THE ROLE OF PAYMENT ANALYTICS IN PERSONALIZING USER EXPERIENCE

Sandeep Rachapudi
South Weymouth, USA
Sandeep.Rachapudi@gmail.com

Abstract

In the age of data, every business has an online presence. With the advent of technology, creating a brand virtually without having physical stores has changed the way e-commerce works. While this is transformative, many businesses are now looking at ways to understand customer behaviour to take their business to the next level. This requires analysing a lot of data, especially the spending patterns of customers. Analysing these patterns to understand user behaviour is the key to companies' growth. This paper talks about data analytics and its application in payment processing.

Index Terms – Payment Processing, Data Analytics, Spending Patterns, Customer Behaviour

I.   INTRODUCTION

The payments industry is increasingly driven by information and payments data. Card issuers, retailers, and merchant acquirers have now realized that gaining better insights into customer behavior provides a deeper understanding of sales and customer spending patterns. Data insights, led by information and payments data, can improve the profitability of an organization, optimize revenue, and cut costs.

Payment analytics is the science of collecting, integrating, and processing payment data from various different payment sources [4]. This payment data is collected from sources like debit and credit cards, mobile wallets, and bank transfers. The efficient use of payment analytics can be an enormous resource to businesses by providing insights into revenues, payment trends, and customer experience [5] and shopping behavior.

II.   PROBLEM

The biggest obstacle for financial institutions and banks is the complex task of accessing the right data in real time. Merely collecting data is not enough; mining and extracting value from data will be a decisive differentiating factor for banks and other players looking to compete and take their customer propositions to the next level [2]. Improving customer experience, acquiring new customers, and retaining existing customers in this highly competitive industry is a big challenge.

III.   SOLUTION

By leveraging data analytics and customer insights, companies can refine their approaches, ultimately elevating their market positioning in an ever-evolving digital ecosystem.

Transaction data and analytics is one of the fundamental approaches that can provide clear visibility into the payment environment. Without it, a business wouldn't be able to identify transaction performance issues or detect fraud and other anomalies to prevent service disruption. Time to repair and troubleshooting processes would also be derailed, and the risk of bottlenecks for services like online banking, POS, or mobile payment networks would increase.

Payment analytics tools can enable a business to take historical payment data and apply it to things that are happening to a business in real time. This includes sales and payment processing or any online services in the payment space. The ability to convert data into insight and translate insight into sustainable value can be a powerful tool.

A. Seasonally adjusted estimates

Payment analytics can track a normal pattern of transactions and pick up something that's not normal, for example, seasonal fluctuations like sales spikes during the holiday season. Payment analytics can help prepare businesses by alerting them to the need for additional stock, staff, contact centre support, etc. This is the technique used by most of the retail giants like Amazon, Walmart, and literally every major corporate that invests in payment analytics. Card issuers, acquirers, and retailers must have advanced reporting software and tools to turn payment metrics and data into valuable information that highlights the KPIs.

B. Detecting Normal Patterns

Payment analytics software and monitoring tools can effectively identify patterns within payment systems by analysing historical and real-time data. For instance, at the start of the business day, card payment systems often experience a slight increase in transactions.

This volume may steadily rise until it reaches its peak around midday, then gradually decline towards the end of the workday. This straightforward example highlights a recognizable pattern in payment systems. The strength of data management and analytics lies in identifying correlations among various data points. By flagging times when there are increases in transaction decline rates, it can serve as a potential indicator of fraud attempts.

However, determining this for certain requires an understanding of your payment system's patterns and a comprehensive view of related metrics. It could involve analyzing transaction types, specific times of day, and the opening and closing hours of certain merchants. The more familiar you are with these patterns, the better equipped you are to identify anomalies in the data.

As digital payments continue to grow within financial market infrastructures, financial institutions and banks are faced with vast amounts of data from an increasing variety of digital payment sources. Technological advancements, such as cloud adoption, have simplified and reduced the costs associated with data management and processing.

C. Payments analytics for card issuers

In a crowded digital payments landscape, both established card issuers and new market entrants require a versatile solution to effectively manage all online payment methods and card types, including credit, debit, prepaid, and commercial cards, across every stage of the payment lifecycle. Payment analytics provides issuers with the opportunity to innovate and refine their products in a more dynamic way.

D. Payments analytics for merchant acquirers

Cross-border acquirers and retailers are navigating a fast-evolving digital landscape. They are now handling global digital and in-person payments from virtually any location. To remain competitive, acquirers need to offer greater flexibility and transparency in their pricing while integrating with various local and international payment schemes. Moreover, they face pressure to optimize their processing and commission pricing structures. Payment analytics can assist merchant acquirers in adjusting their systems to support diverse merchant structures and enhance the distribution of products and sales for merchants.

E. Payments analytics for retailers

Retailers are heavily influenced by the evolving patterns of consumer behaviour. With the rise of contactless payments, eWallets [3], online ordering, and other emerging platforms, retailers recognize the necessity of reducing the substantial costs linked to electronic payments while providing customers with secure and convenient payment options. Payment data and analytics allow retailers to monitor consumer behaviour both online and in-store, resulting in a deeper understanding of customer needs, which ultimately enhances business decisions and improves the overall customer experience [1].

F. Payments analytics for fraud monitoring

As transactions originate from various systems and channels at any time, payment fraud has become an increasing concern. Issuers and acquirers must prioritize mitigating fraud risks, making it essential to monitor and authorize transactions from multiple sources around the clock. This can pose challenges for issuers and acquirers, who may need to make real-time decisions to block authorizations. Payment data analysis can assist in alerting customers to suspicious transactions or behaviours.

