

Generative AI: New Pillar of the Platform Economy

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Abstract:

The platform a digital space that enables interaction and intermediation between two or more parties connecting users, services, data or other resources and creating value for all parties. The digital economy is taking shape and thus undermining conventional notions about how businesses are structured; how businesses interact; and how consumers obtain services, information and goods. These operations facilitate new products and services, create new processes, generate greater utility and inaugurate a new management culture. The purpose of this paper is to explain the main notions related to the digital network and platform economy, and its futur that refers to the digital transformation and digitalization of the enterprise through generative AI and the metaverse, and their impacts on its economy and financial management.

Keywords: AI, Generative AI, Metaverse, Platform Economics, Network Economics, Social Networks, Club Effect, Externality Effect, Lock-In Effect, Positive Externality.

1. INTRODUCTION

The term network first evokes the interconnection of complementary equipment, cooperating with each other in order to transport flows of people, matter, energy or information - and to route these flows from an origin to a destination. Networks are essential to the functioning of modern societies and economies. These objects, social mediators or supports for commercial transactions, have specific characteristics and interest engineers, economists, geographers, sociologists, and indeed today pay particular attention to networks, which constitute a field of study that is both important and fruitful in these different fields of human sciences.

Network economics refers to a branch of a broader field known as complex economics or, less commonly, interaction economics that focuses on the study of economic patterns, interactions, and dynamics that occur in networks, with an emphasis on network effects. Network economics explores how connectivity, interactions, and interdependence among participants in a network, whether in telecommunications, computing, social media, e-commerce, or other areas, influence economic decisions and outcomes.

Network effects refer to phenomena where the value or utility of a product, service, or platform increases as more individuals or entities participate in or connect to it.

Network economics then explores how connectivity, interactions, and interdependence among participants in a network, whether in telecommunications, computing, social media, e-commerce, or other areas, influence economic decisions and outcomes.

Social networks are an example of networks, and refer to online web applications (social networking) that connect individuals or legal entities via a set of digital means. These social networks are based on the network effect (club effect); this is the value of a social network for a user that increases with the number of other users connected to it. These applications make it possible to create and maintain a social network to connect and exchange information. The purpose of this paper is to explain the main pillars and the economy of networks, highlighting the particularities of the 2.0 company.

1. Platform Economics: Theoretical Foundations

1.1. Definition of Platform is a digital space that enables interaction and intermediation between two or more parties connecting users, services, data or other resources and creating value for all parties.

The platform is characterized by a strong **interdependence** between users and suppliers, both of which are **necessary for their operation**. It allows to create new opportunities for exchanges and to **reduce transaction costs**.

1.2. Example of platforms:

- Uber connects drivers;
- Airbnb connects hosts and guests;
- Amazon connects sellers and buyers.

The best-known proponents of the platform economy are big tech companies like Amazon, Google, Facebook, Microsoft and Apple, but Uber, Airbnb and Etsy are also among them.

These companies have harnessed the power of platforms and network effects to build vast digital ecosystems of users and data that create immense value.

1.3. The platform economy is a new economic paradigm driven by digital platforms that act as intermediaries, connecting different users such as consumers, providers of goods and services and developers. It has fundamentally changed the way of exchange, of value proposition.

1.4. Characteristics of the platform economy

- New economic model
- New form of economic organization connecting users and suppliers who are interdependent
- Based on digital platforms acting as intermediaries
- It emerged with the rise of the Internet and the adoption of different digital technologies
- It has changed the way of exchange, of proposition of value without borders or limitations.

1.5. Platform Economy Classifications

1.5.1. Transaction platforms (marketplaces): Allow buyers and sellers to connect and interact in order to do business. Host different types of exchanges, such as goods, services or information.

- **E-commerce platforms:** Amazon, eBay, Alibaba
- **Sharing economy platforms:** Airbnb, Uber, Lyft
- **Crowdfunding platforms:** Kickstarter, Indiegogo
- **Freelance / Gig-Work platforms:** Upwork, Fiverr
- **B2B platforms:** Alibaba, Thomas Net, Global Sources

1.5.2. Innovation platforms: Develop companies' own products or services. Encourage and facilitate creativity, innovation and value creation.

- **Operating systems:** Windows, iOS, Android
- **Development platforms:** AWS, Google Cloud, Microsoft Azure

- **Gaming platforms:** PlayStation, Xbox, Steam
- **IoT platforms:** Microsoft Azure IoT, Google Cloud IoT, AWS IoT.

