Project Plan: Generative AI for Payment Processing

Enza Group is a fintech company that aims to make a positive impact on Africa by simplifying and optimizing payments across the continent. Their mission includes fostering financial inclusion, encouraging the digitization of cash, and supporting economic growth. Enza provides native digital payments capabilities to institutions, enabling customers to accept or make electronic payments. Their platform is an award-winning, token-based, cloud-native, API-first system with an open development environment, expediting integration and improving technical flexibility.

Objective

The objective of this project is to leverage Generative AI to create personalized payment

pages, marketing campaigns, and reports for ENZA, a payment processing company that

operates in multiple regions and languages. The goal is to use natural language processing

(NLP) and computer vision (CV) to generate adaptive and interactive content and data

based on the customer’s and merchant’s needs and preferences.

Phase 1 - Research and Planning: The first phase involves understanding the needs of the customers and merchants, and defining the requirements for the adaptive and interactive payment pages. This includes conducting market research and user surveys, competitor analysis and benchmarking, and defining the functional and non-functional requirements for the payment pages.

The main deliverables in this phase are a report summarizing the research findings and insights, a list of payment methods, currencies, languages, and locations that need to be supported by the solution, a requirements document specifying the features, functionalities, and user interface of the payment pages, and a project charter defining the scope, objectives, deliverables, and stakeholders of the project.

User surveys: To understand the needs and preferences of the customers and merchants, you can use the following prompt:

***- What are the pain points and expectations of the customers and merchants regarding e-payments?***

E-payments are electronic transactions that allow customers and merchants to exchange money for goods or services online. E-payments have many benefits, such as convenience, speed, security, and global reach. However, they also come with some challenges and expectations that need to be addressed by the payment providers and platforms. Some of the common pain points and expectations are:

**User experience:** Customers and merchants expect a smooth, fast, and easy payment process that can adapt to different devices, payment methods, currencies, and preferences. They want to avoid payment declines, errors, glitches, or delays that can cause frustration and cart abandonment12. They also want to have clear and transparent information about the payment fees, taxes, exchange rates, and policies.

**Payment options:** Customers and merchants want to have a variety of payment options and currencies that suit their needs and preferences. They want to be able to use their preferred cards, wallets, platforms, or local payment methods without any restrictions or extra fees13. They also want to be able to switch between different payment options and currencies easily and seamlessly.

**Trust and security:** Customers and merchants want to feel confident and safe when using e-payments. They want to ensure that their personal and financial data are protected and encrypted, and that the payment provider and platform are reliable and reputable. They also want to have access to customer support and dispute resolution mechanisms in case of any issues or complaints.

To meet these pain points and expectations, e-payment providers and platforms need to design and develop their solutions with the customer and merchant in mind. They need to offer a user-friendly, responsive, and adaptive payment interface that can handle different scenarios and preferences. They need to provide a wide range of payment options and currencies that are secure and transparent. They also need to establish trust and credibility with their customers and merchants, and provide them with quality service and support.

***- What are the features and functionalities that the customers and merchants value most in e-payments?***

**Multichannel payments:** Customers and merchants want a payment system that can support a wide range of payment methods and channels, such as credit/debit cards, mobile wallets, internet banking, or contactless payments, giving them more flexibility and convenience.

**Modular solution:** Customers and merchants want a payment system that can be customized and tailored to their specific needs and preferences, allowing them to choose the features and functionalities that suit their business goals and requirements.  
  
**Payment options:** Customers and merchants want a payment system that can offer a variety of payment options and currencies that suit their needs and preferences, allowing them to use their preferred cards, wallets, platforms, or local payment methods without any restrictions or extra fees.

***- What are the preferred payment methods, currencies, languages, and locations of the customers and merchants?***

However, based on my web search, some of the general trends and preferences are:

- **Payment methods**: The most popular payment methods in Africa are mobile money, bank cards, and digital wallets. Mobile money is a service that allows users to store and transfer money using their mobile phones, without requiring a bank account. Bank cards are debit or credit cards that are linked to a bank account and can be used for online or offline payments. Digital wallets are online platforms or apps that allow users to store and manage multiple payment methods, such as PayPal or Alipay.

- **Currencies:** The most widely used currencies in Africa are the US dollar, the euro, and the South African rand. The US dollar and the euro are considered as stable and widely accepted currencies for cross-border transactions, especially in countries with high inflation or currency volatility. The South African rand is the official currency of South Africa and is also used as a common currency in the Southern African Development Community (SADC), which includes 16 countries.

**- Languages**: The most spoken languages in Africa are Arabic, English, French, Portuguese, and Swahili. Arabic is the official language of 10 countries in North Africa and the Horn of Africa, and is also widely spoken in other regions. English is the official language of 24 countries in West, East, and Southern Africa, and is also used as a lingua franca for business and education. French is the official language of 21 countries in West, Central, and North Africa, and is also a common language for trade and culture. Portuguese is the official language of six countries in West and Southern Africa, and is also spoken by some communities in other regions. Swahili is a Bantu language that is spoken by about 100 million people in East and Central Africa, and is also an official language of the African Union .

**- Locations:** The most attractive locations for e-commerce and payment processing services in Africa are Nigeria, South Africa, Kenya, Egypt, and Morocco . These countries have the largest and fastest-growing online markets in the continent, with high internet penetration, smartphone adoption, and digital literacy. They also have favorable regulatory and infrastructural environments, with supportive policies, incentives, and initiatives for e-commerce and fintech development .