G. Consumer experience

Payment providers worldwide are facing increasing pressure to maintain revenues and margins, making customer service a vital asset for every business. After all, it's the customers who are driving changes in the payments landscape.

Payments analytics software plays a key role in aligning businesses with their customers. Investing in software products and technology solutions is essential for enhancing the consumer experience in today's digital environment. However, business agility is becoming increasingly important; to foster growth, any software or technology solutions must not only support existing services but also enable rapid development, planning, and implementation of broader business transformations. According to a report by Payment Cards and Mobile, the main drivers of digital transformation in payments are highlighted. Data analytics can help achieve various goals, such as

quickly bringing new solutions to market, lowering maintenance costs, ensuring compliance with regulations, and monetizing payment data. While these goals illustrate the benefits of data analytics, its potential applications are much broader. By thinking creatively with data analytics, businesses can uncover innovative insights.
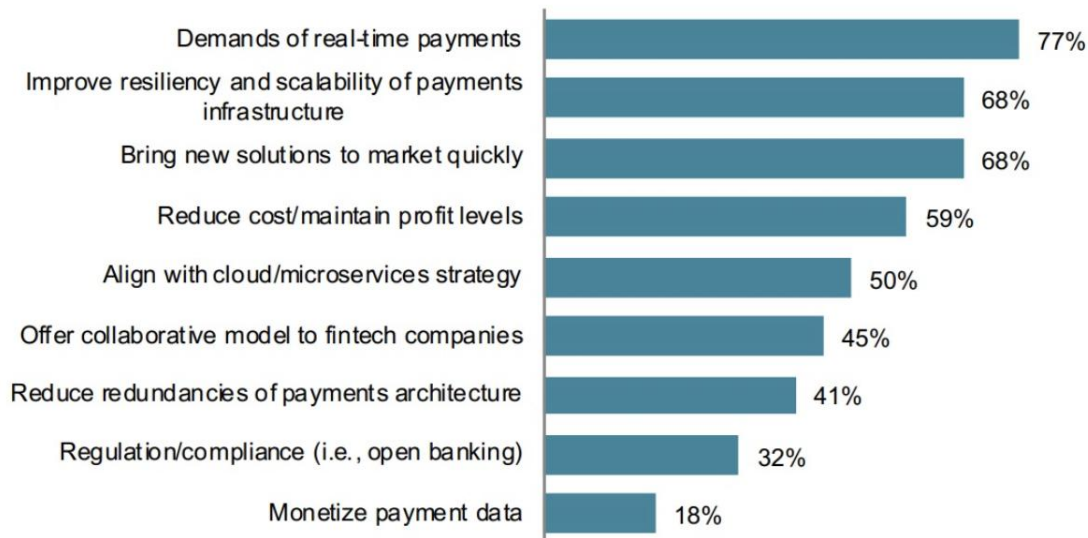

Fig. 1.0 [2]: Drivers for Digital Payment Transformation.

IV. CHALLENGES

While most of the solutions offer various advantages of implementing data analytics, careful consideration need to be made while implementing payment analytics in any business strategy

A. Data Privacy Concerns: Collecting and analyzing payment data raises issues regarding customer privacy and data security, leading to potential breaches of trust.

B. Potential Biases: Insights derived from analytics can be influenced by biases in the data, leading to misinterpretations and misguided strategies.

C. Regulatory Compliance: Adhering to regulations concerning data usage and privacy (like GDPR) can complicate analytics initiatives and require ongoing monitoring.

D. Dependency on Technology: Over-reliance on analytics tools may lead to neglecting other important aspects of customer engagement and experience.

E. Quality of Data: Poor data quality can lead to misleading insights. Ensuring data accuracy and completeness is a constant challenge. Analyzing data in real-time requires robust infrastructure. Delays in data processing can lead to missed opportunities.

Balancing the advantages with the potential challenges is key to maximizing benefits while mitigating risks.

V. CONCLUSION

Gaining a deeper understanding of customer behaviour and channel profitability requires real time performance monitoring and data analytics. Business growth relies on payments data and analytics tools in every sector of the payments space. As the payments industry continuously evolves, providers have to deal with new competitors, emerging software, applications, and technologies, growing regulatory challenges, increasing customer demands, as well as the ever-increasing risk of fraud. Investing in data analytics software and data visualization tools offers great value to businesses and financial institutions.

REFERENCES

1. "Real-time payments: Driving disruptive innovation" https://www.jpmorgan.com/insights/payments/real-time-payments/real-time-payments-driving-disruption (Accessed Dec 10th, 2021)
2. "Drivers for Digital Payment Transformation" https://www.paymentscardsandmobile.com/9-of-the-worlds-top-tier-banks-are-effectively-monetising-payments-data/ (Accessed Nov 15, 2021)
3. S Teng, K Khong. "Examining actual consumer usage of E-wallet: A case study of big data analytics" https://doi.org/10.1016/j.chb.2021.106778 (Accessed Nov 25, 2021)
4. "Payment Analytics Software Market Research" https://www.alliedmarketresearch.com/payment-analytics-software-market-A09785 (Accessed Dec 15th 2021)
5. Bilgihan, A., Kandampully, J. and Zhang, T., 2016. Towards a unified customer experience in online shopping environments: Antecedents and outcomes. International Journal of Quality and Service Sciences, 8(1), pp.102-119.