by Altman, Musk, and other Silicon Valley funders.

ChatGPT stands for Chat Generic Pre-Trained Transformer. It is a powerful artificial intelligence (AI) bot that can understand human speech and create in-depth literature that is easy for people to understand. The format of ChatGPT's questions and answers is what I find most fascinating.

Security experts may be wondering if ChatGPT can be utilised in risk management and important communications given its conversational interaction capabilities and usage of AI to analyse historical data and recent patterns. Although AI is a crucial component of critical event management, ChatGPT does not use the same kind of AI. To

properly protect their people and operations, security leaders and crisis management specialists need to be aware of the variations.

III. CREATING A COMPREHENSIVE RISK REGISTER WITH CHATGPT

It is so easy and handy to create a Risk Management Register. One of the important aspects of the Bank policies includes Risk Management. When you not sure about what columns to be included, where to start with your template or any information that need to be captured further.

Now chatGPT can do this quickly, where you have an interface to ask a question or type a question, on particular case and it will return a response

Based on the dataset feeded an trained.The quality of the output is predominately depended on the proper way of questioning[10].

A. Case Study1

Create a risk register for banking in tabular form

Create a risk register in tabular form that includes the columns: risk id, owner, impact (scale 1-5), probability (1-5).

Sure, here's an example of a risk register in tabular form with the columns you requested:

Risk ID	Owner	Impact (Scale 1-5)	Probability (1-5)
R001	John	3	4
R002	Sarah	2	2
R003	Alex	4	3
R004	Lisa	5	1
R005	Mark	1	5

In this example, the risk ID is a unique identifier for each risk. The owner column specifies the person or team responsible for managing the risk. The impact and probability columns both use a scale from 1 to 5 to rate the severity of the risk and the likelihood that it will occur, respectively.

Note that the actual scales for impact and probability may vary depending on the organization and the specific project or initiative. Some organizations might use a scale of 1 to 10 instead of 1 to 5, for example. Additionally, the risk register may include other columns, such as a description of the risk, potential mitigation strategies, and current status.

Using chatGPT, we can increase the level and quality of capital, enhance risk capture, Constrain bank leverage, improve bank liquidity, limit procyclicity.

IV. USE OF CHATGPT FOR RISK MANAGEMENT OF RECEIVABLES ACCOUNTS

A. Account Receivables

The biggest asset on the balance sheet for the majority of businesses is their accounts receivable. Therefore, poor accounts receivable risk management could seriously affect the firm's financial statements.

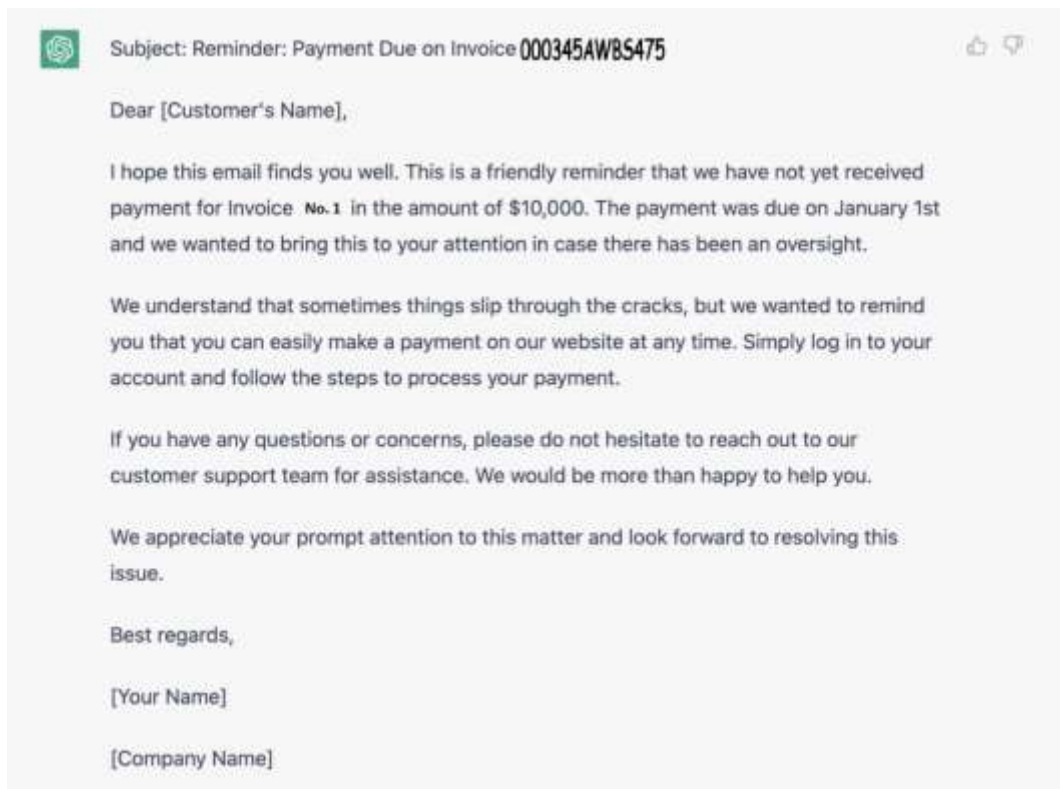
The performance of the associated receivables' write-offs and historical delinquency are often reliable indicators of the portfolio's credit quality. Delinquent trade receivables are often carried by banks for a lot less time than most businesses do before being written off. However, in the case of discretionary chargeoff policies, which are equally susceptible to manipulation, it could be challenging to estimate the value of past-due receivables[4].