***- How do the customers and merchants perceive and interact with generative AI in e-payments?***

some of the factors that influence the perception and interaction of customers and merchants with generative AI in payment pages and payment processing services are:

**Location:** Customers and merchants in different regions or countries may have different levels of exposure and access to generative AI, depending on the availability and adoption of digital infrastructure, internet penetration, smartphone usage, and e-commerce development. For example, customers and merchants in South Africa, Nigeria, Kenya, Egypt, and Morocco may be more familiar and comfortable with generative AI than those in other African countries, as these are the most attractive locations for e-commerce and payment processing services in the continent.

**Culture:** Customers and merchants in different cultures may have different preferences and values that affect their perception and interaction with generative AI, such as reciprocity, respect, optimism, ambition, diversity, and localization. For example, customers and merchants in Africa may expect generative AI to offer them personalized and customized solutions that reflect their aspirations and respect their norms, and to reward them for their loyalty and patronage.

**Education:** Customers and merchants with different levels of education may have different degrees of understanding and appreciation of generative AI, and its benefits and risks, for payment pages and payment processing services. For example, customers and merchants with higher education may be more aware and informed of generative AI and its potential applications and implications, and may be more willing and able to use it effectively and responsibly.

***- How satisfied are the customers and merchants with the current e-payments solutions in the market?***

- Customers and merchants are increasingly adopting and using e-payments solutions in Africa, especially during the COVID-19 pandemic, as they offer convenience, speed, security, and global reach.

- Customers and merchants value e-payments solutions that can provide a smooth, fast, and easy payment process that can adapt to different devices, payment methods, currencies, and preferences. They also want to have a variety of payment options and currencies that suit their needs and preferences, and that are secure and transparent.

- Customers and merchants face some challenges and pain points with the current e-payments solutions in Africa, such as high costs and fees, fraud and security risks, lack of interoperability and standardization, and poor user experience.

- Customers and merchants have different levels of awareness, understanding, and expectations of generative AI, which is a branch of artificial intelligence that can create new content or data, such as text, images, audio, or code, based on existing data or inputs. Generative AI has many potential applications in payment pages and payment processing services, such as improving user experience, fraud detection, customer support, and report generation .

***Customer Needs and Preferences:***

***- What are the primary pain points or challenges customers face in payment processing?***

Payment processing in Africa is a complex and dynamic field, with many opportunities and challenges for customers. Some of the common pain points or challenges are:

**- Slow and delayed payments:** Unreliable systems and shortages of physical cash can cause long waiting times and inconvenience for customers who want to send or receive money across borders or within the continent²⁴.

**- High costs and fees:** Customers may have to pay high fees or taxes when using electronic payments, especially for cross-border transactions. These fees can vary depending on the payment method, the currency, the destination, and the intermediary service providers¹²⁴.

**- Fraud and security risks**: Customers may face the threat of fraud and cyberattacks when using online payment systems, as scammers can easily take advantage of vulnerable or unregulated platforms. Customers may also lose their money or personal information if they use fake or compromised websites or applications³⁴.

**- Lack of interoperability and standardization:** Customers may encounter difficulties or limitations when using different payment platforms or methods, as they may not be compatible or interoperable with each other. Customers may also face challenges in complying with different regulations and standards across countries or regions¹³.

Payment pages are web pages that allow customers to make online payments for products or services. Adaptive and interactive payment pages are those that can adjust to different devices, payment methods, currencies, and customer preferences. Some of the primary pain points or challenges that customers face with payment pages are:

**- Poor user experience**: Customers may encounter payment pages that are not responsive, intuitive, or user-friendly. They may have to fill out long and complex forms, navigate through multiple pages, or deal with errors and glitches. These factors can reduce customer satisfaction and increase the likelihood of cart abandonment¹².

- **Limited payment options**: Customers may not be able to use their preferred payment method or currency on some payment pages. They may face restrictions or extra fees when paying with certain cards, wallets, or platforms. They may also have to deal with currency conversion rates and exchange fees. These factors can limit customer choice and convenience¹³.

- **Lack of trust and security:** Customers may not feel confident or safe when using some payment pages. They may not be familiar with the payment provider or the website. They may not see clear signs of security and encryption, such as HTTPS, SSL, or badges. They may also worry about the privacy and protection of their personal and financial data¹²³.

To overcome these challenges, payment pages should be designed and developed with the customer in mind. They should offer a smooth, fast, and easy payment process that can adapt to different scenarios and preferences. They should also provide a variety of payment options and currencies that are secure and transparent¹²³.

***-* Are there any specific cultural or regional considerations that influence customer preferences?**

Yes, there are some specific cultural or regional considerations that influence customer preferences in Africa. According to my web search, some of these considerations are:

- \*\*Reciprocity and respect\*\*: African culture promotes the principle of reciprocity, which means that customers expect to receive something in return for their loyalty and patronage. This could be in the form of discounts, rewards, gifts, or personalized service. Respect for the elderly is also an important value in African culture, and customers appreciate when sellers show deference and courtesy to them¹⁴.

- \*\*Optimism and ambition\*\*: African consumers are optimistic about the future and their sense of progress. They are also entrepreneurial and ambitious, seeking to improve their lives and achieve their goals. They are attracted to brands that reflect their aspirations and values, and that offer them quality, innovation, and convenience²³.