1.5.3. Social media platforms: Facilitate the creation, sharing and exchange of content and ideas among users, contribution, as well as interaction and exchange of content between communities.

- **Social media platforms:** Facebook, LinkedIn, Twitter
- **Media sharing platforms:** YouTube, Instagram, TikTok.
- **Discussion platforms:** Reddit, Quora
- **Professional networking platforms:** LinkedIn, Xing

1.5.4. Learning platforms: Provide a digital environment in which learners can access educational content and resources. Facilitate traditional, online or lifelong learning scenarios.

- **MOOC platforms:** Coursera, edX, Udemy
- **Learning management systems:** Canvas, Blackboard, Moodle
- **Language learning platforms:** Duolingo, Rosetta Stone, Babbel

1.5.5. Financial platforms: Facilitate financial transactions and services, such as payments, investments, loans and money transfers. Offer financial services that are easier, faster and more accessible than traditional institutions.

- **Payment platforms:** PayPal, Stripe, Square, Lydia, Paylib, MyBank
- **Cryptocurrency platforms:** Coinbase, Binance
- **Robo-advisors (online financial investment advice platforms):** Betterment, Wealthfront.
- **Peer-to-peer lending platforms:** LendingClub, Prosper, Zopa.
- **Crowdfunding platforms:** an alternative to traditional bank loans. It allows a project leader to collect funds on the internet, through a dedicated online platform, from contributors to finance a specific project) : Ulule, KissKissBankBank, Wiseed, etc.

Trading platforms: eToro, Bourse Direct, Degiro, etc.

Wealth management platforms: Mint, YNAB, Yomoni, etc.

Insurance platforms: Lemonade, Oscar, April, etc.

1.5.6. Health Platforms: Offer health-related services or information, from telemedicine to health coaching to fitness tracking and mental health support. Help users manage their health and well-being more effectively.

- **Telemedicine platforms:** Teladoc, Doctor on demand
- **Health information platforms:** WebMD, Mayo Clinic
- **Fitness platforms:** Fitbit, MyFitnessPal
- **Mental health platforms:** Talkspace, BetterHelp

1.5.7. Technology platforms: Provide a technological foundation or environment on which other applications, processes or technologies are developed. Are often the basis for the operation of various digital systems and services.

- **Hardware platforms:** PC, Mac, PlayStation
- **Software platforms:** Windows, Linux, Android
- **Cloud platforms:** AWS, Google Cloud, and Microsoft Azure
- **AI platforms:** IBM Watson, Google AI, OpenAI

1.5.8. Data platforms: Manage, store and analyze large amounts of structured and unstructured data. Provide insights, enable decisions and support the development of data-driven products or services.

- **Big Data platforms:** Hadoop, Spark, Google BigQuery.
- **Data collection platforms:** 23andMe, Waze.
- **Data analysis platforms:** Tableau, PowerBI, Looker
- **Data management platforms:** Oracle, SAP, IBM
- **Customer data platforms:** Segment, Tealium, Adobe Real-Time CDP.

1.5.9. Content Platforms: Focus on the distribution, sharing and consumption of digital content, such as videos, music, texts and news. Provide creators with a platform to reach audiences and consumers with access to a wide variety of content.

- **Streaming platforms:** Netflix, Hulu, Disney+
- **Music platforms:** Spotify, Apple Music, SoundCloud
- **Publishing platforms:** Medium, WordPress, Blogger
- **News platforms:** Google News, Apple News, Flipboard

1.5.10. Collaboration platforms: Facilitate communication and collaboration between individuals or teams, particularly in a work or project context. Offer tools for messaging, document sharing, task management, etc.

- **Project management platforms:** Asana, Trello, Jira
- **Communication platforms:** Slack, Microsoft Teams, Zoom
- **Document collaboration platforms:** Google Workspace, Microsoft 365, and Dropbox

2. The advantages of the platform economy

2.1. Economies of scale: The digital platform takes advantage of economies of scale: the reduction in the unit cost of a product that a company obtains by increasing the quantity of its production.

Amazon's advanced fulfillment network achieves economies of scale through a combination of bulk purchasing and optimized shipping routes.

By purchasing products in bulk, Amazon negotiates better prices with suppliers, thereby achieving lower prices.

2.2. Storage and logistics costs: Amazon can negotiate favorable rates with logistics providers thanks to the massive volume of transactions carried out on its platform.

