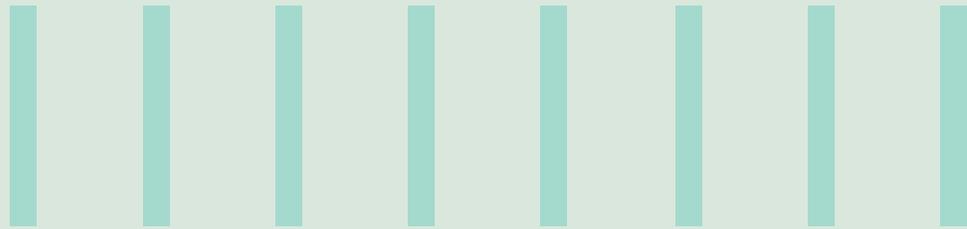




FUTURE OF CONSUMER BANKING: THE AUGMENTED WAY



Summary

This study explores how augmented reality (AR) can shape the future of consumer banking. The future prospects of augmented reality-based applications in consumer banking are explored based on the current developmental stages of AR.

Efforts are being made to identify the impact of augmented reality in various segments of consumer banking. The future aspects of these applications, scope of innovations, potential benefits, and challenges are studied in this paper.

This study does not focus on other areas of banking or the implementation and development of AR-based applications.



Introduction

Every financial institution across the globe is leveraging modern advances of computing like cloud, data analytics, automation, artificial intelligence, etc., to build customer-centric sustainable solutions.

But technology itself is a rapidly changing platform, which is unpredictable and evolving at an unbelievable pace. Cut-throat competition, rapid innovation, and extreme user expectations make application development in modern platforms an extremely difficult job. Volatility always threatens an application to become obsolete in no time.

Today, organizations cannot be successful just by following the trends. They have to build application strategies and capabilities much before the technical innovations are introduced to the world. Many examples from the last decade can be cited in this context, such as Nokia, Motorola, Kodak, Yahoo, Sun, etc.

In this study, the focus is on one such forthcoming change in the digital world — augmented reality. We shall try to determine how consumer banking can revolve around it in the coming days and how we can prepare to embrace the same.

Definition of AR

Augmented reality is a computer-generated, programmed environment where a user can sense or feel the details of it, participate, or even execute tasks like in the actual world.

With the real-time appearance, user perception of the digital world becomes vivid and creates an exceptional user experience.

Augmented reality blurs the line between what is real and what is not. The reality is perceived by humans through their senses, such as sight, hearing, taste, smell, and touch. If an environment is generated by a computer in which a user can get the above senses, then it is extremely difficult to separate it from the actual reality.

Movies like The Terminator, Minority Report, and Ironman have portrayed glimpses of this, where a character picks information about anything and anyone by just looking at them or someone swipes, zooms, or rebuilds a projection, and turns them into a real object design. If those incredulous ideas were simply science fiction, today's AR is nothing but a genuine science.

Consumer banking is an institutional as well as a personal activity. If personal user experiences can be enhanced multifold by AR, then it can also be institutionalized by banks to revolutionize the banking industry. The possibilities are simply endless.



Augmented reality vs. virtual reality

In augmented reality, the user may not know if the environment he is experiencing is computer-generated or an actual one. But in virtual reality, the user knows if the environment is fabricated.

For example, a user playing a video game on a computer screen is virtual reality. But if a user thinks he is part of the gaming environment and can feel all the objects in that game, it is augmented reality.

State of the art

In the present day, augmented reality holds a very tangible and promising form. World-leading tech firms are focusing on developments using augmented reality such as:

AR platform	Qualcomm® Vuforia™, METAIO's SDK, Total Immersion
AR product and game	Sphero, POPAR, Sony, Microsoft, Nintendo.
Self-service and universal AR	Layar, Aurasma, DAQRI, Zappar
App development	Appshaker, Gravity Jack, Marxent
Industry-specific vertical AR	Blippar, Holition, Adornably, Marxent's VisualCommerce®

The basic hardware components of an AR platform are processors, sensors, input devices, and displays which are nowadays available in many handheld devices through mobile platforms using the following technologies:

- Eye tap
- Handheld
- Eye glasses
- Contact lenses
- Spatial tracking
- Head-up display (HUD)
- Virtual retinal display
- Head-mounted display (HMD)

Augmented reality has found uses in multiple industries now. Below are the prominent ones:

- Architecture
- Visual art
- E-commerce and advertising
- Education
- Military and defense
- Video games
- Industrial design
- Banking
- Medical
- Navigation
- Tourism
- Broadcast and live events

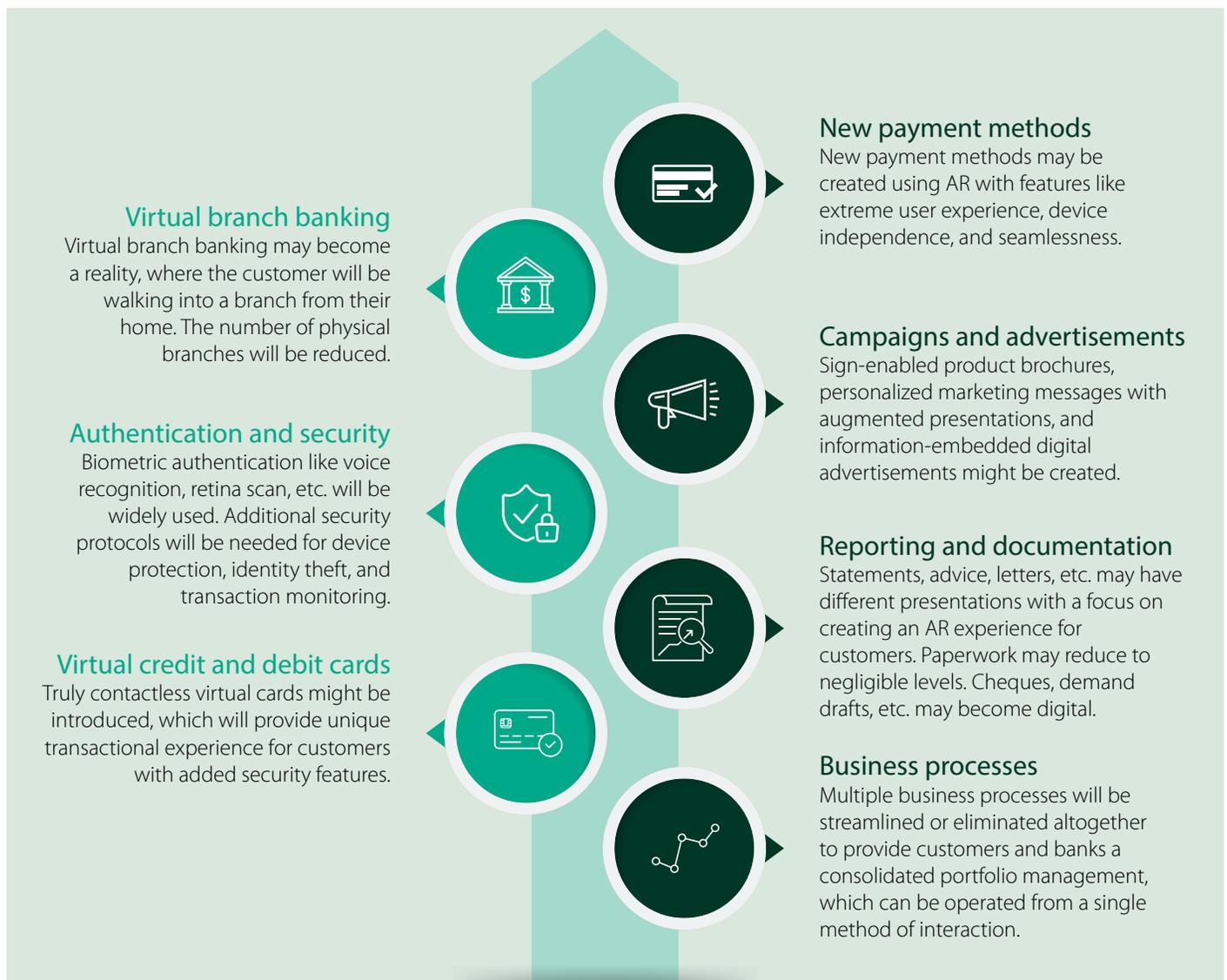