- \*\*Diversity and localization\*\*: Africa is a diverse and dynamic continent, with different languages, currencies, payment methods, and consumer behaviors across countries and regions. Customers prefer products and services that are tailored to their local needs and preferences, and that are compatible with their existing platforms and systems. They also value brands that understand and respect their cultural and social norms¹²³.

***Market research: To understand the current state and trends of the e-payments industry in Africa, you can use the following prompt:***

***- What are the main drivers and barriers for e-payments adoption in Africa?***

Some of the main drivers and barriers for e-payments adoption in Africa are:

- **Drivers:**

- **Convenience and accessibility:** E-payments offer customers and merchants a faster, easier, and more secure way to pay and receive money, especially in remote or rural areas where access to traditional financial services is limited or costly¹².

- **Innovation and competition:** E-payments have attracted many players, from banks and telecoms to fintechs and platforms, who are constantly developing new solutions and features to meet the diverse and evolving needs and preferences of customers and merchants¹³.

- **Regulatory support and incentives:** E-payments have received favorable policies and regulations from governments and central banks, who recognize their potential to foster financial inclusion, digitize the economy, and reduce the reliance on cash¹⁴. Some examples of regulatory support and incentives are the reduction or elimination of fees, taxes, and KYC requirements for e-payments; the creation of regulatory sandboxes and innovation hubs; and the issuance of licenses and guidelines for e-payment providers¹⁴.

**- Barriers:**

- **Infrastructure and connectivity:** E-payments depend on reliable and affordable infrastructure and connectivity, such as electricity, internet, mobile networks, and point-of-sale devices, which are often lacking or inconsistent in many parts of Africa¹².

- **Trust and awareness**: E-payments face challenges in building trust and awareness among customers and merchants, who may be unfamiliar with or skeptical of the benefits, security, and usability of e-payments, or who may prefer cash for cultural or behavioral reasons¹².

- **Interoperability and integration:** E-payments face difficulties in achieving interoperability and integration among different systems, platforms, and providers, which can limit the functionality, convenience, and reach of e-payments, and create fragmentation and complexity in the market¹³.

***- What are the regulatory and policy frameworks for e-payments in Africa?***

The regulatory and policy frameworks for e-payments in Africa vary across countries and regions, but they generally aim to promote the development, innovation, and inclusion of e-payments, while ensuring their security, stability, and interoperability. Some of the key aspects of the regulatory and policy frameworks for e-payments in Africa are:

- **Licensing and authorization:** E-payment providers, such as banks, mobile network operators, fintechs, and platforms, need to obtain licenses or authorizations from the relevant authorities, such as central banks, telecommunications regulators, or financial services regulators, to operate in the e-payments market. The licensing and authorization requirements may differ depending on the type, size, and scope of the e-payment service, and may involve compliance with certain standards, rules, and conditions¹².

- **Consumer protection and data privacy**: E-payment providers need to protect the rights and interests of their customers, such as by providing clear and transparent information, ensuring fair and reasonable pricing, handling complaints and disputes, and safeguarding personal and financial data. The consumer protection and data privacy regulations may include provisions on disclosure, consent, security, accountability, and redress¹³.

- **Cybersecurity and anti-money laundering (AML)**: E-payment providers need to prevent and mitigate the risks of cyberattacks, fraud, and money laundering, such as by implementing robust and resilient systems, processes, and controls, and by reporting and cooperating with the relevant authorities. The cybersecurity and AML regulations may include provisions on risk management, incident response, monitoring, reporting, and sanctions¹⁴.

- **Interoperability and integration:** E-payment providers need to ensure the compatibility and connectivity of their systems, platforms, and networks, both within and across countries and regions, to enable seamless and efficient e-payments for customers and merchants. The interoperability and integration regulations may include provisions on technical standards, operational rules, governance arrangements, and dispute resolution mechanisms¹⁵.

These are some of the main aspects of the regulatory and policy frameworks for e-payments in Africa, but they are not exhaustive or uniform. E-payment providers need to be aware of and comply with the specific regulations and policies that apply to their operations in different jurisdictions and markets. 🌍

***- What are the best practices and success stories of e-payments in Africa and other regions?***

M-Pesa: M-Pesa is a mobile money service that was launched in Kenya in 2007 by Safaricom, a telecom operator, in partnership with Vodafone, a global mobile network provider. M-Pesa allows users to send and receive money, pay bills, and access other financial services using their mobile phones, without the need for a bank account. M-Pesa has become the most successful and widely used mobile money service in the world, with over 40 million active customers and 400,000 agents across 10 countries in Africa and Asia1. M-Pesa has also enabled financial inclusion, social impact, and economic growth for millions of people, especially in rural and low-income areas.

***- What are the opportunities and challenges for generative AI in e-payments in Africa?***

Generative AI is a branch of artificial intelligence that can create novel and realistic content, such as text, images, audio, and video, based on data and rules. Generative AI has many potential applications and benefits for e-payments in Africa, such as:

- **Personalization and customization:** Generative AI can help e-payment providers tailor their products and services to the specific needs and preferences of their customers and merchants, such as by creating personalized payment pages, marketing campaigns, and reports, using natural language processing (NLP) and computer vision (CV).

- **Innovation and differentiation:** Generative AI can help e-payment providers develop new and unique solutions and features that can enhance the functionality, convenience, and security of e-payments, such as by creating virtual cards, digital currencies, and biometric authentication, using NLP and CV.

- **Scalability and efficiency:** Generative AI can help e-payment providers scale up and optimize their operations and processes, such as by automating tasks, reducing errors, and improving performance, using NLP and CV.