2.3. Reduction of transaction costs: The digital platform must reduce its transaction costs which are related to time, effort and fees. These costs are as follows:

- **Reduction of research costs**

Uber is a competing platform to traditional taxi companies; it connects customers with VTC (Vehicle of Tourism with Driver) drivers. Passengers easily find a driver via the application, while drivers are informed of nearby ride requests.

- **Simplified payment costs:**

All transactions are handled electronically and can be completed directly through the app, simplifying the process for drivers as well.

- **Administrative process management**

Administrative documents can be automated and downloaded to the application, which reduces processing costs and administrative processes.

- **Dispute management**

Through its reciprocal rating system between passengers and drivers, Uber encourages respectful behavior. In the event of a problem, the platform intervenes to resolve disputes related to the quality of its services.

2.4. Innovation and scalability: The digital platform must be constantly evolving.

2.4.1. Continuous innovation

The Apple App Store is a safe and trusted platform to discover and download apps, and enables developers to create applications for iOS devices, fostering continued innovation and providing users with a variety of options to personalize their devices.

2.4.2. Scalability:

Apple's App Store is a constantly evolving ecosystem with regular app updates to ensure compatibility with new versions of iOS. This ensures enhanced security and optimal brand performance.

Apple has adopted a policy of knowledge management through a combination of processes that provide the opportunity to use information generated internally and externally to achieve inventions and innovations. Human beings have different talents and abilities.

2.5. Access to a large market: The digital platform can successfully access a large international audience.

Airbnb is an example of an online platform dedicated to short-term rentals. Through the platform, individuals and accommodation operators can offer houses, apartments, guest rooms, villas, etc. for rent.

Diversity of types of rented accommodation:

Airbnb offers a wide variety of accommodations, from shared rooms to private islands. There are four types of accommodations: entire homes, private rooms, hotel rooms, and shared rooms.

Airbnb is often cited as a perfect example of implementing the Blue Ocean Strategy. According to the Blue Ocean Strategy, a company must eliminate, reduce, increase and create factors compared to industry standards.

In an industry where competitors are consumed by owning and maintaining real estate, Airbnb owns only the intellectual property and leverages its hosts' assets to gain market share.

2.6. Loyal User Network: The digital platform can successfully establish a large network of loyal users.

- Facebook example of a vast online social network of loyal users across the world.

Facebook most used in the world with 2.989 billion monthly active users in 2023 and 2.037 billion daily active users in April 2023.

2.6.1. For businesses: Free advertising that builds customer loyalty. Immediate access to the target customer type. Instant appearance of a community.

2.6.2. For the public: Notifications, events and news; Social interaction; Groups and community; Personalized content; Relationship history.

Facebook Groups are used by 1.4 billion users every month.

2.7. Data and Personalization: The Digital Platform may collect user data in order to personalize their experience, provide relevant recommendations, and increase customer satisfaction.

- Netflix uses its data to control data usage, analyze viewing patterns, preferences and interactions to personalize content recommendations, optimize streaming quality and decide on content investments.

In 2013, Blockbuster closed its last stores. Its inability to stay competitive over time, ignoring customer insight as a key pillar of its marketing strategy, made Blockbuster a textbook case of what can happen when a company – even a giant – remains indifferent to customer demand.

Netflix has continued to improve and enhance its services through the use of targeted and effective smart surveys and questionnaires.

2.8. Ease and Operational Management: The digital platform facilitates operations management by providing efficient management tools.

TikTok is launching a new tool to make it easier for small and medium-sized businesses to use its platform.

The program is called “*Follow Me*,” a guide that aims to teach SMEs how to grow on TikTok. The program is led by two entrepreneurs, the creators Cassie Sorensen and Jacob Zander; helps build an interested community and loyal customer base.

TikTok is unlike any other social media platform. The app’s user-friendly interface and entertaining content make it an attractive option for users.

The app's unique features also make it stand out from the competition.

TikTok's algorithm ranks high on MIT's Technology Review list of the 10 breakthrough technologies of 2021. With entertaining content at its core.

TikTok delivers stories and connects minds by putting its creators at the forefront of their success and providing them with the tools to entertain, educate and inspire millions.

The app's algorithm also helps promote content that has the potential to go viral, making it easier for users to reach a wide audience.

3. The principles of network and platform economics applied to finance

3.1. The principles of network economics applied to finance

3.1.1. Banking networks: Networks of agencies and distributors allow them to offer services to their customers. The value of these networks increases in parallel with the increase in the number of customers.

3.1.2. Financial markets: Networks of buyers and sellers of financial assets. The value of these markets increases as the number of participants increases.