Potential impact of AR in consumer banking

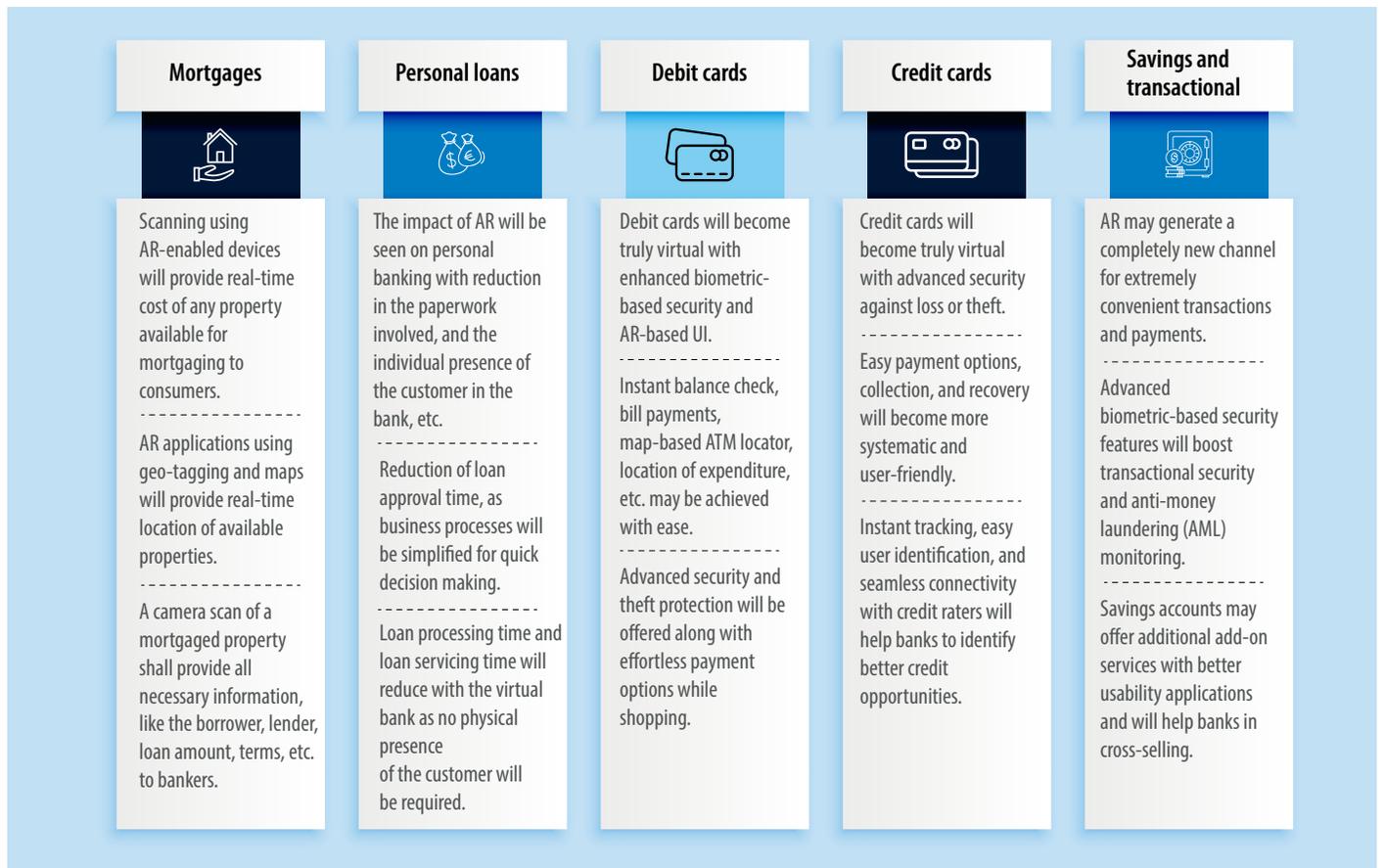
In consumer banking, the major services provided to the individual customer are as follows:



Each of the above areas may witness an increased influence of AR as the below functions will be subject to change:



Segment-wise impact analysis





User story: A day of consumer banking in the future

Let's have a look at the below story to understand how these innovations may change perceptions about consumer banking in the future.