However, generative AI also poses some challenges and risks for e-payments in Africa, such as:

- **Data availability and quality:** Generative AI relies on large and diverse datasets to train and generate content, which may be scarce, incomplete, or biased in the African context, due to the lack of structured data ecosystems, infrastructure, and connectivity¹².

- **Ethics and trust:** Generative AI may raise ethical and trust issues among customers and merchants, such as by creating fake or misleading content, violating privacy or consent, or discriminating against certain groups, due to the lack of transparency, accountability, and regulation of generative AI³⁴.

- **Security and compliance**: Generative AI may increase the security and compliance risks for e-payment providers, such as by exposing sensitive data, enabling fraud or money laundering, or breaching laws or standards, due to the lack of robust and resilient systems, controls, and reporting of generative AI³⁴.

Therefore, generative AI offers both opportunities and challenges for e-payments in Africa, and e-payment providers need to carefully weigh the pros and cons of adopting and implementing generative AI, and ensure that they follow the best practices and success stories of generative AI in e-payments and other domains⁵.

***- What is the current landscape of payment processing solutions in Africa and globally?***

Payment processing solutions are systems that enable the transfer of funds between buyers and sellers, usually through electronic or digital channels. They are essential for facilitating e-commerce, cross-border trade, and financial inclusion.

According to the 2023 McKinsey Global Payments Report, the global payments industry generated more than $2.2 trillion in revenues in 2022, with Asia–Pacific accounting for 47 percent of the total. However, the report also notes that cash usage declined by nearly four percentage points globally in 2022, and that electronic transactions grew at nearly triple the overall growth rate in payments revenue.

In Africa, the payments landscape is diverse and dynamic, with different countries and regions having varying levels of adoption and innovation. **South Africa** is at the forefront of electronic payment industry among African countries, with major online and card payment processors such as SnapScan, Yoco, PayFast, PayStack, Zapper, and others³⁴. These are mostly local payment solutions, targeted at micro, small, and medium enterprises (MSMEs).

Other African countries, such as Kenya, Nigeria, and Ghana, have seen the rise of mobile money as a dominant payment method, especially for the unbanked and underbanked populations. Mobile money allows users to store and transfer money using their mobile phones, without the need for a bank account. Some of the leading mobile money providers in Africa are M-Pesa, MTN Mobile Money, Airtel Money, and Orange Money.

However, mobile money also faces some challenges, such as interoperability, regulation, and fraud. To address these issues, some fintech companies have developed payment solutions that integrate mobile money with other platforms, such as bank accounts, cards, and digital wallets. For example, Flutterwave, a Nigerian-based company, offers a payment gateway that connects various payment methods across Africa and globally, enabling merchants to accept payments from customers anywhere in the world. Similarly, SeerBit, another Nigerian-based company, provides virtual cards to enable seamless cross-border transactions where traditional methods fall short⁵.

The future of payments in Africa is likely to be shaped by several factors, such as the COVID-19 pandemic, which has accelerated the shift to e-payments; the regulatory environment, which can either enable or hinder innovation; the customer preferences, which can vary across segments and markets; and the competitive landscape, which can attract new entrants and investments. According to a McKinsey survey of payments experts across Africa, 84 percent expect e-payments to grow by at least 30 percent per year through 2025¹. This suggests that there is a huge potential for payment processing solutions to create value and impact in Africa and beyond.

***- Who are the main competitors in the market and what are their strengths and weaknesses?***

There are many payment processing companies operating in Africa, each with their own strengths and weaknesses. Some of the main competitors are:

- **Flutterwave:** A Nigerian-based company that offers a payment gateway that connects various payment methods across Africa and globally, enabling merchants to accept payments from customers anywhere in the world. Flutterwave has raised $170 million in funding and has partnered with global platforms such as PayPal, Stripe, and Visa¹. However, Flutterwave also faces challenges such as regulatory uncertainty, security risks, and customer service issues².

- **MFS Africa:** A pan-African company that connects mobile money operators, banks, and other financial institutions, allowing users to send and receive money across borders and networks. MFS Africa has raised $100 million in funding and has reached over 320 million mobile money users in 36 African countries¹. However, MFS Africa also faces challenges such as interoperability, compliance, and fraud prevention³.

**- Yoco:** A South African company that provides point-of-sale devices and software for small businesses, enabling them to accept card and online payments. Yoco has raised $83 million in funding and has served over 150,000 merchants in South Africa¹. However, Yoco also faces challenges such as market saturation, competition, and customer retention⁴.

**- Paga:** A Nigerian company that offers mobile money and digital financial services, enabling users to send and receive money, pay bills, and access other services. Paga has raised $34 million in funding and has over 17 million customers and 27,000 agents in Nigeria⁵. However, Paga also faces challenges such as scalability, regulation, and innovation⁶.

**- Cellulant:** A Kenyan company that provides digital payments and e-commerce solutions, enabling businesses and consumers to transact across multiple channels and platforms. Cellulant has raised $47.5 million in funding and has reached over 40 million customers and 120 banks in 18 African countries⁷. However, Cellulant also faces challenges such as cyberattacks, governance, and talent acquisition⁸.

These are some of the main competitors in the African payment processing market, but there are also many other players, such as Paystack, DPO Group, Chipper Cash, and Julaya, that are offering innovative and tailored solutions for different segments and markets. The payment processing industry in Africa is dynamic and competitive, and it is likely to see more growth and innovation in the future.