The foundation for the securitization of trade receivables is provided by the rating of accounts receivable. According to Katz [5], only roughly \$60 billion of the estimated \$10 trillion in accounts receivable in the U.S. and Europe as a

whole were securitized. Businesses can get trade credit insurance to guard against bad debt losses on accounts receivable [6].Smithson [7] examined how credit risk emerged.

The tragic events of 2008 have made effective risk management of all financial risks essential. Part of the way businesses have reacted is by holding onto cash much longer than in the past [8]. Consequently, decision-support tools for accounts receivable risk management are required. As a result, a bank's trade receivable criterion emphasises the evaluation of early-stage delinquencies as indications of credit quality.

First, the commercial risk rating is decreased to 6 or above, then the loan is forwarded to the Special Lending Unit (SLU), then to the National Credit Centre, and finally, it is sent to outside collection firms. Binary response variables (1 if "bad," 0 otherwise) are used. Accounts that are not bad are categorised as "Good." The performance of the decision support scorecard will be calculated based on how well it anticipates the problematic accounts within five months. Calculated statistics for the Lorenz curve, K-S, and divergence.



Both an Observation Window and an Outcome Window are present in the validation for

model development. An account's historical data from the Observation Window is used to generate a

score on the Score Date, which then forecasts the account's performance during the Outcome Window. The Observation Window establishes the time frame for data collection while an account is being monitored in order to determine the behaviour score for that account. The time frame for evaluating the account's performance is specified by the Outcome Window[9].

B. For accounts receivable, test ChatGPT

For five typical use case scenarios, the study demonstrates ChatGPT's capacity to produce dunning messages and other customer communications. We discovered that the platform's generative AI did an excellent job of quickly creating messages. In addition to precisely writing the content, ChatGPT also employed the right tone of voice. The AI platform's ability to automatically integrate value-added content is perhaps its most striking feature. Each message had a few pieces of text that suggested the user visit the website to pay or get in touch with customer support with any inquiries[11].

1) Case Study: Payment Remainder beyond due date.

We asked ChatGPT to send a client an email to let them know that we haven't received the \$10,000 payment for Invoice 000345AWBS475 that was due on April 1st. The output is shown below.

The other case studies are 2. Account 90 Days Past Due, Pending Disconnect, 3. Subscription Renewal Reminder, 4. Card Expired Notification, 5. Billing Error, Refund in Process. These are conducted along with A/B Testing and Experimentation. The default template offered by the billing provider is frequently used by accounts receivable teams. To determine which message kind generates the highest response rate among the client base, generative AI could produce hundreds of different permutations of each message type.

C. Exception

There are numerous exception cases for which creating standard templates is not worthwhile. Several instances could be:

- Dispute and inquiry resolution
- Notices of suspension and reactivation
- Notifications of price changes
- Descriptions of prorated fees

V. CONCLUSION

Although accounts receivable finance has a variety of positive benefits, it can also have an adverse record. Particularly for businesses with bad

credit, accounts receivable finance may be more expensive than financing from typical lenders. The spread paid for accounts receivables in an asset sale may cause businesses to lose money. The interest expense with a loan arrangement may be high or may be significantly more than what discounts or default write-offs would entail. Financial institutions can more reliably manage accounts receivable using a decision support system based on AI model, chatGPT, allowing them to keep a profit throughout volatile financial market periods.

Financial institutions can more reliably manage accounts receivable using a decision support system based on AI model, chatGPT, allowing them to keep a profit throughout volatile financial market periods. The data and portfolio diversity might help banks decide on the optimum calculating approach. The absence of historical data, credit policy, and a detailed credit portfolio are the key barriers to utilising the new AI model, chatGPT. The data utilised to train chatGPT can have a restriction. Typically, this information is gathered from a Risk Measurement calculation each Bank has structured. As a result of the data's limitations, ChatGPT's responses might not always be precise or pertinent.

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