3.1.3. Payment services: Networks of participants that enable their operation. The value of these networks increases proportionally to the growing number of participants (credit cards and electronic transfers).

3.2. The lock-in effect in the banking sector

Lock-in is a series of techniques used by companies to build customer loyalty, to make them dependent on the brand even if an alternative is available.

Having opened an account with a bank, customers tend to remain loyal to their bank despite more valuable offers from other banks.

This phenomenon is explained by the initial investment of time and effort by the customer to open the account, as well as established relationships with bank staff making it difficult and costly to migrate to another bank.

3.3. The lock-in effect in the stock market

The investor's persistence in acquiring shares of the same company is explained by his reluctance to lose this investment.

4. Challenges of creating and scaling networks and platforms

4.1. The chicken and egg dilemma: Platforms address multiple user groups at the same time. A job platform (searchers and employers).

4.2. Traction time (reputation): Platforms often take longer, typically 5-8 years, to gain traction. This period requires a long-term perspective.

4.3. Growth plateau: Platforms must constantly innovate and implement user loyalty strategies.

4.4. Initial Investment and Uncertainty: Platforms require a high initial investment with uncertain returns influenced by factors such as competition and market dynamics.

4.5. Regulatory and legal hurdles: Due to their data-driven nature, if a platform operates in different countries, then perhaps many different regulations play a role.

4.6. Trust and security : Cyber threats are widespread.

5. The Future of the Network and Platform Economy in Finance

5.1. The generation of artificial intelligence in finance

Generative AI is a category of AI that focuses on the autonomous creation of content by computer systems. In the field of finance, it allows for fraudulent activity patterns, regular industry overviews and personalized financial advice, easy and smooth mergers of financial documents and reports, automation in accounting, automatic portfolio and risk and credit management, and customer feedback analysis. The generation of artificial intelligence in finance can be expressed in the following functions:

5.1.1. Blockchain Platforms: Support the security of digital transactions within the metaverse banking ecosystem.

5.1.2. Fintech Startups: Pioneers in fintech solutions focused on the metaverse and virtual finance.

5.1.3. Virtual Financial Advisors: Guide users through investment strategies and financial planning.

5.1.4. Regulatory bodies: ensure compliance and consumer protection.

5.2. Regulation and Antitrust: Antitrust Measures in terms of liability rules for these financial platforms are likely to shape the future of the platform economy and also lead to higher barriers to entry.

5.2.1. Trade Agreements and Practices: Article 101 restricts competition.

5.2.2. Abuse of dominant position: Article 102 prohibits companies from abusing their dominant position (holding a large market share) by charging excessively low prices to prevent other competitors from entering the market or by discriminating between trading partners (European Union).

6. Website creation: Between Platform and AI Source:

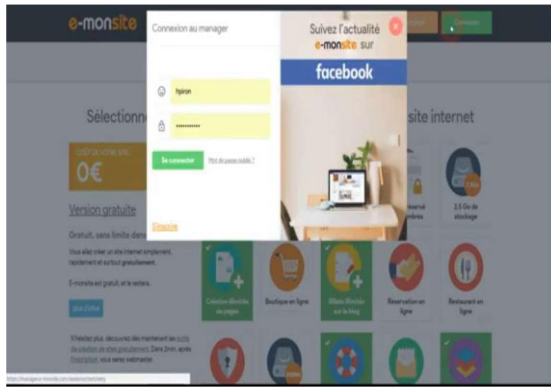
6.1. Website creation on the e-mon site Platform:



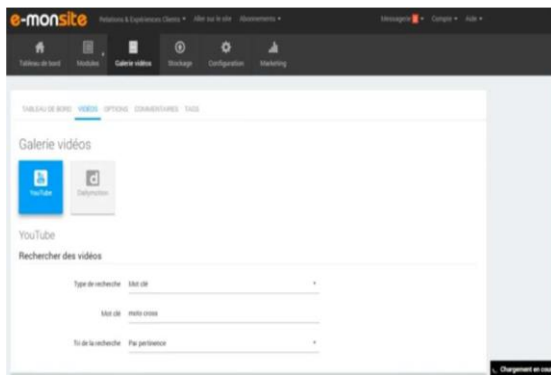
Source: Personal confection.



Source: Personnel confection.



Source : Personal confection.



Source : Personal confection.