***- Are there any emerging trends or technologies in payment processing that could impact ENZA's strategy?***

There are several emerging trends and technologies in payment processing that could impact ENZA's strategy, such as:

- **Contactless payments**: This trend includes tap-to-pay, QR codes, and digital wallets that enable customers to make payments without physical contact or cash. Contactless payments have grown in popularity due to the COVID-19 pandemic and the convenience they offer. According to one report, tap-to-pay is the top contactless payment method that shoppers are comfortable with in the U.K., U.S., France and Australia¹. ENZA could leverage this trend by offering contactless payment options to its customers and merchants, and by using Computer Vision to scan and process QR codes.

- **Buy now, pay later (BNPL)**: This trend involves payment solutions that allow customers to purchase goods or services and pay for them in installments over time, usually with no interest or fees. BNPL has become popular among younger consumers who prefer flexible and affordable payment options. According to one report, BNPL transactions are expected to grow by 181% from 2020 to 2024, reaching $995 billion globally². ENZA could leverage this trend by integrating BNPL solutions into its platform, and by using NLP to generate personalized and engaging payment pages and marketing campaigns for BNPL customers and merchants.

- **Non-bank global payments**: This trend involves payment platforms that enable cross-border transactions without relying on traditional banks or intermediaries. Non-bank global payments can offer faster, cheaper, and more accessible payment solutions for customers and merchants who trade or travel internationally. According to one report, non-bank global payments are expected to grow by 13% annually from 2020 to 2025, reaching $48 billion in revenues³. ENZA could leverage this trend by expanding its presence and reach in different regions and markets, and by using NLP and CV to generate localized and customized content and data for different languages and currencies.

- **Changing payment infrastructure:** This trend involves the development and adoption of new payment technologies and standards that aim to improve the efficiency, security, and interoperability of payment systems. Some examples of changing payment infrastructure are central bank digital currencies (CBDCs), which are digital forms of fiat money issued by central banks; tokenization, which is the process of replacing sensitive data with unique identifiers; and composable platforms, which are modular and flexible systems that can be easily integrated and customized. According to one report, CBDCs are being explored by 86% of central banks, tokenization is expected to reduce fraud losses by $20 billion by 2024, and composable platforms are becoming the preferred architecture for payment firms⁴. ENZA could leverage this trend by adopting and implementing the latest payment technologies and standards, and by using Generative AI to create scalable and secure payment solutions.

(1) 8 Payment Technology Trends to Watch in 2024 | PayPal US. <https://www.paypal.com/us/brc/article/8-payment-technology-trends-2024>.

(2) Payments Industry Trends | Deloitte US. <https://www2.deloitte.com/us/en/pages/financial-services/articles/infocus-payments-trends.html>.

(3) 6 Trends Affecting the Future of Payment Processing [2023] - Pay.com. <https://pay.com/blog/trends-affecting-the-future-of-payment-processing>.

(4) The Future of Payment Processing: Emerging Technologies and Trends. <https://www.finextra.com/blogposting/24248/the-future-of-payment-processing-emerging-technologies-and-trends>.

(5) Top trends in payments 2023 | Research & insight | Capgemini. <https://www.capgemini.com/insights/research-library/top-trends-in-payments-2023/>.

(6) Payments top trends 2024 | Research & insight | Capgemini. <https://www.capgemini.com/insights/research-library/payments-top-trends-2024/>.

***- What market segments or regions show the most potential for growth in payment processing?***

According to the 2023 McKinsey Global Payments Report, the market segments that show the most potential for growth in payment processing are:

- **Online payments**: This segment includes e-commerce, digital platforms, and online services that require online payment methods, such as cards, digital wallets, and mobile money. We estimate that the compound annual growth rate (CAGR) of revenues for online payments will exceed 30 percent, possibly reaching about $13 billion in 2025, meaning revenues will more than quadruple between 2020 and 2025.

- **Cross-border payments**: This segment includes remittances, trade, and travel payments that require cross-border payment solutions, such as mobile money, digital currencies, and fintech platforms. We estimate that the CAGR of revenues for cross-border payments will be around 20 percent, reaching about $10 billion in 2025, meaning revenues will more than double between 2020 and 2025¹.

The regions that show the most potential for growth in payment processing are:

- **West Africa**: This region has a large and growing population, a high penetration of mobile money, and a supportive regulatory environment for fintech innovation. West Africa also benefits from the West African Economic and Monetary Union (WAEMU), which facilitates cross-border payments and trade among its eight member countries².

- **East Africa**: This region is the pioneer and leader of mobile money in Africa, with Kenya's M-Pesa being the most successful example. East Africa also has a vibrant fintech ecosystem, a strong e-commerce sector, and a regional integration initiative, the East African Community (EAC), which aims to harmonize payment systems and policies among its six member countries³.

- **Southern Africa:** This region has the most advanced and mature payment industry in Africa, with South Africa being the dominant player. Southern Africa also has a high adoption of card and online payments, a sophisticated banking sector, and a regional cooperation framework, the Southern African Development Community (SADC), which promotes payment system development and integration among its 16 member countries⁴..

***Competitor analysis and benchmarking: To understand the competitive landscape and the best practices of the e-payments solutions in the market, you can use the following prompt:***

***- Who are the main competitors and players in the e-payments industry in Africa and globally?***

The e-payments industry is a dynamic and growing sector that involves various players and competitors across different regions and markets. Some of the main factors that shape the e-payments landscape are:

- The level of innovation and adoption of new technologies, such as mobile money, digital wallets, instant payments, and cryptocurrencies.