Let's assume a person — John, comes across a beautiful property while walking on the street. He puts on his augmented reality device and looks through it at the building. From its display, John comes to know that the property is available for sale. He can see the estimated price of the property and banks which can provide loans for purchase of the same. He also gets information about the owner and legal obligations, if any, pertaining to that property.

At that point, John wants to know his current financial status and places an inquiry for his account statement. His bank account statement pops up in front of his eyes and displays his account balance, pending loans, and all forthcoming maturity amounts with the date for the deposits he made earlier. John also finds out that he has a very good credit rating as he reads through the last five years' loan payments history he made from his accounts.

Being satisfied with his current status, he goes through all the available proposals for that property and then selects the 'show interest' button against one of the proposals from ABC bank. At this time, he can also check which other properties are available for a mortgage in this area, their prices, and locations across the map.

As a response to his interest, a customer assistance window pops up and provides John all the documents he needs to fill in, in order to apply for a home loan. John fills in and signs a few of the forms digitally. The customer assistance states that physical verification is required for one document, and he must visit ABC banking branch for the same.

John decides to visit the ABC bank branch and then books a cab. His augmented reality device shows him the location for a nearby branch. After reaching there, John initiates payment by looking at the sticker on the cab dashboard. The banking app asks for biometric authentication for making the payment from his digital debit card. John's augmented reality device performs a retina

scan, and the payment is approved.

While John enters the branch, loan officer Michelle gets a pop-up on her desk device. Michelle instantly knows why John is visiting the branch, and she can also see that John can be a very good prospective loan customer from his past banking records. She greets John and verifies the paper by scanning through her device. John pledges his mutual fund holdings for the 40 percent down payment of the loan. Michelle forwards the proposal to the bank manager for his approval. The manager approves the document within a minute, and the deal is done.

After a month, John moves into his new property and is happy, as 40 percent of his property value is paid, and for the rest of the amount, an automated monthly payment option provided by the bank is also approved. Michelle and her bank manager are also satisfied having John as a valuable customer of ABC Bank.

Consumer banking applications as of date

- Many banks have developed AR-based apps that help customers to locate ATM branches. The AR applications use the camera-captures from smartphones, use GPS, and provide users actual location and branch distance.
- A few banks use property apps with AR to display real-time cost and associated relevant information of properties which are up for sale, mortgage calculator tools, and mortgage application assistant tools are available on the bundled app.
- A major bank in China, offers customers a facility to collect coupons using AR, and also to avail merchants' offers from his area.
- A bank in North America has developed an AR application to scan dollar bills and convert them into informational videos about bank products.
- Wells Fargo has officially admitted usage of google glass for consumer banking services.

Future of consumer banking with augmented reality

Potential benefits:

- Ultimate user experience
- Reduced time to market
- Cost saving through automation
- Business process improvement
- Connectivity and integration

Potential challenges:

- Security
- Complex API development
- Integration with automation
- Natural language process and machine-learning capability

Conclusion

Augmented reality is no longer a fictional story, but a genuine technological advance.

Like every innovation, there are benefits and challenges involved in implementing AR in consumer banking. Banks need to prepare themselves for the change. Support capabilities like machine learning and natural language processing need to be built. Business processes and operations need to be closely analyzed to realize the full potential of augmented reality.

All these challenges are worth undertaking, as the possibilities augmented reality holds in consumer banking are endless. Augmented reality is an undeniable truth in the banking industry now, and it is going to decide how consumers will experience banking in the future.



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