6.2. Website creation by AI:

6.2.1 Coding and page created by Claude

```
DOCTYPE html> <html lang="fr"> <head> <meta charset="UTF-8" content="width=device-width, initial-scale=1.0"> <title> LARA Research Laboratory</title> <style> * { margin: 0; padding: 0; box font-family: Arial, sans-serif; line-height: 1.6; } .header { color:white; padding: 2rem; text-align: center; } .navbar { backgro 1rem; } .navbar ul { list-style-type: none; display:flex; justify-content: space-around; } .navbar a { color: white; text-decoration: none; font-weight: bold; } .navb .main-content { max-width: 1200px; margin: 0 auto; padding: 2rem 3rem; } .section h2 { color: #003366; margin-bottom: 1rem; border-bottom: 1px solid #003366; padding-bottom: 0.5rem; } .footer { background-color: #003366; color: white; padding: 1rem; position: fixed; bottom: 0; width: 100%; } @media (max-width: 768px) { .navbar ul { flex-direction: column; align-items: center; gap: 1rem; } } </style> <body class="header"> <h1>LARAFIT</h1> <p>Applied Economic Research Laboratory</p> <p>University of Oran 2</p> </header> <nav class="navbar"> <a href="#accueil">Home</a> </li> <li><a href="#contact">Contact</a> </li> <li><a href="#about">About</a> </li> </nav>
```

Source : Personnel confection by Claude.



Source : Personnel confection by Claude.

AI is emerging as a partner of choice for developers, facilitating the development process and allowing a focus on high-value tasks. It is essential to maintain close collaboration between humans and machines, valuing human expertise and creativity. Developers, armed with new skills and a deep understanding of AI, have a central role in this ever-changing era, making the most of the opportunities offered by AI while carefully navigating its challenges.

The supply of AI models on the market may remain limited. Despite the explosion in the number of models, there will not be much choice in the coming years, most entities will end up turning to a dominant AI model such as Chat GPT, Google Bard, or Claude for example. These linguistic models can generate false information or harmful approximations, most financial institutions could make bad decisions, so bad investments will multiply. Ultimately, management errors will generate a massive financial crisis.

4. CONCLUSION

Emerging economies need to formulate policies with the ambitious aim of reaping second-order benefits. Policies aimed at increasing participation in e-commerce and digital platforms, for example, can only boost a country's long-term competitiveness if it is clear that additional effort will be needed to push the economy toward a position of digital technological development.

Different initiatives must therefore be integrated into a single national strategy aimed at preparing the economy to move beyond the adoption and use of these technologies. This is not an easy task, particularly because some of the policies designed to capture first-order benefits are not necessarily aligned with second-order benefits.

In order to manage perfectly there transition towards there digitization, THE managers will have to TO DO in sort that the economy has an ability to adapt; that THE companies be brought by THE forces of walk to do evidence of flexibility; that THE gains economic be widely distributed; that " THE miscellaneous programs education, learning, immigration and employment insurance policies fit well with the commitments of employers in matter of training in medium of work » (Poloz, [2016], p. 6); and that the tools (e.g., statistics, taxation, as well as competition and industrial relations policies) and related institutions that manage the economy are current and able to fulfill their mandate ¹. ”

Some interesting statistics for 2025 justify the use of AI in computer programming:

- Increased productivity: Developers using an AI coding assistant can complete tasks up to 55.8% faster than working alone.
- Automation: 47% of AI adoption cases focus on automating IT processes.
- AI market: The global AI market is projected to reach \$244 billion by 2025, with an annual growth rate of 37%.
- Jobs created: AI is expected to create 133 million new jobs by 2030.
- Investments: Companies are allocating up to 20% of their technology budget to AI, and 58% of them will increase their investments in this area by 2025.

¹Chris D'Souza and David Williams, Canadian Economic Analysis Department, **Bank of Canada Review** • SPRING 2017.

Regarding the use of AI in building IT platforms, we offer the following recommendations:

- Automation of repetitive tasks: Using AI is very effective for automating tasks such as content generation, layout, and form management.
- Personalization: Using AI to personalize the user experience based on visitor behavior and preferences.
- SEO optimization: Using AI to analyze and optimize your website's SEO, particularly for keywords and content structure.
- Design creation: Using AI tools to generate custom website designs tailored to your brand.
- Data analysis: Using AI to analyze traffic and user behavior data to improve the user experience. Other tools are often offered for exploring websites:
- Wix ADI: A website builder that uses AI to generate designs and content.
- Grid: A design tool that uses AI to create custom websites.
- WordLift: An SEO tool that uses AI to optimize your website's content.

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