- The regulatory environment and policies that enable or constrain the development and interoperability of e-payment systems and platforms.

- The customer preferences and behaviors that drive the demand and usage of e-payment solutions, especially in terms of convenience, security, and affordability.

According to a McKinsey report¹, the global e-payments revenue reached more than $2.2 trillion in 2022, growing at 11 percent annually. Asia–Pacific accounted for 47 percent of the global revenue, followed by North America (24 percent), EMEA (22 percent), and Latin America (7 percent). However, the growth rates varied significantly across regions, with Latin America and EMEA growing at 19 and 17 percent respectively, while Asia–Pacific grew at only 4 percent, mainly due to a decline in China's e-payments revenue.

In Africa, the e-payments industry generated approximately $24 billion in revenues in 2020, of which about $15 billion was domestic electronic payments¹. The domestic e-payments market is expected to grow by around 20 percent per year, reaching around $40 billion by 2025¹. The main drivers of this growth are the increasing penetration of mobile phones and internet access, the rising demand for financial inclusion and convenience, and the supportive regulatory frameworks and initiatives.

Some of the main players and competitors in the e-payments industry in Africa and globally are:

- Banks and card networks, such as Visa, Mastercard, American Express, and UnionPay, that provide traditional payment methods and infrastructure, as well as innovative solutions such as contactless and biometric payments.

- Mobile network operators and mobile money providers, such as M-Pesa, MTN Mobile Money, Orange Money, and Airtel Money, that offer mobile-based payment services and platforms, especially in Africa where mobile money accounts for 45 percent of all e-payment transactions¹.

- Fintech companies and digital platforms, such as PayPal, Stripe, Square, Alipay, WeChat Pay, Paytm, and SeerBit, that offer online and mobile payment solutions, as well as value-added services such as e-commerce, lending, and insurance.

- Cryptocurrency and blockchain platforms, such as Bitcoin, Ethereum, Ripple, and Libra, that offer decentralized and peer-to-peer payment systems, as well as new forms of digital money and assets.

These players and competitors often collaborate and compete with each other, creating a complex and dynamic e-payments ecosystem that is constantly evolving and expanding.

(1) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(2) The 2023 McKinsey Global Payments Report | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-2023-mckinsey-global-payments-report>.

(3) How Global E-Payments are Being Reshaped, and What it Means for Digital .... <https://tradeeconomics.com/how-global-e-payments-are-being-reshaped-and-what-it-means-for-digital-trade-in-africa/>.

(4) Digital payments in sub-Saharan Africa: Trends over the past decade .... <https://www.povertyactionlab.org/blog/10-3-22/digital-payments-sub-saharan-africa-trends-over-past-decade-0>.

(5) E-Payments in Africa: Strategies for unlocking sustainable growth - SeerBit. <https://blog.seerbit.com/en/bridging-payment-gap-africa-challenges-solutions>.

***- What are the strengths and weaknesses of the competitors and players in terms of product, service, technology, and innovation?***

Banks and card networks have the advantage of being well-established, trusted, and widely accepted by customers and merchants. They also have the resources and expertise to invest in new technologies and innovations, such as biometric authentication, tokenization, and 3D Secure. However, they also face some challenges, such as high fees, complex regulations, legacy systems, and cyberattacks.

Mobile network operators and mobile money providers have the advantage of being able to reach and serve the unbanked and underbanked populations, especially in Africa where mobile penetration is high. They also offer convenience, speed, and low-cost transactions for customers and merchants. However, they also face some challenges, such as interoperability, scalability, customer education, and fraud prevention.

Fintech companies and digital platforms have the advantage of being agile, innovative, and customer-centric. They offer a variety of online and mobile payment solutions, as well as value-added services, such as e-commerce, lending, and insurance. They also leverage data and analytics to enhance customer experience and loyalty. However, they also face some challenges, such as regulatory uncertainty, security risks, and customer acquisition and retention.

Cryptocurrency and blockchain platforms have the advantage of being decentralized, transparent, and secure. They offer peer-to-peer payment systems, as well as new forms of digital money and assets. They also enable cross-border and low-cost transactions, as well as financial inclusion and empowerment. However, they also face some challenges, such as volatility, scalability, usability, and legal and social acceptance.

***- What are the gaps and opportunities for differentiation and improvement in the e-payments industry?***

The e-payments industry is a dynamic and growing sector that involves various players and competitors across different regions and markets. However, there are also some gaps and opportunities for differentiation and improvement in the industry, such as:

- Enhancing customer trust and security: One of the main challenges for the e-payments industry is to ensure the safety and privacy of customer data and transactions, especially in the face of cyberattacks, fraud, and identity theft. The industry needs to invest in more robust and innovative security solutions, such as biometric authentication, encryption, tokenization, and blockchain, as well as educate customers on how to protect themselves online¹²³⁴.

- Expanding financial inclusion and access: Another challenge for the e-payments industry is to reach and serve the unbanked and underbanked populations, especially in emerging markets and developing economies, where cash still dominates. The industry needs to leverage mobile and digital technologies, such as mobile money, digital wallets, and QR codes, as well as partner with local players, such as mobile network operators, fintechs, and merchants, to offer more convenient, affordable, and accessible payment solutions¹²³⁵.

- Increasing interoperability and integration: A third challenge for the e-payments industry is to enable seamless and frictionless payment experiences across different platforms, channels, devices, and markets, especially in the context of cross-border and multi-currency transactions. The industry needs to adopt more open and standardized payment systems and protocols, such as instant payments, open banking, and application programming interfaces (APIs), as well as collaborate with regulators, policymakers, and other stakeholders, to foster a more harmonized and inclusive payment ecosystem¹²³⁴⁵.

***User Surveys:***

***- Have user surveys been conducted to gather insights into customer preferences and behaviors?***

According to my research, user surveys have been conducted to gather insights into customer preferences and behaviors with respect to Payment Processing Services in Africa. For example, McKinsey conducted a survey of payments experts across Africa and found that e-payments are expected to grow by at least 30 percent per year through 2025¹. Briter Bridges also spoke to five startups providing payments services across the continent and published a report on the payments landscape in Africa². Additionally, Statista provides data on the distribution of online payment methods in different African countries³, and Ecommpay offers information on the popular online payment systems in Africa⁴.

Source: Conversation with Bing, 2/12/2024

(1) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(2) Payments Companies in Africa — Briter. <https://briterbridges.com/stories/2022/1/20/product-insights-series-payments-landscape-in-africa>.

(3) Africa: e-commerce payment methods by country 2022 | Statista. <https://www.statista.com/statistics/1190895/distribution-of-online-payment-methods-in-african-countries/>.

(4) Online Payment Methods in Africa | Ecommpay. <https://ecommpay.com/products/payment-methods/payment-systems-in-africa/>.

***- What were the key findings from these surveys regarding payment processing preferences?***

Some of the key findings from these surveys regarding payment processing preferences in Africa are:

- Cash remains the most dominant payment type on the continent, with debit cards coming in as a close second¹.

- E-payments are expected to grow by at least 30 percent per year through 2025, driven by smartphone penetration and mobile money⁴.

- Non-bank wallets are popular in Kenya, where 69 percent of respondents already pay with mobile phones in store¹.

- Online shopping is mostly done with bank cards and EFT in South Africa and Nigeria, while mobile phones are used in Kenya¹.

- Open banking is still nascent in Africa, with 39 percent of respondents not willing to share their data, even for their benefit¹.

(1) Open Banking and Payments Survey | Press release - PwC. <https://www.pwc.co.za/en/press-room/payments-and-open-banking-survey-2022.html>.

(2) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(3) Open Banking and Payments Survey | Press release - PwC. <https://www.pwc.co.za/en/press-room/payments-and-open-banking-survey-2022.html>.

(4) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(5) Payments and Open Banking Survey 2022 - PwC. <https://www.strategyand.pwc.com/a1/en/insights/payments-and-open-banking-survey.html>.

(6) Open Banking and Payments Survey | Press release - PwC. <https://bing.com/search?q=key+findings+user+surveys+payment+processing+preferences+Africa>.

***- Are there any common pain points or areas for improvement identified by users in the survey responses?***

Yes, there are some common pain points or areas for improvement identified by users in the survey responses. Some of them are:

- Manual accounts payable processes: Many businesses still rely on manual data entry and paper invoices, which can cause inefficiency, errors, and delays in payment processing².

- Lack of visibility into spend: Many businesses lack a consolidated view of their spending across different channels, suppliers, and categories, which can make it hard to optimize costs, plan, and forecast².

- Compliance: Many businesses face challenges in ensuring that their payments are compliant with their policies, regulations, and contracts, especially in a virtual environment².

- Simplifying digital payments: Many businesses find digital payment processes complex and disjointed, and struggle to integrate them with their existing systems and workflows².

- Customer experience: Many customers expect fast, convenient, and secure payment options, and may switch to competitors if their expectations are not met³⁴.

These pain points can be addressed by adopting more streamlined, automated, and integrated payment solutions, such as virtual cards, open banking, and mobile money¹²⁴. These solutions can help businesses reduce costs, improve efficiency, enhance visibility, increase compliance, and improve customer satisfaction. 😊

(1) 5 Payment Pain Points and How to Solve Them | Coupa. <https://www.coupa.com/blog/finance-ap/5-payment-pain-points-and-how-solve-them>.

(2) Six Common Merchant Processing Pain Points & How to Address Them. <https://www.evolvepayment.com/blog/six-common-merchant-processing-pain-points-how-to-address-them/>.

(3) Top 3 Pain Points of Payment Processing and How to Solve Them. <https://www.cavallo.com/blog/3-pain-points-payment-processing/>.

(4) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(5) The future of payments in Africa | McKinsey. <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>.

(6) 5 Payment Pain Points and How to Solve Them | Coupa. <https://www.coupa.com/blog/finance-ap/5-payment-pain-points-and-how-solve-them>.

(7) Six Common Merchant Processing Pain Points & How to Address Them. <https://www.evolvepayment.com/blog/six-common-merchant-processing-pain-points-how-to-address-them/>.

(8) Top 3 Pain Points of Payment Processing and How to Solve Them. <https://www.cavallo.com/blog/3-pain-points-payment-processing/>.

***5. Payment Methods, Currencies, Languages, and Locations:***

***- What payment methods are commonly used by customers in different regions?***

According to my research, the payment methods commonly used by customers in different regions of Africa vary depending on the availability, convenience, and preference of each market. Some of the most popular payment methods are:

- Cash (on delivery): This is the dominant payment method in many African countries, especially in online retail. For example, cash accounted for 66 percent of e-commerce payments in Morocco, 57 percent in Egypt, and 40 percent in Kenya as of 2022¹.

- Card: This is the preferred payment method in South Africa, where 44 percent of e-commerce payments occurred by card in 2022¹. It is also widely used in Nigeria, where 37 percent of digital buyers used card-based payments in 2022¹.

- Bank transfer: This is the second most popular payment method in South Africa and Nigeria, where 19 percent and 26 percent of e-commerce payments were made by bank transfer in 2022, respectively¹.

- E-wallet: This is the most common payment method in Kenya, where 69 percent of respondents already pay with mobile phones in store². It is also gaining traction in other countries, such as Ghana, where Paystack is a leading payment gateway provider³.

- Mobile money: This is a fast-growing payment method that allows users to store and transfer money using their mobile phones. It is especially popular in East Africa, where platforms such as M-Pesa and Pesapal operate⁴.

***- Which currencies are prevalent in ENZA's target markets and what currency conversion capabilities are needed?***

According to my research, the currencies that are prevalent in ENZA's target markets are:

- **Nigeria:** The Nigerian naira (NGN) is the official currency of Nigeria. As of February 2024, 1 USD is equivalent to 1,200 NGN¹.

- **Ghana:** The Ghanaian cedi (GHS) is the official currency of Ghana. As of February 2024, 1 USD is equivalent to 7.5 GHS¹.

- **Kenya:** The Kenyan shilling (KES) is the official currency of Kenya. As of February 2024, 1 USD is equivalent to 120 KES¹.

- **South Africa:** The South African rand (ZAR) is the official currency of South Africa. As of February 2024, 1 USD is equivalent to 18 ZAR¹.

The currency conversion capabilities that are needed for ENZA's payment solutions are:

- The ability to send and receive payments in multiple currencies, such as NGN, GHS, KES, ZAR, and USD, across different channels, such as virtual cards, mobile money, QR codes, and POS terminals².

- The ability to access real-time and historical exchange rates for different currency pairs, such as NGN/USD, GHS/USD, KES/USD, and ZAR/USD, and compare past and present currency values³.

- The ability to enable customers to view prices and pay online in their preferred currency and settle the balance in the currency of their choice⁴.

- The ability to comply with the relevant laws and standards, such as the Payment Card Industry Data Security Standard (PCI DSS), the General Data Protection Regulation (GDPR), and the Central Bank of Nigeria's Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) for Financial Services in Nigeria⁵⁶⁷.

***- What languages are spoken by customers and merchants, and how should language localization be handled?***

According to my research, the languages spoken by customers and merchants in ENZA's target markets are:

- **Nigeria:** The official language is English, but there are over 525 native languages spoken in Nigeria, such as Hausa, Yoruba, Igbo, Fulani, and Kanuri¹².

- **Ghana:** The official language is English, but there are about 80 native languages spoken in Ghana, such as Akan, Ewe, Ga, and Dagbani³⁴.

- **Kenya:** The official languages are English and Swahili, but there are about 60 native languages spoken in Kenya, such as Kikuyu, Luo, Luhya, and Kamba⁴⁵.

- **South Africa:** There are 11 official languages, including English, Afrikaans, Zulu, Xhosa, and Sotho⁴⁵.

Language localization is the process of adapting software applications, websites, mobile apps, and marketing campaigns to local languages and cultures. It is important for ENZA to offer localized payment solutions to its customers and merchants in different regions, as it can enhance user experience and engagement, foster trust and loyalty, and increase customer acquisition and retention rates.

Some of the best practices for language localization for payment solutions are⁶⁷⁸:

- Use UTF-8 encoding to support multiple languages and characters

- Don't hardcode text or punctuation, but use placeholders and variables that can be replaced by translated text

- Build a library of internationalized objects, such as user interface design elements and address, number, date, and currency formats

- Plan for text expansion, as some languages may require more space than others

- Use large language models, such as those employed by synergylabs, to enable intelligent translation and cultural adaptation, ensuring accurate and contextually appropriate localization

- Test and validate the localized versions of the payment solutions, using native speakers and local experts to check for errors, inconsistencies, and cultural sensitivity

***- In which geographic locations does ENZA operate, and what are the specific requirements for each region?***

ENZA GLOBAL is a company that provides payment solutions for businesses and consumers in Africa. According to their website1, they operate in the following geographic locations:

**Nigeria:** This is their headquarters and main market, where they offer a range of payment products and services, such as virtual cards, mobile money, QR codes, and POS terminals.

**Ghana:** This is their second market, where they partner with Paystack, a leading payment gateway provider, to offer seamless and secure online payments.

**Kenya:** This is their third market, where they leverage the popularity of mobile money platforms, such as M-Pesa and Pesapal, to enable fast and convenient payments.

**South Africa:** This is their fourth market, where they aim to tap into the growing e-commerce sector and the preference for card-based payments .

The specific requirements for each region may vary depending on the local regulations, customer preferences, and market conditions. However, some of the common requirements are:

Compliance with the relevant laws and standards, such as the Payment Card Industry Data Security Standard (PCI DSS), the General Data Protection Regulation (GDPR), and the Central Bank of Nigeria’s Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) .

Integration with the existing payment infrastructure and systems, such as banks, mobile network operators, payment service providers, and merchants .

Innovation and differentiation in the competitive and dynamic payment landscape, such as offering value-added services, enhancing customer experience, and reducing costs.